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## MARKET CORRELATION, MARKET RETURNS AND PORTFOLIO IMPLICATION

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**Abstract:** *In this paper we examine the market correlation and market returns from Romanian perspective. Market returns are higher in emerging markets than developed market returns, but from portfolio perspective it's also important to evaluate how much correlations are changing in emerging markets. Our results are important in allocation of financial instruments in institutional portfolio management.*

**Key words:** markets correlation, fixed income securities, portfolio management

**JEL classification:** G 01, G 11, G 12, G 23

### 1. Introduction

It is known that emerging markets are sought for their potential profit, but the risk could be much higher than the developed markets. In 1990-1995 many studies have been made with the results that the investment managers registered extraordinary average performance and especially high returns on emerging markets.

As stated by Harvey (1995), in his paper, to look only at average arithmetic returns could be a mistake from the portfolio manager perspective, because on the market with high volatility the differences between investment strategies are bigger. In his empirical study, the average arithmetic return in Brazil was 21.7% per annum with a very large gap related to buy and hold strategy with a return by 3.7%.

Among investors, mid-1990s was a race in international portfolio diversification. Harvey (1993, 1995) shown that the low correlation between emerging markets with developed market returns created a very attractive hedge mechanism for international institutional investors. Thus the efficient market theory could be overcome and appeared more and more opportunities to invest with greater returns.

The correlation argument is reminiscent of the arguments that formed the basis for the growth in global investing in developed markets, see Lessard (1973) and Solnik (1974). The portfolio management concept was that investment in financial instruments at international level would reduce the volatility of a portfolio through diversification.

Erb, Harvey and Viskanta (1994, 1995), show that correlation varies depending on both the state of economy and the state of the equity markets in each country. More over, when the U.S. economy is in recession, correlations between developed equity markets and the U.S. are higher. In so much as the recessionary periods are associated with low U.S. equity returns, the higher correlation hurts the U.S. investor. The high correlation means that other developed equity markets are behaving more like U.S. when U.S. based investors would prefer them to be different.

The asymmetry in correlations is found in the other situation, when the U.S. economy is expanding, Erb, Harvey and Viskanta (1994, 1995) show that correlations are smaller than average. Thought that good U.S. economic climates will influence positive, at the same level, the international returns is wrong because, in fact, the returns are lower than expected.

Then Erb, Harvey and Viskanta (1994, 1995) correlation analysis shows the risk of considering too much weight on average correlation because the correlation is higher in recessions and lower in recoveries than the average.

Regarding the emerging markets the Erb, Harvey and Viskanta (1995) find some differences: the correlations are very low both among the emerging markets and with developed markets and the pattern of asymmetric correlations is only found in those countries that are most likely integrated with world financial markets.

In particular, Bekaert and Harvey (1997) show that an economy that is financially integrated with global financial markets is more likely impacted by "world events", so, as a result, correlation increases.

In the next section we study the degree of correlation between different stock prices and Romanian Index from Bucharest Stock Exchange (BSE) and also the correlation of BSE with other global markets.

## 2. Romanian capital market, an emerging or frontier market?

In this section we use some previous research regarding the correlation between Romanian capital market and the S&P500 with time series update to the end of 2011 year, Alexandru (2010).

Also, for some representative data about development of Bucharest Stock Exchange, the biggest and most representative stock exchange from Romania we will use previous paper, Alexandru and Caragea (2011), with recent data, the end of 2011 year and also the end of February 2012.

From its establishment, in 1996 year, the Romanian capital market, in spite of the sixteen years from its establishment, has not yet been able to accomplish one of its main tasks, namely that of attracting available investment funds for economy. After four years of appreciation in share prices between 2003 and 2007, the global recession of 2008 demonstrated again that emerging capital markets are more vulnerable to large capital inflows. At the same time, had proved that the foreign investments are often speculative and conjunctural, elements to produce a short-term impact of high volatility, which is not specific to long-term capital market.

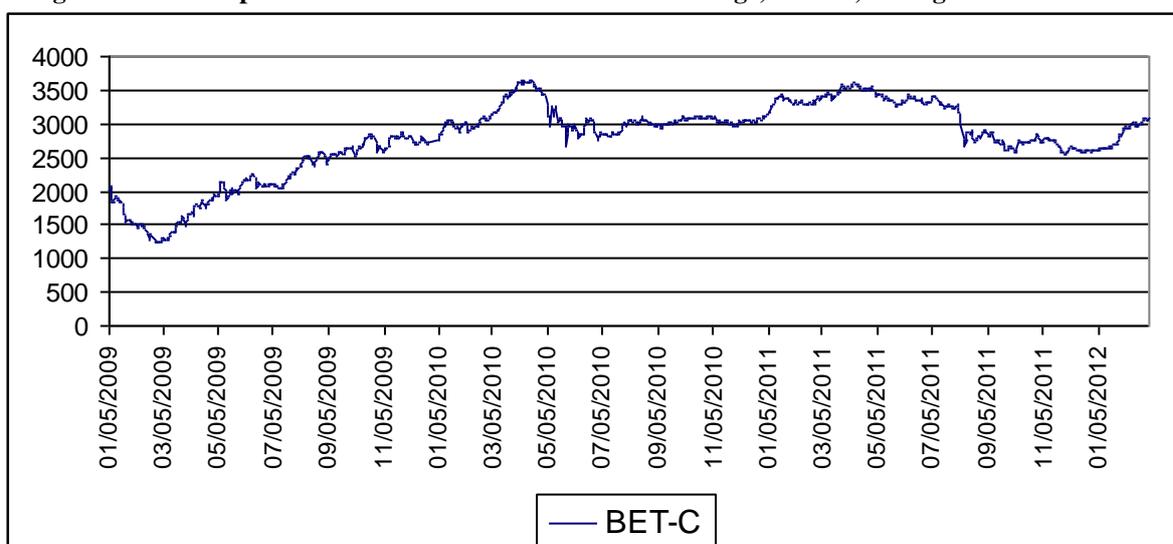
In this research is presented an overview of a small emerging capital market integrated into a global market in this particular time of 2008-2011 years. For good methodological results are used statistical data from period February 2006 to February 2012, before and after financial crisis.

The main objective of this research is to demonstrate that also the small capital market is time correlated with the developed markets, but with greater variance of prices. The second objective is to show the correlation between stock prices from most representative companies and BET-C index, in time of bullish market and bearish market.

Because of possible distortions in the BET index analysis, from Bucharest Stock Exchange (BSE), caused by changing composition of the index in terms of the 10 companies included in this index, we considered more relevant BET-C index, which covers all listed companies. Even in those circumstances there could be a problem given the extremely low liquidity of shares, but this is partially solved by free-float factor included in the formula for calculating the index.

BET-C had the highest value on July 24, 2007 to 7432.63 points. February 25, 2009 was 1231.05 points recorded minimum, representing a decrease of 83.44%. (Fig.1)

**Figure 1: The composite index of the Bucharest Stock Exchange, BET-C, during Feb.2006-Feb.2012**



Source: Bucharest Stock Exchange, data series on the website: <http://www.bvb.ro/>

BET-C index value has made a comeback in 2009 and the last trading session of December there were 2714.77 points, with 120.5% more than the minimum in February of that year. But the period 2010-2011 is recorded a stagnation, the year 2011 that ended BET-C index was 2621.41 points, lower than

3111.17 points over the previous year, with 15.74%. Note there are two moments in 2010, the minimum registered on 25 May of 2658.23 points, after the peak of 3655.27 points recorded on April 4.

In this study I also calculate standard deviations on BET-C index in the period Feb.2006 to Feb.2012 on all period and also divided into periods of bull and bear characteristics.

**Table 1: Standard deviations on BET-C index, in the period Feb.2006 to Feb.2012**

No.	Start Date	End Date	Average return	Standard deviation	Explanations
1.	01.Feb.2006	29.Feb.2012	-0.03%	1.96%	All period
2.	01.Feb.2006	24.Jul.2007	+0.12%	1.20%	Bull market
3.	24.Jul.2007	25.Feb.2009	-0.43%	2.41%	Bear market
4.	25.Feb.2009	29.Feb.2012	+0.13%	1.65%	Bull market

Source: BSE, annual reports, 2000-2012 and public information on www.bvb.ro

As the figures from Table.1 show on all studied period the standard deviation is situated at 1.96% similar with the last period after the turning point from the end of February 2009. In the second period, when the boost of global capital market is reflecting in growing prices of majority of the shares, the standard deviation is at the lowest value.

On the other hand, starting with the financial crisis, the standard deviation is double than before, at 2.41% and also the average of expected return is below zero, at -0.43% value.

**Table 2: Average return vs. Buy and Hold strategy on BET-C index, in the period Feb.2006 to Feb.2012**

No.	Start Date	BET-C	End Date	BET-C	Buy and Hold	Average return	Explanations
1.	01.Feb.2006	4875.45	29.Feb.2012	3103.44	-36.35%	-0.03%	All period
2.	01.Feb.2006	4875.45	24.Jul.2007	7432.63	52.45%	+0.12%	Bull market
3.	24.Jul.2007	7432.63	25.Feb.2009	1231.05	-82.95%	-0.43%	Bear market
4.	25.Feb.2009	1231.05	29.Feb.2012	3103.44	149.28%	+0.13%	Bull market
					(2+3+4)/3 = 39.59%		

Source: BSE, annual reports, 2000-2012 and public information on www.bvb.ro

In Table 2 we show a comparison between average return and buy and hold strategy and there are big differences. For all period, from 01.Feb.2006 to 29.Feb.2012, the average return is -0.03% and buy and hold is -36.35%. For first interval, characterized as bull market, from 01.Feb.2006 to 24.Jul.2007, the BET-C Index registered an 52.45% return on buy and hold strategy and only +0.12% on average return. In bear market, from 24.Jul.2007 to 25.Feb.2009 the buy and hold strategy return is -82.95% and average return -0.43%. In the third interval, again the bull market, from 25.Feb.2009 to 29.Feb.2012 the buy and hold strategy return is 149.28% and average return is +0.13%. Furthermore, if we average the buy and hold strategy return from this 3 interval result a return by +39.59%.

Between 2000 and 2007, Bucharest Stock Exchange showed good performance, with a significant increase in the amount of equity, from 15 billion Euro in 2005 to over 24 billion Euro in 2007 (Table 2). Basically, the most important years of stock exchange, from its foundation until now, have been 2004-2007. The financial crisis has brought the market capitalization value of the years 2004-2005, with a return in 2009, strengthened in 2010 and an appreciable depreciation by 31% in 2011.

**Table 2: BSE capitalization in the period 2000-2011**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
BSE Capit.	450	1,361	2,646	2,991	8,819	15,311	21,415	24,601	11,630	19,053	23,892	16,386
Relative growth	-	202%	94%	13%	195%	74%	40%	15%	-53%	64%	25%	-31%

Source: BSE data after the last trading session in the respective years

The BSE capitalization fell by 53% dec.2008 month, because in 2009 to recover 64% from year-end 2008.

Similar to the U.S. stock market, the depreciation recorded in October 2008 was approximately 40 percent, but some companies have registered over 90% discount to the values recorded in November

2007. Historical average decline on a global scale, the stock price is 55.9 percent, with a recession of about 3.4 years. (Reinhart, 2009: pp.226).

### 3. Implication of global financial crisis

Odean (1998) concluded that winning stocks sold by individuals outperform losing stocks held by individuals over a 1 year horizon. In 1999 Odean considers all stocks individuals trade and find buys underperform sells (Odean, 1999).

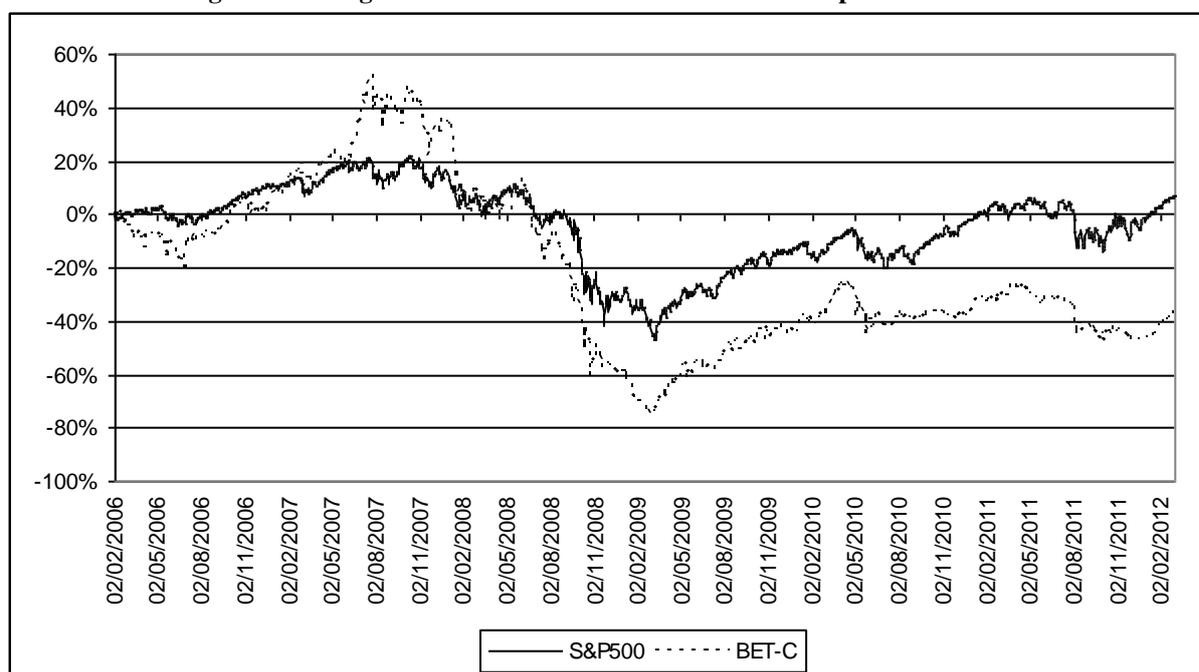
From his study Kumar (2004) show that one-third of investors possess local information. Also he finds information effects are particularly strong for investors who reside in remote geographical locations.

In the specific literature is well documented that individual investors tilt their portfolios towards locally-headquartered stocks. This strong evidence came from US and also from international studies. Ivkovic and Weisbenner (2005) and Massa and Simonov (2006) argue that individuals can exploit local information.

Seasholes (2010) into a recent study tests whether individuals earn superior returns on their local investments. Conclusion of this research point to indexing as a straightforward solution to the perils faced by individuals investors (Seasholes et al. 2010). An investor who indexes can minimize transactions costs and avoid losses associated with trading individual stocks. Also Seasholes show that, on average, individuals do not have value-relevant information about the local stocks they hold and trade.

Even if the amplitude of which varied with the BET-C was significantly higher than S&P500, however, values were correlated to August 2010. From this month there is a mismatch due to continued stagnation in the capital market in Romania, while the U.S. to continue its growth in 2010 (Fig.2).

Figure 2: Changes in BET-C index and S&P500 over the period Feb.2006-Feb.2012



Source: BSE, NYSE, the daily data series at the end of trading session

In 2011 was missed the opportunity to returning BSE by no company listing, own by state, as was expected. In 2012 it is possible to register some higher assessments on BSE, and this could lead to a further recovery and correlation with the market in Romania in the U.S.. The assessments are possible in light of new and attractive listings from the state, particularly in energy, utilities and telecommunications. Still have to remember that 2012 is an election year and these are difficult decisions undertaken.

### 4. Conclusions

As a conclusion, we could say that the words written by Shahrokhi (2011), summarize the several lessons to be learned from the current crisis that can improve the economic system: "Due to dynamic linkages, no nation is isolated from the effects of global crises. These linkages are in part the result of

deregulation and the removal of cross-border barriers to entry. Developing countries that are now open to shocks but less able to absorb them have been among the victims of the crisis.”

The global recession of the financial market, from July 2007 and March 2009, show that the emergent capital market is more vulnerable to a big capital flow and to price volatility.

After 2009, on the Bucharest Stock Exchange, the liquidity rate is very low and oscillating, which increase aversion to this small capital market, especially in the case of foreign investors and portfolio investments strategy. Romanian capital market does not fully fulfill its role in the efficient allocation of the available capital, and the dominant aspect is the speculative character of the stock exchange.

For sustainable developing the Romanian capital market is very important to increase the number of local investors and the IPOs vs. foreign investors. The companies and the population are further prefer bank deposits as a form of saving or preserving their money, the temporarily available ones, in spite of the fact that the bank interest rates continue depreciating during the most recent months.

Our present paper will be continued with econometric testing of correlation between prices of the most representative company listed on Bucharest Stock Exchange and BET-C Index. Also, this type of tests will be realized on BET-C, S&P500 and FTSE-100 indexes to establish a possible relation between developed markets and small emerging one, like Bucharest Stock Exchange and this research will be published in extenso.

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## BUSINESS CYCLE SYNCHRONIZATION BETWEEN ROMANIA AND THE EURO AREA. A FRESH LOOK IN VIEW OF THE RECENT CRISIS

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**Abstract:** *This paper examines the degree of business cycles synchronization between Romania and the Euro area, by using Germany as a benchmark for the area economic cycle. The period of the study is 2000 – 2011, with a special emphasis on the recent economic and financial crisis. Using the Hodrick-Prescott filter, we find important, but decreasing correlations in times of crisis in the level of GDP. Furthermore, the analysis by GDP components reveals that private consumption remains the least correlated with the Euro area, while foreign trade is highly correlated and its synchronization even increased during the recent crisis.*

**Keywords:** Optimum currency area, Business cycle synchronization, Romania, Euro area, Crisis

**JEL classification:** E 32, F 15, F 41

### 1. Introduction

After the European Union (EU) accession, the next challenging step for the Central and Eastern Europe (CEE) countries is euro adoption. They do not benefit from an opt-out clause from the monetary union. There have been a lot of studies on the nominal criteria compliance, but empirical researches have mostly focused on business cycle synchronization across countries in order to assess how suitable a common currency would be.

The theoretical framework of the study remains within the optimum currency area (OCA) theory. This theory states that if countries with desynchronized economic cycles form a monetary union, then giving up the monetary policy independence and the exchange rate might generate significant costs for the participating countries, leading to the occurrence of asymmetric shocks. This view is rooted in the prices and wages rigidities and the insufficient labour mobility that could absorb these shocks, as Mundell said fifty years ago. Frankel and Rose (1998) have challenged this perspective, by arguing that OCA criteria may be endogenous, so that countries that do not fulfill the OCA criteria before entering a monetary union, they could satisfy them after the accession process. They argue that the common currency would enhance trade across countries and would lead to higher business cycles synchronization.

Even though the Maastricht Treaty does not have explicit clauses regarding cyclical or structural convergence criteria to be fulfilled before entering the Economic and Monetary Union (EMU), the economic vulnerabilities recently revealed in peripheral countries demonstrated the importance of these criteria.

The prospect of future EMU membership for CEE countries has brought about a lot of empirical studies that assess the degree of synchronization between CEE and the Euro area.

In this paper we evaluate the synchronization between the Romanian business cycle and that of the Euro area, in view of the recent economic and financial crisis. The degree of synchronization between countries may be measured by the contemporaneous cross-correlation of the cyclical component of real Gross Domestic Product (GDP). We measure both the correlation between GDP and its components. Very large empirical work has used GDP.

The study extends the research in this area in several directions. First, we use a longer time span, adding quarterly data for the recent economic and financial crisis period and we divide the period into three sub-periods: the pre-boom period, the boom period and the crisis period. We are therefore able to assess the current degree of synchronization between Romania and the Euro area and to better grasp the effects of the crisis. Secondly, we also evaluate the correlation between macroeconomic aggregates in Romania and the Euro area, which allows us to notice the behaviour of internal and external macroeconomic aggregates during the three sub-periods mentioned above.

The paper considers the economic cycle of Germany as the benchmark for the Euro area, due to its strong economic position within the EMU. As a matter of fact, the business cycle of Germany is very similar to that of the Euro zone and we will empirically show this in the first part of our study. Germany also produces more than a quarter of Euro area GDP and is the main trading partner of the Romanian economy. Furthermore, the economic literature on the existence of a unique business cycle of the Euro area does not provide us with an answer at the moment.

The rest of the paper is organized as follows. Section 2 makes a short review of the literature on this subject. Section 3 describes the data and the methodology employed in the paper. Section 4 presents the results of the analysis and Section 5 concludes the paper.

## 2. Literature review

There is an increasing concern in the empirical macroeconomic literature related to the OCA criteria and the extent to which these criteria are satisfied by countries that adopt a common currency (Bojeşteanu and Bobeica, 2008). Among the OCA criteria, business cycle synchronization is very prominent in comparison with price and wage flexibility, mobility of factors or diversification in production and consumption, being a meta-criteria due to its complexity.

Synchronization represents the tendency of recessions and expansions to occur at about the same time. Given the prospect of EMU membership by the CEE countries, a lot of empirical work has been devoted to the assessment of the business cycles synchronization degree between these countries and the Euro area or Germany (Fidrmuc and Korhonen, 2006). They have conducted a meta-analysis regarding the correlation of the EU new member states with the Euro area during 1998 – 2005. They showed that Bulgaria, Romania and the Czech Republic recorded low correlations with the area. The majority of the studies confirm the similarity of several aspects of synchronization such as intensity of common supply and demand shocks or the difference in phases of the business cycle between CEE countries and the EU (Matkowski and Próchniak, 2004; Darvas and Szapáry, 2004; Carmignani, 2005; Savva et al., 2007).

However, the business cycle literature on Romania remains relatively scarce with respect to empirical studies.

Dumitru (2009) studies the economic cycle of the new member states and its correlation with the Euro area based on quarterly GDP during 1995 – 2008. He comes to the conclusion that among the new member states, Romania has the lowest correlation of the business cycle with that of the Euro, which reveals a high risk of asymmetric shocks. Also based on GDP, Bojeşteanu and Bobeica (2008) study the degree of business cycle correlations of the newest member states with the Euro area and come to the conclusion that Estonia, Lithuania, Slovakia and Romania exhibit lower convergence within the group of the new member states. As a consequence, the authors support the idea that Romania should not rush into adopting the euro.

Dardac and Bojeşteanu (2009) have a more complex approach, by using more macroeconomic data for assessing business cycles synchronization between Romania and the Euro area: industrial production index, the index of production in construction, the unemployment rate, the harmonized index of consumer prices and the economic sentiment indicator during 2000-2009. They indicate that during the recent economic and financial crisis, there has been an increase in the degree of comovement between the Romanian economy and the Euro area.

Dumitru and Dumitru (2010) assess the degree of readiness of new member states of the EU, including Romania, to adopt the euro, mainly based on OCA criteria. They find that the correlation of business cycles of Romania is one of the lowest among these countries, but it has made significant improvements in the last years.

Marinaş, Socol and Socol (2011) estimate the degree of synchronization of business cycles between Romania and the Euro area, based on Hodrick-Prescott filter. They take into account GDP and industrial production between Q1 1998 and Q3 2010. The authors conclude that there has been an increasing correlation of business cycles, as a consequence of stronger industrial activity and export synchronization.

Generally speaking, most of the studies take into consideration the synchronization in the GDP levels or industrial production. However, Levasseur (2008), Darvas and Szapary (2004) develop some pioneer studies by extending the direction of research also to the analysis of comovements of GDP components.

In the case of Darvas and Szapary (2004), they study the correlations in GDP, private consumption, investment, exports, industrial production and services, between some CEE countries

(Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia) and EMU members. They conclude that Hungary, Poland and Slovenia have achieved a high degree of synchronization for GDP, industry and exports, but not for consumption and services. The other CEE countries have achieved less or no synchronization.

Levasseur (2008) includes Romania in her study. The general conclusion deriving from the analysis of GDP components reveals that internal factors are more important in enhancing synchronization between the CEE countries and the Euro area. The GDP comovements with the area have increased during 2002-2006 as compared to 1996-2001 in most of the CEE countries.

Bojeșteanu and Manu (2011) study the business cycles synchronization in terms of quarterly GDP and monthly industrial production during 2000-2010. They also study the synchronization at the level of GDP components. The authors conclude that during the last period of time, there has been a strong increase in the correlations with the Euro area, especially as regards consumption.

This approach, based on GDP components, is limited for Romania at the moment. The current paper extends the research area by assessing cyclical synchronization of several components between Romania and the Euro area. It also emphasizes the effect of the current economic and financial crisis on the synchronization and it reports the comovements of cycles to Germany, as the driving economy in the EMU.

### 3. Data and Methodology

We use quarterly GDP and GDP components data, ranging from Q1 2000 to Q4 2011 for Romania, Germany and the Euro area (17 members). The variables are expressed in millions of Euro in chain-linked volumes, reference year 2005 (at 2005 exchange rates), and are seasonally adjusted. Apart from GDP, we take into consideration in our analysis private consumption, gross fixed capital formation (investments), exports and imports. We do not discuss the synchronization in governmental consumption, because this is a component policy-driven component. However, it is true that the Maastricht criteria, the Stability and Growth Pact and the recent Fiscal Treaty may constitute important factors that push towards greater fiscal policy convergence.

The data series have been obtained from the Eurostat database.

The Hodrick-Prescott (HP) filter is employed in order to extract the business cycle-related fluctuations of the GDP and its components. It has been applied in the logs of the variables. The filter is a univariate one introduced by R. J. Hodrick and E. C. Prescott in 1997 and is a very frequent parametric method for decomposing time series ( $y_t$ ) into two unobservable components, which are trend ( $\bar{y}_t$ ) and cycle ( $c_t$ ). The trend is extracted through the minimization of a loss function of this type:

$$\min_{\bar{y}_t} [\sum_{t=1}^T c_t^2 + \lambda \sum_{t=1}^T ((\bar{y}_{t+1} - \bar{y}_t) - (\bar{y}_t - \bar{y}_{t-1}))]^2, \quad (1) \text{ where}$$

T is the total number of observations;

$\sum_{t=1}^T c_t^2$  represents the sum of squared deviations, being equal to  $\sum_{t=1}^T (y_t - \bar{y}_t)^2$ ;

$\sum_{t=1}^T ((\bar{y}_{t+1} - \bar{y}_t) - (\bar{y}_t - \bar{y}_{t-1}))$  represents the sum of the trend growth rate changes;

$\lambda$  is the parameter meant to penalize the fluctuations in the growth rate of the trend series; the bigger this is, the smoother the estimated trend becomes (when  $\lambda \rightarrow \infty$ , the trend becomes a straight line).

In order to determine the economic cycle we use HP filter with  $\lambda = 1600$ , which is appropriate for quarterly macroeconomic time series.

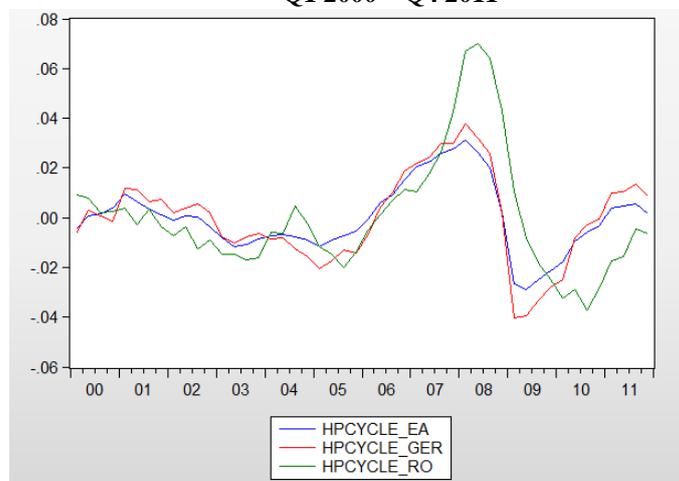
As a measure of business cycles synchronization, we use the Pearson correlation computed in Eviews 7, during Q1 2000 – Q4 2011. We divide the period into three sub-periods of an equal length: Q1 2000 – Q4 2003, Q1 2004 – Q4 2007, Q1 2008 – Q4 2011, in order to emphasize both the evolution of business cycle correlations and the impact of the recent economic and financial crisis on it.

## 4. Empirical results

### 4.1. Correlation results based on GDP

We first measure the degree of synchronization between Germany and the Euro area, in order to support our view that Germany approximates well the Euro area cyclical evolutions. There is a strong cyclical correlation between these two: the Pearson correlation is 97% for the whole period 2000 – 2011.

**Figure 1: Cyclical component of log GDP in Romania, Germany and Euro area, Q1 2000 – Q4 2011**



Source: Authors' work in Eviews 7

Figure 1 also supports the almost perfect synchronization between Germany and the Euro area. Germany is indeed highly representative for the Euro area business cycle. Romania, Germany and the Euro area have similar evolutions before 2007. However, the economic boom of Romania is highlighted in the Figure above. During 2007 – 2008, the cyclical component of GDP is well above that in Germany or Euro area. This was followed by a period in which the cyclical GDP performed under the other. When Germany cyclical GDP started to become positive again in the first quarter of 2011, Romania was still recording negative values. In fact, the cyclical component of GDP in Romania is still negative in the last quarter of 2011, meaning that it delays the strong revival of economic growth.

This section measures the degree of synchronization between Romania and Germany based on the GDP, as a comprehensive measure of the economic activity and on the Pearson correlation.

**Table 1: Correlation between Romania and Germany business cycles**

Sub-period of time	Business cycle correlation (log GDP) between Romania and Germany
Q1 2000 – Q4 2003	<b>46%</b>
Q1 2004 – Q4 2007	<b>89%</b>
Q1 2008 – Q4 2011	<b>60.8%</b>

Source: Authors' work in Eviews 7

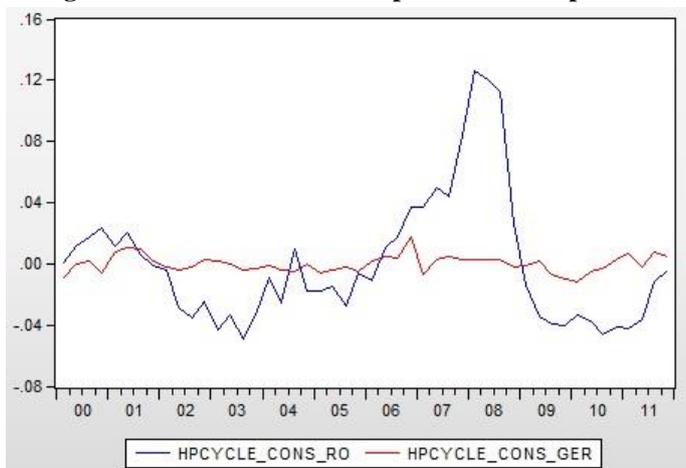
Romania recorded a rapid increase in the business cycles correlation with Germany during 2004-2007 as compared to 2000-2003 period (Table 1). This was surely influenced by the EU accession in 2007 and by the higher economic integration with the EU starting from the pre-accession years. However, starting from 2008 and up to the last quarter of 2011 for which data are available, Romania recorded a dramatic decrease in the correlation with Germany. More exactly, it lost 28.2 percentage points.

As a consequence, we may take into account a reverse trend in the synchronization of Romania's business cycle with the Euro area because of the crisis. If the trend continues, this will put further pressure on the prospects of EMU accession in the next years. Given the lower level of synchronization, Romania's entry into the Euro area and the adoption of a common monetary policy would generate important macroeconomic costs.

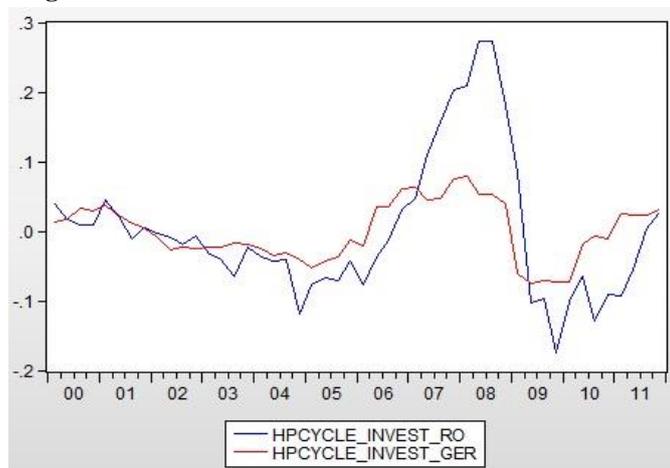
### 4.2. Correlation results based on GDP components

In this section, we test the correlations between the Romanian economy and Germany in terms of GDP components. We report the Pearson correlation for private consumption, gross fixed capital formation (investments) and foreign trade.

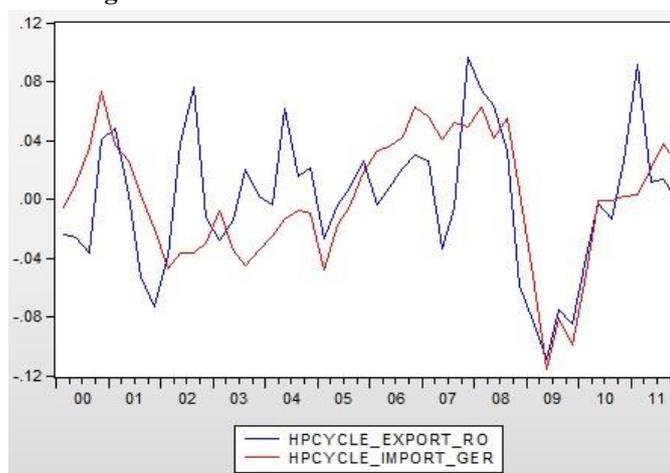
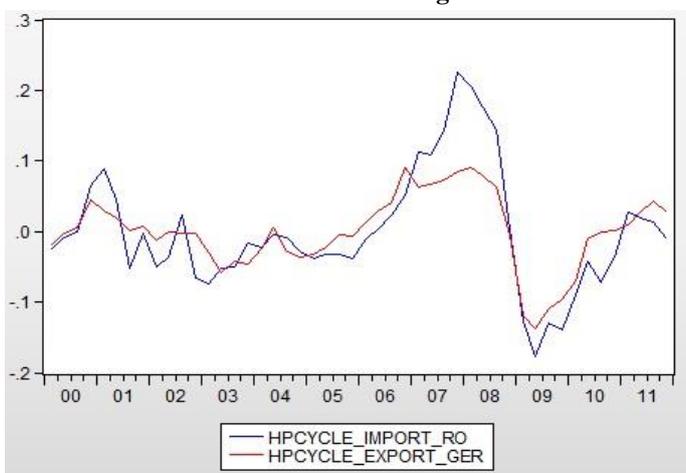
**Figure 2: Correlation between private consumption**



**Figure 3: Correlation between investment**



**Figure 4 : Correlation between foreign trade**



Source: Authors' work in Eviews 7

The macroeconomic imbalances of Romania during the boom period are pointed out through the figures above. The cyclical consumption of population and imports attained very high levels in this time and were above the rather modest evolutions recorded in Germany, being highly pro-cyclical. More exactly, the economy had developed on credit consumption and large imports. The investments also attained very high levels because of the overheating economy. However, the cyclical components of Romanian exports and German imports have quite similar evolutions before and during the economic crisis. In fact, the second quarter of 2009 marks a minimum for both of them.

Generally speaking, the cyclical components of GDP in Romania experience more abrupt and larger decreases than in Germany because of the crisis.

**Table 2: Cyclical correlations between Romania and Germany in terms of GDP components**

Sub-period of time	Cyclical correlation of private consumption between Romania and Germany	Cyclical correlation of gross fixed capital formation between Romania and Germany	Cyclical correlation of Germany exports and Romania imports	Cyclical correlation of Germany imports and Romania exports
Q1 2000 – Q4 2003	<b>32%</b>	<b>76%</b>	<b>72%</b>	<b>8.8%</b>

Sub-period	Cyclical correlation of	Cyclical correlation of	Cyclical correlation	Cyclical correlation
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<i>of time</i>	<i>private consumption between Romania and Germany</i>	<i>gross fixed capital formation between Romania and Germany</i>	<i>of Germany exports and Romania imports</i>	<i>of Germany imports and Romania exports</i>
Q1 2004 – Q4 2007	<b>45%</b>	<b>83%</b>	<b>84.4%</b>	<b>26%</b>
Q1 2008 – Q4 2011	<b>34.4%</b>	<b>71%</b>	<b>92.26%</b>	<b>83.75%</b>

Source: Authors' work in Eviews 7

As we can see from the Table 2, the strongest cyclical correlation is between Germany exports and Romania imports during all the sub-periods analyzed above, with the exception of gross fixed capital formation (investments) during Q1 2000 – Q4 2003.

At present, private consumption seems to record the lowest correlation between the two countries, being more internally driven. In the first part of the analysis, the lower correlation with Germany can be due to a superior level of credit in Romania. Foreign trade, which represents an external channel, has the highest correlation degree among all GDP components. Investments also have a high level of correlation of 71% at present.

The impact of the economic and financial crisis on cyclical correlations of GDP components is very clear just in the case of private consumption and gross fixed capital formation. There have been growing correlations between them during the boom period of 2004 – 2007, being also positively influenced by the positive integration perspective of Romania into the EU. Internal investments have also recorded growing correlations, probably partially based on the EU perspective and the need to be competitive at the European level and partially on the boom economic period.

However, the growing trend correlations of trade between Romania and Germany do not seem to have been negatively affected by the crisis. There is a continuous increase between them and this can be explained through several reasons. First of all, Germany is the most important trade partner for Romania and this has not changed during the crisis (18.6% of Romanian exports and 17.1% of imports in 2011). Secondly, Romania's exports recorded significant improvements during the recent crisis, due to the increasing price competitiveness on the European market. Exports reached the highest level during all our post-communist history in 2011, of 45 billion Euro. Moreover, the value of exports increased by 21% in 2011 as compared to 2010. Thirdly, Germany has benefited from important incentives in the automotive sector that brought upon an increase in Romanian exports.

Our results confirm that consumption is generally less synchronized than GDP. The empirical work focusing on this subject has had the same conclusions. This is considered one of the six major puzzles in international macroeconomics by Obstfeld and Rogoff (2000) and is referred to as the "consumption-correlation puzzle". There are important factors that support the existence of the "puzzle", such as non-traded goods, imperfect financial market integration, imperfect competition or trade costs. The results support the idea that there is still a small degree of risk sharing between consumers and that during times of economic crisis the correlation becomes even smaller.

The cyclical correlation between investment in Romania and Germany is very different from that observed for private consumption. The correlations are very high before and during the crisis. We expected this result, given the influence of business cycle phases on the national investments: during good times the level of investments increases, while during recessions they decrease.

In terms of foreign trade, Romania exhibits positive and high correlation with respect to the major trading partners, Germany. Romanian imports and exports appear to respond in a great proportion to Germany business cycle, in the period before the crisis and during the crisis. The high level of synchronization is not surprising because foreign trade is one of the main channels of business cycles synchronization. Romanian imports cycles present very similar trends, the levels of correlation being even higher.

## 5. Conclusions

The main findings of this paper support the results of previous research in this area. The degree of business cycle synchronization between Romania and the Euro area increased in the years before the crisis (2000 - 2007), showing that Romania was on track in the real convergence process. The novelty of our paper is that we find strong evidence of the large decrease in the correlation degree in overall economic activity. This represents an important challenge on the medium and long term for the EMU

accession perspectives. Hence, we conclude that the costs of participating in the EMU should be seriously taken into account.

Furthermore, the analysis of the GDP components synchronization between Romania and Germany, as benchmark for the EMU, reveals that trade is the most correlated component within these economies. We anticipated this strong linkage, given that Germany is the most important trade partner for Romania. What we did not expect was the increasing trend during the crisis, despite the severe recession in the Euro area.

Romanian investments also present high correlations with Germany that increased even during the crisis, but as we argued before, this stems from business cycles fluctuations, not necessarily from stronger linkages.

At the opposite side, private consumption remains the component with the lowest correlation and it has decreased in the last 3 years. The main argument for the contrary trend correlations is the difference between the economic models in the two countries. While the Romanian economy is based on consumption, Germany has a production-based approach.

Even if the Romanian performance before the recent crisis increased the level of synchronization with the Euro area, the recent evolutions emphasize the high structural gap that has not yet been filled. This is the most important challenge that Romania faces in the process of EMU accession.

## 6. Acknowledgement

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**Annex 1: Macroeconomic indicators for Romania and Germany, 2000 – 2011**

Period of time	Macroeconomic indicators for Romania, million Euros					Macroeconomic indicators for Germany, million Euros				
	GDP	Private consumption	Investment	Exports	Imports	GDP	Private consumption	Investment	Exports	Imports
Q1 2000	14,786	8,148	2,784	3,541	3,537	535,983	311,115	106,687	161,440	157,946
Q2 2000	14,970	8,425	2,788	3,644	3,746	541,711	314,235	106,409	166,610	161,941
Q3 2000	15,096	8,676	2,835	3,719	3,935	541,211	315,126	107,341	170,264	167,161
Q4 2000	15,319	8,926	2,904	4,139	4,369	540,877	312,961	106,303	179,983	175,172
Q1 2001	15,554	9,030	3,081	4,298	4,665	548,912	317,585	106,399	179,713	170,228
Q2 2001	15,675	9,315	3,087	4,234	4,653	549,524	318,476	104,150	180,609	169,907
Q3 2001	15,996	9,395	3,066	4,126	4,394	547,800	318,508	102,295	179,988	167,377
Q4 2001	16,116	9,550	3,191	4,166	4,807	548,912	316,344	101,065	183,802	164,948
Q1 2002	16,289	9,752	3,246	4,445	4,778	546,924	315,166	98,948	183,079	162,132
Q2 2002	16,582	9,738	3,312	4,941	5,052	548,648	314,720	96,766	188,042	165,364
Q3 2002	16,680	9,907	3,368	5,285	5,589	550,595	315,484	96,593	190,569	167,051
Q4 2002	16,983	10,263	3,506	4,980	5,326	549,538	317,362	96,132	193,510	170,022
Q1 2003	17,145	10,326	3,509	5,044	5,515	545,256	317,370	95,966	191,115	175,890
Q2 2003	17,397	10,693	3,586	5,259	5,882	544,922	316,924	95,735	189,208	173,179
Q3 2003	17,619	10,805	3,604	5,597	6,161	547,480	316,001	96,033	195,389	173,681
Q4 2003	17,904	11,258	3,873	5,641	6,653	549,594	316,447	95,928	197,985	177,817
Q1 2004	18,360	11,841	3,943	5,755	6,897	549,774	317,283	95,211	205,705	182,078
Q2 2004	18,638	11,945	4,041	6,308	7,337	551,498	316,614	94,462	215,838	186,756
Q3 2004	19,124	12,712	4,187	6,173	7,632	550,664	316,741	94,942	212,575	190,732
Q4 2004	19,273	12,687	4,004	6,355	7,801	550,664	318,429	94,289	214,505	193,241
Q1 2005	19,382	13,020	4,315	6,197	8,055	549,997	317,068	93,373	219,187	188,840
Q2 2005	19,605	13,393	4,509	6,484	8,454	553,611	318,023	94,853	225,620	197,794
Q3 2005	19,779	13,554	4,649	6,709	8,802	557,949	318,787	95,901	233,846	203,295
Q4 2005	20,177	14,174	4,947	6,972	9,094	559,395	318,309	98,650	237,522	211,185
Q1 2006	20,636	14,437	4,942	6,903	9,715	565,887	320,959	98,400	246,449	217,635
Q2 2006	21,032	15,083	5,311	7,119	10,215	574,451	322,264	104,561	254,192	221,429
Q3 2006	21,413	15,514	5,606	7,350	10,801	579,957	322,105	105,214	261,131	226,027
Q4 2006	21,766	16,133	6,037	7,548	11,463	587,019	326,912	108,617	278,455	233,475
Q1 2007	21,974	16,431	6,304	7,644	12,561	590,856	319,447	109,306	274,418	234,981
Q2 2007	22,360	16,911	6,871	7,323	12,861	594,304	322,981	107,797	278,530	234,058
Q3 2007	22,758	17,074	7,369	7,646	13,630	599,476	323,936	108,538	283,746	239,097
Q4 2007	23,315	17,990	7,864	8,600	15,166	600,977	323,490	111,997	289,466	240,844
Q1 2008	24,059	18,974	8,033	8,536	15,130	607,442	323,999	112,793	293,942	246,496
Q2	24,273	19,040	8,656	8,567	14,930	605,106	324,222	109,929	292,816	243,323

2008										
Q3 2008	24,249	19,036	8,725	8,414	14,692	602,715	324,509	110,284	290,196	248,564
Q4 2008	23,821	17,552	8,002	7,785	12,908	589,647	323,363	108,852	273,125	238,645
Q1 2009	23,127	16,932	7,285	7,702	11,432	566,012	324,047	98,669	244,886	226,850
Q2 2009	22,747	16,632	6,023	7,615	10,998	567,792	325,416	97,266	242,290	214,523
Q3 2009	22,554	16,593	6,043	7,988	11,623	572,408	322,901	97,891	250,584	223,899
Q4 2009	22,421	16,581	5,573	8,024	11,599	576,579	322,328	97,852	255,754	221,670
Q1 2010	22,273	16,710	5,973	8,525	12,295	579,512	322,137	98,023	264,348	234,504
Q2 2010	22,358	16,647	6,153	8,983	12,994	590,801	324,747	103,626	282,775	248,980
Q3 2010	22,172	16,503	5,744	9,027	12,726	595,472	325,702	105,241	288,427	251,148
Q4 2010	22,378	16,572	5,920	9,540	13,291	598,308	328,090	105,058	291,207	254,341
Q1 2011	22,620	16,546	5,880	10,356	14,301	606,358	329,872	109,280	296,010	256,880
Q2 2011	22,661	16,638	6,070	9,713	14,307	608,026	327,485	109,309	303,959	264,289
Q3 2011	22,916	17,040	6,387	9,888	14,335	611,529	331,337	109,655	311,863	271,396
Q4 2011	22,876	17,171	6,500	9,909	14,101	610,417	330,604	110,904	309,474	270,613

Source: Eurostat database.

## ANALYSIS OF BUSINESS CYCLES CONVERGENCE IN A SWITCHING REGIME VIEW

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**Abstract:** *In this paper I analyzed the convergence between Romanian and Euro Zone's business cycles using a Switching approach. Considering the evolution of final consumption expenditure as proxy for the business cycles, the underlying study is calibrated on the second key feature of Burns and Mitchell's (1946) definition about business cycles, namely the cycles are divided and also treated differently for cases of expansionary and downward regimes. Therefore a cyclical convergence between Romanian and Euro Zone's business cycles is characterized by synchronization in the occurrence of different regimes (states) and also in the time for which these regimes are standing up. For this purpose, I called a Markov Switching model in order to estimate the probability of being in economic expansion or recessions for both business cycles. In that sense, I use both a Hamiltonian approach and a standard AR parametrisation for dependent variable's dynamics. Additionally, the Markov Switching analysis was completed by a Bayesian Switching approach in order to cross check the statistical significance of resulted estimates. Also other econometric and statistical methods were engaged to verify the accuracy of obtained information.*

**Key words:** Business Cycles, consumption expenditure, convergence, permanent income, filter, correlation.

**JEL classification:** E 32, F 41

### 1. Introduction

The evolution of economic variables is influenced by a sum of latent factors as many of them post very different and abrupt changes at some moments in time. These breakdowns could be caused by very different events such as the wars, disasters, baby booms, panics, government changes and other. Of a particular interest for economic research is to analyze of how some variables behave during up and downturns in the economic activity. In that sense, Chow (1960) proposed a first approach in order to study the existence of a dramatic change. He treated the structural change as a switch in a regression equation and tested its statistic significance using a Fisher test. Because in real time you have a little evidence on the dates at which regression parameters are switching, Goldfeld and Quandt (1973) defined models which allow for Markov-switching in parameters. Hamilton (1989) proposed for the first time a Markov-switching model in order to analyse the non-linear dynamics in GNP evolution according to a specific state or regime. In fact, its model represents an extension of the Goldfeld and Quandt model through the use of switches on autoregressive parameters in order to explain structural changes in data. In this paper we analyze the convergence between Romanian and Euro Zone's business cycles using a switching approach. Rather, the use of switching approach could provide important information in regard with structural similarities between the two studied economies. More exactly following the second key insight of Burns and Mitchell's (1946) that business cycles are divided and also treated differently for cases of expansionary and downward regimes, in the first timeframe we consider that synchronization in moments of changing regimes is important for cyclical convergence, while expected duration of recession and expansions shows the economy's capacity to recover after crisis, respectively to mitigate the developments of bubbles. As proxy for the business cycles we used the evolution of final expenditures with consumptions mainly due to both some interesting stylized facts and the small number of research studies on consumptions evolution for Central and Eastern Europe Countries. The objective followed in this paper is twofold: *i*) we intended to analyze the convergence of business cycles and *ii*) to develop and test a large library of tools for the analysis of business cycles given some stylized facts of emergent countries and short sample of data. For this purpose we used Markov and Bayesian Switching approaches. The results provided by these techniques were checked using some specific tests on structural breakdowns in data, namely the Chow and Quandt-Andrews tests.

## 2. Methodology

Given a stochastic process  $(X_t)_{t \in T}$  defined on a probability space  $(\Omega, \mathcal{F}, \mathbb{P})$ , the process which describes the probability that  $X_t$  takes in time some values  $j$  represents a *Markov Chain* with  $n$  number of states:

$$(1) P(X_t = j | X_{t-1}, X_{t-2}, \dots, X_1) = P(X_t = j | X_{t-1}) = p_{ij}$$

for every  $j \in$  to any countable set  $N = \{1, 2, \dots, n\}$ . As we can observe, the Markov Chain is a system which evolve only in discrete time, such as the current state depends only the previous states. In other words, the process defined by relation no. 1 has no memory since the information older than  $t - 1 (X_{t-2}, \dots, X_1)$  post no impact on the state current state. In the above relation,  $\{p_{ij}\}_{i,j=1,2,\dots,n}$  represents the probability of transition between state  $i$  to state  $j$  with the very important property that  $\sum_{j=1}^n p_{ij} = 1$ . The  $(n \times n)$  matrix of transition probabilities, where, for example  $p_{1n}$ , denotes the probability that our stochastic process will switch from state 1 to stat  $n$  :

$$(2) Tr = \begin{pmatrix} p_{11} & \dots & p_{n1} \\ \vdots & \ddots & \vdots \\ p_{1n} & \dots & p_{nn} \end{pmatrix}$$

A very important issue in the study of Markov Switching field is the inference of model parameters and probabilities. Depending on the method chosen by researcher, in the case of economic and financial analyses there could be obtained very different results. In this paper we call the method promoted by Hamilton (1989) which is based on the maximization of log-likelihood function. For this purpose, we consider a simple regression model (serially uncorrelated date in this case) with independent switches on its parameters:

$$(3) Y_t = X_t \beta_{S_t} + \varepsilon_t, t = 1, \dots, T, \varepsilon_t \sim \mathcal{N}(0, \sigma_{S_t}^2),$$

$$\beta_{S_t} = \beta_0(1 - S_t) + \beta_1 S_t$$

$$\sigma_{S_t}^2 = \sigma_0^2(1 - S_t) + \sigma_1^2 S_t$$

where  $S_t = 0$  or 1 and denotes the state (regime) of the model described above. Taking into account the definition of Markov process and chains, the order of Markov switching process is determined by the amount of information the state  $S_t$  depends on  $(S_{t-1}, S_{t-2}, \dots, S_{t-i})$ . If we know *a priori* the moment of a structural break (occurrence of a state),  $S_t$  is nothing more than a *dummy* variable. In the case of a first order Markov process, the probabilities take the following forms:

$$(4) P(S_t = 1 | S_{t-1} = 1) = p_1, P(S_t = 0 | S_{t-1} = 0) = p_2$$

where  $(p_2 = 1 - p_1)$   $p_1 = \frac{e^{p_{10}}}{1 + e^{p_{10}}}$  and  $p_2 = \frac{e^{p_{20}}}{1 + e^{p_{20}}}$  that means  $p_1, p_2$  are constrained by a logistic function with  $p_{10}, p_{20}$  unconstrained parameters. The first step in estimation of the switching model parameters is to define the joint density of explained variable and its underlying state (which is not direct observable):

$$(5) f(Y_t, S_t | \mathcal{F}_{t-1}) = f(Y_t | S_t, \mathcal{F}_{t-1}) * f(S_t | \mathcal{F}_{t-1}).$$

Once we defined the joint density, the next task is to separate the marginal densities in order to obtain the log-likelihood function for  $y_t$  and then to calculate the transition probabilities:

$$(6) f(Y_t | \mathcal{F}_{t-1}) = \sum_{S_t=0}^1 f(Y_t, S_t | \mathcal{F}_{t-1}) = \sum_{S_t=0}^1 f(Y_t | S_t, \mathcal{F}_{t-1}) * f(S_t | \mathcal{F}_{t-1})$$

$$= \frac{1}{\sqrt{2\pi\sigma_0^2}} e^{-\frac{(Y_t - X_t \beta_0)^2}{2\sigma_0^2}} * P(S_t = 0 | \mathcal{F}_{t-1}) +$$

$$+ \frac{1}{\sqrt{2\pi\sigma_1^2}} e^{-\frac{(Y_t - X_t \beta_1)^2}{2\sigma_1^2}} * P(S_t = 1 | \mathcal{F}_{t-1}).$$

From the above formula we can observe that marginal density of  $Y_t$  is obtained by summing over the states in terms of permutation (which means the integration of  $S_t$ ). Once the log-likelihood function for the marginal density of  $Y_t$  is defined, in the spirit of filters technique, the next task is to update the probability filtered with current information  $(\mathcal{F}_t = \{\mathcal{F}_{t-1}, Y_t\})$ , namely after the occurrence of explained variable:

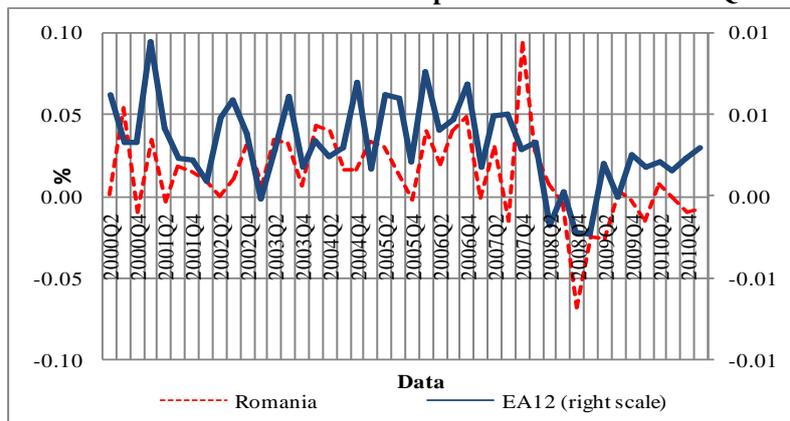
$$(7) P(S_t = j | \mathcal{F}_t) = \frac{f(S_t = j, Y_t | \mathcal{F}_{t-1})}{f(Y_t | \mathcal{F}_{t-1})} = \frac{f(Y_t | S_t = j, \mathcal{F}_{t-1}) * P(S_t = j | \mathcal{F}_{t-1})}{\sum_{j=0}^1 f(Y_t | S_t = j, \mathcal{F}_{t-1}) * P(S_t = j | \mathcal{F}_{t-1})}$$

In order to obtain the  $P(S_t = j | \mathcal{F}_{t-1})$  from the filter iteration we have to set some starting values which consists in the unconstrained probabilities that have been defined earlier:  $\pi_0 = P(S_0 = 0 | \mathcal{F}_0) = \frac{1-p_1}{2-p_1-p_2}$  and  $\pi_1 = P(S_1 = 1 | \mathcal{F}_1) = \frac{1-p_2}{2-p_1-p_2}$ .

### 3. Data and Empirical results

In this paper we analyzed the household's expenditure with final consumption series from Romania and Euro Area, available at EUROSTAT which is expressed in volumes of millions of euro, chain-linked at reference year 2000 (at 2000 exchange rates). The data were seasonally adjusted and adjusted by number of working days, ranging between 2000Q1-2011Q1. In the case of euro area, we used the restricted concept of 12 countries (EA12). A very important remark is that our time series are not deflated, but this aspect we will detail a bit later when we discuss about data stationarity. The evolution of Romanian consumption posts some kind of a trend (downward) between 2007Q4-2008Q4 without any base effect as in the case of EA12, given that we work with differentiated data.

Figure 1: First difference of final consumption series between 2001Q1-2011Q1



We started our analysis with a Markov first-order autoregressive style model in order to obtain a guide-search for the hypothesis of Random-Walk Phenomenon in consumption underlined by Hall (1980).

$$\Delta C_t^{RO} = 0.3507 \Delta C_{t-1}^{RO} + \varepsilon_t, \Delta C_t^{EA} = 0.7029 \Delta C_{t-1}^{EA} + \varepsilon_t$$

(0.0197) (0.0000)

The p-values from a Student-Statistics showed that AR(1) term is more important in explaining the evolution of dependent variable in the case of EA12, but the estimated results from both models are far by describing a unit roots in original data. Applying the benchmark Augmented Dickey-Fuller and Phillips-Perron tests, the null hypothesis of a unit root in the first order difference of data was rejected in both cases (owing to the lack of space we didn't report the results). Instead, the use of KPSS test underlined a very interesting stylized fact, namely the Romanian consumption post a fractional order of integration in some cases (which means there exists a long memory process. For the investigation of this issue, we engaged two approaches: ARFIMA fits for Romanian consumption and long-memory tests. Therefore, obtained results showed that despite some evidence provided by ARFIMA models in regard with a long memory in Romanian consumption, the studied series is fairly stationary and supports an invertible DGP (data generating process) as the Gweke and Porte-Hudak (1983) and Robinson and Henry (1998) regressions indicated the fractional order of integration is ranging between 0.2 and 0.46. Given these facts underlined before and the requirement of stationarity issued by Markov models of switching in parameters we performed AR process to model the dynamics in our time series.

$$\Delta C_t^{RO} = 0.0086 + 0.1007 \Delta C_{t-1}^{RO} + 0.3415 \Delta C_{t-2}^{RO} - 0.0509 Dummy + \varepsilon_t$$

(0.0543) (0.4572) (0.0152) (0.0038)

$$\Delta C_t^{EA} = 0.0031 + 0.2820\Delta C_{t-1}^{EA} + \varepsilon_t$$

(0.0000) (0.0620)

As we can observe, dynamics of Romanian consumption are modeled by an AR(2) with a *dummy* regressor, while for EA12's consumption we used a standard AR(1) process. The *dummy* was not introduced *ad-hoc*, as we considered this variable to account for recession effect on Romanian consumption.

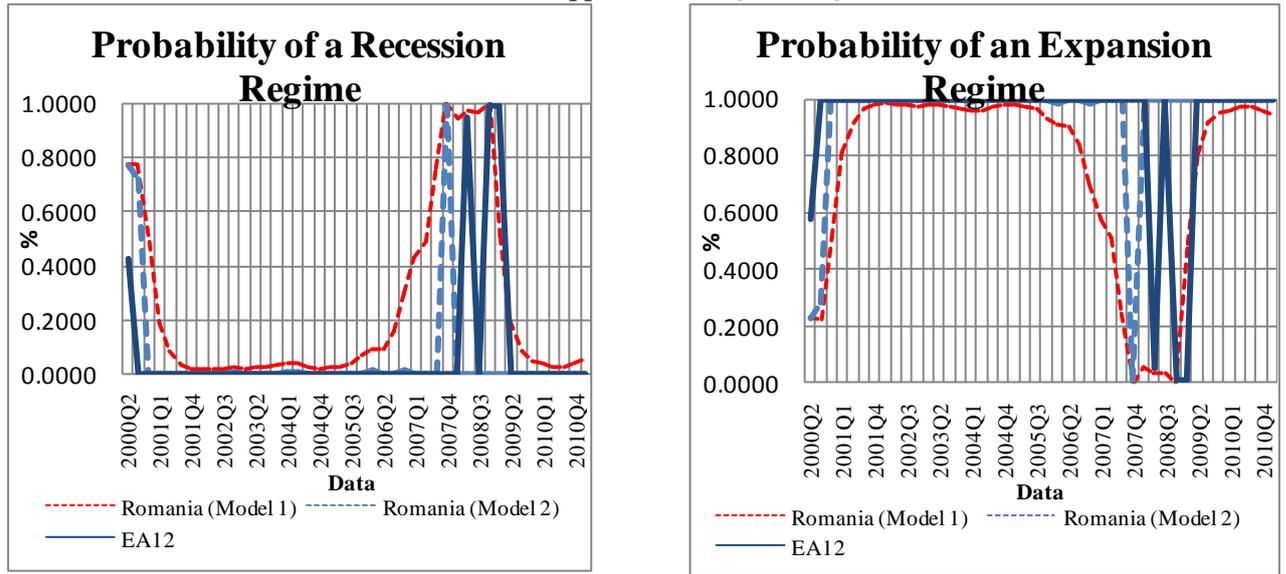
In the vast literature on switching regressions are used different approaches to define the drivers which caused the shifting in data. For the standard AR models, some researchers define switches on AR terms, while others consider that non-linear dynamics are driven by movements in means, respectively variances. But for further investigation of this hypothesis we engaged a Bayesian switching model restricted with the moment of breakdown occurrence. (For a detailed description of Bayesian econometrics tools used here see Annex 1) (For details in regard with Bayesian estimation of regressions see Hamilton (1991).)

**Table 1 Estimated Coefficients for Markov Switching model**

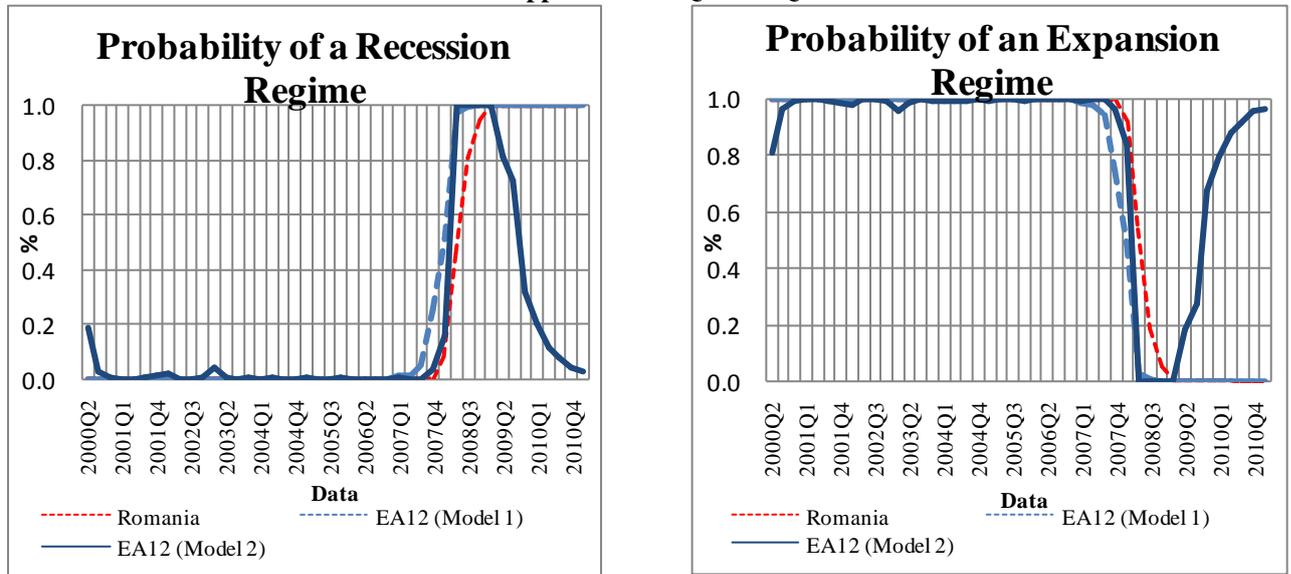
Coeff.	Romania		EA12	
	Post. mean	Post. std	Post. mean	Post. std
<b>Const</b>	0.0170	0.0409	0.0029	0.0284
<b>AR(1) Before</b>	-0.0833	1.0935	0.1075	6.1859
<b>AR(2) Before</b>	0.1410	1.1311	-	-
<b>AR(1) After</b>	0.1638	2.3693	0.1617	10.1883
<b>AR(2) After</b>	0.2976	1.5521	-	-
$\sigma^2$	0.0191	0.0042	0.0173	0.0037
<b>Switch Moment (Quarter)</b>	34.0437	2.2763	34.5076	1.1032

Given these results we went ahead and moved on the next step where we estimated a Markov Switching model for the analysis of transition between recession and expansions regimes in the case Romanian and EA12 consumption. Taking into account the short sample of data and extreme movements of underlined series, we called two methods of defining DGP and for each of them estimated several models. The first approach consists in a standard MS-AR, while the second model used in this paper is a Hamilton-Markov model. (For details in regards with this model see Annex1.) In the case of MS-AR application we followed the information provided by both the linear models and Bayesian approach. Thus for each of the two economies, we estimated models with and without *dummy* as explanatory variables, but otherwise with the same number of parameters as in the case of linear models. From figure 2 we can observe that while the trigger point in switching between regimes was approximately the same, the downturn in Romanian consumption was longer and stronger than in the case of EA12. This fact underlines a weak convergence between cyclical and structural convergence in the consumption cycles between the two economies (for the scarce of space we don't report the estimated parameters of MS-AR models). But for a better understanding of the relationship between the two cycles, we used the Hamilton-Markov model, in order to see how the mean growth rate was affected switching in regimes of economic activity. In our opinion, the use of Hamilton-Markov model provides important information regarding the possibilities of consumption smoothing. As in the of standard MS-AR application, we estimated several models including in the set of explanatory variables different types of trends or *dummy* variables. (For defining *dummy* variables, we used the methodology proposed by Kim and Nelson (1999). For details see Annex1.) The probability of recession recorded a permanent shift in the case of Romanian consumption and EA12 Model 1, while the expected duration of recession regime provided by Model 2 for EA12 consumption indicated a likelihood period of 5.2 quarters. As compared with MS-AR case, the use of *dummy* variables to account for a prolonged period of negative performance and to smooth the estimation is very useful for Hamilton-Markov style methods given that we have only eight observations after the switching between states.

**Figure 2: Smoothed probabilities of being in a recession, respectively in an expansion regime for a MS-AR approach 2001Q1-2011Q1**



**Figure 3: Smoothed probabilities of being in a recession, respectively in an expansion regime with a Hamilton-MS approach 2001Q1-2011Q1**



Finally, we use Chows and Quandt-Andrews tests in order to check for structural breaks in our data and to compare the results with those ones provided by both Markov and Bayesian Switching approaches.

**Table 2: Chows and Quandt-Andrews tests**

	Quandt-Andrews		
	Value	Prob	Year
Romania	7,0295	0,5196	2008Q1
EA12	8,0791	0,1992	2008Q2

**4. Conclusions**

From these MS-AR approach we can observe that while the trigger point in switching between regimes was approximately the same, the downturn in Romanian consumption was longer and stronger than in the case of EA12. This fact underlines a weak convergence between cyclical and structural

convergence in the consumption cycles between the two economies. Estimated results for Hamilton-Markov models underline a low degree of convergence between Romanian and EA12 consumption cycles. Indeed, even we should look to compare the Romanian consumption behavior with the case of other countries from Central and Eastern Europe, the gap (in the sense of non-synchronization) to EA12 consumption, especially during the recovery periods after a negative shock could pose important implications for our real economy.

### 5. Acknowledgements

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## CAUSES AND CONSEQUENCES OF THE 2008-2009 INTERNATIONAL FINANCIAL CRISIS

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**Abstract:** *(The paper investigates the current crisis and its major consequences in a shifting world. Originated from the USA, the crisis spread in the world and disturbed its power distribution. The emerging countries development of the last two decades illustrates the catching-up process. The findings also confirm the increased role of the Chinese economy today. The Chinese growth in comparison with the USA economic path is a mirror for the future world architecture. The consequences of the international financial crisis are focused on the fact that the developed countries will lose gradually their privileges in the shifting of economic power) The abstract will not exceed 100 words. It will mention the aim of the paper, research goals and expected results.*

**Key words:** crisis, catching-up process, new world

**JEL classification:** G 01, N 10, O 57

### 1. Has the 2008-2009 International Financial Crisis a Really International Dimension?

During the international financial crisis from 2008-2010, over 20 countries from the entire world with almost half of the world population have been registering a high rate of growth.

Moreover, 10 from these countries have registered high rates of growth between 6 and 14 per cent. In these circumstances it is right to define this period a world financial crisis or is more accurate to define this crisis as a systemic one originated from the Anglo-Saxon capitalist crisis and from countries that depend entirely of this system?

The corrupted and inefficient governments worldwide have enthusiastically taken these definition and the term of "world crisis" served as a perfectly motivation for improper governance of their countries in these circumstances.

The present economic evolution shows that there is a huge resources wasted, for feeding needs that could stimulate the consumption increasing at the world level.

If the Great Depression from '29-'33 period had an over production nature, the financial crisis that started in 2008 could be defined as an over consuming one.

### 2. Why the International Crisis Starts Always from the USA?

After the Second World War it has been registered many crisis as the Asian crisis, the Russian crisis, the Mexican crisis, the Argentinian crisis, the Bolivian crisis and so on. But none of them had been spread at the international level. How we could explain the fact that the '29-'33 Great Depression and the 2008-2009 international financial crisis were originated both from the USA economy a country that happened to be the most powerful country then and nowadays.

The financial evolution of the American economy during the 2008-2009 financial crisis is the following:

- a) The public debt is around \$ 13,000 billion (\$ 43,000 per inhabitant);
- b) Hypotecary credits totalized \$ 11,000 billion;
- c) Consuming credits has increased to \$2,577 billion;
- d) Loans by credit cards has reached to \$ 900 billion (around 50% of the total amount was covered by only 3 banks: JP Morgan Chase, Bank of America and Citigroup that reported losses of \$ 37 billion in 2008 and \$ 88 billion in 2009).

The total indebtness was around \$ 27,477 billion (\$ 91,590 per inhabitant) in USA in 2009. How could American authorities to solve the problem in these terms?

The American's engine is the private consumption that contributes to the GDP increasing by 75 % aproximately.

The rate of saving in the USA decreased less than 1 per cent in comparison with 14 per cent in the Eurozone. In 2009 the American families had an indebtedness of approximately 136 per cent of their total earning (for comparison in France the weight of the total debt in the total disposable earning was only 59 per cent);

Every American family haven't had any disposable savings for the forthcoming 2 years because of their high indebtedness. In spite of all these facts banks stimulates consumption by giving credits for attracting money from other parts of the world like Asia and Middle East. Only in this way it could be explained the enormous USA public debt that transforms the USA economy from the main world creditor in the '50-'80 period to world largest indebtedness country.

The number of persons that own a property in the USA has decreased gradually reaching to the 1996 level, being 66.4 % from the total population. In according with official estimations, between 1.8 and 2.2 billion houses are in judicial cases and other 3.5 billion houses are for sale and haven't any customers. There are too many offers and few disposable credit houses. The American housing market has lost almost one third of theirs 2005 value market.

The housing market would become more stable when banks would clean of their underperformed credits and they will return to consumer credits profitability. In the USA the housing market clearly illustrates the sign of the economic recovery. The huge number of houses being in judicial analysis has become a danger for American social cohesion. How it was possible?

The almost total USA authorities redrawing from the economic game at the end of 2000 year gave a large space for the most dangerous economic activity, namely the market speculation. It expanded rapidly both on market and on stock of exchange, highly damaging the barometer role of these institutions.

In this circumstances the speculative funds has reached at huge values, to 10,000-12,000 billion dollars localised largely in fiscal paradises that could affect any market or any country. The Stock Exchange already the most important market in the world is the place where daily is traded approximately \$ 5,000 billion, have escaped of countries and central banks influences. The fall of sterling from '90 and EU countries debt crisis are only few examples.

Starting from the syntagmatic "State is the worse administrator", The American Government retreated from the administrative equation and didn't fulfil its obligation. Its place was overtaken by banks, stock exchanges and markets that should represent the most efficient place of world and regional resources. Unfortunately, these became the paradise for speculative activities, only in this way being understandable the prices and transaction costs boom for the most important world resources, inclusively food prices.

The dollar rate of exchange has artificially increased twice rapidly than the rate of profitability in the last two decades on the base of American companies' behaviour market speculation.

As a consequence of the 2008-2009 crisis the world capital losses totalize \$ 25,000 billion through the value market of American shares that fell by over 25 %.

In these terms we could say that the Speculative funds, investors and banks form a more powerful and efficient cartel than western governments all together. But even the responsible parts for the international financial crisis are well known there is not only one accused for these facts, and the American government has been trying to apply the most efficient measures to save the economy.

The first lesson of the 2008-2009 international financial crisis is that the market isn't infailable and it isn't the best administrator of the economy as we have learnt in the last 20 years.

The second lessons is that the state must to regain its basic role in reglementation, controlling and monitoring tools because the social bomb explodes always in the government yard and not in the banks yard, who in fact are responsible for disaster.

We need a new macroeconomic approach that re-establishes the equilibrium between the profit and the public responsibility.

The major market failure of self-regulate forced the American authorities to rapidly adopt the most vast financial system reform from the last 80 years, since the "New Deal" adopted by Roosevelt. Having almost 2000 pages the "Wall Street reform and consumer protection law" is applied to all companies, commercial and investments banks, credit institutions and hedge funds

For the first time they are obliged to submit to the Market control organism. This institution ends a 200 years long period of free market domination that provokes both prosperity and the worst international economic crisis from the human history.

The Invisible Hand of David Ricardo has **transformed** because of crisis in the “visible hand” showed by the American Government in the last 2 years and probably decades for now on.

### 3. The Challenges for Economic Evolution in a Shifting World

The epicentre of the crisis lies deep inside the developed economies.

The world has changed markedly since the beginning of the new millennium. The centre of economic gravity of the world has gradually shifted from the West to East and from North to South, in a new order process.

At the beginning of this century there was the first time in many decades when developing countries grew faster than high income economies. Around 50 of developing and emerging economies have grown at an average of 3.5% since the 2000s. Economic catching-up is accelerating.

If UK's economy doubled in 32 years from 1830 to 1862, America's GDP doubled in 17 years after gradually took the first place in the world after 1870s now Chinese economy have doubled in only a decade.

There are many opinions that China's economy could overtake America's within a decade. The Chinese economy has grown by an average of more than 10 % a year over the last 10 years. During the next 10 years the working-age population in China would become to diminish. This is the reason the estimation for the next rate of growth would be to at least 8% yearly. In contradiction in the same period the rate of growth in USA would be at least 2.5% yearly.

The IMF's forecast and the long-run tables of GDP compiled by the economic historian, Angus Maddison, are based on purchasing-parity (PPP). On this basis, the size of China's economy is already close to USA's and would overtake it by 2016.

America's GDP in 2010 was \$ 14.5 trillion at current market prices and China's GDP was only \$ 5.9 trillion. The overtaking this gap would depend on three things:

- The speed of the real rate of growth in China relative to the similar indicator in the USA;
- The inflation gap; Inflation tends to be higher in fast-growing economies than in slow-rich countries. The Balassa-Samuelson effect is the explanation for the fact that the rise of wage in China would push up inflation. The analysts from “The economist” estimates a 4% inflation rate in China compared with 2% in America.
- Another important factor is the Yuan- dollar exchange rate evolution. If we take into consideration the fact that China has a large current account surplus and USA's big deficit a Yuan liberalisation would allow a certain stronger Chinese currency against the dollar.

The most important question nowadays is whether the rapid growth in emerging countries can further go on.

Even the predictions made by famous analysts from all over the world converge to the idea of a continued growth of emerging economies; the recent economic history teaches us that countries and regions that ride out a crisis well are still vulnerable to the following one. The catching-up process from the reach to the poor are inevitable but the speed of this process is important for the next few years at least.

The emerging countries account for almost half of world GDP but they haven't national reserve currency. Countries that have encouraged exports to be a strong base for their growth must shift to internal market and try to stimulate their own consumption and liberalize their national currency. But these decisions are difficult and risky. But obstacles for the Yuan becoming a reserve currency are bigger than those faced by the dollar in 1913. Reserve-currency status depends on the three factors of economic power:

- the size of the economy,
- the value of exports and
- the net foreign assets in according with the Peterson Institute's Arvind Subramanian.

Still China has taken some small steps setting the national currency free. It has allowed trade in goods to be invoiced and paid in local currency. In according with the People's Bank of China trade settlement in yuan currency has developed rapidly, reaching 600 billion in the second quarter of 2011. This means around 10% of its total trade.

China's central bank has set up swap agreements with the central banks of many of its emerging market trading partners, as Singapore and Kazakhstan, allowing foreign banks to supply Yuan to their customers. More recently, the Chinese central bank signed an agreement of \$30 billion currency swap

deal with Australia to support bilateral trade and investment and enhance the internationalization of the Yuan.

In an attempt to internationalise its currency, China's authorities will sign an agreement on Yuan loans with their counterparts in the BRICS bloc. The emerging economies of Brazil, Russia, India and China together account for about 40 per cent of the world's population and make up more than 25 per cent of global GDP, according to the IMF.

This agreement would be a specific step very close to the Chinese mentality of doing things without any hurry but excellent and safe in terms of long term results. Experts say moves like this will inevitably increase the role of the Yuan in the global economy, but it will still take time to challenge the status of the dollar.

#### **4. The International Financial Crisis Major Consequences**

- The future world's dominance would be multipolar one;
- The ending of the Cold War and the Global openness since the 90s have prepared the way for shifting the power balance to the new emerging countries as China, Brazil and India, reducing the ideological meaning; The new international order would be determined by globalization and by emerging countries higher contribution that are mainly contributing to the shifting of power from the West to the East;
- The greater G20 role in solving the crisis is a clear sign that the global order that set up after the Second world war is over;
- Nowadays many adjustments that are applied draws on unpredictability of the changing world;
- Creating a less dollar dependent international monetary system and increasing the euro and the Chinese Yuan dominance;
- The strategic rivalries in the next 20 years would highly depend on technological innovations, trade and investments, in contradiction with XX century where rivalries was based on territorial expansion, weapons technologies and strategic military alliances;
- Massive readjustment of commercial and current account balance dezechilibrium of the USA have to begin because the Chinese investors couldn't finance the American borrowing on a longer period;
- In the next 20 years Russia would be one of the greater losers of the new economic order. Its energetically and military power is inefficient in the international financial organisms. In addition its significant demographic problems and a corrupt juridical system would become more pronounced in the next decades;
- The IMF would be the coordinator role of the world economy in the next decades;
- "Chimerica" or G-2 that means an alliance between China and USA would have a greater role in the decision process on the international scale.
- China controls almost 10 per cent from the American public debt that represents almost \$ 907 billion and 7.3 per cent from the Euro Zone public debt;
- In these terms, the Chinese authorities claims are: the custom protectionism shall not be increased, the strategic assets to be permitted; a re-evaluation of Yuan shall not be requested;
- On the other side, the EU companies have spread in the Chinese economy and their earnings are growing in the crisis period. For example Volkswagen Company registers 80 % of its currently earnings in China.
- The most important central bank in the world with a proportion of 30.3 % from the total world reserves is the People's Bank of China (that is the central bank of China); the probable world reserves' Chinese composition is 65 % of dollars and 26 % of euros. That means that the Chinese authorities control almost perfect the dollar and the euro rate of exchange;
- Having a huge amount of foreign currency China develops a strategy that is similar with USA's Marshall Plan; in present China is the second world creditor after IMF;
- Between the top of the most world profitable oil company there are two originated from China: Sinopec Group (the 5<sup>th</sup> world position in 2011) and China National Petroleum (the 6<sup>th</sup> world position). ( See Global 500 2011: The annual ranking of the world's largest corporations by the revenues and profits (\$ milions); [www.money.cnn.com](http://www.money.cnn.com))

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## THE NEW ECONOMY – A 360 DEGREE VIEW

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**Abstract:** *This paper is a review of the literature' mainstream on economic development, political views and the way new economic policies and measures are implemented through formal and informal channels, including here the North American lobby' system.*

*As a solution resulted from this paper there are some forecasted directory views that could lead to a future linear development of the global economy and to a tempered glow in the global account, or between commercial trades of some countries.*

**Key words:** lobby, infrastructure, healthcare, investments

**JEL classification:** B 22, F 01, F 41

### 1. Introduction

The North American lobby system, the best developed system from this vantage point in a monument of lack of common sense and of the incapacity to compared-analyze the economic situation: the imminent desire to obtain the needed sums for saving the ones “too big to fail”, but without offering something in exchange, at least from the moral perspective (not considering the active participation of the state in governing the saved companies through the exchange of stock packages versus the sums needed for salvation).

Another problem that couldn't be seen as work characteristics by Ben Bernanke was of solving the appeared situation in the T moment settled in the T+1 moment, a vision opposite to the vision of the Austrian school to solve the situation through a proactive vision over the system (Stiglitz, 2010: p. 67-69).

An extended part had Timothy Geithner. After his apprenticeship under Larry Summers and Robert Rubin (the economic architects of Clinton era, also called the “deregulation” era, a semi-functional era through the failed deregulation case of the public utility sector from the state of California) he served as main regulator of the banks of New York, one of them being Citibank – the biggest bank in the world at that moment valued after the value of their assets of 2.36 billion U.S. dollars, but he didn't observed anything with their activity. From his work history 3 years are omitted, the 2000 to 2003 period, when Tim Geithner was financial director at Harvard University, specialized in long term investments, a position that led to massive investment in derivative corporate bonds (CDOs and CDSs). After the investment politics, Harvard “managed” the counter performance to record losses of 20 billion U.S. dollars in the March 2009 – October 2010 period from an available pool of 37 billion U.S. dollars. Keeping him in the structure of Obama's Administration could be seen as a reconfirmation of the American principle about Ivy League – school is created to know your future business partners.

The third member of the presidential economic team from the Bush' era was Hank Paulson, Treasury Secretary, who came from the position of CEO at Goldman Sachs (the biggest net beneficiary of TARP).

The big change brought by Obama was to replace the chess pieces between them in the same win-lose game (private gain – public loss). Bernanke was reconfirmed by the Obama Administration, Geithner for his outstanding performance in the public and private sector was advanced as Treasury Secretary, but Larry Summers (executive director at Harvard University) was appointed as coordinator of the economic team of the presidential administration.

A person that stood out in the period of real-estate crisis instalment was Sheila Bair (director of Federal Deposit Insurance, FDIC is the warrant for bank deposits inside the United States of America) who had the meaning to be the unifying factor of the ideas and opinions of the ones that were evicted from their overvalued houses with over run credits. She was brought in the administrative-economic team to relate and section the right to reply and control in communicating with the banks that where avid after the free support of the state. This relatively new team was an economic vision team, that we can compare it with a team that has as main goal the creation of a compared analysis between the financial system (as an abstract element) and the sustainable evolution of the American economic model (as a general element) (Bodislav, 2011, p. 67-72).

## 2. Pressure on Wall Street

The psychological factor is the one that retains the attention in this moment – the phenomenon of escalating promises (similar to the one of promising something that is impossible to fulfil), a phenomenon easy to observe and easy to dispute, fact that led to the splitting of vision: the one of the Obama Administration and the one of the people. As an example we can have market regulation of derivatives – a lax version or super-flow one. In 1989 the regulation document of derivate financial instruments had 600 pages, in our days it has 7000 pages and counting, to which is added the truth that these regulations appear in the moment T+1 after the T moment when the exception was implemented, and not receiving a proactive or anticipative answer (Bodislav, 2011, p. 67-72). Another vision of the team for economic vision was that to implement an answer to the detour taken from the “good path”, although everything was adrift and with disastrous results for the economy, “the visionaries” trusted “the common sense” of Wall Street. But this common sense failed in the moment when they claimed the state bailout, and at the exposing of the problem to pay for their deeds, they answered that an immediate pay would led to prolonged recovery of the banking system with major influences on the American economic system and through the global connection, of the global one. The non-involvement of the state in financing the system’s problems would have let the American deficit with a couple of hundred billion U.S. dollars lower (till now the financial crisis consumed 1 trillion U.S. dollars in the bailout, 1.2 trillion U.S. dollars in exporting inflation through massive capital infusion of “new” dollars – 5 billion/day for 120 days – 1<sup>st</sup> instalment: November 2010 – March 2011, 2<sup>nd</sup> instalment: March 2011 – July 2011 and a possible 3<sup>rd</sup> instalment: between starting from August 2012, meaning another 600 billion U.S. dollars pumped in the deficit, that are completed by the Operation Twist that led to shifting the payment of some short term debts of 400 billion U.S. dollars on the long run this way creating pressure for the interest rate and not accelerating inflation anymore, to which we can add the cost of the 10 years of war, of almost 5 trillions, that were partially covered through the infusion of capital in weapons and producers of motorized battle equipment, respectively Halliburton and Lockheed Martin; summing up to a total amount from the deficit that is negatively financed on the economic-military branch of 7,6 trillion U.S. dollars, sum that represents almost 53% from the actual U.S. deficit, that represents a degree of indebtedness in the American GDP of almost 115%) (Bodislav, 2011, p. 67-72).

Another delicate problem was observed during the Clinton Administration: Main Street (“the street of real producers”) is financially dependent of Wall Street (“the street of non-real producers”; the street where we find the New York Stock Exchange, the FED and the SEC). This pseudo-symbiotic relation is characterized by syncope that are played through a form of manifestation of interest groups, these surfacing in the year 2008, through the battle for economic power financed by the state for private benefits: Wall Street versus the rest of the world (especially the U.S.). “The economic common sense” led to generating some “existential” questions from the bankers’ side, like: why more money were not obtained or why is it called “bailout” and not “recovery” or “investment program” (Stiglitz, 2010: p. 72-75). The negotiations for the takeover of stakes in banks led to some offered share prices above the market level, fact that led to another hit for the tax payer (money that were intended to recapitalize were taken by the bankers as bonuses). The bonuses problem led to the incapacity of Obama’s team of vision to gain the confidence of Main Street. The political games on the TARP led to offering as leverage of some control levers through the obligation for transparency of commercial and investment banking politics and to lower the complexity of used instruments. Although to the private sector was demanded to lower the complexity of instruments and greater transparency, these demands didn’t want to be applied also in the public-financial-banking environment (Bodislav, 2011, p. 67-72).

## 3. The path to a new America

Another problem in the future evolution of the United States of America is the social cost of medical insurance offered to the persons without financial support. Medicare and Medicaid are reinvented to broaden the pool of insured with another 40 million individuals, but the social cost is supported by small and medium business that are situated on U.S. soil, especially by medical research centres (Bodislav, Belingher, Marinescu, 2011, p. 36-39).

We want to draw the attention to the American healthcare system because it is treated at its effect and not at its cause. Its effects are high costs, for example: an appendectomy without complications costs in an American hospital 20.000 U.S. dollars, an extremely high cost, reaching to open heart surgery at costs of 130.000 – 180.000 U.S. dollars, or for neurosurgery at a cost between 180.000 – 250.000 U.S. dollars (Bodislav, Belingher, Marinescu, 2011, p. 36-39). The insurance companies represent the real problem in the American healthcare system, because they parasite the host through their practices for controlling the cost – we can compare them with the cholesterol that files the blood vessels of the human body, this way blocking the good circulation of the blood and un-streamline the system, on the long term could provoke its irremediable collapse (Bodislav, Belingher, Marinescu, 2011, p. 36-39).

The environmental problem is also an important problem for the long term development of the entire world, but here the environmental politics of the U.S. doesn't represent the problem, but the environmental politics of the Chinese companies is the problem, because we have to deal with a yield of 3 to 5 times smaller than of the Americans, and the problem is created also by the desire of the Americans not to enter a regulated system of green certificates and penalties for non-fulfilling the target for lowering the level of yearly pollution – this mandatory growth yield of pollution would mean rising environment costs for the American industry, here also including Main Street, as an example we have the failure of the Copenhagen conference from 2009, where a common resolution wasn't designed.

The way to go through the crisis like through trenches and with a vision of non-disturbance of the situation (the concept of “muddling through”) it's a way that led to the difficult comeback of the American economy and of creating a slope with a trend that tends to zero for the global economy. This politics of “muddling through” represents also the end of an era of visions and global leadership of the United States, than when a leader doesn't show that we have to face the rising of the ones from the second echelon and those will want to implement their own visions on the global situation, and not everyone will proceed like China and the zonal economic and commercial competitive control, but will want a rapid assessment (and sometimes armed) of their vision.

The republican-democrat politics (TARP was conceived by the Bush Jr. Administration and implemented by the Obama Administration) led to a costly politics for economic recovery and without lowering the systemic pressure of the way of granting banking credits. This politics is the exception that confirms the value of the classic reform model and of economic recovery conceived through the New Deal by F.D. Roosevelt. This New Deal, the Dodd-Frank act is a solution that could have been for the long term, but thanks to lobby teams on Wall Street they created a similar act with “Swiss cheese”: from the exterior is upright, solid and as a whole, seen in section it loses perfection and leaves room for interpretation (Bodislav, Belingher, Marinescu, 2011, p. 36-39)..

This crisis created splits in vision and in opinion between the American people, Wall Street and Main Street. The battle for TARP fund was led on all fronts and especially on informal foundation, fact that led to the disappearance of the sentiment of national unity characteristic for the American people. With the extinction there is created a dangerous gap that can be filled by fights of the ones, still, participants at the economic game, the ones that are part of the group that leads the game more from setting it at its limit and of the ones outside the game, they are outside the game after the social-political pressure created in the economy. At the next syncope there won't be “dreams to follow” but only policies to be paid that will lead to the incapacity to maintain and evolve of the social component of the U.S.A. (Bodislav, 2011: p. 67-72).

High costs with education drive to its weak distribution to the American people, to which is added the weak investment in the K12 educational sector (the pre-college cycles). As an example we can give the connection between the K12 educational system and the Research & Development component of pharmaceutical companies. In the U.S.A. the 2 systems have the same yearly profit (the private sectors are considered) of 50 billion U.S. dollars, but the rate of investment in research is of 17% in the pharmaceutical sector and 0.1% in the K12 educational sector, probably from here resulting also the illiteracy rate of the American people (25% confirmed illiterates from the total population).

Loosing global leadership isn't observable on the short term but on the long term, because on long term the ideas and the American vision won't be considered or will be totally disregarded in case of

a new economic crisis. Although it exists and works efficiently the academic system patented by Harvard, leadership by example, here we have to deal with a special case in which U.S.A. can draw a theoretical moral vision that emergent countries can put them in the vision's balance and can accept or not for implementation the given solution. Another problem is represented by the inefficiency to develop a sustainable system that includes the environmental protection system, the healthcare system, the inefficient educational system (all presented above) and the transportation system these inefficiencies are a minimum point for the trust of global partners in "the American dream".

Obama is building his election speech for the 2012 campaign having as starting point maintaining the reforms in the healthcare system and the rehabilitation of the American' roads. These roads were built in the 1965 – 1975 period and now they will enter a rehabilitation program, but we'll talk about exorbitant costs for the next 4 years: 255.000 km of roads that must be re-pitched (the cost per kilometre, per lane is of 160.000 U.S. dollars) resulting in a total cost for this component of 244.8 billion U.S. dollars (Bodislav, Belingher, Marinescu, 2011, p. 36-39).

#### **4. The development of emergent economies**

The relation between emerging economies – developed economies is based on the relation between deficit/surplus, the surplus being invested in emerging economies. The money flow in an emerging economy can destabilize the country and can accelerate private consumption and investment, pushing inflation and the current account deficit to high values. There is a law in physics that sustains that in each body in which is inserted a high volume of matters creates pressure that can exceed the physical properties and create a rupture in the entity (the speculative bubble burst) (Bodislav, Belingher, Marinescu, 2011, p. 36-39).

Foreign financing can be beneficial if they're strictly used for investment not for wage and pension spending (the partial case of Romania), if this situation isn't respected can lead to less or non-financing from developed countries. Russia (1998), Ecuador (1999) and Argentina (2001, 2002) came into default which lead to the fall of their currency because of the foreign investors that liquidated their positions in to the local economy by flooding the internal market with local currency (Roubini, Mihm, 2010). The savior of default economies was and is the International Monetary Fund (IMF) through bail-outs (Roubini, 2004).

Emerging economies followed the course of accumulating monetary reserves to appreciate their currency. For economies with a big volume of exports and which have a current account surplus, the appreciation of its own currency can lead to the decrease of internal products competitiveness on the global markets, but they can maintain a competitive currency rate by hedging through foreign exchange. China is the biggest beneficiary of its trade surplus and of its undervalued currency (China's Yuan is valued at 60% of its real market value).

The FED underlines that the high saving margin of the Asian countries creates great instability on the market because these money are invested in a large amount in the US, and they use it for increasing its consumption. This causal relation is similar to the relation between drug dealers from Columbia and the consumers (the suppliers aren't guilty for dealing drugs but the clients because they demand it).

The current account deficit emphasized through the 2001 fiscal relaxation of George Walker Bush's administration after the fiscal system was developed by the administrations of George Howard Bush and Bill Clinton. The system was wanted to be normalized by Barack Obama's administration through tax increases, but the qualitative inconsistency of the act lead to its rejection by Congress and the extension of George Walker Bush's fiscal system for at least two years.

During the last two decades the FDI that entered the USA had a chaotic evolution and had its peak in the year 1990 of 300 billion dollars. Foreign investment in the US covers half of the Treasury Bills and bonds that are circulating, two thirds are controlled by Central Banks and investment funds. FED's problem isn't the evolution of bonds and bills' yields but the gap until their maturity, the average maturity subtracting from 60 months to 50 months, stressing the distrust in the American economy on medium and long term. This fact can represent a possible devaluation of the US dollar in some given condition.

These capital holdings in the USA are kept intangible for a while, but after reaching a peak of investment the will to own tangible production, distribution or creation assets to guarantee a profitable position in front of a possible devaluation of the US dollar. This guarantee is created through direct market acquisitions, but in which the USA is characterized through entry barriers and imposed geographical conditions (the acquisition of Unocal by China National Offshore Oil Corporation and of

some US ports by Dubai Ports World being rejected for geographical reasons). These protection methods can't last for long because China (or Dubai) can stop financing that would provoke the failure of the American economic system and would provoke great damage to the global economic system through globalization's levers (Bodislav, Belingher, Marinescu, 2011, p. 36-39).

Germany, France and Japan can be the exponents of global economic health through the introduction of accelerating measures for structural reforms to raise investment, productivity and development reducing this way the current account surplus. The same situation is valid for Saudi Arabia too, but this is a special case because they have as leverage changing petro-dollars into petro-Euros, fact that would send the US dollar into flow incapacity (an inert system is a dead system). These reforms can directly help PIIGS (Portugal, Ireland, Italy, Greece and Spain) the supply and demand found on the market can grow and diversify their economic relations.

## 5. Conclusion

The US dollar started to lose credibility when President Richard Nixon revoked the US dollar – gold convertibility engagement (1971), this way the Bretton Woods Act was annulled. Although the US dollar is still the world's currency, this way global disequilibrium are fed, but from 2001 when the US dollar represented 70% of world foreign exchange, but at the start of the year 2011 the percentage was of 35%, the difference is represented by the euro, Yuan and gold replacement of the US dollar. Before the US dollar as global foreign exchange there was the British pound that was the world's economic banner and after the fall of the British Empire, it lasted longer than the Empire. It looks like the same historic course is taken by the US dollar and in short period of time will be replaced by another global currency.

The ideal candidate for replacing the US dollar is the Yuan (or remimbi). The British pound, the yen and the Swiss franc can't resist the global pressure and the euro has multiple deficiencies (divided views and an ageing population).

Gold rise in value on the foundation of fear and restlessness that draw the future, and this future can't create flow but only stock (low liquidity) and it isn't practical because it is difficult to store, this way the Yuan has a clear path for becoming the new world foreign exchange. The first step was to use it for regional trade relations and for signing exchange agreements with countries from South America.

At the same time with the raising importance of the Yuan it will have to be taken in consideration when the Special Drawing Right is created (multicurrency basket used by the IMF, which includes: dollar, euro, yen and sterling pound), the Chinese governor, Zhou Xiaochuan underlines the idea that the new SDR (which includes the Yuan) can and must be the new global currency, this way mr. Xiaochuan adapts the idea of J.M.Keynes of a global currency – the "bancor" and in our case the SDR. For the SDR to be considered as a potential candidate for the position of global currency, its regulator and creator must be reformed – the IMF.

Rethinking G7 through the pressure created by BRIC (Brazil, Russia, India and China – in some cases from Harvard Business School we find this abbreviation as the BRICK, the K stands for South Korea), new members are evaluated to get into the G7/G20 or extended group: Brazil, Indonesia, South Africa and others. They will enter in the IMF framework too, but this structure isn't equitable (for example: China, India and Brazil have with 19% less vote power than Holland, Belgium and Italy, although they have a population 29 times bigger – this being one of the examples that stress the idea of reform in the IMF structure).

In conclusion, this paper is a reflector on the political class, be it the legislative power, be it the rational being's thought on politics and investments. The long term foresees is based on interest and investment supported by economic-financial analysis and a 360 degree view on economic life.

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## THE NEED FOR THE BALANCE BETWEEN WORK AND PERSONAL LIFE IN THE CONTEXT OF ECONOMIC CRISIS AND THE ENHANCE QUALITY OF LIFE

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**Abstract.** *The professional life of the individual in society should become a major goal of the employment policies and strategies, a goal considered science and art. Starting from the Europe's demographic paradox, it is concluded the need to use at full capacity the human resources of the EU27, by maximizing the efficiency of each individual of the society. Based on criteria of choice a career and of the satisfaction – productivity report it is detailed the importance of counselling to optimize the relationship skills / utility in the society. In the end, a series of conclusions and suggestions are presented on the current and future way of addressing employment, education, continuous lifelong professional training and human resources counseling, on the one hand and, respectively, quality of their life, on the other hand.*

**Key words:** demographic development, population aging, professional life, career counselling, satisfaction – productivity report

**JEL classification:** E 24, J 21

### 1. Introduction

No effort and no sacrifice of any kind should make us abdicate from this basic idea. Otherwise we risk the appearance of another social life in the near future - a life supersaturated by malice, selfishness, wild and serious disorders, ranging from the loss of control of society over its members up to deliberate nuclear disaster - too far from the ideal of humanity, of the hopes of our children, of the future generations. Such an inhuman, impersonal and threatened by chaos and lack of control life - we do not want either for us or for the next generation.

Therefore, I believe that the continuous analysis and remodelling of professional life of the individual for the purpose of maximizing its efficiency during most of their biological life - so it does not become a burden on society, family and even on his own - becomes the only alternative that could give mankind a salvation, or at least a very useful "tempo" until extremely high calibre scientific discoveries, perhaps unimaginable at this time. It is true that science and technology efforts will have to be huge in the context of the political and legal approaches. Probably, they will have to be accompanied, unfortunately, by more flexible and wise sociological, family and individual mentality approaches, giving up much current economic, religious and legal rigidity.

Until recently, the inevitably unpleasant nature of work was accepted almost unanimously. It founded a strategic principle of work organization: the more labor productivity increases, the more job satisfaction will decrease. In recent decades, this way of thinking has changed, therefore the divergence thesis increasingly opposes the convergence thesis between productivity and job satisfaction. Job satisfaction is the steady state reached by the individual when fully aware of certain needs or conscious or unconscious expectations.

Job satisfaction is an important "product" of any company and, in this respect, connects the companies' social function and its duty to be a place of "work and life", to give people the best opportunities to express their personality. The modern leadership reveals, at the same time, the fact that job satisfaction is an important component of human resources in economical organizations, and not only for them, it is one of the fundamental factors on which the overall efficiency of labor depends.

### 2. Demographic paradox of the european union. Risks and strategies

Although the demographic evolution as a whole - worldwide - presents a clear upward trend in the meaning of the rapid, almost exponential world population growth - paradoxically, there are large

geopolitical and particularly important areas in the world where natural growth is very low, almost zero, and sometimes even negative. *This is the case of Europe, especially of the EU Member States.*

In this context of reversal global trend of population growth - in the aforementioned area - appears dramatically another imminent danger, namely the population aging.

Aging population in the EU Member States is not an abstract scenario that describes a distant future. Birth recorded a boom 60 years ago and the first children born in that period are now approaching retirement age. So, the demographic evolution in the European Union has reached a turning point. From now on, the number of people being at least 60 years will increase by 2 million every year for the next 25 years. Basically such a demographic stagnation or even involution will generate either a progressive decrease of the active population, in parallel with the inactive population growth, or a gradual rise in the age average of the active population while maintaining the current inactive population.

Obviously, for the moment there is the alternative of professional mobility, of the massive migration of the labour force from the over-populated geopolitical areas to the ones with stagnation or even with involution or geographical relocation of some massive production capacities to these areas. But, of course, not every European country will benefit from this viable alternative - professional migration or geographical relocation of some massive production capabilities will be intensely focused on the economically developed powerful states, the less developed ones and therefore less attractive entering into a serious decline of working human resources and consequently of the functioning of their national economies.

As a result, the clear conclusion is that the current EU Member States will have to quickly and efficiently rethink their policies and strategies on employment, education and professional training. For this geopolitical zone with demographic stabilization - "the war" of efficient use at the maximum efficiency of the internal human resources has already begun ahead of the rest of the world.

Society must adapt quickly to the changing demographic structure. Although the employment rate for the elderly has already risen in the last years, reversing the previous trend of favouring the early retirement, much remains to be done. Only 40% of men and 30% of women aged 60 and over continue their professional activity, although most of those in this age group are still fit and able to participate in the economic and social life. In addition, a Flash Eurobarometer survey showed that three quarters of those interviewed would be willing to participate in community service activities or volunteer after retiring.

Rapid and effective actions in this respect become really imperative, given the additional financial and economic crisis which haunts Europe and oscillates around the world in general at this time. In fact, even The "Europe 2020" Strategy highlights this urgent need. Probably, the viability of the European Union project and, more generally, the European democracy depend on the success of these employment, education and training strategies adapted to the technological and computerized advances of the XXI century society. Hasty, rationally unjustified actions or postponing the reactions for the implementation of the above strategies can only lead to a complete and lamentable failure of this project, which is already affected by the failure of "Lisbon 2000" Strategy.

At this point, the European Union should have one of two options: either to act truly unitary and jointly as a whole, like the U.S. at the time of its establishment as a unitary state or to fully or partially abandon this project, returning to a previous EU27 structure.

From the perspective of the imminent risks posed to the EU27 and respectively to the defence strategies needed to overcome these difficulties successfully, I consider necessary an analysis of the Europeans' professional and personal life balance at this time.

### **3. The Europeans' professional and personal life balance**

**General considerations.** Demographic changes and labour market evolutions influence the professional and personal life of Europeans, causing significant consequences for the future. The demographic changes were triggered by changing the patterns of founding families and by the reversal of the roles between men and women in the household, due to rising life expectancy and geographical mobility. Labour market changes have led to increased economic instability and job insecurity, along with increased productivity and flexibility.

**Family Life.** The report covers the theme of family life and professional life across Europe by analyzing ways of finding a better balance between professional demands and family responsibilities. The pressures for increasing the flexibility of the professional status (fewer long-term full-time jobs), of the working program (non-standard time, the growing insecurity of job and of intense career) and of mobility,

as well as the professional one, particularly affect women and generate tensions between work and family life. The report examines these tensions, as well as the context of different institutional settings, labour market structures and cultural factors, all of which are important to balance the professional and family life in today's society.

**The balance between work and family life.** As a whole, Europeans are unhappy with the amount of time spent with the family than the amount of time spent at work, family life being more adapted to the professional requirements than the workplace to family life. There are considerable differences between countries regarding the reasons associated with the unsatisfactory balance between work and family. In the Nordic countries such as Benelux and France, not reaching a satisfactory balance between work and private life is due to time. In the countries of the Central and Eastern Europe and in the candidate countries, the balance between work and family life, above all, is affected by fatigue due to poor working conditions resulting from long working hours. Balancing work and family life seems easier in German and the Anglo-Saxon countries: this can be explained by a smaller percentage of couples where both spouses have income and active single mothers in these countries.

The balance between work and family life also depends on the number of children and their age. Time constraints increase proportionally with the number of children, being higher for parents with young children. Even if elderly care is less common than child care, both are equally demanding.

**The balance between work and personal life and the level of personal satisfaction.** Despite less tight and more complex family and social relationships (which raise issues of weakening family contacts), the family remains the main sphere of sociability and support in Europe. Couples with children who can rely on family support are happier than those without children, single parents or couples who cannot rely on any financial, moral or medical support from family or friends. In the case of single parents there are recorded the lowest levels of personal satisfaction

Women who operate outside the household and face a conflict between work and family life are generally less satisfied on a personal level than women operating exclusively in the household. However, unemployment has the most negative impact on the level of personal satisfaction: even those who face an obvious conflict between work and family life are more satisfied than the unemployed persons.

**Political indicators.** Given that both the increase of employment and the population level play an important role in ensuring sustainable development, policies that facilitate the transition to adulthood (in particular, the entry into employment) must be analyzed from the perspective in which they support the couple life and the quality of parent.

Policies aimed at creating appropriate conditions for combining family life with the professional one should not lead to a better adaptation of the professional activity to the family demands, but should have a beneficial influence on the balance between work and personal life and on the level of personal satisfaction of individuals in the contemporary societies. Improving elderly care services can support family networks in performing the care responsibilities.

The redistribution of care responsibilities between women and men, the formal and informal agreements and diversity of care services constitute a key issue of the reconciliation policies. Special measures are needed to promote the redistribution of care responsibilities between women and men in the family.

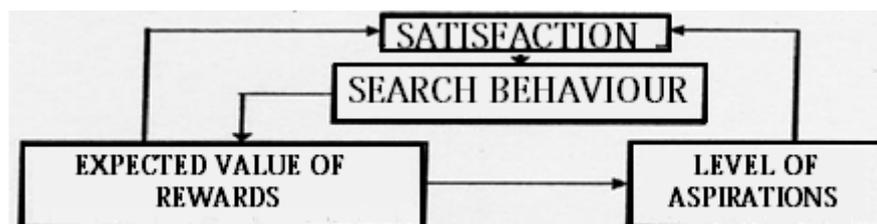
Greater attention should be paid to the more pronounced imbalances between supply and demand of care services for the elderly or disabled relatives, especially in the countries from the Central and Eastern Europe

#### 4. Satisfaction-productivity report

One of the most interesting attempts to approach the theoretical relation between satisfaction and performance belongs to March and Simon, which highlight, systematically, the consequences that a low level of satisfaction has on organizational behavior (on productivity, performance). Note that the model applies only if the satisfaction produced by participation in the workplace is below the expected level. The relation between satisfaction and performance can be described by a simple model, consisting of the following statements:

- a) The lower the satisfaction, the more the search of programs of activity to replace the old ones will be more intense;
- b) The more intense the search, the higher the expected value of rewards;
- c) The higher the expected value of rewards, the higher the satisfaction;
- d) The greater the expected value of rewards, the higher the level of aspirations;

- e) The higher the level of aspirations, the lower the obtained satisfaction.



Notice that the model proposed by March and Simon does not describe a "circular" process, which evolves to a stable equilibrium, but a "spiral" process, where the balance it tends to is only relative, bearing on its own the premises of a new imbalance. Dissatisfaction triggers the seeking of search and, subsequently, action programs which, if effective, lead to solving the problem: elimination of initial dissatisfaction. But this process involves an increase in the level of aspirations, therefore the new level of aspiration, which is higher than the previous one, results in a new situation of dissatisfaction.

In the context of March and Simon's model, the key issue is determining the relation between satisfaction and performance: what are the main programs considered in the search for solutions to increase satisfaction? Thus, three general types of such programs, available within organizations, are available:

- Withdrawal from that system - whether it is to leave a system of activity for another of the same type, that is considered more favorable (from another company), or whether it is the final withdrawal from a type of system activity, in order to seek satisfaction in another system of activity (leaving engineering for a independent activity as a merchant).
- Increasing performance - is an alternative program solution chosen in case it is considered that such an increase in performance is possible and also that the performance increase would lead to an increase of satisfaction.
- Using other possibilities for raising satisfaction in the organization without raising performance - higher wages, improved working conditions (through union protest actions, without increasing performance, particularly in labor productivity) or satisfying interpersonal relationships by participating in informal groups etc. Obviously, the use of one of the three categories of programs is done according to the causes for the low level of satisfaction. For example, if dissatisfaction is generated by the hierarchical relationship with the direct leader, eliminating it can be achieved by increasing professional performance - as a defense - or by a decrease in performance - as means of fighting or as a result of demoralization.

**Ways to increase job satisfaction.** In contemporary society there is a growing concern in increasing both economic efficiency and effectiveness of human labor, to help increase job satisfaction. The social concerns to improve the human quality of work start with elementary physical aspects (reducing the risk of accident, harm, providing normal temperature and noise conditions, improving aesthetic qualities of employment), continue with a new ergonomic conception of work (tools and machines adapted to human possibilities, easy to handle, plated) and end with improving human relations and social conditions of work.

Significant is also the fact that scientists, psychologists and sociologists have given, in recent decades, greater attention to raising the satisfactory nature of work. They gained knowledge about many possibilities for work improvement, as a result of numerous experiments performed in this field. They lead us to believe that the following decades will bring a profound revolution in technological and social organization of human labor, its objective is to increase its satisfactory character.

A particular question is interesting: what can each employee do to increase the quality of work, job satisfaction? This is because everyone has the possibility to substantially increase their quality of work, here are a few of them: choosing a profession and employment according to their abilities and inclinations, embellishing the work place, ensuring job satisfaction by doing a good job; active participation in solving team and company problems, paying particular attention to relations with people.

**Professional and personal satisfaction and efficiency.** Most times, professional satisfaction and efficiency put the family life in the background. However, managers with contemporary ways of thinking have an attitude of collaboration between the employee and manager in achieving professional and

personal benefits for both business and personal lives of employees and managers. These managers are guided by three major objectives (Harvard Business Review on Work and Life Balance, 2000):

1. informing the employees on business priorities and encouraging them to also establish personal priorities;
2. recognizing and supporting the staff for roles and responsibilities both at work and outside it;
3. continuous improvement of employee and organization/company performance as well as employees' personal goals.

It is necessary to reach a balance between professional and personal life.

**The need to balance professional-personal life.** The reasons for this need of balance are numerous:

– **Women and men want a successful career and a fulfilling personal life**

The Romanian society is going through changes that have a negative impact on the personal and professional life of adults. A frequent question of adults is: "how can I have a successful career and also a fulfilling personal life?". Because the traditional roles of family and work have changed, both women and men want to build a career and at the same time, achieve their personal goals. Raising expectations and living costs drive many people to work harder, despite their personal needs and responsibilities.

– **Imbalance between work and family affects the employee, the family and the organization he works for**

For many families, time management has become an issue, especially issues relating common family activities, dividing time between requests from work and family. Both women and men are influenced by the impact of work-family conflict. The consequences of this conflict manifest, at employee level, by decreasing performance and increasing physical and emotional health problems and, at organizational level, by reducing productivity, increasing absenteeism and the number of people who resign.

– **Statistics show that there is a problem that requires solutions and alternative solutions**

Studies conducted in European countries indicate that:

- At least 1 out of 3 employees perceive a high level of stress caused by the conflict between work and personal /family life;
- 40% of working mothers and 25% of working fathers perceive a high level of stress caused by work-family conflict;
- 50% of parents believe they have a problem balancing time spent working and time spent with their family;
- 2 out of 3 parents exhibit daily moderately high stress due to difficulties caused by work-family conflict;
- women spend more time on family tasks and activities which lead to increased stress levels. Due to the multiple roles and responsibilities that women have to face, the risk of depression is higher for them.
- Stress affects the quality of the work
- A survey of 1200 top managers shows that 65% of them say they have succeeded in their careers by sacrificing personal/family life.

– **Mental health is influenced and influences employee work performance**

In Europe, 28% of employees manifest high stress at work. Stress at work increases the risk of anxiety, depression or burn-out. Working conditions that negatively affect the mental health of employees include a negative management style, low social support, time pressure, repetitive tasks, interpersonal conflicts, job insecurity, lack of control and autonomy.

Divorce affects more than 1/3 of adults, leading to increasing numbers of women and men who raise their children alone.

**Benefits of employers that implement policies of balancing professional life with family life**

The most common measures or policies regarding the balance between personal and professional life are flexible working hours and assistance and training services for employees. Programs that support flexible working time have various options:

- part-time work;
- work at home (for employees with young children or those with responsibilities that can be done outside the workplace);
- job sharing (sharing responsibilities between colleagues with the same tasks);

- flexible working hours (the employee decides with the employer the program and working conditions, the options are: flexible work schedule, compressed work hours, one day off a week);
- V-time or voluntary break (is an option of the employee to take a rest period, according to various moments of his/her personal/family life (ex: the children start school, children's holidays)).

**Benefits for the company / organization (Work Foundations, UK):** increasing productivity, improving corporate/company image, better recruiting of employees, reducing absenteeism, low costs generated by health problems of employees, more satisfied customers, more involvement and loyalty from employees.

**Employee benefits (Work Foundations, UK):** a better quality of life, career progress and greater job satisfaction, better physical and mental health, higher incomes and associated benefits, more time for themselves.

A survey of 1233 UK employees made after the implementation of work-life balance policies for family / personal life showed that: employees perceive the workplace as positive - benefits in recruiting, improving work relations, increased productivity, decrease of absenteeism and increased loyalty to the company. 91% of them said that implementing such a program was made at minimal cost. The most important benefit that companies felt was regarding the company image and competitive edge.

### **Workahoolism, the "pretty addiction", a barrier in achieving efficiency, professional and personal satisfaction**

Workahoolism is one of the main problems affecting the professional and personal lives of working adults and is characterized by the following aspects:

- Excessive involvement in work and neglect in other aspects of life;
- Many overtime hours, on weekends and holidays;
- Need for control and therefore very low delegation of tasks to others;
- High level of perfectionism regarding his and others work.

### **What are the consequences of workahoolism?**

- Lower professional performance in time;
- High level of stress related health problems such as chronic fatigue syndrome, alcohol, drugs, increased anxiety;
- Conflicts over lack of balance between professional and personal life;
- Negative impacts on emotional and behavioral development of children.

### **What does a person with this problem think?**

- believes that value results exclusively through professional achievements and has a fear of being judged as unworthy or unsuccessful by others. "I am very concerned about how others perceive me."
- the resources we have or we can have are limited and therefore we must fight to get them by competition with others. "There can be only one winner in any situation.", "Nice people come last."

## **5. Professional counselling to maximize the report personal skills / utility in society**

Professional counselling is the process of maximum compatibility between the resources, requirements, aspirations, values and interests of an individual and the real offer in education, training and socio-professional integration, representing practically a social service that initiates a comprehensive approach of the individual, in all important aspects of life and roles in school, profession, social or community life, family, leisure etc. and materializes in all categories of information services, counselling and guidance offered to applicants by advisers.

*Career counselling services from employment agencies have in focus, almost exclusively, the unemployed people and in particular the long-term unemployment.* Counselling in these cases, in the best situations, focuses on facilitating the placement of the applicant in a job, if possible, in his specialty or one near the exploration in detail of the client's interests, a balance of skills, re -inventory of skills, knowledge, abilities, capabilities, etc.

In management and access to information with information and communication technologies in career counselling the following steps are followed, if necessary: self-information, self- information assistance, intensive guidance and counselling for adults with personal problems and obstacles in career development or in finding a job.

This means in practical terms the following steps:

- a) The existence of the necessary technical base;
- b) Literacy for their use;

- c) Creating databases in accordance with the customer needs in the form of thematic websites (jobs, education and training offer including content and institutions, or self-assessment tools etc.);
- d) Ensuring the whole process with experts in the field to create these sites in a professional manner, to continuously update with information and to investigate the dynamic needs of the users
- e) Developing and diversifying the information services offer, complementary counselling and guidance: career counselling by phone, e-mail, printed materials sent by post
- f) Developing services to ensure the equity of access to such data for all categories of potential users

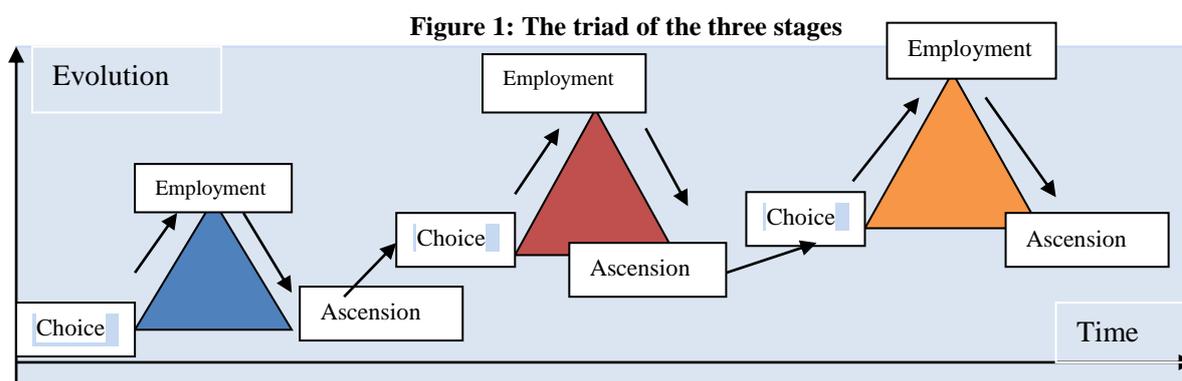
In the counselling process it is taken into account a number of key categories of information, all taking into account the subject's own system of interests, preferences and aspirations.

Incomplete, outdated or too general information will create confusion, will generate hesitant attitude and make the decision difficult, lengthy, overly dubitative and psycho-emotional tension generator with negative charge. Educating the subjects undergoing counselling process to evaluate alternatives and judge the probability of opportunities, of socio-professional insertion offers is more than just a goal.

Taking into account the time for career planning is scarcely considered by beneficiaries of the services of information, advice and guidance or by counsellors. Most individuals shorten this dimension, ignore it or do not give sufficient importance, not understanding that while education and training is done, there are developed basic skills and work habits, professions worldwide evolve, employers' demands or employment market supply requirements change.

Sometimes, however the present is ignored, the future being always in the foreground. It is stressed that present must be given the importance it deserves: professional future being a "consequence" of the present in terms of investment in education, training, development of abilities and personal skills, general maturity or structuring of a personality oriented towards business. A successful career is always based on the so-called triad of the career.

A successful career triad is a structure that helps us identify the steps we go through repeatedly, periodically during career development. Once identified the stage where we are, it can be overcome more easily, so that we are able to progress to the desired destination. Every career, every profession, goes through three stages: *Choice, Employment and Ascension* according to the representation of Figure 1.



Source: <http://www.hipo.ro/locuri-de-munca/vizualizareArticol/177/-Triada>, own processing

During the counselling process of choice, continuation, development or career change, latent and not expressed needs and aspirations of the subject can be surprisingly motivating and mobilizing in the emotional, psychological and energetic plan.

Almost every individual can identify in his professional life at least some cases of wrong choices or options due to happy chance or inspiration.

The essential difference between individuals in this case consists of the fact that some pathetically accept this personal history, classifying it as a lack of opportunity, fate, luck, etc. And others fight to correct the errors of the past, common stereotypes about work, such as:

- "illegal" work in foreign countries or in the country is advantageous because the salary is higher (not taxable), even without the record of employment (ignoring the lack of social protection, of health care, of retirement age, and the illegality of such an option);
- a good job is taken through "acquaintances" or "bribe", the personal qualities and school preparation do not matter too much (there are enough uneducated rich people);
- those operating on their own steal, or otherwise, you cannot make a fortune of honest work.

***The importance of information, counselling and vocational guidance services:***

- It is important for the educational institutions to benefit from these services to improve the quality of education and training (for reasons of social and professional prestige), to fill in jobs available to already very competitive students
- It is important for the individual (young or adult) to benefit from these services to identify the optimal path of life and professional development, judged by individual, material, socially anticipated satisfactions
- For the employer to benefit from information, counselling and guidance services means finding employment able to maximally respond to his needs and it must be highly efficient, versatile and instantly usable (without investment in its training and practice)
- For society as a whole, these services are a mechanism for ensuring the general prosperity from a socio-economic and cultural point of view, by rationally and fully using all available human resources, a means of establishing social equity, but also a way through which possibly certain interests or strategic national priorities can be served

**6. Conclusions and suggestions in order to ensure balance between professional - personal life and maximizing the efficiency of the use of each individual in the society**

According to the general elements presented in this article it is necessary a series of conclusions about the current way of addressing lifelong employment, education, training and professional counselling of human resources, on the one hand and that their quality of life on the other hand, at the European Union level:

1. Although the EU27 is now facing an extremely difficult problem regarding the aging active population-the official level of use of human resources of working age is relatively low. If we take into consideration the current imperfections and presentation of the real situation, this level of use is likely to be actually much lower.

2. The efficiency of utilization of the EU27 human resources defined as the ratio between their specialized training (obtained in the basic educational process completed with continuous training throughout life) and professional skills requirements requested by the jobs they are engaged in, intuitively, is far from being at least satisfactory. More specifically many people with average or higher specialized training are forced to accept jobs that require minimal training.

3. Absorption of labour in the EU27 Member States' economies, especially of the Eastern European states from the former communist bloc, is relatively low, primarily due to large financial and economic difficulties caused by the global crisis and maintained by the current extended recession of the national economies in those states.

4. Current strategies and policies of the competitive and adequate training of labour available in relation to the actual technical skills requested by the current informational and technological explosion from the global economy are still inefficient and inhomogeneous at the EU27 level.

5. The process of adult vocational counselling and career counselling for high school and / or university graduates runs according to outdated - but interesting patterns - where it still takes place. Unfortunately in most countries outside the former EU15, currently EU27 member states, this counselling is actually rather at a formal stage, totally ineffective (such as the counsel for the defence appointed by the judge in a criminal trial)

6. National and even European strategies and policies to harmonize the relationship between the working conditions and the quality of professional, family and personal life of the individual in society are still in many EU27 member states at the stage of theoretical initiative or at best at the stage of experimental "pilot".

A number of *suggestions* for improving the processes of employment, education, continuous vocational training and of professional counselling of human resources, under the conditions of ensuring simultaneously a good quality of family and personal life, would be the following:

1. In terms of a prolonged recession of the European economies affected by the global economic and financial crisis, mainly of the countries outside EU15 – it is strictly necessary a maximum absorption of the EU funds allocated to them both directly to the development of activities to improve the processes of employment, education, continuous vocational training and professional counselling of the human resources, and indirectly of all other funds allocated to economic development, road infrastructure, rural development, environmental protection, introduction of "green" technologies, etc. In the absence of some financial and strictly necessary funds, any suggestions are obviously almost useless, with no source of funding the proposed various policies and strategies.

2. Implementation and / or development of strategies and national / European policies to facilitate labour market integration or reintegration of persons entering the vulnerable groups: young high school or university graduates, young people with a relatively low level of education, especially of Rrom ethnicity still having a high natural growth, officially declared older unemployed people, officially undeclared unemployed persons are in the "discouraged" category; elderly people over 50 who have lost work recently, people with mild or moderate disabilities including deaf and dumb or blind; persons with professional training that are no longer current in the context of that national economy, etc.

3. The direct and indirect financial facilitation and support of initiatives of creating specialized departments for the purposes of training and / or appropriate retraining, even within economic organizations which require the employment of workforce. Depending on the size and economic and financial capacity of these organizations, these departments may include a variable number of professional trainers, even one in the frequent case of small or micro enterprises.

4. The effective and efficient approach at large-scale of the continuous counselling process of professional training of the human resources, in direct line with the real requirements of the modern world economy, based on high technologies and advanced computer informatization.

Besides the necessary financial resources that must be allocated for carrying out this activity it will be taken into account the strategies to attract the human resources in this important process - at least under acceptable conditions for the economic organizations where these persons perform their activity (the case of those already employed in the labour market, that are to complement and improve their professional knowledge and skills)

5. A fairly and rigorously controlled maximum and efficient absorption of the non-reimbursable European financial funds in the agriculture, livestock and fruit growing, especially of the one centred on ecological food and agriculture - in parallel with the allocation of national loans repayable with low-interest in the long term. The suggestion is mainly for those EU27 Member States with a potentially high production capacity in the field, but unused properly (for example the case of Romania which occupies No. 2 in Europe as a fertility potential of agricultural lands) - the more so as at this moment and the near future perspectives the global food crisis is undeniable a certainty. The development of these sectors - along with the horizontal development of auxiliary production sectors - would ensure the absorption of appreciable quantities of workforce.

6. Elevation to the rank of national priority of policies for setting and development of some state or mixed institutions, having as operation target ensuring an effective and intelligent process of vocational guidance and career counselling, intended for the human resources in all stages of life. Counselling should be in most cases free and required by law, such as compulsory education - because too few people now benefit from this service absolutely necessary both for themselves and for the economic organizations and governments. \_

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## MEASURING REGIONAL CONVERGENCE – AN APPLICATION TO THE EUROPEAN UNION AND ROMANIA

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**Abstract:** Attention of regional economic convergence has a great place in economics literature. The application of spatially explicit methods of data analysis to the convergence question has yielded important insights on regional economic growth. The literature on regional income inequality, although somewhat older than the convergence literature, has been slower to adopt new spatially explicit methods of data analysis. Application of recently developed methods of spatial econometrics to the question of regional convergence has yielded a more comprehensive and multidimensional view of regional economic growth.

This article aims to identify the techniques and methods use for regional convergence and investigating the amplitude differences in the level of regional development in European Union – EU-27- and Romania, expressed by the GDP (per capita and total).

**Key words:** regional disparities, regional convergence, concentration, agglomeration, dispersion

**JEL classification:** R 11, R 12, F 02

### 1. Introduction

In general, disparities between regions and inside them occur as result of some concentration (agglomeration) trends triggered by external phenomena (globalisation, integration), or by internal ones (clustering, emergence of growth/development poles, involvement of local institutions in various aspects of economic life, etc.). As a rule, regional disparities take the shape of differences between the level of incomes per capita and determine, at a given moment, a chain reaction of companies, authorities, inhabitants, etc., that attempt to counteract their escalation.

Reasons for the emergence of regional disparities are analysed and explained by the majority of regional sciences theories (localisation, endogenous development, etc). These have attempted to provide answers to the question: *why some regions undergo a quicker development compared to others?* The relatively numerous explanations are in accordance with the values of the period of reference (in a first stage, the presence of favourable natural conditions, important and valuable resources, proximity to certain markets and, subsequently, innovation, regional institutions, policies and national, regional context, etc.).

Recently, to explaining economic disparities have contributed other fields as well, such as mathematics, statistics, etc, increasing, thus the applicability and predictability of the regional analyses. The final result led to increasing the importance and visibility of the regional level within some communities of states and in the emergence of specific policies aimed to attenuate territorial disparities and to ensuring the bases for balanced development at this level.

In the last period, discussions regarding regional disparities bring with them also the need of approaching convergence within some communities of states deciding on eliminating any types of barriers. More than obvious interest is shown for certain models of spatial analysis regarding inequalities, diminishing territorial differences in incomes' size, infrastructure, etc.

Within economic analyses, the concept of convergence as result of its increased importance, generated an explosion of scientific studies elaborated at international level (Pritchett, 1997, de la Fuente, 1997, Quah, Durlauf, 1999, Fingleton, 2003, Magrini, 2004, Krugman P., 2008, Nijkamp P., 2010), national (Barro, Sala-i-Martin, 1992, Iancu A., 2005), sub-national (Budanya, 2002, Jula, 2007, Constantin D. L., 2008), and urban level as well (Drennan, Lobo, 1999). There were, also, other fields interested by this topic: geography (Gaile, 1984, Armstrong, 1995, Ianoş, 2011), history (O'Connor, 2001), sociology (Sassen, 1994, Sandu D., 2010), political sciences (Gruber, Gaines, 2001), where attempts were made to provide for answers regarding the emergence, persistence, and more marked spatial imbalances in the field of incomes.

The issues related to the two concepts – *disparity and convergence* – take an important place in the current economic literature, though their approach remains yet insufficiently explored. Both regional disparities and convergence can be approached from several perspectives. If for disparities various fields

can be analysed: economic, social, environmental, infrastructure, etc, for convergence the three already consecrated types must be taken into account: real, nominal and institutional convergence. For Romania, in the current integration context, all three types of convergence are of special interest, considering the important gap against the community average and other EU Member-States.

This article offers a new approach in assessing the presence of regional convergence in income per capita and applies it to data for regions of the European Union and Romania.

## 2. Techniques and methodology

In general, the *convergence concept* is used both by analysts, theoreticians and practitioners for expressing the common trend identified at the value level of some indicators or indices using adequate mathematical techniques.

Depending on context, the concept presents several facets being accompanied also by other elements supporting it: disparity, discrepancy, inequality, imbalance, polarisation, agglomeration, concentration, dispersion, etc. As a rule, the manner of evaluating the level or degree of regional convergence is determined by:

1. the territorial dimension to which the relationship is made (regional, sub-regional, national, over-national, etc.),
2. the period of time.

On the basis of regional convergence are a series of methods and indicators, which are based, in a scientific manner, assumptions and conclusions presented in the space research. These methods of spatial analysis focuses on the series, consisting of the string values of a characteristic in relation to administrative-territorial units (ATU) to which they belong. (Novak A., Statistica, Editura Sylvi, 2001) Territorial units' series use complex concepts: localities, towns, cities, counties, regions, countries, etc.

Characteristics of the territorial series are:

- *independence of the specific terms of the different levels*; this feature allows separate characterization of each unit by comparison with other unit or by including them in the total level of the series;
- *the homogeneity of the series* – it have the same content, the same economic and social statistical definition of coverage;
- *the similarity of the terms* – the existence of an identical time of observation or a period of registration;
- *terms variability of combining essential factors* - is determined by the specifics of the entire series, factors which lead to differentiation from one unit to another;
- *geographical representation* – is performed by means of cartogram or some of the maps. Each unit is separate drawings in accordance with the qualitative types.

Currently, comparative analyses and territorial level of classification of the UAT is of special importance for the national, community and international measurement differences from the perspective of development between regions and the development of appropriate strategies.

For analysing regional performances, the regional GDP was used (per total and per capita), this representing also the basic criterion to establish both the contribution of the member-state to the community budget, and also the level of allocations from structural funds (the average GDP/capita, computed for a period of three years represents the criteria for establishing the eligible regions).

The following econometric techniques were used in analysing regional convergence:

- *the dispersion method (variance)* and its main parameters (amplitude, standard deviation, average square deviation or  $\sigma$  convergence, variation coefficient and average standard deviation) – the more the value of these indicators tends to decrease, the stronger is convergence;
- *the concentration method* – the Gini coefficient and the Gini-Lorenz curve (tendency to zero value of the coefficient expresses the existence of a certain balance between the distribution of resources and the distribution of results), the polarisation trend is given by concentration's increase.

As regards the analysis of regional convergence, there are a number of restrictions on the use of statistical techniques, which are determined by the use of non-homogenous, and that can lead to unrealistic results and trends affecting perception of convergence (Petraikos G., 2005). The alternative is to attach different values to each of the observations in hand, to reflect their relative contribution. For

example, if we have a variable income (GDP) regional, the pointer can be weighted by the number of the population of the territory in question. In some situations, data and statistical information may be asymmetric, which leads to difficulties in calculating the respective indices.

Regional trends presented in analyses are based on the use of the techniques for estimating the average non-parameters, which allow the presentation of functional features. In this case, there are a number of perks determined by generalization or the flexibility associated with the underlying parameters.

Regional disparities analysis using statistical techniques territorial analysis is based on a system of indicators appropriate to the nature of specific, terms and purpose.

In context of regional analyses can be found the following groups of indicators

A. **absolute indicators** (level indicators ( $y_i$ ) and absolute indicators ( $\Delta_{ij} = y_i - y_j$ );

B. **relative indicators**: Ex.: territorial indicators ( $i_{ij} = y_i/y_j$ ), relative difference:  $\Delta\%_{ij} = (y_i - y_j)/y_j \times 100 = 100(i_{ij} - 1)$ , territorial concentration coefficient (Gini coefficient, Struck coefficient, informational energy) and relative structure indicators  $g_i = y_i/\sum y_i$ ;

C. **average indicators**: average level is represented by geometric or arithmetic averages (median, module).

In the European Union of 27 Member States, aspects of convergence led to establish a set of common criteria and indicators, which can contribute to the achievement of a uniform vision of the incidence of certain community interventions in order to reduce the disparities of development. Select indicators for the evaluation of cohesion policy and regional development are the following: GDP per capita, unemployment rate, life expectancy at birth and the level of education. Their use is affected by the availability of data at the national level under-(regional) within the EU.

Analysis and interpretation of indicators mentioned above provides a comprehensive picture of the situation existing at the territorial level and, by comparison, highlighting some regional disparities.

Evaluation of regional imbalances is achieved through the definition of appropriate statistical calculation formulas. From this point of view, taking into account the size differences between the territorial levels may lead to a series of conclusions on existing trends.

### 3. An application to the European Union and Romania

#### 3.1. European Union

Within the European Union, the principle of cohesion and reform of Structural Funds (1989) represent core elements supporting permanently the balanced development at regional level. This fact is proved also by the constant increase of allocations from structural funds for economic and social cohesion (practically, after 1980, they were doubled in real terms).

In the current programming period, the allocations corresponding to cohesion represent 347 billion Euros (current prices) from which the sums allotted for promoting convergence have about 81.5% from total. Moreover, the existence of a compromise between efficiency and equity leads to the idea of a possible maximisation of general growth, in parallel with reaching the convergence of outcomes and productivity at regional level.

Within the convergence process at EU level, the consecrated techniques for analysing regional convergence are *GDP dispersion per capita* (*sigma* –  $\sigma$  convergence). It is built based on the hypotheses of the neoclassical theory: the development of regions shall be made towards a common development level.

In the same time, poor economies tend to grow faster as compared with the developed ones (*beta* –  $\beta$  convergence). This approach is relevant when regional economies have different structures, and welfare (output) does not converge to a common development level. On long term, for similar growth rates, the differences between the regions remain stationary (don't deepen anymore).

In the following, the outcomes of the analysis for the convergence process are presented at the level of the EU regions, with the help of the method dispersion and the Lorenz-Gini concentration curve. The analysed period of time is 1997-2009. The statistical data sources are:

<http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/themes>),

[http://europa.eu/geninfo/legal\\_notices\\_en.htm](http://europa.eu/geninfo/legal_notices_en.htm).

##### 3.1.1. Analysis framework

The analysis framework of the study is formed from the NUTS 2 regions, a statistical system regulated within the European Union by the Statistical Directorate Eurostat. NUTS (Nomenclature Units

for Territorial Statistics). The current NUTS system has the following structure: 27 member-states, 97 NUTS 1 regions, 271 NUTS 2 regions and 1303 NUTS 3 regions, and the statistical data corresponding to them are available online at the web address: [www.internet](http://www.internet) in the New Chronos data base (source used for the present chapter). The NUTS 2 system is used in elaborating and evaluating the cohesion and regional development policy (after the eighties).

Within the cohesion policy, the regions NUTS 2 are eligible for accessing Structural Funds by objective 1- Convergence, regarded as the closest level to which community action might be undertaken and to which the principle of subsidiarity is efficiently and effectively applicable. Regions NUTS 2 cover a total population between 800.000 – 3 million inhabitants, their number being different from one country to another (Germany - 38 regions NUTS 2, France -26 regions, Italy – 20, while in Malta, Ireland, and Luxemburg there are no NUTS 2 regions, they being, as a whole NUTS 1 regions).

### 3.1.2. Analysis and interpretation

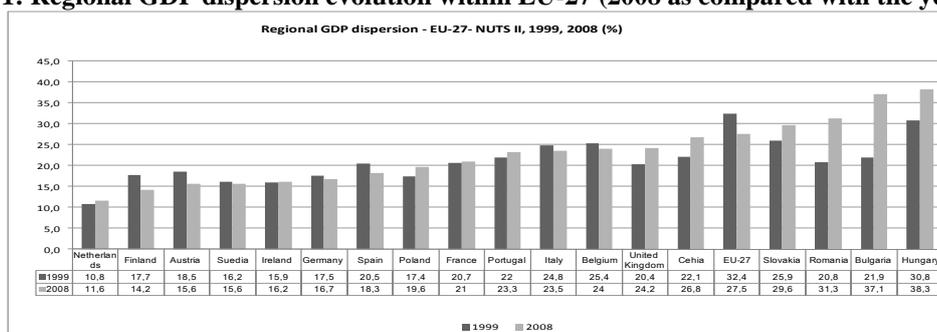
The analysis of the regional discrepancies within EU was realised with the help of the dispersion method (variance) applied for the 271 NUTS 2 regions with respect to GDP value (PPP) (compared with the community level) for the period 1999-2008, completed with the graphic representation of the final outcomes (histogram and the Lorenz-Gini curve).

The majority of member-states have, at regional level, a decreasing trend for the GDP dispersion value (the low values of GDP dispersion represent a process of convergence between the regions making the object of analysis), the exception being represented by the group of new member states which presented certain increases of the indicator's value, as follows:

- There is a general trend of decreasing dispersion value, from 32,4% to 27,5%, which might be interpreted by a growth trend of regional convergence;
- in regions of the new member states, a clear divergent trend is recorded, resulting from the increased value of GDP dispersion (PPP): in Hungary from 30,8% to 38,3%, in Bulgaria – from 21,9% to 37,1;
- in Romania, a GDP dispersion growth is shown at regional level, hence more marked discrepancies against the EU average from 20,8% to 31,3%;
- there are certain trends of increasing the regional discrepancies also in some member states with an older community status: Portugal (22%-23,3%) and Great Britain (from 20,4% to 24,2%);
- the lowest value of GDP regional dispersion (of only 11,6%, difference against the year of reference) was in the Netherlands;
- the highest increase of the dispersion value was registered in Bulgaria (increase by 69,41%), followed by Romania (increase by 50%) and Hungary (increase by 24,35%);
- the highest decrease of the regional GDP dispersion value was recorded in Finland and, hence, an increase of the convergence degree (decrease of 19,7%), followed by Austria (decrease of 15,6%) and Spain (decrease of 10,73%).

In the period 1999-2008 a diminishment by 5% of the regional GDP dispersion value can be seen, which confirms the convergence trend within the EU where this process is strongly supported both from Structural/Cohesion Funds, but also from own financial resources of each of the member states (Figure 1)

**Figure 1: Regional GDP dispersion evolution within EU-27 (2008 as compared with the year 1999)**

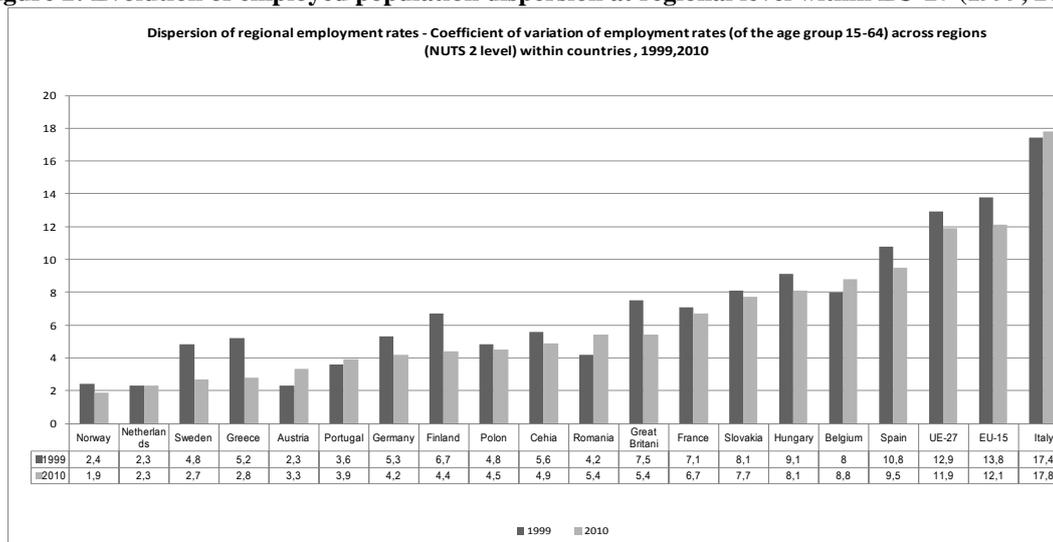


Source: Eurostat data – own calculations.

A similar convergence process, but at a smaller scale, is shown also in the analysis of employed population dispersion, the value of which registers a relatively decreasing trend (of about 1%) both for EU-27 and for EU-15. In some member-states, it can be said that a process of increasing disparities takes

place with respect to employed population, against the EU average: Austria, Belgium, Portugal, Italy, and Romania (Figure 2).

**Figure 2: Evolution of employed population dispersion at regional level within EU-27 (1999, 2010)**



Source: Eurostat data – own calculations

Another regional analysis technique used for evaluating the trends of the convergence process at EU-27 level is the histogram. Following the processing GDP/capita at the level of the NUTS 2 regions, and of presenting them under the graphic form, following aspects resulted (Annex 1):

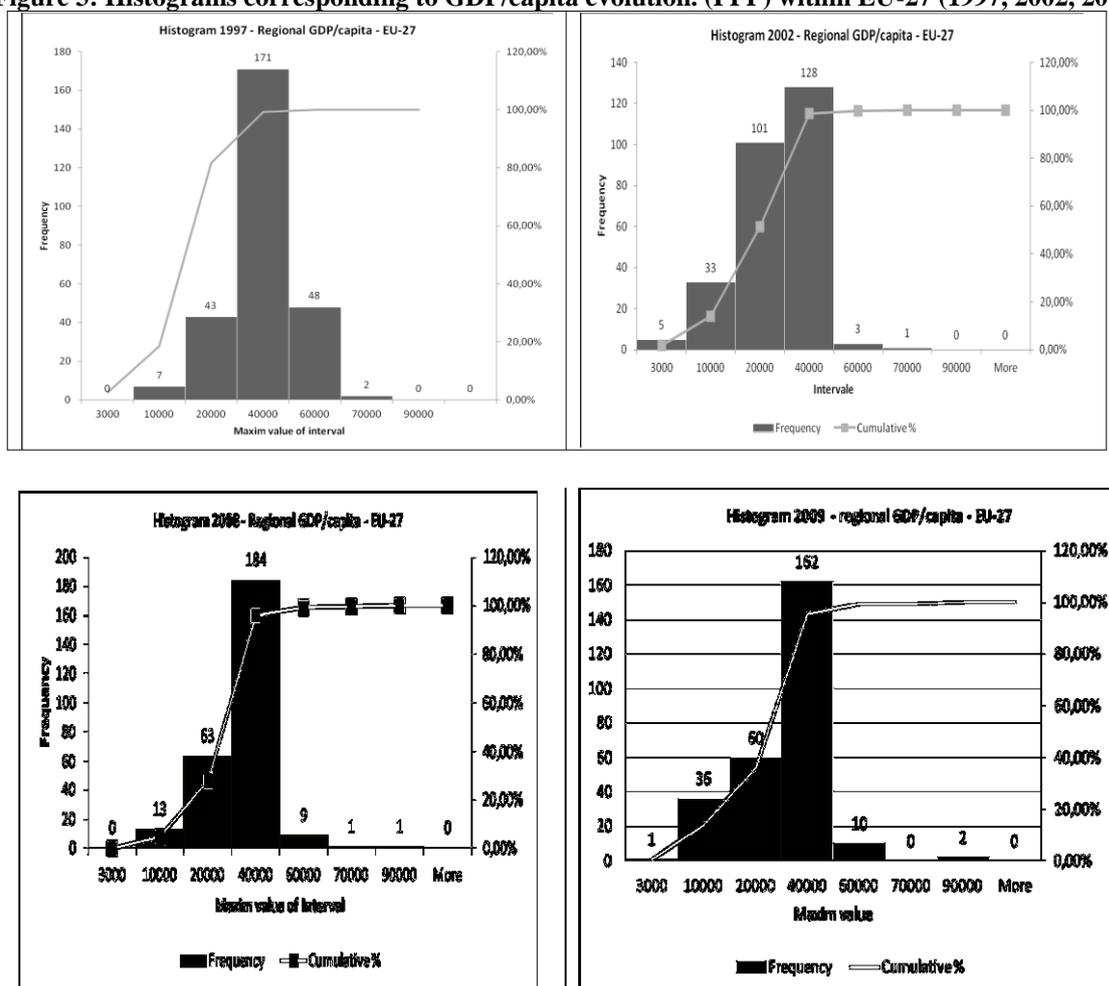
- In the year 1997, about 53,5% of the regions (145 regions) had a GDP/capita over the community average; the number of regions under the average was of about 46,4% from total (126 regions).
- With respect to community assistance (eligibility according to GDP/capita), non-supported regions represented about 75% from total (202 regions). The average value of GDP/capita (1997) was of 15.265 Euro/capita (64,9% from total regions), while the maximum value of GDP/capita was of 49.300 Euro/capita.
- The most developed regions (highest GDP/capita – in the year 1997) were: London (49.300 Euro/capita) and Brussels (41.100 Euro/capita). At the opposite end, the regions with the lowest GDP/capita (of about 3200 Euro/capita) were found in Bulgaria (Severozapaden) and Romania (North East with 3600 Euro/capita, South-Muntenia with 4300 Euro/capita, North West with 4400 Euro/capita., South-West with 4400 Euro/capita).
- The number of regions reporting the average value of GDP/capita was of 171. The difference between the highest value and the lowest value recorded by GDP/capita in 1997 (variance) was of 15.4 times.
- In 2002, a slight increase can be seen in the number of regions placed above the EU-27 average (from 145 to 151), concomitantly with an decrease in the number of regions with values over 75% from the EU-27 average (from 202 to 193 regions).
- In the period 1997-2002 an important increase of maximum GDP/capita can be found (from 49.300 Euro/capita to 75.700 Euro/capita – an increase of 53,4%), followed also by an decrease of the minimum GDP/capita value (from 3200 Euro/capita to 1600 Euro/capita).
- In 2008 a diminishment (comparatively with 1997) can be seen in the number of regions above average (from 145 to 136), and an increase in the number of regions below the EU-27 average (from 126 regions to 135).
- The important trend of the period is the decrease in the number of financially unsupported regions by about 5.44% (from 202 regions in 1997 to 199 regions in the year 2009).
- The maximum value of GDP/capita increased from 49.300 Euro/capita to 75.900 Euro/capita (in the period 1999-2009). The difference between the maximum value-minimum value of GDP/capita is of 12 to 1.

Two special moments should be mentioned, which marked changes of the GDP/capita values in EU-27 for the reporting period (1997-2009): the first moment is the one of the period after 2004, when ten New Member States accessed the EU and which triggered the increase in the number of regions below

the average (from 122 to 128 regions), and the second, the one following Romania's and Bulgaria's accession when the number of regions placed under the community average increased again (to 137 regions). A constant trend during this period is the one of increasing GDP/capita (both the average value, and the maximum), which means that, as a whole, the regional development level increased, concomitant with the trend of reducing of minimum value (from 3200 Euro/capita from 2900 euro/capita). Thus, the average value of the indicator increased by 1.59 times, the maximum ones by 1.74 times, and the minimum one increased 2.21 times.

Also, the number of regions with a GDP/capita value close to the community average increased as well (from 171 in 1997 to 184 in 2008). In 2009, regions with GDP/capita value close to the community average decreased from 184 (2008) to 162 (2009). The relationship between minimum GDP/capita and the maximum one (variance) increased from 15,4% to 26,17%.

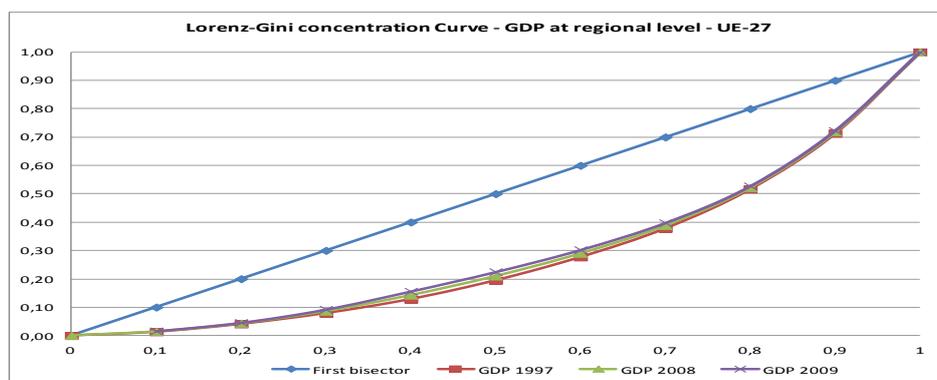
**Figure 3: Histograms corresponding to GDP/capita evolution. (PPP) within EU-27 (1997, 2002, 2008, 2009)**



Source: Eurostat data, own calculations (Annex 1)

The relative convergence trend at regional level within EU-27 is supported also by the values of the Lorenz-Gini concentration curve. Thus, a closing in trend is found for the Lorenz-Gini curve (year 2008) against the first bisector of the square's area, which presupposes a slight convergence trend at regional level (the more the concentration curve deviates more from the square's diagonal, the larger the concentration surface, that is higher disparities, and the concentration stronger) (Figure 4).

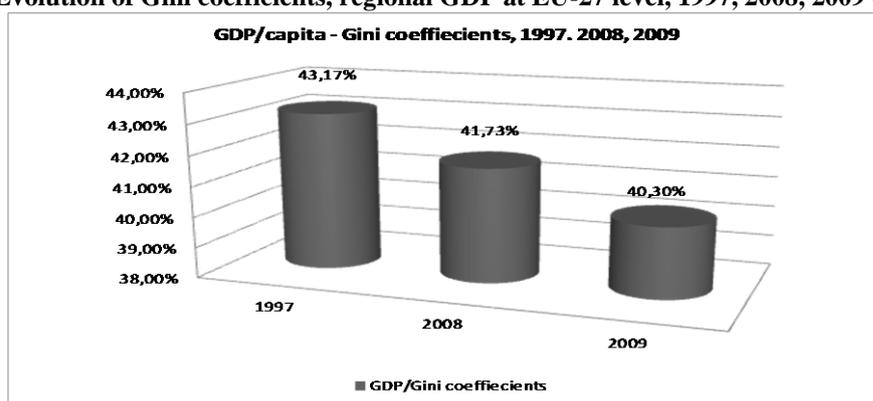
**Figure 4: Lorenz-Gini concentration curve computed for regional GDP within EU-27, in the period 1997-2009**



Source: Eurostat data – own calculations

The value of the Gini coefficient indicates a slight concentration trend of economic performances expressed with the help of the regional GDP (a decrease from 43.17% to 40.3%) (Figure 5).

**Figure 5: Evolution of Gini coefficients, regional GDP at EU-27 level, 1997, 2008, 2009 (%)**



Source: Eurostat data – own calculations

In conclusion, the number of very rich regions decrease (over 75% from the GDP/capita average) from 202 to 199. Another trend worth mentioning is the one of a diminishing number of regions with incomes above the community average (from 145 to 136) (decrease by 11,5%).

In conclusion, it can be found that at the level of NUTS 2 regions within the EU-27, for the last ten years, there is a convergence trend, even though “speeds” differ between the two categories of member states (old and new).

### 3.2. Romania

In Romania, the analysis of economic disparities was done based on development regions. Development regions are considered as the cornerstone element of the territorial cohesion policy on which action is taken by specific measures, objectives are defined, and measures are established along with the instruments for their fulfillment, and development methods and models are applied, while proposing scenarios, etc.

#### 3.2.1. Analysis framework

The context for analysing economic disparities in Romania is given by the eight development regions (statistical regions), created after the EU accession (2007). The development regions were established by taking into account the functional integration criterion and the presence of some polarization centers (Iasi, Timisoara, Craiova, etc.).

The eight development regions were established in accordance with the Law of regional development no. 151/1998 (as changed by Law 315/2004). Thus, in accordance with the law, the development regions represent “areas corresponding to a grouping of counties, constituted by voluntary association of the latter based on a convention signed by the representatives of the county councils and, respectively, of the General Council of the Bucharest Municipality; the regions constitute the drafting, implementation and evaluation framework of the regional development policies, as well as the one for

collecting specific statistical data, in accordance with the European regulations issued by Eurostat for the second level of territorial classification NUTS II, existing within the European Union”.

### 3.2.2. Analysis and interpretation

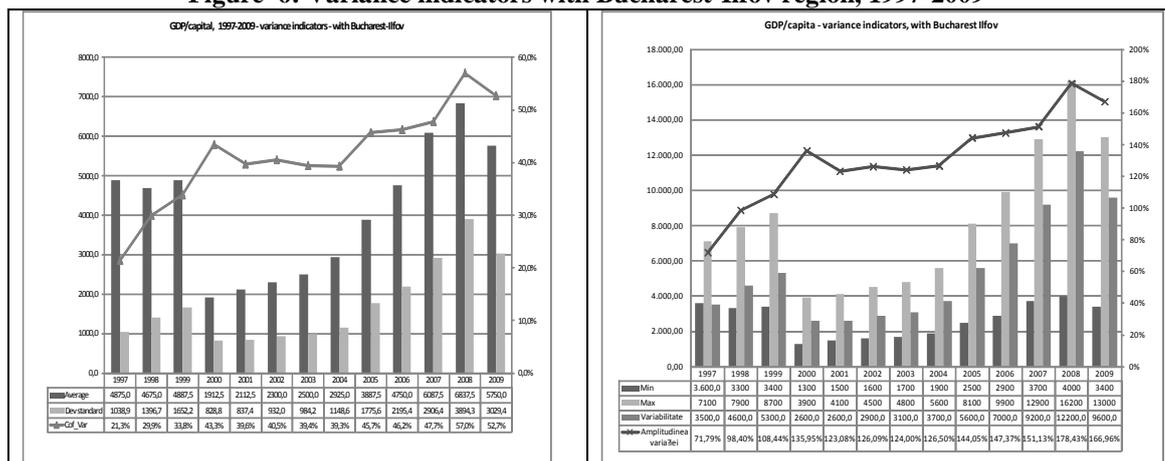
The identification of regional disparities from the perspective of economic performances was realised by applying the dispersion (variance) method on GDP/capita (PPP) in the period 1997-2009. As it is known, the region Bucharest-Ilfov (B-I) is placed among the most developed regions at EU level as compared with others and, in particular, with the North-East and South regions, thus two situations being accounted for: “with and without B-I region”.

Following the analysis of the dispersion values *GDP/capita at regional level*, the following aspects resulted:

#### Case “with Bucharest-Ilfov region”

- In 1997, the minimum value of GDP/capita (euro) were 3600 euro/capita (Nord East region) and the maxim value were 7100 euro/capita (Bucharest-Ilfov region); variance coefficient is 21.3%;
- It is a relatively high trend of variation between regions – from 21,3% to 52,7%;
- The average value of regional GDP/capita presents an increasing trend from a minimum of 3.600 Euro/capita (1997) to 13.000 Euro/capita (2009);
- The increase trend of GDP/capita (2008 as compared with 2000) has varied from one region to another, recording a maximum in the Bucharest-Ilfov region (by 3.98 times), in the region West (by 2.39 times) and North-West (by 2.36 times). The smallest increase was registered in the regions South-East (by 1.98 times) and North-East (by 2 times).
- The other terms of the variance (the minimum/maximum value, variability and amplitude) have recorded increasing trends, as well: the minimum value decreased by 0,63%, and the maximum value increased by 6.95% (from 7100 Euro/capita to 13.000 Euro/capita). The average yearly growth rate of the maximum value is superior to the one corresponding to the minimum value, emphasizing the divergences at the level of regional performances (Figure 6).

Figure 6: Variance indicators with Bucharest-Ilfov region, 1997-2009

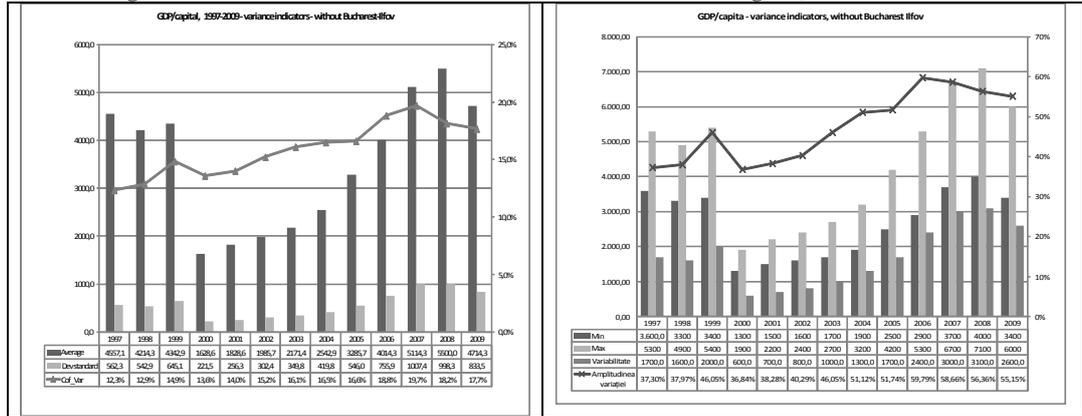


Source: Eurostat data, own calculations (Annex 2)

#### Case “without Bucharest-Ilfov region”

In the "without the B-I region" situation is found a relatively low trend of variation between regions – of only 5% (from 12,5% to 17,3%). At the same time, the average value of regional GDP/capita presents an increasing trend from a minimum of 3.600 Euro/capita (1997) to 8.702,5 Euro/capita (2009).

**Figure 7: Variance indicators without Bucharest-Ifov region, 19097-2009**



Source: Eurostat data, own calculations (Annex 2)

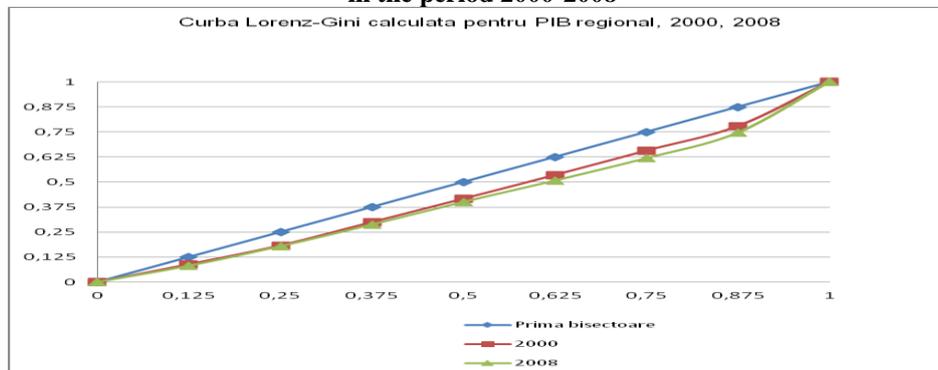
With respect to *domestic GDP*, there were the following trends: (2000-2009):

- The contribution of the Bucharest-Ifov region to domestic GDP formation increased (from 22% to 24.8%);
- The other regions have comparable contributions to total GDP realisation, comprised between a minimum of 7,98% (the South-West region) and a maximum of 13% (South-Muntenia);
- Also, some regions increased their contribution to domestic GDP formation: South-Muntenia, West and Bucharest-Ifov, while the rest of the regions recorded decreases in the share of the above-mentioned indicator's value.

The trend of more marked regional discrepancies is confirmed also by applying the analysis technique with the help of the Lorenz-Gini curve (concentration): in the graph can be seen the shift of the curve corresponding to the year 2008 against the first bisector and against the corresponding curve of the year 2000, fact which confirms the outcomes presented above.

Thus, a significant regional GDP concentration can be found, with an increasing trend: the value of the Gini coefficient increased from 3.85% in the year 2000 to 38.83% in the year 2008 (an increase by 3%). Concomitantly with the increasing trend of dispersion at regional level for economic performances expressed with the aid of GDP/capita, also a relative convergence trend can be seen for this indicator with the EU-27 average, triggered by the superior growth rate of the value recorded up to the year 2008 (Figure 8).

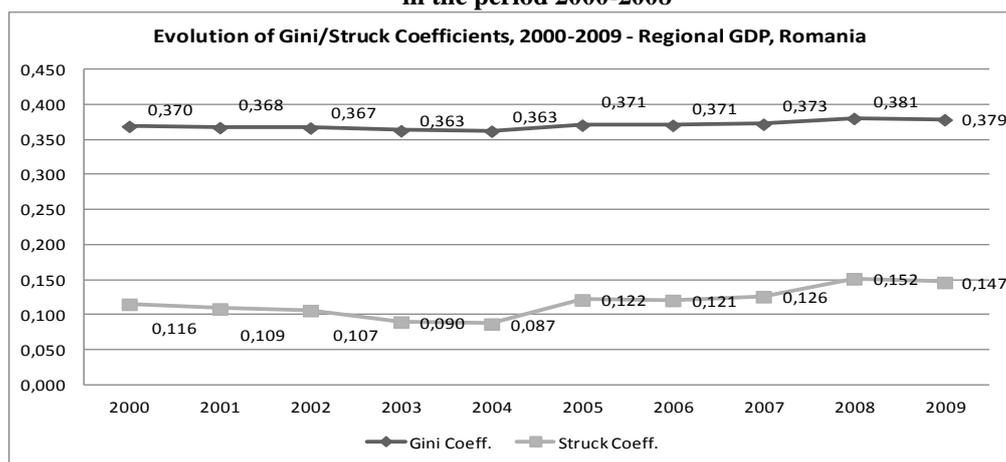
**Figure 8: Lorenz-Gini convergence curve calculated for the regional GDP development, in the period 2000-2008**



Source: Data base Statistical Yearbook 2011, own calculations

In 2009, establish a relative concentration reductions of regional economic performance expressed in terms of GDP. Thus, value of Gini/Struck coefficient decrease from 0,381 in the year 2008 to 0,379 in the year 2009, with a trend to reducing of regional disparities (Figure 9).

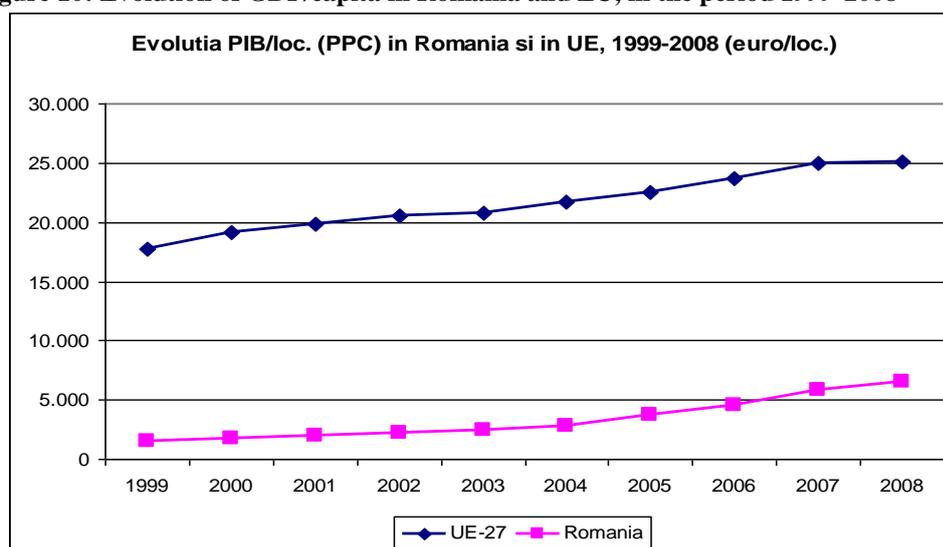
**Figure 9: Lorenz-Gini convergence curve calculated for the regional GDP development, in the period 2000-2008**



Source: Data base Statistical Yearbook 2011 own calculations

With respect to regional GDP contribution to the community GDP (EU-27), an increase is found regarding the importance of this indicator, given by the increase of its share from 8.43% (1999) to approximately 25.9% (2008), a growth of about three times. This situation did not influence the second last place taken by Romania within the EU-27 regarding the value of GDP/capita (a little above Bulgaria). As result of analysing GDP/capita evolution a slight convergence trend can be seen with the average level of the European Union (Figure 10).

**Figure 10: Evolution of GDP/capita in Romania and EU, in the period 1999-2008**



Source: Data base Statistical Yearbook 2011 own calculations

In conclusion, the economic performances at Romania’s level present two major trends:

1. a first trend of relative convergence with the European Union performances,
2. a second trend is given by more marked disparities between the eight regions NUTS-2, as result of increased economic concentration in areas regarded as attractive by population or investors, areas that can ensure a better living standard and activities with higher profitability,
3. after 2009, it is found that a reduction of regional GDP concentration, which may be shown a decline in the economic and social disparities. This may be the effect and global financial crisis, manifested after 2009.

#### 4. Conclusions

In general, it can be asserted that regional science has "borrowed" from statistical those techniques which may contribute to substantiation of results. Regional studies, the parameters of the

dispersion (variance) are the most used because they can synthesize, in a way, the dot information on inequalities in distribution. We can say that there is a permanent concern of the economic science for the estimation and evaluation of the dynamics of the territorial entities, having regard to existing conditions and times reported. Regional analysis models in order to, in particular, explain the causes that lead to the emergence of social and economic disparities between regions and within them, in order to identify the best measures to counter the effects of their behavior or occurrence.

In the present paper analysed the evolution of the regional convergence process within the European Union and in Romania with the help of the dispersion method and of specific indicators. During the analysed period, at regional level (EU-27), a slight convergence trend can be found at regional level supported by the diminishment of the differences between the minimum and maximum values of GDP/capita. This trend was accompanied by the increase in the number of regions within the 75% category from the GDP/capita average and of decrease in the number of regions with recorded incomes over the community average. There were two special moments as result of the determined regional analyses: (1) the accession of the ten New Member States (year 2004) and (2) the accession of Romania and Bulgaria. The two moments have been a “short-circuit” with respect to the convergence process and led to an increase in the number of regions below the community average.

For Romania – at the level of NUTS 2 regions, it is an increase trend can be seen with respect to regional economic disparities, the value of the analysed indicators varying from one field to another; there are, also, more marked disparities between the region Bucharest-Ilfov on one hand, and the other regions, on the other hand. High regional disparities are found in level of economic performance express by GDP/capita.

In conclusion, at EU-27 level a regional convergence process is shown, while for Romania are found increased economic disparities at the level of the eight development regions. If the phenomenon of more marked regional disparities within member-states shall continue, it is a certainty that the generated effects shall negatively impact also on the convergence process at the level of the European Union as a whole.

## 5. Acknowledgement

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**Annex1: Variance indicators of Regional GDP/capita, EU-27, 1997-2009 (no.regions, Euro/capita)**

	1997	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Total regions (no.)</b>	<b>271</b>										
Over average (no.reg.)	145	153	152	151	152	153	152	153	145	139	136
Under average (no.reg.)	126	118	119	120	119	118	119	118	126	132	135
Over 75% average (no.reg.)	202	187	191	193	197	196	198	199	196	199	199
Under 75% average (no.reg.)	69	84	80	78	74	75	73	72	75	72	72
Average (Euro/capita)	15265,0	18743,0	19401,0	19996,0	20213,0	21109,0	21818,0	23044,0	24262,0	24299,0	22801,0
Maxim(Euro/capita)	49300,0	69600,0	71800,0	75700,0	73700,0	78900,0	82300,0	88800,0	93900,0	85100,0	75900,0
Minim (Euro/capita)	3200,0	1300,0	1500,0	1600,0	1700,0	1900,0	2300,0	2400,0	2700,0	3000,0	2900,0
Variance (2009-1997) (Euro/capita)	46100,0	68300,0	70300,0	74100,0	72000,0	77000,0	80000,0	86400,0	91200,0	82100,0	73000,0

Sources: Eurostat data, own calculations

**Annex 2: Variance indicators of Regional GDP/capita, Romania, 2000-2009 (Euro/capita)**

	1997	2000	2004	2005	2006	2007	2008	2009
North-West	4.400,00	1.700,00	2.700,00	3.500,00	4.200,00	5.600,00	5.800,00	5.000,00
Center	5.000,00	1.900,00	2.800,00	3.600,00	4.500,00	5.900,00	6.200,00	5.300,00
North-East	3.600,00	1.300,00	1.900,00	2.500,00	2.900,00	3.700,00	4.000,00	3.400,00
South-East	4.900,00	1.600,00	2.600,00	3.200,00	3.800,00	4.700,00	5.200,00	4.400,00
South - Muntenia	4.300,00	1.500,00	2.300,00	3.100,00	3.800,00	4.700,00	5.400,00	4.700,00
Bucharest - Ilfov	7.100,00	3.900,00	5.600,00	8.100,00	9.900,00	12.900,00	16.200,00	13.000,00
South -West Oltenia	4.400,00	1.500,00	2.300,00	2.900,00	3.600,00	4.500,00	4.800,00	4.200,00
West	5.300,00	1.900,00	3.200,00	4.200,00	5.300,00	6.700,00	7.100,00	6.000,00

Sources: Eurostat data

## URBAN PLANNING - NEW THEORETICS APPROACHES

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**Abstract:** *Cities as well as their neighborhoods undergoes a continuous changing process, as an effect of economic, politic evolutions and of the social structure criteria change. The new city aim is to ensure continuity in the cycle of human activities, respectively among housing, jobs, recreation.*

*In the period of economic crisis, cities can have a key role, by exploit of their innovative and integrativ potential, may open up new opportunities for implementing structural reforms and for faster adapting to the economic and social realities in change.*

*The study refers to the new outlook of the urbanism concept determined by the economic and political evolution of society and it make reference to some models of modern urban planning, taking into account the views of experts referring to the new guidelines in the field.*

**Key words:** urbanization, urban project, planning, cities

**JEL classification:** R 0

### 1. Introduction

In the past, but also in our days, the city was seen as a condition and a major guarantee of the society development, a symbol of economic and social power. In the same time, cities and metropolitan areas are the "engine" of economic development, holding a central role in generating growth, innovation and employment, a recent years reinforced position by extending their competences.

Urban development approach is a complex process that involves adapting and reconsideration of theoretical and methodological principles with pluri-disciplinary incidences.

The urban dimension consideration in the policies carried out on national and European scale is necessary in order to facilitate the exchange of experience and the best practices, to encourage the contribution to overcome market weaknesses, source of unemployment and social exclusion in the cities, as well as for the purpose of achieving new investments that would allow cities a better capitalization of their potential.

In the period of economic crisis, cities can have a key role, by exploit of their innovative and integrativ potential, may open up new opportunities for implementing structural reforms and for faster adapting to the economic and social realities in change.

The study refers to the new outlook of the urbanism concept determined by the economic and political evolution of society and it make reference to some models of modern urban planning, taking into account the views of experts referring to the new guidelines in the field.

### 2. Aspects of urbanization

The **urbanization** is defined as "a social process where human settlements achieve high levels of density, heterogeneity, specialization and interdependence"<sup>(1)</sup>. This process can take place in central cities and places, which formerly had been rural, but also within municipal borders. Cities development, by population rise takes place both through natural increase (a greater number of births against the deaths) and due to the fact that the level of immigration from other cities, rural areas or other countries exceeds the level of migration outside it.

Developed countries and the developing countries differ not only as a percentage of population living in cities, but also as a way of giving rise to urbanization. Urbanization, in the most countries which were in the process of development in twentieth century, is different from the experience of developed countries: on the one hand, the rate of deaths has decreased faster in urban areas, as a result of a greater access to health care services and, on the other hand, because of the fact that in these countries, the rate of births is relatively higher, and the rate of natural growing is also high. Migration promotes urban growth in the developing countries, as the population is leaving rural areas in search of better jobs.

*The old paradigm* of urbanization reflect its fast increase hard to hold up in the developing countries, and national, local, governments try-out in order to prevent it, by different policies and interventions.

*The new paradigm* shows that the density - and the urbanization which is drawing it - are essential for achieving the economies of agglomeration and gains in productivity, in the context of recognition urbanization as a inevitable phenomenon, and also a force which supports economic growth and poverty decreasing. A city performance harness should be assessed by his function and not by his side, which give rise to some problems referring to the way that the urbanization process has to be managed and how its economic development potential could be harnessed.

The economic and social evolution of society changes temporally the social structure criterions. The current concept of urbanism is the product of continuous organization and adjustment of landed under the conditions of increasing concentration of human communities, the aim being to ensure quality of life.

Actual and future areas of interest of a town, continuously evolve, move, and extend. Should not be neglected the changes of the area in the vicinity of the larger cities where residential compounds, commercial, production and storage spaces build, leading to expansion of building area of the city.

**Urban extension** occurs as a result of socio-economic and infrastructure changes, and of the increasing use of cars, and this has led to increasing mobility, but also the emergence of new behavioral forms, as a result labor, household and locations geographical and of leisure break-up. As a result, a number of problems arise, such as low density of population, discontinuous development, the consumption of space, high-energy consumption, problems resulting from inequality and fiscal competition etc.. At the same time, urban expansion can also be a natural process, as a result of the increase of population in the great cities, which leads to new neighborhoods dwellings arise in the undeveloped or the under-developed regions. Within its framework, urban developers take into account neighboring natural territories situated in the areas of degradation, to build households and areas of leisure. Although natural expansion implies wildness destroy, the urban designers must take into account the protection of environment to ensure that there are not destroyed life of plants and animals.

The degree of industrialization increasing and the demographic explosion have caused major changes also with an impact on the manner of thinking architecture of city. **Urban traditional tissue**, expression of urban agglomerations had become inadequate, the relationship between an individual and the space built, between an individual and the community had been disrupted, there had been affected correct operation of cities.

### 3. Urban culture, urban regeneration

City revitalising means another organization that replace of the traditional city, based on a „street, market, island” which became ineffective, with a new form, focused on his major functions: living, work, recreation, traffic. The expert Le Corbusier states the fundamental principles which must be respected when design a city development: decongesting city center, population density increase, means of traffic increase, green spaces increase.

**Urban culture** occupies a vast field covering a coherent diversity of complex aspects, with some difficulties for experts of living space planning, in tackling various specific problems and carrying out adequate operations.

This concept, according to the opinion of experts, does not constitute as a commensurable phenomenon, consistent, strictly delimited; urban culture is not considered to be only the result of joint effort of specialists but the practice and thinking of different urbanists specializations has significant impact on it. Urban culture manifest "like an indistinct whole of everything that constitutes town habitation, from the most common contingency of the street, up to the urban singular events"<sup>(2)</sup>, or express join of diversity of forms, patterns, rhythms, topographies, histories and people, or in other words, „the systems of equipments and rules of behaviors and festivities, the mental techniques and trends which make us we can cohabit in these agglomerations”<sup>(3)</sup>.

In the 60's period Françoise Choay emphasizes limited nature of pluri-disciplinary approaches of urban interventions in post war era, indicating that urbanism cannot be considered as an exact discipline.<sup>(4)</sup> In its subsequent considerations relating to urban culture and city, the author notes that the current forms of urban living may not be included in traditional concept of city.

To these notes could add the cybernetic revolution impact on urban culture, with long time effects.

Habitations change their dominant appearance and features, the rhythm of changes being determined by the transformations operating in habitation and the ongoing assembly of forces and tensions build-up the urban culture in its continuous reconfiguration.

Considering urbanism as a discipline, appears as a reaction to the news of the industrial city, intended to identify the way of suitable approaches.

Beginning of the period 70's, in the context of socio-economic evolution, against the traditional urbanism existing, in Europe has been used wording "**urban project**"- the way of intervention on the city is within the context of reurbanization by the project - *an alternative to traditional planning*. It is considered as a practice of an open, flexible planning, the product of some actors meeting around a territory.

Reflections on urban project is expressed by Tomas and Ingallina concept which they consider a "combination of the fantastic process of distortion of ideas, which, for three decades, has renewed the concepts used in arrangement of cities"(5) making the transition from traditional thinking to the new urban planning sense.

Trying to define the concept of urban project was done by appeal to current disciplines, as well as by emphasizing its particularity, but its importance consists not in belonging to one discipline or another, but in its capacity to joint different steps that must be coordinated to match in a context.

In other words, urban project involves not only a professional, but competence, it is an approach to form a pluri-disciplinary team, to adopt a flexible attitude, to agree the current situation (Devillers 1994); means an agreement between knowledge and action and not a subordination from one stage to another.

It is interesting to know the specific contribution of this planning practice and, also finding *the advanced dimensions by urban project, against those from the traditional planning*.

**Table 1: Urban planning - urban (modern) versus traditional project**

URBAN PLANNING	
URBAN PROJECT (MODERN)	TRADITIONAL
<p><b>An open and flexible planning process</b>            - since its inception, it is considered that urban project will evolve from conception to implementation, decision making is seen as a pluralistic of an agreement convergence. (Monnier 1992)(6). It is not static, not stereotype, but it is a part of an open, flexible planning process which evolve and must be integrated in a moving environment, to be placed in urban dynamics;            - its motivation is not a priori, but it occurs progressively during the planning process, which tolerates opening to opportunities so that the orientation, the project trend are built gradually. Planning should allow fluctuations, creativity, should be available to interventions.</p>	<p><b>A process to be produced in conditions actual defined in the project</b>            - the project means a well defined, formalized, explicit positioning, or what will be made as prescribed;            - from its start it has not taken into account a possible gap between the project and its fulfillment, but there is the eventuality of some possible waivers;            - it is a linear view, from conception to final realization of the announced project.</p>
<p><b>Local coherence and ascending logical</b>            - urban project seeks a local coherence, a deepening of a time and space delimited project, being a proof of actors conception and of the existence of some available means;            - there is advantage to act simultaneously on different stages, particular projects leading to a global plan.</p>	<p><b>A priori view of the sizes of a territory</b>            - Master Plan aims at an integrated overview of the different dimensions of the territory. It decides which particular projects should be integrated in the decided variant. No arrangement from one situation to another leads to contradictory categories and to waivers.</p>

<i>URBAN PLANNING</i>	
<i>URBAN PROJECT (MODERN)</i>	<i>TRADITIONAL</i>
<p><b>Integration and democratic opening</b>  - urban project seeks to integrate different parts of the project, its components, its strength and opening coming from possibilities to relate, to articulate spaces, buildings, to confront functions, thus leading to deepening its motivation (Busquets 1990)<sup>(7)</sup>.</p>	<p><b>Static planning</b>  - planning has a static feature, component parts are established in advance.</p>

Source: processing from **Sabine Courcier** - Vers une définition du projet urbain, la planification du reaménagement du Vieux – Port du Montreal, 2005.

Urban project is achieved by interaction of actors and it is in relation to the overall prospects for society and to the space to allow its anchoring in everyday.

Interest in a project appears after discussions by actors interpellation, it may occur gradually after reflection on a situation, or difficulties may arise if the project is not considered compulsory.

Current cases have shown that in urban design, efforts can not be reduced to technical solutions and specific problems, which must be combined with the results of economic, sociological, ethnological and cultural history research.

In the urban project is not insisted on regulation, guidance, control growth often on the outskirts, but on finding initiatives to develop central areas and to prevent uncontrolled expansion of urban areas.

This process of reurbanization by project is what Chaline (1999) called "**urbanism of regeneration**", determined by the spatial extent of derelict areas, which forces government to intervene to restore these areas, to renew the objectives and methods of arrangement.

Government focuses on the specific needs of urban areas. It is increasingly recognized that deprived urban areas feel the effects of market failure or of undesirable social outcomes of market functioning and market forces alone can not redress the spiral fall down that occurs with degradation. Therefore, public intervention is necessary, including using public funds to start the process of regeneration.

The concept of **urban regeneration** means some form of improvement, therefore, it is aimed at **deprived areas revitalization** - mainly by taking into account the shortcomings the natural and built environment face, heritage preservation, social integration and employment, as well as economic activities – in cities and outskirts, but also in rural areas. The action involves combination of economic (injection of new business), social (supplementation with better quality buildings, reconstruction of residential areas) and urban planning (restructuring of public spaces etc.) measures to revitalize the degenerated city, such as for central degenerated areas, due to aging buildings and public spaces gradual deterioration or of neighborhoods with social buildings.

Successful approaches for urban regeneration and development does not share problems and potential according to administrative and political responsibilities, but they arrange and use them in an integrated and comprehensive manner. This suppose that the main problems related to physical regeneration to be considered in relation to social, economic, environmental and cultural aspects of life and urban development. This approach also requires collaboration between public and private sector, cooperation with affected local communities and involvement in collaborative actions.

#### 4. Models of modern urban planning

Execution of urban development works is achieved through the combined actions of experts from many disciplines: design, architecture, civil engineering, environmental, evaluators etc.. Their work contributes, along with other decision-make determinants, to build both large cities and small neighborhood, to the expansion of residential areas of major cities by extending in unpopulated areas, the reconstruction of areas in decay.

In Europe, urban development has undergone many stages of its redefining in time, marked by a series of changes.

*Urban regeneration projects in the 60's* in Germany, France and Great Britain, were characterized by processes of *purification, the demolition of existing buildings and structures and building entirely new areas*. It marked many European cities by building large, monostructural, often prefabricated households, which generated a lot of problems.

In the 70s, the focus was on *creating physical and social structures in surrounding areas* (new member countries). This approach allowed the modernization and development of existing buildings and structures, bringing an added value to the cultural heritage of European cities. Although urban policy in this period was directed toward new buildings, the benefits were limited, because new construction in deprived areas did not necessarily meet the needs of local population and economic growth, they were interrupted from the rest of city life, vandalism prevailed, so that in these communities, no direction of sustainable development was felt.

European urban policies and strategies acquire new guidelines with emphasis on elements which generate new jobs for employment and training disadvantaged local people, such as modernization and construction. Thus, in Europe, many schemes of local works have been implemented; they have contributed by increasing opportunities for local people integration in the labor market.

Traditional built environment has inspired architects and designers in search of urban better forms, based on certain physical qualities. Thus, urban development has evolved from the traditional to neo-traditional view which designs the emergence of new urbanism, the modern urban planning.

Initially, the development actions aimed to solve some problems such as congestion of streets and aging city buildings, inability to meet current needs, through policies that focused on pedestrian areas policies, narrowing transport by car and public transport encourage. The development of the city-center aimed to city construction modernizing and its adjustment to current requirements. (Allani, 2004)(8).

There were several views on the types of urban forms approach in the context of new urban planning, of modern urbanism.

**New urbanism** is characterized by neo-traditional design approach and outlines strategies relied on traditional urban forms aimed at preventing and stopping urban sprawl and decline within the city, building and rebuilding neighborhoods and cities. It is a reaction to the expansion of cities, promoting a return to traditional city planning, expressed by the existence of a main street with easy pedestrian access, a central park, commercial districts and a system of streets in the guise of network. The ideas have emerged in the early 80's, when architects and urban designers have started to concur with plans for cities buildings in the United States, following the European experience.

New urbanism has become a popular form of communities design, characterized by mixed-use building, high density settlements and cities with pedestrian alleys; experts expressed their considerations to put it into practice.

Amanda B. (2011) emphasizes four key ideas, of the new urbanism:

- *A pedestrian city*, eliminating the addiction of cars for access to any point of the community and travel time to any base good or service would not exceed five minutes. Therefore, investments in the construction of streets with alleys for pedestrians and narrow streets are needed in the communities.
- *Cities must encompass street parking in the place of large parking*, given the trend to reduce car use as a basic mean in the urban transport.
- *Development of mixed buildings, both in style, size, price and operation*. For example, small urban housing can be located near a larger one, with one family.
- *New Urbanist City must focus on community*, which means maintaining connections between areas with high population density, parks, open spaces and centers such as plaza or neighborhoods square.

Charles Bohl (2000)(9) believes that new urbanism is a simple projection approach that draws on historical antecedents to combine different types of housing in the guise of urban neighborhoods.

For others, important elements of new urban and residential neo-traditional projects are the combination of different types of housing for a wide range of incomes and household structures, higher density and promoting human contacts among neighborhoods (Audirac and Shermyen, 1994, Leccese and McCormick 2000)(10).

Another representative of the modern thinking, Le Corbusier, takes into account the city's main functions (housing, employment, recreation, traffic) and announces the fundamental principles to be observed in a city plan:

- decongestion the city center;
- increasing population density;
- enhancement of traffic means;
- increasing the green areas.

The solutions proposed in the meaning of the principles announced in the Athens Charter and supported by Le Corbusier, had aimed to eliminate the traditional city difficulties, the new emergent concept of urbanism, gaining widespread:

- vertical development of the city, which would promote the release of civic space, green spaces, ventilation of the city;
- better positioning of residential areas in order to have a better orientation to the sun, access to utilities, public services, green spaces;
- separation between industrial areas and residential sectors. Public and private administration reserved districts should have access to a good communication with residential areas, with industrial areas, with offices within the city and on the outskirts, so removing the waste of time;
- building a network based on square or rectangular modules that bound urban islands and create conditions to reduce traffic congestion. Superposed roads and bridges building to avoid crossroads may be an additional element to reduce traffic;
- development of spaces to meet the needs of recreation and sports activities for all age groups. Leisure activities in public parks, field sports and beach spaces is useful, given the positive effect it can have on the individual psychic;
- development of new open spaces with well defined purposes: buildings intended for housing, schools, youth clubs, children's playgrounds.

Another alternative, based on neo-traditional form of urbanism, is *transit-oriented development (TOD)*. *Transit village (transit- locality)* - one of TOD applications is "a compact community, based on mixed exploitation, transit stations, whose project determines residents, workers and shoppers to use less their cars and use foot paths. Transit locality center is the transit station and civic and public spaces around him"(Bernick and Cervero, 1997)(11).

*Urban village* - another model of new urbanism appeared for the first time in the 80's in the U.S.A. and Great Britain and it is "a settlement on an unpolluted place or on a polluted and abandoned or untapped industrial land" (Aldous , 1992)<sup>(12)</sup>. Its features are high density, mixed use of land, the mix of households and social groups, a high quality of life, with a heavy use of foot paths (Aldous 1992)(13).

The considerations of new urbanists are based on the capacity of their residential projects to meet residents requirements, to encourage local walks, to support the creation of contacts among neighborhoods and to enhance a strong sense of community, but in the same time, they can increase the residential densities across suburban norms.

Some opinions of experts considers that there are gaps between the ideas of the new urbanism and the ways to implement them:

Beatley (2000)<sup>(14)</sup> criticizes the new urban projects because they occasionally take into account, the environmental impact and the incentive for an ecologically more sustainable living.

Alex Krieger (1998)<sup>(15)</sup> argues that, currently, new urban projects supported the subdivisions formation more than the cities; too low densities to support a mixed use of land, too little support given to public transport etc. .

## 5. Conclusions

One can say that in the transit stage to modern era, the traditional cities appearance became inadequate, it had a chaotic aspect and did not answer to the aim of meeting physical and spiritual needs of their residents. The new city aim is to ensure continuity in the cycle of human activities, respectively among housing, jobs, recreation.

The new paradigm of urbanization phenomenon is based on the notion that density and urbanization which leads it, are essential to achieve economies of agglomeration and productivity gains. Urban strategy takes into account higher densities, shorter distances and smaller divisions as basic elements of success. For each country, industrialization and urbanization are conditions for obtaining an average stage of income, the essential element being harness of urbanization potential to provide an overall equitable, economic growth and to eradicate poverty. Policies should issue from contribution of institutions and instruments needed to promote economic concentration and social and environmental externalities management.

Restrictive measures implemented by politicians, in relation to the spread of urbanization and the mega-cities size, are counterproductive, as they exercise constraints on population movements in search of economic opportunities; failed interventions guide resources to unprofitable locations for business.

Restriction actions on mobility directed at specific objectives can hamper the development flow and slow economic progress, and so, they worsen living conditions of the poor. Urban project concept is not a miracle solution nor a perfect solution, but offers the possibility of a different account of planning, respectively, more realistic, closer to the physical and human spaces.

In an urban project, the actors are required for conception, put in practice and monitoring the project, while strategies are based on understanding changes. The challenge of an urban project approach consists in joining disciplines and projects in a form of partnership, preserving the flexibility of intervention. The actors must find a place of change, a consistent way of governance adopted in relation to a territory and arrangement issue.

The transformation of urban areas and city-centers in attractive living space implies for decision-making actors both take the necessary initiatives and a better coordination of policies of territorial planning and of investments.

In areas of a country, the urbanization occurs in different weights, so that policies must be formulated according to the stage of urbanization, to allow the rural-urban and inter-urban ties for each stage; the aim must be to facilitate economic densities by improving possible options for population and firms.

#### Notes:

- (1). Paul G. Lewis, 1996, quotes pe Wirth (1938), Mumford (1961), Gans (1962), Castells (1976);
- (2). Kazmer Kovacs, *Desculț în oraș*, 2011;
- (3). Kazmer Kovacs, *Desculț în oraș*, 2011;
- (4). Kazmer Kovacs quotes pe F. Choay (1965);
- (5). Sabine Courcier, 2005, quotes pe Tomas (1998) și Ingallina (2001);
- (6). Sabine Courcier, 2005, quotes Monnier (1992);
- (7). Sabine Courcier, 2005, quotes Busquets (1990);
- (8). Rémy Allain, Guy Baudelle quotes pe Allani (2004);
- (9). Yosef Rafeq Jabareen, 2006, quotes pe Charles Bohl (2000);
- (10). Yosef Rafeq Jabareen, 2006, quotes pe Audirac și Shermyen (1994), Leccese and McCormick (2000);
- (11). Yosef Rafeq Jabareen, 2006, quotes pe Bernick și Cervero (1997);
- (12). Yosef Rafeq Jabareen, 2006, quotes pe Aldous (1992);
- (13). Yosef Rafeq Jabareen, 2006, quotes pe Aldous (1992);
- (14). Yosef Rafeq Jabareen, 2006, quotes pe Beatley (2000);
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## GLOBAL CRISIS AND THE NEED FOR GREEN ECONOMY. CASE STUDY ROMANIA

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**Abstract:** *The impact of the international economic crisis raises the necessity of redesigning the current pattern of development towards new approaches. In this context the green economy is a priority in implementing a new approach aimed to reconfigure the economic process throughout the product life cycle assessment. In the last period as the effects of environmental global issue, the new sectors of the green economy accelerated their growth worldwide, transition to a green Economy is characterized by substantially increased investments in economic sectors that build on and enhance the earth's natural capital or reduce ecological scarcities and environmental risks. The paper analyses the implication of green economy on economic growth, additional is presented the specific sector and investments for promotion of green economy.*

**Key words:** green economy, policies, sustainable development, investments

**JEL classification:** O 13

### 1. Introduction

In the last period of time, we are witnesses different types of crisis, hence economic, social, environmental, that in a certain way can generate negative synergies at international and national levels. Changing our perspective of thinking is vital in order to built a sustainable future.

The solutions can be founded and implemented at national/ international level. We can foster resource efficiency usage in all economic sectors, accelerating the transition to sustainable growth, which will encourage technological innovation, provide new economic opportunities and create more and better jobs.(Stefanescu, Popa, 2011).

At international level, the new sectors of the green economy accelerated their growth worldwide, major investments have, in fact, been earmarked in many countries around the world. The renewable energy sectors: solar, wind, biofuels, ocean currents and tidal projects all received unprecedented funding by governments and private investors (Henderson, 2006).

The Green Economy has rapidly evolved from the theoretical and global, to the national and practical. Its implementation depends in large part in a fresh framing of choices in terms of development so they capture the full suite of challenges and opportunities

Relevant bodies and forums, (OCDE, UNEP, EC), have also underlined green growth and the green economy as an important new direction. Technological innovation is needed to shift from fossil fuels to renewable energy, recycling and redesign industrial processes. "Taking into account the collective experience the best way to improve framework for an strong and balances economic increasing is to invest in green economic recovery" (UN Secretary General Ban Ki-moon, 2010).

"A Green Economy can be defined as an economy that results in improved human well-being and reduced inequalities over the long term, while not exposing future generations to significant environmental risks and ecological scarcities."(UNEP, 2010).

### 2. Human development index and ecological footprint

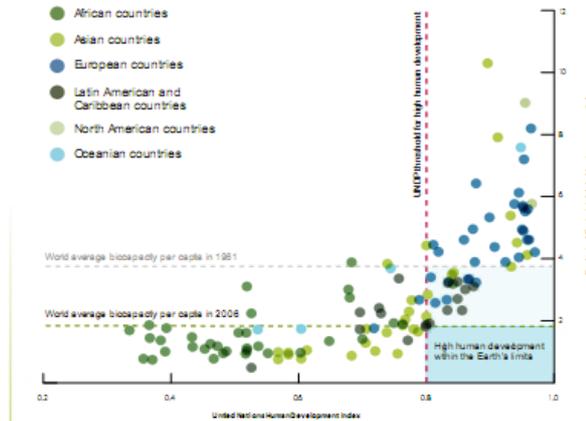
Green economy will vary considerably between nations, as it depends on the specifics of each country's natural and human capital and on its relative level of development.

Analyzing human development indicators through the annual reports published by the United Nations Development Programme is observed that countries with the highest growth rate of human development indicators are the Nordic countries (Norway - 1 Iceland - 3, Netherlands - Sweden 6 - 7,

being ranked in the first 7 countries of the world). At the opposite end are countries that are low development category (Mali - 178, Central African Republic - 179, Sierra Leone - 180, Afghanistan - 181 Niger - 182).

Many countries have already attained high levels of human development, but historically this has been at the expense of their natural resource base and has resulted in a large ecological footprint. Others still remain with very limited levels of resource and energy consumption, but desperately need to deliver improved levels of services and material well being. This is the challenge of moving towards a green economy: radically reducing the footprint of developed countries, while simultaneously raising levels of social and material well being in developing countries.

**Figure 1: Human Development Index and Ecological Footprint**

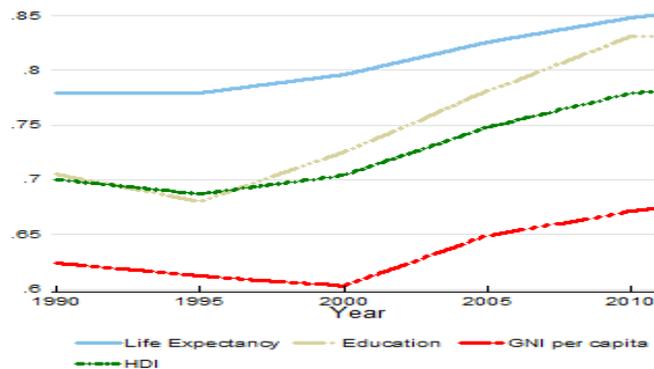


Source: The Ecological Wealth of Nations: Earth’s biocapacity as a new framework for international cooperation, Global Footprint Network, 2010. Human Development Index data from Human Development Report 2009: Overcoming barriers: Human mobility and development, UNDP, 2009.

The United Nations Development Programme report of 2011, Romania ranked 50 out of 187 countries in a number of analyzed states are classified as high human development record. In general, in the case of Romania, each subcomponent of human development indicators increased, which assisted the category of countries with "medium human development" in the one with "high human development".

Romania’s HDI value for 2011 is 0.781—in the high human development category—positioning the country at 50 out of 187 countries and territories. Between 1990 and 2011, Romania’s HDI value increased from 0.700 to 0.781, an increase of 12.0 per cent or average annual increase of about 0.5 per cent. Between 1980 and 2011, Romania’s life expectancy at birth increased by 4.4 years, mean years of schooling increased by 2.5 years and expected years of schooling increased by 2.6 years. Romania’s GNI per capita increased by about 42.0 per cent between 1990 and 2011. Figure 1 below shows the contribution of each component index to Romania’s HDI since 1990.

**Figure 2: Trends in Romania’s HDI component indices 1990-2011**



Source: UNDP, 2011

In general, the human development index correlation reflects a country's economic performance. Thus, countries tend to develop their economies will record an increase in the human development index. In Romania there are many aspects to be improved so that economic development can afford a higher standard of living for all people.

Transition to a green Economy is characterized by substantially increased investments in economic sectors that build on and enhance the earth's natural capital or reduce ecological scarcities and environmental risks. Thus, these investments and policy reforms provide the mechanisms and the financing for the reconfiguration of businesses, infrastructure and institutions, and the adoption of sustainable consumption and production processes. Such reconfiguration leads to a higher share of green sectors contributing to GDP, greener jobs, lower energy and resource-intensive production, lower waste and pollution, and significantly lowers greenhouse gas emissions. It can also assist in the reduction of persistent poverty through targeted wealth transfers, new employment, as well as improvements in access and the flow of ecosystem goods and services to the bottom of the economic pyramid.

The concept of green economy focuses primarily on the intersection between environment and economy. Both environmental and knowledge externalities may stand in the way of moving towards economies based on greener technologies. Without public intervention, the related market failures, may delay or even prevent the development of environmentally-friendly technologies. Furthermore, in sectors such as electricity, network effects arising from existing infrastructures create additional barriers to the adoption of alternative sources of power, further hampering incentives to invest in new technologies.

According on 2011 report of UNDP on The Green Economy: Trade and Sustainable Development Implications, green economy initiatives can be classified as follows:

**Table 1: Green economy initiative**

<b>Financial</b>	<b>Institutional</b>	<b>Economic</b>	<b>Infrastructure</b>	<b>Information based</b>
Increased availability of finance for governments and businesses in key Sectors (includes subsidies and tax Instruments)	Laws and institutions that encourage long-term and efficient management and use of resources Laws and norms that encourage the transfer of technologies Improved administrative and technical capacity in government and other organizations Improved transparency and accountability Effective enforcement of laws	Increased funding for key sectors Policy support for key sectors that is clear, predictable and stable Prices that reflect true cost of goods and services	Existence of key infrastructure (for those sectors that need it in order to attract further Investment)	Increased data and analysis about ecological conditions Increased awareness about sustainability challenges Increased information about life-cycle costs of goods and services A workforce equipped with the skills needed to take advantage of green opportunities

Source: UNDP, 2011

While there may be a case for public policies aimed at supporting the transition to greener technologies, the scope, timing and magnitude of the required interventions are generally hard to establish. It finds that green growth policies could lead to significant re-allocation of resources within and across broad economic sectors. Addressing environmental externalities and facilitating the emergence of new technologies is likely to lead to the development of new markets and the decline of others, enhancing output and job reallocations across industries and businesses.

### 3. Specific green economy sectors

The sectors of green economy include renewable energy, low-carbon transport, energy- efficient buildings, clean technologies, improved waste management, improved freshwater provision, sustainable agriculture and forest management, and sustainable fisheries.

**Table 2: Green industries by broad sector of activity and broad environmental area**

ENVIRONMENTAL SECTOR	PRODUCTION SECTORS					
	Electricity/utilities	Agriculture	Construction	Transport	Manufacturing	Services
GhG emissions from: Fossil-fuel power generation	Wind power Geothermal power Solar power Hydroelectric power Nuclear power	Bio-methane production (energy from animal waste)	Renewable energy plants Power lines and related structure construction		Wind turbines Solar panel components Storage battery equipment	Engineering services Plumbing and heating equipment wholesalers Environmental consulting services
GhG emissions from: Building energy consumption	Electrical power distribution (energy conservation and planning)		Roofing contractors Electrical and wiring installation contractor Retrofitting of existing buildings Plumbing and air-controlling contractor		Smart system and equipment Electric lamps bulbs Solar panel components Automatic environmental control equipment	Architectural services Engineering services Residential and non-residential property managers
GhG emissions from: Transport		Bio-fuels crop production (especially non-food)		Public transit system Fluvial transport Rail freight transport	Transportation technology (electrical , hydrogen, bio fuels, hybrid) Processes for bio-fuels production Fuel efficient vehicle manufacturing	Repair and maintenance of fuel efficient vehicle Logistic consulting services R&D in biotechnology
Bio-diversity/air, water and land preservation	Water supply and irrigation systems	Organic farming Aquaculture			Monitoring equipment for fishing stock Water mattering equipment	Eco-tourism activities, conservation and wildlife organizations Emissions and pollutions control Environmental consulting services Survey and mapping services
ENVIRONMENTAL SECTOR	PRODUCTION SECTORS					
	<i>Electricity/utilities</i>	<i>Agriculture</i>	<i>Construction</i>	<i>Transport</i>	<i>Manufacturing</i>	<i>Services</i>
Waste management	Sewage treatment		Waste water and sewer line		Automatic environmental	Solid water collection

	facilities				control for commercial residential and appliance use	Hazardous waste collection Engineering services
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Source: Serres, A., F. Murtin and G. Nicoletti (2010)

According to report “Low carbon jobs for Europe” (WWF, 2009) jobs in low-carbon sectors are outstripping those in Europe's traditional polluting industries. The polluting industries: mining, electricity, gas, cement, iron, steel and other polluting industries register 2.8 million jobs in Europe. The study estimates renewable energies employ 400,000 people, green transport 2.1 people and energy-efficient goods and services employ 900.000.

#### 4. Case study: the main initiatives in Romania

In Romania the green economy are connected with sustainable development. The National Strategy for Sustainable Development - Horizons 2012 – 2020 – 2030 mentions that using the adequate economic policy instruments the productivity of material and energy consumption resources can increase with an annual medium rate of 3 - 4% within the period 2008-2030.

Also, the actions taken at national level targeting energy efficiency by increasing the renewable energy sources quota in order to meet European and international climate change commitments (hence: ‘Green House’ Programme, apartment’s thermal rehabilitation, the ‘Jalopy’ program).

Furthermore, the National Action Plan for the Environment is targeting the following natural resources: water resources (Sustainable use of water resources, ecological restoration of rivers through rehabilitation of destroyed habitat and insurance of the environmental flows of rivers and nature Protection (Conservation of biological diversity, sustainable use of natural habitats, wild flora, fauna and ecological restoration of damaged systems etc.)

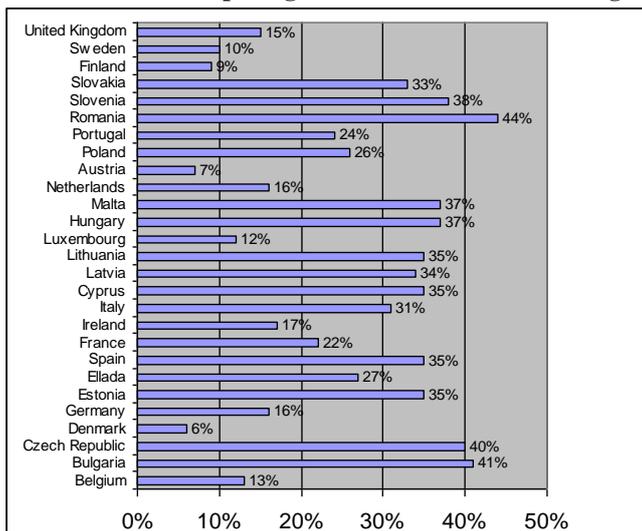
Moreover, Romania had taken some steps, aspects that could be seen in a several of strategies/ action plans like: Mining Industry Strategy (2004-2010), Biomass Master Plan (2010), The National Action Plan for Energy from Renewable Sources (2010), Romania’s National Strategy for Energy Efficiency approved by the Government Decision no. 163 of 12 February 2004, Strategy for Forest Sector Development in Romania (2001 - 2010), the National Plan to Combat Illegal Logging, The National Action Plan for environmental public procurement (2008 - 2013), The Action Plan for water protection against nitrates pollution from agriculture sources approved by the Government Decision no. 964/ 2000 with subsequent amendments etc.(Stefanescu, Popa, 2011).

#### 5. Investments for “green economy”

For the period 2007-2013, through cohesion policy €105 billion are dedicated to green projects. €48 bn are allocated for the achievement of objectives established by the EU for the limitation of the effects of climatic changes and promotion of a less polluting economy.

Romania and Bulgaria are investing the highest proportion funds on environment-related projects. These investments include environmental major projects, which contribute to protecting and creating jobs in the EU. Environment allocations comprise the follows categories: eco-innovation in small and medium enterprises, railways, promotion of clean urban transport, renewable energy, energy efficiency, co-generation, energy management, waste management, water management, promotion of biodiversity and nature protection, integrated projects for urban and rural regeneration.

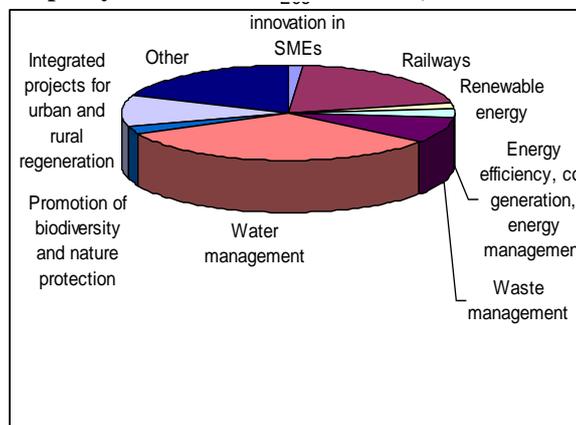
**Figure 3: Investments in Environment Comparing to their total indicative budget allocations for 2007-2013**



Source: [http://www.energy-cities.eu/IMG/doc/MS\\_investments\\_in\\_environment\\_green\\_economy\\_plan.doc](http://www.energy-cities.eu/IMG/doc/MS_investments_in_environment_green_economy_plan.doc)

For Romania the higher investment are allocated for water management: 2.776.532.160 Euros and railways: 1.718.455.590 Euros.(Bran, Radulescu, 2010)

**Figure 4: Cohesion policy investment in environment, Romania 2007-2013, in Euros**



Source: EC (2009)

Half of the member states (Austria, Bulgaria, the Czech Republic, France, Germany, Hungary, Italy, Poland, Portugal, Romania, Slovakia, Slovenia and the UK) have integrated indicators for the reduction of greenhouse gas emissions into their Cohesion Policy programmes. France, for example, has developed a unique carbon evaluation tool to monitor CO2 emissions produced by all projects funded with EU support. Romania included integrated indicators of reducing greenhouse gas in national programs due to the European cohesion policy.

Promoting eco-innovation and new green jobs, especially in small and medium enterprises, ranks high in the priorities for support for the regions. Furthermore, the Cohesion Policy contributes €3 billion to the promotion of environmentally-friendly products and production processes in SMEs. One of the clear aims of funding for research and innovation is to boost overall investment in green technologies.

**6. Conclusion**

All global problems (climate change, globalization, economic crisis) have their roots in the economic system, an Green Economics argues that society should be embedded within the ecosystem, and that markets and economies are social structures that should respond to social and environmental priorities. Its implementation depends in large part in a framing of choices in terms of development so they capture the new challenges and opportunities.

The steps ahead made by Romania towards green economy should be continued by the

implementation of effective measures in order to allow markets to develop and to promote new green technologies.

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## LEGAL CONSIDERATIONS REGARDING THE INTRODUCTION AND IMPLEMENT OF THE PROPOSED "FINANCIAL TRANSACTION TAX" ON PENSION FUNDS. IMPACT ON TRANSACTION COSTS

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**Abstract:** *In economies in which pension obligations are substantial, it is important that there is a high degree of trust in the financial reporting of pensions by employers and by pension plans. The objective of this paper is to assess legal considerations regarding the introduction and implement of financial transaction tax mechanisms in private pension system. In line with this objective, an understanding of causes, implications, solutions for pensions is essential to being able to efficiently and effectively create a secure fiscal environment.*

**Key words:** private pension, pension funds, evaluation of financial instruments, derivative instruments, financial transaction tax (FTT).

**JEL classification:** E 62, H 55, J 14, J 26, J 32, K 34, M 41, O 23

### 1. Introduction

The global economic and financial crisis had a serious impact on our economies and the public finances. Implementing a financial transaction tax or any other tax that contributes to the costs of companies constitutes a risk of allocation of activities outside the country that levies the tax. In the case of the financial transaction tax this is even more likely to happen because of the high mobility of the activity at hand. Also, some of the Member States have had experience with a national financial transaction tax that caused activities to relocate outside the country. These countries, in particular, might therefore be reluctant to introduce another financial transaction tax. Moreover, according to the Proposal for a Council Directive on a Common system of financial transaction tax (Proposal FTT) there will be different tax rates on derivatives and other financial instruments respectively. Thus, the rate on derivatives is 0.01 % (of the notional value) whereas the rate on other financial instruments is 0.1 %.

### 2. Considerations and interpretation of the legal provisions

The reference to pension funds in the context of the Proposal FTT is to Institutions for occupational retirement provision (IORPs) regulated by the Directive 2003/41/EC. The quoted article also covers their specialised managers, especially for the case in which these institutions, which are usually the funds itself, are not legal persons. Such institutions are private and are completely separate from the public (government-managed) schemes (under public law), so in this context we will actually discuss only about the private pension funds (under private law).

Directive 2003/41/EC defines the 'institution for occupational retirement provision' as "an institution, irrespective of its legal form, operating on a funded basis, established separately from any sponsoring undertaking or trade for the purpose of providing retirement benefits in the context of an occupational activity on the basis of an agreement or a contract agreed: individually or collectively between the employer(s) and the employee(s) or their respective representatives, or with self-employed persons, in compliance with the legislation of the home and host Member States, and which carries out activities directly arising therefrom."

This IORP directive specifically excludes in Article 2.2 institutions operating social-security schemes, institutions which operate on a pay-as-you-go basis etc. If one refers to the old methodology developed by the World Bank in the 1990s, only what is usually known as the second and third pillars would be covered by the provisions of the FTT directive, so the potential impact on pensioners of the FTT could be limited with regard to the first pillar. The model of the World Bank, intended as a blueprint for developing/transition countries, consists of (I) public pay-as-you-go (PAYG) pensions, (II)

mandatory, privately managed pensions (occupational schemes), and (III) voluntary (private) individual accounts (without any link to the employment status).

While pillar I is currently indeed the most important part in many Member States (though not in all), the trend towards pillars II and III is rather strong due to the pressure of demographic changes on pillar I. Notably, the Netherlands, Ireland, United Kingdom, Sweden, Denmark, Germany and Belgium are the Member States which have a significant funded occupational pension sector (often called pillar II pensions) today. Additionally, Finland is running a statutory funded scheme (other funded pensions are not yet all that significant for most of those retiring today). For the future, the mandatory funded schemes in the Member States from CEE will grow and mature and become more significant. Existing pillar II schemes are expected to expand; notably, in the UK next year they are launching a new national occupational pension scheme and automatic enrolment into schemes which is eventually expected to result in an extra 5 million people being covered by pillar II pensions.

Pillar III pensions (individual voluntary contracts normally between individuals and insurance companies and incentivized by governments normally via tax breaks) are only significant in a few Member States and even there they are not as important as occupational pensions for most of the people. Germany, with its "Riester Rente", is the most obvious case; one can also refer to the Czech Republic, the United Kingdom and Ireland. Nevertheless, there is a somewhat "grey area" between long-term savings products and individual private pensions. Another issue to bear in mind is that in many cases, pillar III is more addressed to higher income groups as a top up to other pensions, rather than something utilized across all income groups because (a) it requires spare income in order to make the voluntary savings in the first place and (b) incentives often come in the form of tax breaks and as tax systems are progressive, tax incentives are often regressive.

### **3. The size, asset structure and investment strategies of private pension funds**

#### **3.1 Size and importance**

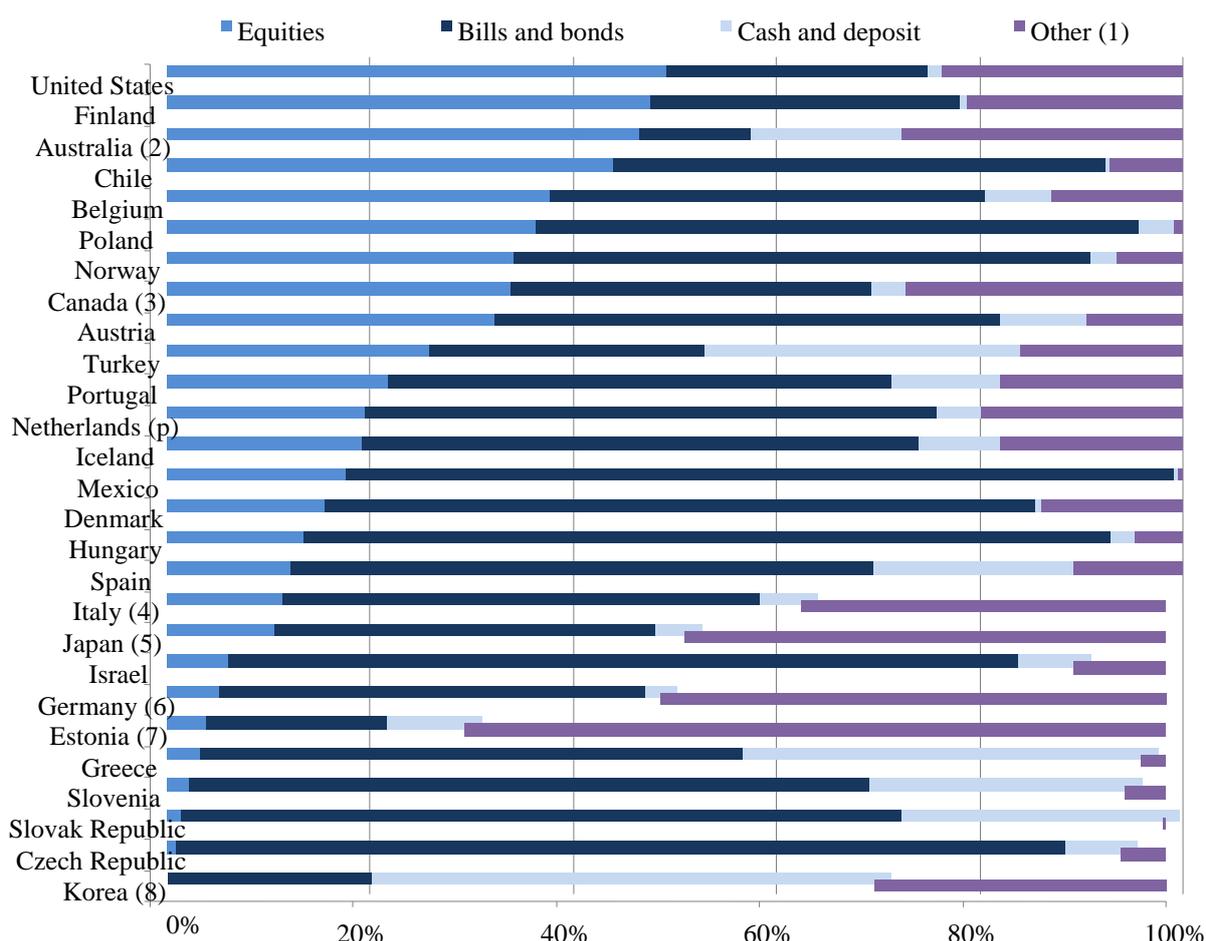
The relative importance of (private) pension funds (pillar II pensions) is very different across the European Union. It is the highest in the Netherlands (135% of its GDP or around EUR 850 bn. in 2010) followed by Finland (82% of the Finnish GDP). In Denmark and Ireland it corresponds to around 50% of GDP, while in countries like Germany, Austria and Italy it reaches around 5% of GDP. In some of EU10 Member States, such as Poland or Hungary, these pension funds have accumulated assets corresponding to around 15% of GDP. However, in some other Member States, such as Belgium, Slovenia, France or Greece the accumulated assets of such funds are significantly below 5% of GDP (OECD, Pension market in focus, 2011).

#### **3.2 Portfolio structures and investment strategies**

The impact of an FTT on pension funds will depend on both the asset allocation (portfolio) and on the investment strategy (more frequent trading vs. less frequent trading, for example). If one looks at the asset allocation in selected pension funds (see figure 1), not all these assets represent taxable financial instruments as defined in the proposal, neither do all the transactions. As an illustration, cash and deposits and other assets (including derivatives, but also investment in real estate and others) make up for 22% (or almost EUR 190bn) in the Netherlands (over 4% in cash and deposits) and 34% in Bulgaria (over 28% in cash and deposits).

Also, a distinction between defined-benefit schemes (DB) and defined-contribution schemes (DC) looks meaningful, as both will have to hedge different risks differently. According to EIOPA data, loan deposits and other assets have a lower weight in the total portfolio in the case of defined-benefit (DB) schemes, whilst these types of assets are better represented in the total portfolio of defined-contribution (DC) schemes, with around 40% in Spain, Italy, Bulgaria and Latvia.

**Figure 1: Pension fund asset allocation for selected investment categories in selected OECD countries, 2010**  
(% of total investment)



Source: OECD (2011) Pension markets in focus

The OECD has observed that although most pension funds have performed positively in 2010, investment returns were lower than in 2009. In the OECD countries that have submitted data, in the 2008-2010 period, the average net returns (i.e. returns on savings minus operating cost) reached 2.6% in real terms (4.4% in nominal terms). It was noted that the funds with conservative investment portfolios and strategies were still ahead in terms of performance for that period.

The potential impact of liquidity risk on pension funds underlines the need for a suitable risk management and control framework that takes into consideration various elements. This has become more evident especially during the financial crisis because of contagion and counterparty risk exposures. To a certain extent, the common view that pension funds are typical long term investors may need revision. When assessing the investment horizon, careful consideration needs to be given to factors that may shorten the effective horizon of investments, such as periodic rebalancing transactions, active management, (cash) collateral calls or other unexpected liquidity needs. Such factors may lead to higher turnover levels and shorter effective holding periods (OECD/IOPS, 2011).

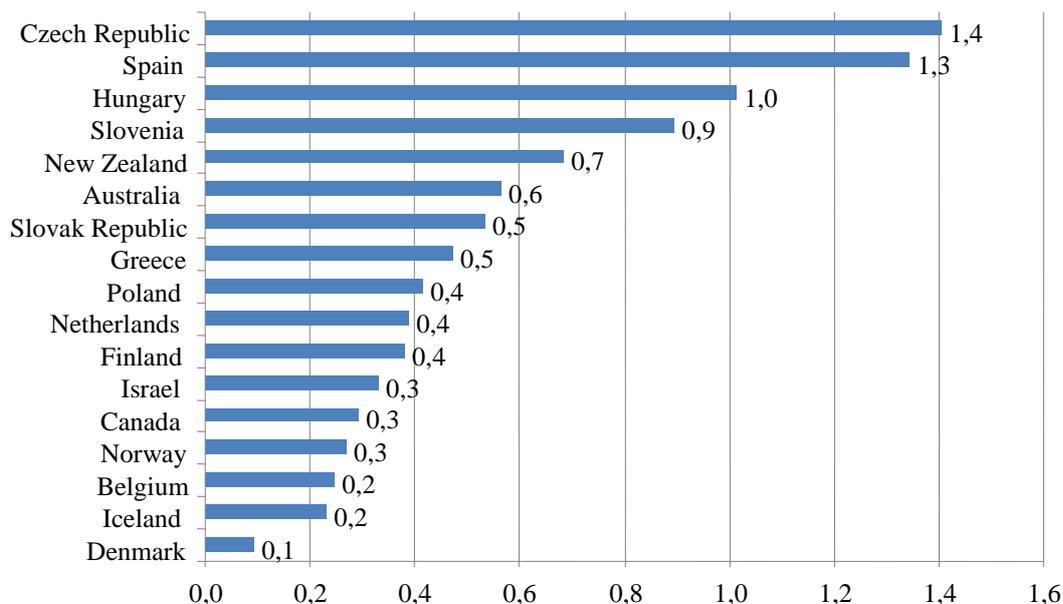
However, the higher a fund's portfolio turnover rate in a year, the greater the trading costs payable by the fund during the year. A 2011 study by SCM Private in the UK found that, with a 128% turnover rate for the average portfolio, estimated in 2011 this adds 0.7% of total assets in costs per year to an average UK pension fund. For an average 25 years membership in a pension scheme, this additional cost would translate in a 17.5% loss in the real net return for the scheme member.

### 3.3 Operating costs

The ratio of total operating costs against assets managed is a measure of the efficiency of private pension systems. The total operating costs include all the costs of administration and investment management; they include costs for marketing the plan, collecting contributions, sending contributions to

investment fund managers, record keeping, reporting to scheme members, investing the assets etc. (OECD Working papers, 2008).

**Figure 2: Operating costs in selected OECD countries (% of total assets)**



Source: OECD (2011) Pension markets in focus

The structure of the fees that pension funds charge their clients is quite diverse and usually covers more of the following at the same time: fixed commission, fees on contributions, fees on assets, fees on returns, switching/exit fee, death and disability insurance.

The magnitude of the fees varies across countries and depends mainly on the concentration in the market (the level of competition between pension funds), but also on the investment strategy. Very actively managed pension funds and investment vehicles come with significantly higher handling fees passed on to the saver than passively managed ones. The operating costs shown in figure 2 relate to total assets and not to annual contributions. If one reflects on the time horizon for which a member is present in a pension scheme, and assuming an average of 25 years (Pitt-Watson, D. 2010), the net average return a member will get from its pension scheme could be affected by 35% in case the operating costs amounted to 1.4% of total assets, while they would remain limited to 2.5% in case the operating costs were only 0.1% of total assets.

### 3.4 The use of derivatives and alternative investments by pension funds

The recent agreement on the regulation on OTC derivatives (EMIR) contains a clause temporarily exempting pension funds from abiding to the rules on the mandatory use of central clearing. The non-use of central clearing triggers additional posting of cash as collateral (mainly, for the variation margin). Nevertheless, national capital requirements should provide a guarantee similar to cleared contracts. The regulation will also be reviewed in order to see whether high-liquid non-cash assets could be used as collateral.

Derivatives can be used for various purposes by long-term investors such as pension funds – most notably as a substitute for direct investment in the underlying asset (because of liquidity, market timing, tax or other reasons) and risk control. Derivatives can also be used to change the characteristics of their portfolio investments (such as the duration of their fixed income portfolio). They can also be used for risk control or hedging, duration control and general portfolio management. However, derivatives can also be used for other purposes, including speculation and leveraging of portfolios, which can come into conflict with the basic objectives of a pension fund (OECD/IOPS, 2011).

The IORP directive also contains some general rules on investment (in Article 18), including on the use of derivatives: "investment in derivative instruments shall be possible insofar as they contribute to a reduction of investment risks or facilitate efficient portfolio management. They must be valued on a prudent basis, taking into account the underlying asset, and included in the valuation of the institution's

assets. The institution shall also avoid excessive risk exposure to a single counterparty and to other derivative operations." Usually, the use of derivatives is limited in the national legislation, where ceilings for certain types of assets may be defined (there are no such rules in the IORP directive). In general, the use of derivatives is more spread in pension funds operating in Member States such as the UK, Netherlands or Sweden, compared to those from Member States in CEE.

*(a) Qualitative limits.* For example, Romania authorizes the use of derivatives only in cases where pension funds have the underlying assets in their portfolio. In Germany, derivative transactions are only permitted if derivatives are used for the purposes of hedging, acquisition preparation and yield-enhancing operations under specific conditions and in a limited way. The use of derivatives in short selling, however, is not permitted. In Slovakia, mandatory funds considered to have the most risky portfolios, that is, investment in overseas securities, must hedge at least 20% of the net asset value of the fund against currency risk, with this limit rising to 50% in a balanced pension fund (zero currency exposure is allowed in conservative funds). There are, sometimes, also countries with specific rules on the use of OTC derivatives; for example, in Germany, Bulgaria and Poland the use of OTC derivatives which involve certain types of charges is restricted.

*(b) Quantitative limits.* In Germany, for both Pensionsfonds and Pensionskassen, derivative use is limited to 7.5% of the total assets of the portfolio at the last balance sheet date. This limit applies to acquisition-preparation operations and yield-enhancing operations. Yield-enhancing operations occur when the securities actually held in a portfolio are used in order to increase returns via financial derivatives. Generally, acquisition-preparation operations and yield-enhancing operations only use certain derivative instruments which are assigned to this specific purpose and are thus permissible. For hedging operations, the volume of balance sheet items hedged by these instruments may not exceed 100% of the portfolio of assets at the latest balance-sheet date. If derivatives are used for the purpose of a pre-emptive purchase taking place within one year or the purpose of an increase in profit, each instrument has to follow a limit of a maximum 7.5%.

In Austria, the supervisory authority applies minimum standards for risk management, and where a Pensionskasse is assessed as not meeting these requirements, investments in derivatives are restricted to a maximum of 5% of the portfolio. In Estonia, up to 10% of the value of the assets of a pension fund can be invested in derivatives, with the exception of foreign exchange hedging

The use of alternative investments (in hedge funds, private equity, structured products, securitised real estate investments, etc.) has also taken off during the last ten years. In the Netherlands, for example, the use of alternative investments (% of total assets) is around 6.2% (3.4% in hedge funds and 2.8% in private equity) (IOPS, 2011). With relatively higher returns, alternative investments also tend to be more expensive than traditional investments (compared to UCITS, for example), with fees of 1.5-2% of the assets under management, plus a performance-related fee of 10-20% of the return on investment.

#### **4. The impact of the proposed FTT on pension funds**

The FTT proposal does not primarily aim at dealing with the behavior of financial institutions; this is a rather secondary objective. These are issues best being dealt by regulation, and the Commission considers publishing a proposal to review the so-called IORP directive mainly with respect to capital and solvency requirements, including in the light of the financial and economic crisis developments and of the implementation of the framework directive Solvency II (for the insurance sector).

The management of risk and the increased use of alternative investments and derivatives by pension funds have also come to the attention of supervisory authorities. In the OECD/IOPS paper on 'Good practices on pension funds' use of alternative investments and derivatives it was noted: "Though suffering less of a direct impact from the financial crisis in general and from such instruments in particular than other financial sectors, pension fund regulators and supervisors raised concerns that the pension funds which they oversee did not understand the products they were investing in, or have the necessary risk management systems to cope with them."

The Commission has already issued in 2011 a Green paper – "Towards adequate, sustainable and safe European pension systems" – which highlights that "increasing reliance on private schemes has fiscal costs, given the widespread practice of providing tax incentives during the accumulation phase. The costs of tax relief can be considerable and its effectiveness and redistributive impacts questionable" (DG EMPL, 2008).

One could now argue that the introduction of an FTT would affect (private) pension funds involved in more frequent trading much more than those that trade less frequently in financial

instruments, i.e. those funds pursuing a "buy and hold" strategy would be much less affected than those following an "active" strategy with significant and frequent turning over of assets. This difference is illustrated in the following example:

**Example 1 - Buy and hold strategy.** *A Dutch pension fund has invested its assets of EUR 10 bn the following way: 10% in shares, 10% in real-estate funds, 70% in bills and bonds, and 10% in other (such as cash or deposits or real estate). The Fund follows a passive "buy and hold" strategy, i.e. it shadows the relevant indices for shares, it purchases bills and bonds when they are issued and holds them until maturity. Pay-outs (to pensioners) and pay-ins (from contributors) are balanced. Due to changes in the composition of the stock-market indices, it has to turn over (buy and sell) on average 10% of its shares and real-estate funds each year. None of the new purchases are purchases on primary markets.*

- Transactions in 80% (primary markets for bills and bonds, cash and deposit and other such as real estate) are out of scope of the FTT directive. The turning over of the shares and real-estate funds carries Dutch FTT.
- The pension fund has to pay EUR 400.000 Dutch FTT annually for the turning over of its shares in case the Netherlands applied the minimum tax rates. This corresponds to 0.004% of its assets.
- If these assets represented 20 years of savings / asset accumulation the annual figure of 0.004% of total assets translated into 0.08% of annual savings, i.e. a pensioner who has invested EUR 100/month would receive returns (after FTT) as if he had invested only EUR 99.92/month in case the fund managers passed these costs on fully to the pensioners and not to the borrowers of capital.

**Example 2 - Active management strategy.** *Same asset structure etc. as in the previous case, but this time the pension fund follows an "active" strategy, and turns over all its assets except cash and deposits and other (such as real estate), i.e. 90% twice a year. It does not intervene on primary markets for bonds and bills and shares. Also, as it is more exposed to market volatility, it is assumed to hedge 90% of all its assets four times a year against diverse risks.*

- The turning over of assets carries Dutch FTT, so do the hedging operations;
- The pension fund has to pay EUR 36 mn Dutch FTT annually for the turning over of its assets. Annual Dutch FTT for hedging 3.6 mn. This corresponds to 0.396% of its assets.
- If these assets represented 20 years of savings / asset accumulation the annual figure of 0.396% of total assets translated into 7.92 % of annual savings, i.e. a pensioner who has invested EUR 100/month would receive returns (after FTT) as if he had invested only EUR 92.08/month in case the fund managers passed these costs on fully to the pensioners and not to the borrowers of capital.

As these latter would also have to cover the market risk of falling bond prices on a permanent basis, their derivatives activities might also be more important by several orders of magnitude. This impact could possibly be partly offset due to the potentially positive effect a FTT would have on volatility which would benefit the longer term investment strategy of pension funds (because of higher predictability). Evidence in the economic literature on this effect on volatility is however mixed. Also, the investment strategy with respect to the portfolio structure could have an impact on the effects of the FTT on pension funds, as e.g. investing in government bonds and bills on primary markets would not be a taxable transaction, while buying and selling shares on secondary markets or investing in derivatives such as structured products would be taxable events.

Asking for an exemption (or special treatment) under the FTT directive for pension funds would undermine the level-playing field between various products available for savings and retirement. Moreover, pension funds (both public and private) enjoy a favorable tax treatment in numerous Member States. Despite the specifics of pension funds, there are equivalent products available on the markets, such as various types of bonds, collective investment funds and life insurance contracts (unit-linked insurance plans). While insurance premiums are taxed in some Member States according to national law, bonds and collective investment funds are covered by the FTT proposal, and the insurance and reinsurance undertakings trading in financial instruments are also included in the scope.

#### 4. Conclusions

Finally, the approach taken by the FTT directive is without prejudice to the discussions around striking the right balance between the need for sustainable social security systems achieving adequate pensions and social inclusion objectives and the need for structural reforms, including of the pensions systems, especially in the light of attaining a fair and inter-generational sustainable way of funding these

systems. The period for discussing the optimal fee architecture for pension funds (asset management fees, contribution fees, fiscal fees, performance fees) comes only after annihilating the incentives for creating a trust, with some areas relating to fair assets of a privately administrated pension fund, personal assets, revenue recognition in accounting administrator, collateral benefits, amounts paid by participants and/or paid on their behalf to a pension fund, guarantee pension fund, financial instruments, derivate financial instruments, private pension, technical provision, biometrical risks, unit of fund and deferred taxation.

But these findings also enforce pension companies belief that to implement FTT means to make a deep revision and improvement of the romanian tax system, and to adopt a global financial tax model that will enable entities to play in a global financial market.

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## GREAT ECONOMISTS' APPROACH ON THE ECONOMIC RECOVERY

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**Abstract:** *The current financial crisis triggered in 2007 has affected the economy of all countries in different ways, from the economic and social point of view, with serious consequences at the national level, as well as regional and international one. This paper proposes to identify the new direction to interpret the effect of current financial crisis above the economic and social process; also, we try to identify the steady of research in financial crisis problem.*

**Key words :** recession, crisis, economic theories , austerity programs.

**JEL classification:** A 11

The impossibility to predict the occurrence of certain changes in the world economic flow as the theory of the economic cycles is ignored requires a reconsideration of the economic cyclic movement theory. Nowadays the economists try to emphasize the importance of the nominal economy in prejudice of the actual economy (the importance of the monetary-financial markets compared to the productive markets and the direct productive flows).

The economic crisis at the beginning of 2007 steeply turned into an economic recession that strongly influenced the USA and Europe and, certainly, the emergent countries, in different ways and more or less powerfully. This situation of a prolonged economic crisis proves to be a systemic crisis that influences the capitalist economic system, bringing about the issue of a new paradigm in economy to redefine the role of the state and certainly of its afferent institutions. This is more necessary as the social problems of the national states cannot be solved on national level, the legitimacy crisis of the state being deeper and deeper.

Crisis generated reduced investment flows and disturbances in the financial markets and stock exchange with significant consequences on economic stability reflected by the great changes in revenue and expenditure structure, as well as the purchasing power and employment rate.

It is actually a paradigm shift from the paradigm in accordance with which the financial markets tend towards equilibrium, the paradigm that is based on the relationship between thought and reality, supporting the idea that interpretations and misconceptions play an important role in shaping history (Soros, 2008). According to Soros, market participants may make their decisions not only considering knowledge, subjective perceptions and market price influence, but core aspects that are supposed to reflect those prices. Consequently, the participants' pattern of thinking is influenced by both cognitive and participatory or manipulating functions, which are in various degrees of interdependence and interrelation.

The current context is favourable to the change of perceptions and theories on globalization and the role of financial institutions as pillars of globalization and supporters of economic agents' interests synthesized as it follows (Krugman, 2008):

- ✓ Independent monetary policy to face up recessions and decrease inflation ;
- ✓ Stable exchange rates to limit the uncertainty degree;
- ✓ Free fluctuation of international business flow.

As for the exchange rate, there are offered more options considered to be relevant for the immediate and future necessities of economic development:

- ✓ maintaining an independent monetary policy and free fluctuation of the exchange rate, which gave leverage to fight against the recession, but introduced a disturbing element of uncertainty for business;
- ✓ fixing the exchange rate value while assuming responsibility regarding the use of depreciation, which reduces the pressure on the business environment through the channel of convertibility and leave inoperable the monetary policy adjustment;

- ✓ applying an adjustable rate, while maintaining controls on movements of capital, which imposes additional costs, facilitating certain behaviours such a corruption.

The international financial crisis has led to significant changes of conduct of economic phenomena and processes, to widening macroeconomic imbalances, but also regional, to the identification of new economic values of fundamental research in the development and implementation of some aggregate indicators anticipating future developments in the economy and reducing the magnitude of the negative effects of crises. The current crisis was generated by disturbances due to the monetary system and its instruments of monetary policy. What caused the current economic crisis is the result of measures boosting the global economy based on a fiscal monetary policy mix meant to support artificially the demand for money independent of structural policies, namely widening imbalances between nominal and real convergence.

The effects of worldwide globalization is reflected in the high capacity of spreading economic imbalances through transmission channels (supply and demand of foreign exchange rate, national reserve, contract, property, namely the balance sheet) that induce fear and especially in the real economy contraction, at the level of economic activity, with strong repercussions on the level of employment, namely the sphere of social action.

Due to the social and economic exacerbated imbalances of the countries, the financial institutions, together with governments, have developed various programs designed to identify the causes that led to severe economic contraction in recent years and identified solutions to reduce the negative effects. Thus, crisis programs are designed to inject liquidity into the economy, to support economic growth by implementing lax monetary policy with a synergistic effect on the solvent consumption and production, and to identify the fiscal policy measures, especially its levers, which would generate budget revenues higher than budgetary expenditures.

When economic and social stability, acquired with great efforts, is threatened to lose firstly its third component which is economic stability, the whole process of reunification and extension of the Union is questionable, because, further on, it is likely the essential factor which is stability risks to disappear. Unfortunately, hardly could a possible instability in Europe disturb considerably the other powerful factors at the international level. Moreover, the emerging super powers would be advantaged by EU decline, an important actor being at least temporarily triggered aside out of the international scene. Europe does not provide anything vital out of its borders, but stability. Obviously, it is still an excellent outlet market and a reliable partner for important exchanges. On the other hand, it does not provide excessively either cutting edge technology or essential knowledge, and, as a power supplier, it is rather dependent on others. However, the mark of stability, democracy, prosperity and dialogue as unique arm of the EU model of unity in diversity is still well perceived, but at least weak in terms of massive influence on world evolution. It is the superpower niche of EU as long as a significant part of the constitutive elements do not deteriorate. Economic stability can be achieved first through price stability, with positive effect on purchasing power, through an appropriate mix of monetary, fiscal and structural policies that would ensure a stable business environment and hence a high occupancy and a consistent budget to support social policies.

Achieving long-term objective of monetary policy, namely maintaining a low and stable inflation, is a real challenge for both industrialized and emerging economies. In the latter case, central banks could face a more difficult task, which is to answer the real and nominal shocks, as financial markets are sufficiently mature and less diverse operating instruments (Catrina, 2012). Such shocks are usually caused by unexpected changes in food prices, energy and price policy, as well as massive capital flows, which impose limitations to the effectiveness of monetary policy. These limitations are even more urgent, requiring the implementation of a countervailing policy mix. Without the support of other economic policies, there is a risk that price stability is achieved at the expense of other macroeconomic balances, which may ultimately prove to be a self reversible process.

Market Fundamentalists blame regulation fallibility for market errors (Soros, 2008), as a consequence of the current financial crisis. Some analysts are inclined to consider the present crisis as an unavoidable accident, but not peculiar, throughout the economic cycle, as a result of very low interest rate applied in recent years in the USA and Europe. But a deeper approach of the crisis has not reached such structural causes. Besides a plethora of conflicts of interest, the globalization of financial markets and financial innovation in terms of poor regulation (or nonexistent) have set up the background of the current crisis. Other type of argument is related to the regulatory framework. Thus, Italian Economy Minister, Tomasso Padoa Schioppa, comes with a common sense argument, according to the logic of the

single markets and the capital flows that do not respect national borders. He says we need a common set of regulations in the EU (a single European rulebook) and a unified supervision of financial groups in the Union.

Apart from the irresponsible relaxation of credit conditions in different housing markets and other markets (in the U.S. and Europe) in the last decade, the origin of the financial crisis should be sought in the effects of massive cross-border capital flows and more extensive use of financial / derivatives tools (such as securitization of bonds) that are not transparent or, actually, traded on markets. Consequently, the financial markets have become, in many areas, more opaque, and to identify those who took risks and assume the assessment of these risks have become almost unattainable goals. To extend the shadow banking sector, which is weakly regulated, became prominent in the last decade. This trend reminds in a way, what Gurley-Shaw report said decades ago on the imprecision of the distinction between money and credit, which would considerably complicate the practice of monetary policy (Daianu, 2008).

Roubini's solution for the short term crisis would be a Keynesian answer, with an active state, trying to stimulate economy, but on a medium term, as the accumulation of the public debt and the increase of the budgetary deficits compel the states to cut the public expenses (the austerity programs) and to limit the role of the state in economy. However, as a theoretical conclusion, Roubini promotes the idea that, currently, both patterns, the Anglo-Saxon pattern (based on *laissez-faire* and the market domination) and the European one (of the welfare and of the social state) showed their limits and perils, respectively their potential to generate crises. Therefore the ideal should be a third way (Samuelson stated the same idea many years before) of a market economy, but where the governments the necessary public services and where there is a cautious healthy supervision of the economy and the financial system.

The austerity programs implemented by the European Union are meant to decrease the negative effects of the wrong management regarding the instruments of the economic policy, especially of the monetary-financial policy, which may be externalized, penetrating all the European economies. This issue needs a systemic state-market approach as the deficits increase is a consequence of the structural policies of the states: production delocalization in the countries beyond the community area, support for credits granting, proliferation of faulty social policies (economically unjustified medical assistance since the economy must make profit from job offers increase that supports the social protection), the decrease of the budgets for education and research.

Further to the implementation of economic healthy policies, together with the proper management of the economic deficits, the state reconsideration shall take into account the enforcement of the financial sector regulation by redefining the state and the role of the national and international financial institutions in the administration of the monetary-financial flows or in a better coordination between the central banks in order to find the appropriate solutions get out of recession.

According to Paul Krugman, the solution for the economic recovery is a return to the economy falling-off, meaning that the importance increase of the demand economy more than of the offer economy may be accomplished while supporting the consumption based on the stimulation of the technical progress, top technologies and research. In case the demand is supported the offer is backed up as well if the purchase power increase is achieved through the effort to create more jobs and ensure the retail markets for the products of the offer economy.

The idea of supporting a certain economic doctrine or another and the reluctance to accept a midway is a faulty strategy for any kind of economy. Paul Krugman also shows that a solution for the crisis and recession does not occur at once as it is the result of a cognitive process, between the ideologies exceeding the failure through cohesion.

That is why the austerity programs applied to all the European countries undoubtedly cannot overcome the crisis effects, but on a short term, as a consequence of the wobbles in the investments processes supporting production and job offers increase. On the contrary USA considers that the economic recovery by cutting the taxes and promoting the policies of backing up economy and entrepreneurship. Thus the gap between the actions means in the economies of the USA and Europe highlights the Europe's inability to apply a flexible and risky conduct, with lasting positive predictable effect while Europe further loses its balance due to the delay of certain policies of cutting the short term deficits.

Stiglitz, a promoter of the Keynesian doctrine, considers that the economy systems need an equilibrium between the markets role and the state role and the regulation, the observance of the laws, of the morals and ethics in business and elsewhere represent the basic principles to get out of or avoid the

economic plunge. On Stiglitz' opinion, the biggest menace is that the failure of a ineffective market implacably entails corruption, influences the democracy and the free market institution itself.

### **Conclusion**

In the current context, with the imminent onset of the regional financial crisis boomerang effect, the need for consistent coverage of external debt of the poorest countries and the permanent threat hanging over the company on global issues like terrorism, poverty, global warming and pollution, the international financial institutions must support the international need for promoting financial stability and economic growth and development.

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## STATE AID POLICY BETWEEN COMPETITION AND ECONOMIC GROWTH: THE IMPACT OF STATE AID TO R&D ON GDP IN THE EU MEMBER STATES

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**Abstract:** *The paper focuses on the analysis of the relationship between state aid to R&D and economic growth, measured by GDP level, providing empirical evidence of a correlation between these variables. Using a methodology which combines the regression technique and Granger causality, we found that GDP represents a significant causal determinant of state aid, while the correlation the variables considered is positive and statistically significant, suggesting that, in spite of disparities between Member States, government support through state aid to R&D has evolved from maintaining undistorted competition to the possibility to act as an incentive for the economic growth in the EU.*

**Key words:** state aid policy, R&D, economic growth, technological change, market failure.

**JEL classification:** C 22, F 36, H 23

### 1. Introduction

From an economic perspective, the main objective of state aid policy in the EU refers to the correction of inherent “market failure” situations which may occur in the economy, aiming at maintaining an undistorted competition in the economic environment and thus validating the assertion that state aid control in the EU is more interested in state aid negative externalities on the economies of the partner Member States (Ganoulis and Reiner, 2001, p. 290). Although maintaining undistorted competition represents the only objective which is explicitly mentioned by the Treaty establishing the European Community and which is confirmed by decisions taken by the Commission, state aid policy cannot be reduced to removing distortions caused by anticompetitive practices, since economic literature has constantly argued in favour of an integrative approach which relates state aid policy to improving the allocation of resources, increasing economic efficiency and supporting economic growth (e.g. De Moor and Calamai, 1997; Bilal and Nicolaides, 1999; Wislade, 2003).

### 2. Methodology

The main objective of the present paper is to provide a contribution to the related literature while it focuses primarily on establishing a possible correlation between state aid to R&D and GDP growth in the EU. In this respect, our main research hypothesis relates to considering state aid as an active contributor to the economic development, measured by GDP level, which will be estimated as a function of state aid, in order to evaluate whether there is a interconnection between these variables.

Consequently, the main variables of the study are state aid to R&D and GDP level, considered in both relative and absolute terms. In analysing the relative importance of state aid to R&D, we have proposed an index which evaluates the relation between state aid and the relative size of the Member State’s economy, designed to indicate the countries that support their domestic industries proportionally more and, respectively, less than EU average.

Considered in absolute terms, the relationship between these variables was estimated through a panel model which used seemingly unrelated regression (SUR) and ordinary least squares estimation (OLS). Taking into account that the economic value of knowledge progressively depreciates in time, the economic value is likely to be realized after the innovation effort was made. As a result, we have incorporated this economic aspect in an econometric sense by using time lags, which are related to the fact that one of the most significant particularities of R&D activity is time lapsing between the introduction of an innovation through a research project and the moment when the results of the research are embodied into a new product or process, which becomes profitable.

The present paper is structured in the following manner: the third section contains a theoretical background of the relationship between technological change and economic growth. The fourth section provides a historical background of state aid policy in the EU and then it analyses the evolution of state aid to R&D in both relative and absolute terms, focusing on the relationship between state aid to R&D

and GDP level in the EU Member States and at the same time proposing an empirical model which estimates this relationship using regression technique. The potential causality between the variables considered in absolute terms is tested using the Granger causality in order to determine the direction and confidence level of this relationship for the period 2004-2009. The last section concludes and establishes future directions and perspectives for research.

### 3. Literature review

The economic literature provides very different conclusions concerning the problem of government support, ranging from Keynesian economic policy, which stresses the importance of state interventions for stabilizing the business cycle, to neoclassical considerations, which regard the government interventions more as a complement of the self-regulating market mechanisms. Despite different approaches of the problem, one of the most important unifying aspects of this literature concerns the fact that state aid is used as a regulatory policy instrument, while its effectiveness and efficiency has been related to the support of economic development through the effects on innovation, investment or employment.

The role of institutions and government policies in stimulating technological change has been provided in the economic literature mainly by the evolutionary theory, which considers economic development as a technological change driven process featured by a complex pattern which includes both uniformity and idiosyncrasy across time and countries (Dosi et al. 1990; Chiaromonte and Dosi 1993; Silverberg and Verspagen 1995; Geels 2004). Its empirical models provided a wide range of perspectives on the relationship between technological change and economic growth, focusing especially on patterns concerning technological diffusion (Conlisk, 1989), growth effects of new technology, regarded as a stochastic phenomenon (Silverberg and Lehnert 1993) and the nature of interactions between rational actors (Fagiolo and Dosi 2003).

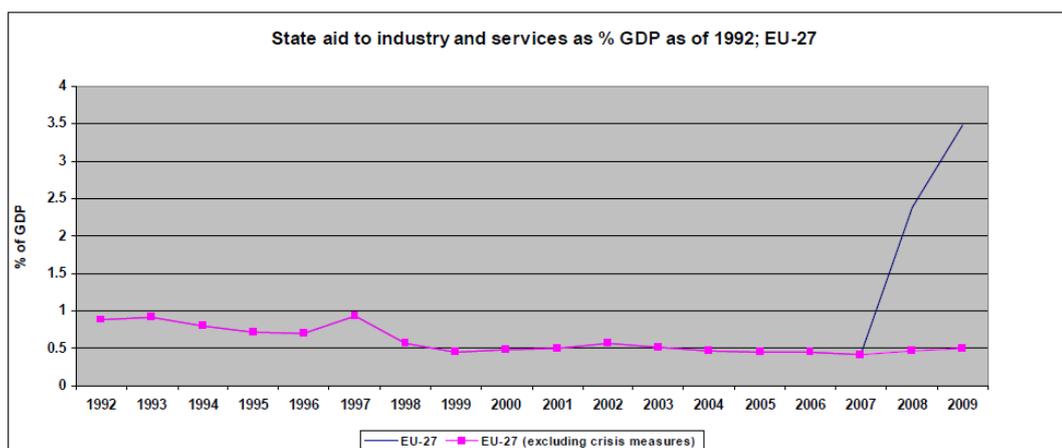
Recent historical developments, such as the increasing trend towards global and regional economic integration and the policy oriented approach of the EU for building a “knowledge-based economy” (European Commission 2007) have reinforced both the academic and political interest in technological change, expressed through R&D activities, as main engine in promoting long-run economic development.

### 4. Historical background

The question whether governments may grant state aid to companies has long been discussed in the related literature. While the debate analyses mostly the necessity, the effectiveness and the efficiency of public support to the markets for private goods, the nature and use of state aid have undergone important transformations in time: state aid became an important industrial policy tool in the 1960s, initially as a response to trade liberalization (Trebilcock et al., 1990); in the 1970s, state aid was directed frequently towards specific sectors in decline such as steel and shipbuilding and creating “national champions” in strategic sectors such as aerospace; however, this earlier understanding of state aid use in favor of specific targets of national policy has changed since the mid-1980s, as new policies and attitudes towards industrial policy have emerged.

While in the US the shift has been towards policies aimed at new capital formation and stimulation of demand (Eisinger, 1988; Gray and Lowery, 1990), in the EU ambiguous Treaty rules and heterogeneous Member States’ preferences have enabled the Commission to act as a supranational entrepreneur, enforcing the prohibition of distortive state aid and at the same time creating positive integration by developing a model of what it considers to be “good” state aid policy (Blauberger, 2009). This was pointed out by the Lisbon European Council of March 2000 that calls the Member States both to reduce the general level of State aid and to shift the emphasis from supporting individual sectors or companies towards horizontal objectives of common interest (“less and better targeted state aid”).

**Figure 1: The evolution of state aid to industry and services as % of GDP (1992-2009)**



Source : European Commission

This approach has allowed a gradual reduction in the overall level of state aid from 2% of GDP in 1980 to a value less than 1% of GDP in 1990 and to around 0.5% - 0.6% of GDP in 2003-2007, but after this period the overall level of state aid has exceeded again 2% of GDP due to measures taken in the context of economic and financial crisis.

State aid to R&D, as a component of horizontal aid, is considered more acceptable by the Commission, because it does not cause distortion of competition in the internal market and can be efficiently used to create an incentive effect on innovation by tackling the market failures that prevent markets from naturally delivering the best results in this respect.

##### 5. State aid policy in the context of the economic and financial crisis

The economic and financial crisis has determined the need for intervention in the financial sector and in the real economy, while leading in the same time to a reconsideration of the role and use of state aid under the European competition policy. In the absence of an appropriate legal and institutional framework for an efficient crisis management, the EU has used state aid as a tool for rescue, coordination and economic restructuring through a formal approach defined by the Commission's "Communications" (The Banking Communication of 13 October 2008; The Recapitalisation Communication of 8 December 2008; The Impaired Assets Communication of 25 February 2009 and the Restructuring Communication of 23 July 2009).

The new legal framework was adopted under Article 87 (3) (b) of the Treaty, which allowed the Commission to declare compatible with the common market the aid aimed "to remedy a serious disturbance in the economy of a Member State". In the light of the gravity of the financial crisis and its impact on the overall economy of the Member States, the Commission has considered that certain categories of state aid are justified, for a limited period, to overcome these difficulties and that they may be declared compatible with the common market under this article. This provision allows the establishment of a flexible framework for the interpretation of state aid as part of a complex structural and regulatory programme that seeks to find efficient solutions on the relationship between the maintaining of undistorted competition, on the one hand and economic and financial stability of the European economy, on the other hand. This more "relaxed" framework allowed the stabilization of the banking system, but this operation was carried by eluding the competition principles of the European economy (Gebski, 2009). While empirical studies have shown that protectionist measures were moderate in nature (Bussiere et al., 2010), one may notice an increase in public pressure on the need to protect national economies, leading to the possibility of a "crisis" in the technical sense of the concept (Boin et al., 2009), as a result of complex changes occurring over public policies and of debates on the creation of new "models" of interaction within the economy to restore a balance between costs and benefits both in the short and at the same time medium and long-term.

Between October 2008 and 31 March 2010, the Commission has taken 161 decisions on the financial sector, based on Article 107 (3) (b) of the Treaty on the functioning of the European Union. Of these, 78 decisions were taken in connection with approximately 40 financial institutions and 83 decisions on about 40 schemes, the maximum volume of the measures approved by the Commission, including schemes and ad-hoc interventions, set up by Member States following the financial crisis amounted 4131.1 EUR billion (European Commission, 2010).

**Table 1: The measures approved by the Commission in the context of the economic and financial crisis**

	Amount	% of EU-27 GDP
Schemes approved by the Commission	3 181 billion EUR	25 %
of which guarantee schemes	2 747 billion EUR	22 %
of which recapitalisation measures	338,2 billion EUR	2,7 %
of which asset relief interventions	54 de billion EUR	0,4 %
of which liquidity measures other than the guarantee schemes	41,9 billion EUR	0,3 %
Ad hoc interventions in favour of individual financial institutions	950,1 billion EUR	7,6 %

Source : European Commission

## 6. The analysis of state aid to R&D in relation to GDP

Whereas the relation between national income and the growing state activities has been studied in the public finance area (e.g. Peacock and Scott, 2000), the literature on state aid in the EU has considered that a major determinant of state aid in the Member States are GDP and economic growth (e.g. Ballot and Taymaz, 2001; Bergström, 2000). In order to evaluate a possible correlation for the EU Member States, we propose to analyse state aid to R&D in relation to GDP.

In relative terms, the countries where R&D aid expenditure as a percentage of GDP was above EU average are: Belgium, the Czech Republic, Germany, Spain, Italy, Austria, Slovenia and Finland, whereas in the period 2007-2009, Italy was below the average while France and Luxembourg have reported higher than the average values. Although state aid to R&D represents a relatively small share in total government expenditure to R&D, it is marked by significant disparities between Member States. With the exception of Czech Republic and Slovenia, the share of aid directed at R&D in the new Member States has remained low comparatively to the old Member States.

The persistence of the differences is also relevant when analysing the share of R&D aid in total aid for industry and services. Whilst for the EU-wide, this level rose from 12% in 2004 and 2005 to 15% in 2007 and 19% in 2009, the relative share in EU-10 and EU-12 respectively is considerably lower and marked by large fluctuations (from 9% in 2006 to 6% in 2008 and 11% in 2009). On the other hand, low values of standard deviation for both government expenditure and state aid suggests that, overall, they followed a rather balanced evolution in relation to the GDP and the level of volatility tended to remain moderate for the period considered.

**Table 2: State aid to R&D (% of GDP) and total government expenditure to R&D (% of GDP)**

Country	State aid (% of GDP)				Total government expenditure (% of GDP)			
	2004-2006		2007-2009		2004-2006		2007-2009	
	Mean	Stdev	Mean	Stdev	Mean	Stdev	Mean	Stdev
Belgium	0.06	0.01	0.16	0.07	0.15	0.01	0.17	0.02
Bulgaria	n.a.	n.a.	0.03	0.01	0.31	0.02	0.28	0.01
Czech Republic	0.10	0.04	0.15	0.02	0.27	0.01	0.31	0.02
Denmark	0.02	0.01	0.06	0.02	0.16	0.01	0.07	0.01
Germany	0.07	0.01	0.08	0.01	0.35	0.01	0.38	0.04
Estonia	0.02	0.01	0.02	0	0.12	0.02	0.13	0.04
Ireland	0.01	0.02	0.06	0.02	0.09	0.01	0.08	0.02
Greece	0.03	0.03	0.01	0.01	0.12	0.01	0.13	n.a.
Spain	0.07	0.01	0.10	0.04	0.19	0.02	0.25	0.03
France	0.05	0.03	0.10	0.01	0.36	0.01	0.35	0.02
Italy	0.06	0.01	0.05	0.02	0.19	0	0.16	0.01
Cyprus	0.03	0.01	0.01	0	0.13	0.01	0.10	0.01
Latvia	0	0	0	0.01	0.10	0.02	0.14	0.03
Lithuania	0.01	0.01	0.01	0.02	0.18	0.01	0.18	0.02
Luxembourg	0.04	0.01	0.09	0.07	0.19	0.01	0.24	0.03
Hungary	0.05	0.03	0.06	0.05	0.26	0	0.23	0.01
Malta	0	0	0.01	0.02	0.02	0.01	0.02	0.01
Country	State aid (% of GDP)				Total government expenditure (% of GDP)			
	2004-2006		2007-2009		2004-2006		2007-2009	
	Mean	Stdev	Mean	Stdev	Mean	Stdev	Mean	Stdev

Netherlands	0.05	0	0.05	0.02	0.24	0.02	0.22	0.01
Austria	0.06	0	0.09	0.02	0.13	0.01	0.14	0.01
Poland	0.01	0.01	0.01	0.01	0.21	0.01	0.21	0.02
Portugal	0.01	0.01	0.02	0.01	0.11	0.01	0.11	0.01
Romania	n.a.	n.a.	0.04	0.01	0.14	0.01	0.19	0.04
Slovenia	0.08	0.02	0.11	0.07	0.34	0.05	0.37	0.02
Slovakia	0.01	0.01	0.01	0.01	0.16	0.01	0.16	0
Finland	0.10	0.10	0.13	0.04	0.33	0.01	0.32	0.04
Sweden	0.03	0	0.03	0.01	0.15	0.04	0.16	0.01
United Kingdom	0.03	0.01	0.03	0.01	0.18	0.01	0.16	0.01

Source: author's own calculations based on data from European Commission and Eurostat

In order to better evaluate the relative importance of state aid to R&D within the economy of the Member States, an index is proposed which relates the relative share of the national expenditure in the total EU aid to the contribution of Member States to the aggregated level of GDP. Based on this relation, a country allocating proportionally more (less) state aid than the relative size of its economy would have a supraunitary (subunitary) index, while the EU average value would conventionally be equal to 1.

It can be noticed that while the countries situating above the EU average are: Belgium, the Czech Republic, Germany, Spain (from 2007-2009), France, Hungary (from 2006-2009), Austria, Slovenia (from 2004-2006 and 2009) and Finland, Belgium (from 2007-2009) and the Czech Republic (from 2006-2008) are the only countries that have supported their industries, relative to their size, more than twice as much as the EU average.

At the other side, the countries that during most of the period considered reported values below half of the EU average are: Bulgaria, Estonia, Greece, Cyprus, Latvia, Lithuania, Malta, Poland, Portugal, Slovakia and Sweden, indicating that they have granted significantly less aid than the relative size of their economy.

**Table 3: Index of the relative importance of state aid to R&D**

Country	Index 2004	Index 2005	Index 2006	Index 2007	Index 2008	Index 2009	Stdev 2004-2006	Stdev 2007-2009
Belgium	1.18	0.94	1.02	2.05	2.24	2.55	0.12	0.25
Bulgaria	0	0	0.11	0.42	0.23	0.38	0.06	0.10
Czech Republic	1.22	1.93	2.32	2.31	2.02	1.83	0.56	0.24
Denmark	0.23	0.27	0.40	0.46	0.85	0.77	0.09	0.21
Germany	1.52	1.40	1.50	1.43	1.33	1.15	0.06	0.14
Estonia	0.35	0.53	0.38	0.27	0.29	0.09	0.10	0.11
Ireland	0.49	0.49	0.66	0.65	0.82	1.07	0.10	0.21
Greece	0.07	0.08	0.04	0.06	0.09	0.04	0.02	0.03
Spain	0.96	0.66	0.73	1.09	1.17	1.45	0.16	0.19
France	1.34	1.55	1.67	1.51	1.31	1.29	0.17	0.12
Italy	0.92	1.16	0.85	0.59	0.83	0.73	0.16	0.12
Cyprus	0.47	0.53	0.42	0.23	0.08	0.02	0.06	0.11
Latvia	0	0	0.01	0.03	0.04	0.01	0	0.02
Lithuania	0.06	0.20	0.41	0	0	0.19	0.18	0.11
Luxembourg	0.57	0.71	0.65	0.75	0.70	1.76	0.07	0.60
Hungary	0.31	0.94	1.16	0.12	1.01	1.16	0.44	0.56
Malta	0	0.01	0.02	0.01	0	0.37	0.01	0.21
Netherlands	0.93	0.99	0.83	0.79	0.68	0.96	0.08	0.14
Austria	1.04	1.07	1.33	1.42	1.39	1.38	0.16	0.02
Poland	0.24	0.29	0.20	0.22	0.16	0.12	0.05	0.05
Portugal	0.40	0.12	0.11	0.18	0.15	0.36	0.16	0.11
Romania	0.71	0.38	0.37	0.58	0.67	0.26	0.19	0.22
Slovenia	1.75	1.55	1.07	0.98	0.82	2.16	0.35	0.73
Country	Index 2004	Index 2005	Index 2006	Index 2007	Index 2008	Index 2009	Stdev 2004-2006	Stdev 2007-2009
Slovakia	0.03	0.10	0.15	0.12	0.08	0.16	0.06	0.04
Finland	1.86	1.81	1.65	1.49	1.98	1.61	0.11	0.26
Sweden	0.53	0.47	0.44	0.43	0.43	0.43	0.05	0

United Kingdom	0.55	0.43	0.40	0.53	0.49	0.51	0.08	0.02
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Source: author's own calculations based on data from European Commission and Eurostat

Note: The index is calculated as follows:  $\text{Index} = \frac{(\text{Member State's aid}) / (\text{EU-27 aid})}{(\text{Member State's GDP}) / (\text{EU-27 GDP})}$

Furthermore, looking at the variation in index values (captured by the standard deviation), we notice that countries reporting more important modifications of their support to domestic industries, compared to other Member States, were the Czech Republic, Luxembourg and Hungary. In contrast, the Member States that encountered the smallest modifications in the relative amount of aid granted to their industries were: Bulgaria, Greece, Latvia, Poland, Slovakia, Sweden and the United Kingdom. However, when comparing the average variations experienced by Member States, we found that most of the countries follow an ascendant trend in the period considered, indicating a growing level of disparity in the relative importance of state aid to R&D. The higher variability in the granting of state aid by some countries could suggest that national prerogatives are still determinant in supporting their domestic industries. This aspect suggests that state aid to R&D does not appear to be of a general nature or designed to address general economic problems, but rather of a specific nature aiming at addressing economic and social particularities, showing that national traditions seem to remain a significant factor in shaping the development of state aid to R&D in the EU Member States.

## 7. Empirical results

When analysing the relationship between mean values of state aid to R&D and GDP in absolute terms (million EUR), we have used a panel model which includes seemingly unrelated regression (SUR) using ordinary least squares estimation (OLS). The results show that the coefficients are statistically significant and the relationship between state aid to R&D and GDP is positive. Moreover, when the estimation of GDP has been made using state aid for the current period, we have found that the R squared value is 0.63, which shows that this relationship is robust.

**Table 4: The relationship between State aid to R&D and GDP**

$$\text{Equation : } \text{GDP}(t) = C(1) + C(2) * \text{State aid}(t)$$

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	114968.90	27830.47	4.1310	0.0001
C(2)	830.9055	54.7456	15.1776	0.0000

Source: author's own calculations based on data from European Commission and Eurostat

### Weighted Statistics

R-squared	Adjusted R-squared	F-statistic	Prob (F-statistic)	Mean dependent var	Sum squared resid
0.6355	0.6332	278.9340	0.000000	0.5569	132.1367

Source: author's own calculations based on data from European Commission and Eurostat

In the relationship between variables, we considered useful to introduce a lag between the period when R&D activities were carried out and the period when GDP level was measured. In an econometric sense, the lag involves that R&D activities continue exerting an effect on productivity growth after the innovation was made, which is of particular interest due to the particular characteristics of R&D activities and to their impact on economic growth.

In this context, when using state aid values from the previous year, we have found a relationship which maintains its statistical significance and has a 0.68 R squared, which shows that state aid investment has continued to exert an effect on business activity after the government support was made. While government support through state aid significantly contributes to the development of business activity after the grant has been provided, we appreciate that it is reasonable to expect even longer lags for spillovers because of the additional diffusion lag and also for the basic R&D because of the longer invention to innovation lag.

**Table 5: The relationship between State aid to R&D and GDP (lagged)**  
**Equation :  $GDP(t) = C(1) + C(2)*State\ aid(t-1)$**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	207754.4	35111.63	5.9170	0.0000
C(2)	902.7413	58.8934	15.3284	0.0000

Source: author's own calculations based on data from European Commission and Eurostat

**Weighted Statistics**

R-squared	Adjusted R-squared	F-statistic	Prob (F-statistic)	Mean dependent var	Sum squared resid
0.6951	0.6828	56.5298	0.000000	0.7666	107.9369

Source: author's own calculations based on data from European Commission and Eurostat

The causality relationship between the variables is evaluated using the Granger causality test, which is presented in the following table. The results show that at a 99% confidence level the null hypothesis that state aid does not cause GDP in the Granger sense is rejected. Therefore, according to the Granger test, state aid represents a significant causal determinant for GDP. But, the null hypothesis stating that GDP does not cause state aid can not be rejected. Thus, there is an unidirectional causality from state aid to GDP, while the reverse relationship is not supported by data.

**Table 6: Granger Causality Tests**

Null Hypothesis	F-Statistic	Prob.
STATE AID does not Granger Cause GDP	6.9843	0.0015
GDP does not Granger Cause STATE AID	1.4938	0.2295

Source: author's own calculations based on data from European Commission and Eurostat

## 8. Conclusions

The present paper provided an analysis of the relationship between state aid to R&D and economic growth in the EU Member States. In this respect, we have assumed that state aid contributes in a significant manner to the economic development, measured by GDP level, which was estimated as a function of state aid, in order to evaluate the nature of the interconnection between these variables.

The relationship between state aid and GDP level was found to be positive and statistically significant, suggesting that state aid is positively correlated with economic development. We have found that state aid has the potential to act as a causal determinant for the GDP level, which has also been confirmed by the econometric results showing that state aid programs tend to have an incentive effect for the business activity after they have been granted, due to the spillover effect of R&D activities assumed by the government funding incorporated in the state aid projects.

On the other hand, when analysing state aid relative to the GDP, we have noticed that significant levels of volatility indicate a persistence of disparities between Member States in the period considered, suggesting that national particularities remain an important determinant of government support through state aid, which implies the necessity of a better coordination in the economic policies targeting innovation in the Member States.

We believe that these findings support the fact that state aid policy has evolved from a concept based on the prohibition of anticompetitive practices towards a more integrative perspective which considers state aid more as a regulatory instrument that can contribute to the development of economic policies by providing an additional incentive for the economic growth. Although state aid is not an universal measure to the challenges of the current crisis, it may be a part of broader solutions, to resize the areas of public sector intervention in the economy. Modern economies, characterized by economic freedom, competition and entrepreneurship have shown that the existence of interventionist government policies represents a necessity in order to limit the negative externalities supported by societies in the financial market turmoil and the spillover of their effects on real economies, but this interventionism should be managed with prudence and responsibility because of the obvious limits and difficulties that are involved by the assumption of the market mechanisms regulation by the state. In this sense, Keynesian ideas of government intervention must be organically interconnected with the basic principles of neoliberalism in order to ensure consistency and economic and social sustainability in the long term.

Admitting that this analysis of the relationship between state aid to R&D and economic growth has been limited to the application of basic empirical instruments to a very complex topic, we appreciate that further research could evaluate the extent to which differences between sectors and countries with respect to government policies influence the economic growth. Since sectoral differences in the impact of R&D technologies are mainly related to differences in technological characteristics and opportunities, we assume that the influence of innovative technology would be largest in the scientific sectors, in which the application of recent technologies plays an important role.

## 9. Acknowledgements

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## THE IMPACT OF THE ECONOMIC CRISIS ON THE ROMANIAN LABOR MARKET -A REGIONAL ANALYSIS -

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**Abstract:** *The global financial recession reconfigured the economical structures of many countries and in this context the labor markets all around the world faced major salary cuts and job losses. The Romanian economy wasn't an exception, and for a better understanding of its labor structures we have analyzed the interactions between some of the most representative and measurable indicators using a regional econometric model. The results show that the dynamics of the labor market changed once the economic crisis was installed and are still continuing to modify since the magnitude of this global phenomena was very powerful.*

**Key words:** labor market, wages, productivity, unemployment, economic crisis

**JEL classification:** J 21, J 31, J 64

### 1. The main features of the Romanian labour force

One of the objectives of the Europe 2020 Agenda is the growth of the employment rate up to 75% for the population with ages between 20 and 64 years old. Since, starting with 2007, Romania became a member of the European Union this objective is automatically a national goal to be accomplished by the labor market structures of our country. The labor market dynamics in the past years were influenced by the social and economic transformation of Romania. Its evolution was slow down by rigid regulations, structural problems of informality, high representation of agricultural self-employment, low mobility, many obstacles in accessing a job for different groups and generous incentives for early exits, which contribute to the decrease of the employment rate combined with an increase of the unemployment in the last years.

### 2. Wages, unemployment and productivity theories

Real wage, productivity and unemployment are important indicators for the labor markets. According to different wage determination theories, the evolution of wages is not influenced only by productivity, but also by unemployment.

**The marginal productivity theory** suggests that productive workers have bigger salaries than the less productive ones. In that matter higher productivity could cause the rise of real wages.

Therefore, it is hypothesized that productivity has a positive impact on real wages. However, the effect of an increase in labor productivity on unemployment is ambiguous. As labor productivity increases, workers are more efficient, which implies a decrease in demand of labor, hence unemployment rate could also increase.

Alternatively, a rise in productivity could have a positive impact on employment via its contribution to higher output, which implies an increase in the labor demand, thereby reducing the unemployment rate.

**Efficiency wage theory** states that wages affect both productivity and unemployment. The firms pay their employees more than the market clearing wages in order to increase their employees' productivity or efficiency. An increase in wages can stimulate worker effort and strengthen long-term employment relationships and the workers with high wages are less likely to quit their current jobs.

Also, firms retain more experienced and productive workers rather than newly hired workers who may not be as good and this will lead to an increase in the unemployment rate. Therefore, it is hypothesized that wages affect positively both productivity and unemployment.

**Insider-outsider models** suggest that the insider effects play an important role in wage determination.

Unlike the efficiency wage theories, the insider-outsider approach does not assume a direct effect of wages on productivity and unemployment. By contrast, this model assumes that insider workers exploit various labor turnover costs to resist wage competition from outsiders.

### 3. Empirical studies on the relation between wages, unemployment and productivity

Using the two-step procedure of Engle and Granger (1987), Hall (1986) found real wages, productivity and unemployment forming a co-integrated system for the United Kingdom economy.

However, Alexander's (1993) empirical study showed that there is no direct link between wages and productivity from 1955 to 1979 in the U.K. when unemployment was the central variable, being caused by both wages and productivity during this period. On the other hand, after the structural break in 1979, a negative causality from wages to productivity was found, while unemployment became almost out of the system.

Wakeford (2004) found that even though there was a long term relationship between real wages and productivity in South Africa, unemployment was apparently not connected to the two variables. In the short run, real wages had a negative impact on productivity, but not vice versa.

Strauss and Wohar (2004) found the long term relationship between real wages and productivity at the industry level for a group of manufacturing industries in the United States (U.S.) over the period 1956- 1996, and the increases in productivity were associated with a less than unity increase in real wages.

Using Geweke's linear feedback technique, Meghan (2002) estimated the relationship between wages and productivity for several industrialized countries to distinguish between conventional and efficiency wage behaviors and the results suggested that efficiency wages were being paid in Canada, Italy and the U.K. In contrast, Sweden, U.S. and France exhibited no efficiency wage setting, with very negligible wages and productivity feedback measures. The study also found that economic institutions such as worker unions played an important role on the wage-productivity settings for this group of industrialized countries.

Scott and Meghan (2002) stated that efficiency wage behavior had not been the norm in Japan from 1975 to 1997 and nevertheless the efficiency wage setting cannot be ruled out for some key areas of manufacturing in Japan.

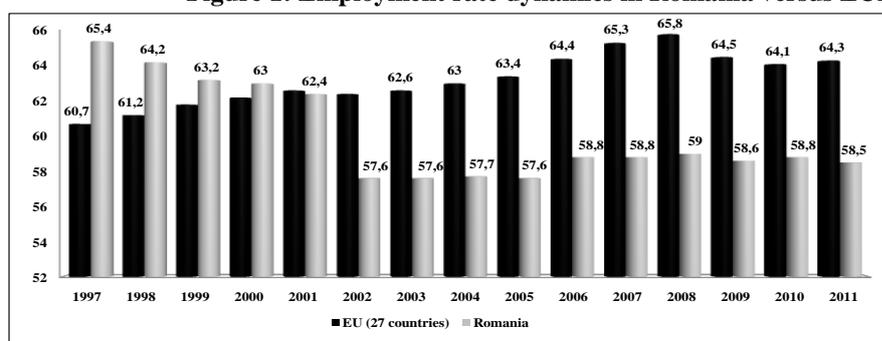
#### 4. The analysis of the main labor market indicators in Romania

The objective established for the EU members regarding the growth of the employment rate to 75% until 2020 is a quantitative one. Nevertheless, to accede to this goal, Romania and the other members need to maintain a proper level for the quality of labor (productivity) and also for the remuneration of labor (wages).

##### Employment rate evolution

Unfortunately, for the past 13 years, the employment rate of our country followed a downward trend, while the Europe's average registered a continuous growth slowdown by the economic crisis triggered at the end of 2008. Some of the many reasons that explain the decline of the employment in Romania are: the intensive emigration, the increased underground economy, and for the last years, in the context of economic reorganization, the worsening of unemployment.

Figure 1: Employment rate dynamics in Romania versus EU27 (1997-2010)

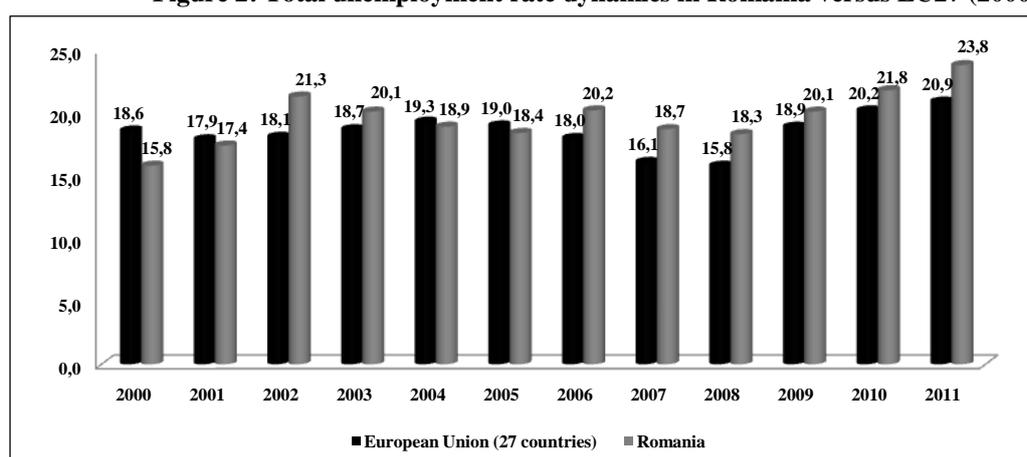


Source: (<http://epp.eurostat.ec.europa.eu>); all calculations were made by the author

##### Unemployment characteristics

The unemployment rate is an important indicator with both social and economic dimensions. From an economic point of view, unemployment indicates unused available labour. Rising unemployment may also result in loss of income for individuals and increased pressure on government spending on social benefits. According to the International Labour Organization (ILO), the definition the unemployment rate is the most widely used indicator for the labour market because of its international comparability and relatively timely availability. Beside the unemployment rate, indicators such as employment and job vacancies also give useful insight into labour market developments. As previously mentioned, the unemployment has been rising sharply in the European Union since 2008 as a result of the global economic crisis and these changes are still affecting every state member, although the severity varies widely between countries and groups. In the graph below it can be noticed that even if in the period 2000-2004 the unemployment grew consequently, the following period was one of steadily decrease of it and improvement of the labor market. In the last three years, the crisis affected profoundly the aggregated demand and many firms went bankrupt contributing at the monthly rise of the unemployment that reached historical picks in many of the countries of the euro area.

**Figure 2: Total unemployment rate dynamics in Romania versus EU27 (2000-2011)**



Source: (<http://epp.eurostat.ec.europa.eu>); all calculations were made by the author

The access to the labor market is difficult for the young people without working experience across Europe, and Romania makes no exception. In the graph below it is represented the comparative evolution of the unemployment for the age group category between 15 and 24 years old. Unfortunately, starting with 2006 the percentages for our country exceed the ones for the EU27 average. Moreover, in 2011, the average unemployment rate in UE 27 for young people (less than 25 years) was 20.9% compared to the overall unemployment of 9.7%.

In Romania the unemployment for youth is higher than the EU average (23.8%) while the total unemployment rate is lower (7.4%). In addition, about 34% of the young unemployed persons are without a job for more than 1 year. All data show that for Romanian youngsters it is more difficult to enter the labor market compared to their European counterparts.

Also, informal work is highly concentrated among workers with no qualifications and, given the low productivity of this segment, it could be too expensive for employers to hire them legally, taking into account the combination of minimum wage, taxes and contributions and also the administrative costs for contracting short-term workers.

Paradoxically, on total unemployment Romania scores better than most European countries, due to widespread underemployment and early exit. These structural problems in conjunction with the external global crisis slowdown the development of the labor market and magnify the risk for a prolonged recession.

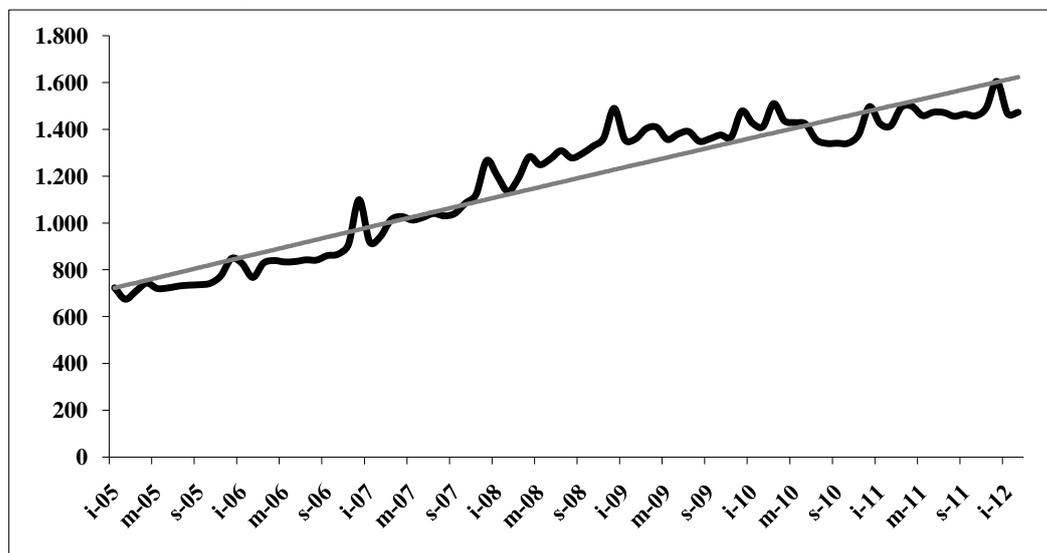
The regional evolution of unemployment rate tends to fluctuate in the period 1997-2009, mainly due to the unstable labor market climate. The economic potential of each region in conjunction with their demographic and social profile have a great influence on the unemployment dispersion.

The poorest regions, such as South-East and North-West, are the leaders when it comes to the ratio of unemployed population. In the more developed regions such as Bucharest, unemployment rate has values near to the NAIRU unemployment.

**Wages features**

In Romania the trend of the monthly wages for the last 7 years was ascending overall, even if starting with the end of 2008 until presently, the growth rates of the earnings were decreasing and the wages weights were below the exponential tendency. The end of 2008, when the wages downturn started is exactly the same period when the financial crisis began. The contagion effects of the external economic turbulences had an immediate impact on the Romanian remuneration system.

**Figure 3: Net monthly wage dynamics in Romania (2005-2012)**

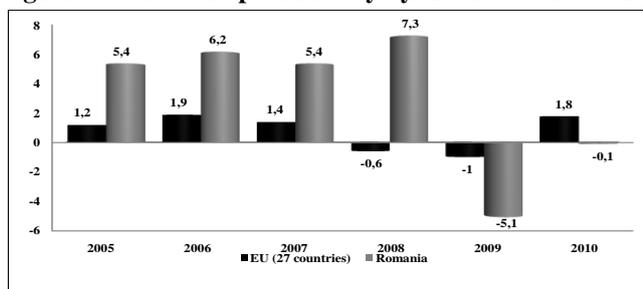


Source: www.insse.ro; all calculations were made by the author

**Labor productivity characteristics**

When it comes to labor efficiency, Romania scored better than the EU-27 until the 2008. The growth rates for the 4 consecutive years registered higher values reaching 7.3%. The crisis stopped the positive evolution and its effects were immediately and severe on both Romania and EU-27 real productivity as showed in the figure below.

**Figure 4: Real labor productivity dynamics in Romania versus EU27 (2005-2010)**



Source: <http://epp.eurostat.ec.europa.eu>; all calculations were made by the author

**5. The interaction between unemployment and real wages in Romania (1992-2010)**

Usually, an increase in real wages leads to unemployment growth if firms finance the costs, even if the participation of the population in the labor force will intensify and the number of jobs will remain stable.

In the tables below, we have tested using the Granger causality test whether the two variables: unemployment and real wage are influencing each other or not.

We have chosen to apply the test for 2 types of unemployment rates: in table 1, the unemployment rate is calculated as the ratio of unemployed persons (registered at the labor force agencies all over the country) and the active civil population and in table 2, the BIM unemployment rate is calculated based on the IBL criteria.

**Table 1: The relationship between real wage and unemployment rate**

<b>Pairwise Granger Causality Tests</b>			
Sample: 1992 2010			
<b>Lags: 1</b>			
Null Hypothesis:	Obs	F-Statistic	Probability
UNEMPLOYMENT_RATE does not Granger Cause REAL_WAGE	17	3.60239	0.07851
REAL_WAGE does not Granger Cause UNEMPLOYMENT_RATE		6.48604	<b>0.02326*</b>
<b>Lags: 2</b>			
UNEMPLOYMENT_RATE does not Granger Cause REAL_WAGE	16	0.03819	0.96266
REAL_WAGE does not Granger Cause UNEMPLOYMENT_RATE		2.99197	0.09172
<b>Lags: 3</b>			
UNEMPLOYMENT_RATE does not Granger Cause REAL_WAGE	15	0.12209	0.94448
REAL_WAGE does not Granger Cause UNEMPLOYMENT_RATE		1.22778	0.36124
<b>Lags: 4</b>			
UNEMPLOYMENT_RATE does not Granger Cause REAL_WAGE	14	0.04482	0.99494
REAL_WAGE does not Granger Cause UNEMPLOYMENT_RATE		0.71434	0.61669
<b>Lags: 5</b>			
UNEMPLOYMENT_RATE does not Granger Cause REAL_WAGE	13	13.5458	0.07017
REAL_WAGE does not Granger Cause UNEMPLOYMENT_RATE		4.43447	0.19419

Source: www.anofm.ro , www.insse.ro; all calculations were made by the author



The econometric analysis will try to highlight, in the first model, the trends and the interactions between some of the most important labor market indicators and after that, in the second model, we wanted to underline the impact of the external financial crisis on the labor field.

In order to analyze the insides of the Romanian labor market, we have chosen for the first model, the interactions between:

- A quantitative indicator (the negative side of labor market: unemployment);
- A remuneration indicator (real wage);
- A qualitative indicator (labor productivity).

### 6.1. Regional analysis

#### Model variables description for yearly regional data (1997-2008)

The endogenous variable chosen was the real wage (wage) calculated as an index with chain base. Real wage was calculated as nominal wage divided by consumer prices index. The period analyzed was 1997-2008 for the 8 economic regions in Romania, and the data was collected from the Romanian Institute of Statistics.

In order to confirm the relation between real wage and unemployment, the chosen exogenous variables were unemployment rate and labor productivity. The long term unemployment rate (un\_BIM) is calculated based on the definitions of the International Labor Bureau. This rate takes into consideration all population with ages between 15 and 64 years old.

All data was collected from the Romanian Institute of Statistics and, for the accuracy of the econometric model, we used logarithmical data.

Labor productivity affects the level of unemployment by two different mechanisms such as:

- an increase in productivity leads to a decrease in the demand for labor for a fixed output level and an increase in unemployment would lead to a decrease in the aggregate demand;
- an increase in productivity leads to a decrease of the production costs and lowers the product prices which could boost the aggregate demand leading to an increase in employment.

The second indicator used in the model, **labor productivity (pps\_prod)** was calculated as GDP at constant prices divided by employed population. The data source for the regional GDP was Eurostat and for the employed population, the Romanian Institute of Statistics. This indicator was transformed using logarithms in order to obtain relevant and consistent estimators.

#### Econometric regression and estimation

$$\text{Equation 1: } \text{WAGE} = -0.81 \times \text{PPS\_PROD} - 0.48 \times \text{UN\_BIM}(-1) + 4.16$$

Dependent Variable: WAGE_?				
Method: Pooled Least Squares				
Sample (adjusted): 1998 2008				
Included observations: 11 after adjustments				
Cross-sections included: 8				
Total pool (balanced) observations: 88				
White cross-section standard errors & covariance (d.f. corrected)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	<b>4.131249</b>	0.902378	4.578181	0.0000
PPS_PROD_?	<b>-0.812945</b>	0.187871	-4.327153	0.0000
UN_BIM_?(-1)	<b>-0.484316</b>	0.180591	-2.681843	0.0089
Fixed Effects (Cross)				
Cross-section fixed (dummy variables)				
R-squared	<b>0.690617</b>	Mean dependent var		0.329254
Adjusted R-squared	<b>0.654919</b>	S.D. dependent var		0.159973
S.E. of regression	0.093974	Akaike info criterion		-1.784949
Sum squared resid	0.688829	Schwarz criterion		-1.503433
Log likelihood	88.53774	F-statistic		19.34605
Durbin-Watson stat	<b>1.710099</b>	Prob(F-statistic)		0.000000

## Interpretation of the results

The econometric regression shows that there is a strong determination between the chosen variables and therefore a strong correlation among them, determined by the value of R-squared (65%). Also, the coefficients of the explanatory variables obtained in this model show a specific modification of the dependent variable. Both variables have a negative influence on the real wage evolution.

The decrease of the labor productivity produces an increase of the real wage in the current period. The obtained results contradict the marginal productivity theory which suggests that higher productivity could cause the rise of real wages and therefore, it is hypothesized that productivity has a positive impact on real wages. An explanation could be that given the rigidity and imperfection of the labor market and the continuous restructuring of the Romanian economic environment, there is a constant gap between the growth rate of the real wages and the growth rate of labor productivity.

The unemployment rate is considered a “lagging indicator” due to the fact that when there is an economic downturn it takes several months before the level of this indicator begins to rise and also because once the economy slows, employers are usually precautionous and the unemployment rate will decrease after a period of time too. So, in order to see the correlation between unemployment and real wages the endogenous variable was chosen with a 1 year lag. The empirical analysis showed that an increase in the previous year of the BIM unemployment rate will reduce the level of real wages for the next year. The explanations could be that either the labor market becomes attractive for the people working in the underground economy which leads to an increase in the employment rate level or the unemployed persons that chose to remain unemployed, not because they didn't found any work, but because of the small difference between the salary and the unemployment benefits, will finally decide to get a job.

## 6.2. County analysis

### Model variables description for monthly county data (2007-2011)

In order to describe and analyze the particularities between wages and employment and the effect of the financial crises triggered at the end of 2008 on the Romanian labor market, the following model was built using county level data on a monthly basis.

Due to the fact that between Bucharest and Ilfov and the rest of the country counties is a very big gap in terms of development we have chosen to eliminate from our analysis the mentioned counties.

All the variables used in the model were transformed as indexes calculated as percentages from the previous year's equivalent month and we eliminate the monthly seasonality.

The endogenous variables used in the econometric model remains the same as in the previous model: real wage at county level (**WAGE**) calculated as an index with chain base, based on the nominal wage divided by consumer prices index. The exogenous variables: number of unemployed persons (**UN**), number of employees (**EMP**) and the turnover from the industrial area (**CA**). All indicators suffered transformations in order to provide proper estimators.

### Econometric regression and estimation:

**Equation 2:**  $WAGE\_SA = 0.314 \times WAGE\_SA(-1) + 0.186 \times WAGE\_SA(-2) + 0.214 \times WAGE\_SA(-3) - 0.012 \times UN\_SA(-11) + 0.464 \times EMP\_SA + 0.013 \times CA\_SA - 14.8$

Dependent Variable: WAGE\_?\_SA  
 Method: Pooled Least Squares  
 Sample (adjusted): 2007M12 2011M12  
 Included observations: 49 after adjustments  
 Cross-sections included: 40  
 Total pool (balanced) observations: 1960

Variable	Coefficient	Std. Error	t-Statistic	Prob.
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C	-14.28818	4.615130	-3.095943	0.0020
UN_?_SA(-11)	<b>-0.012262</b>	0.004914	-2.495038	0.0127
WAGE_?_SA(-2)	<b>0.186215</b>	0.022662	8.217054	0.0000
CA_?_SA	<b>0.013366</b>	0.006239	2.142286	0.0323
WAGE_?_SA(-1)	<b>0.314862</b>	0.022163	14.20682	0.0000
WAGE_?_SA(-3)	<b>0.214200</b>	0.021038	10.18162	0.0000
EMP_?_SA	<b>0.464952</b>	0.048146	9.657099	0.0000
Fixed Effects (Cross)				
Cross-section fixed (dummy variables)				
R-squared	0.713813	Mean dependent var	108.3891	
Adjusted R-squared	<b>0.707085</b>	S.D. dependent var	11.39018	
S.E. of regression	6.164555	Akaike info criterion	6.498699	
Sum squared resid	72735.32	Schwarz criterion	6.629674	
Log likelihood	-6322.725	F-statistic	106.0875	
Durbin-Watson stat	<b>1.974506</b>	Prob(F-statistic)	0.000000	

### Interpretation of the results

The econometric regression shows that for the short period analyzed there is a stronger determination between the real wages, unemployment rate and employment ( $R^2 = 0.7\%$ ). As for the coefficients of the explanatory variables, the model shows also a particular modification of the dependent variable taking into consideration the number of lags.

The value of the Durbin Watson statistics shows no evidence of the autocorrelation of the errors ( $p=95\%$ ,  $k=6$ , number of observations=49,  $d_L=1.29$ ,  $d_U=1.82$ ) taking into consideration the definitions for these phenomena to happen:

-positive correlation testing;

- $d < d_L$ , the errors are positively autocorrelated ( $1.97 > 1.29$ );
- $d > d_U$ , the error aren't positively autocorrelated ( $1.97 > 1.82$ );
- $d_L < d < d_U$ , the test is inconclusive.

-negative correlation testing;

- $(4 - d) < d_L$ , errors are negatively autocorrelated ( $2.03 > 1.29$ ).
- $(4 - d) > d_U$ , the errors aren't negatively autocorrelated ( $2.03 > 1.82$ ).
- $d_L < (4 - d) < d_U$ , the test is inconclusive.

As mentioned, the variables have different influences on the real wage:

- There is a positive correlation between the wage in the current month and the ones for the last month, past last month and 3 month ago, which shows that on the short run the population's earnings are depending on the past's levels;
- There is a stronger correlation between real wage and number of employees (coeff =0.46) compared with the one having as exogenous variable the no of unemployed persons with 11 lags (coeff. < 0.1);
- It seems that for the current period there is a negative relation between real wage and the number of unemployed persons from 11 months ago; this type of relationship holds in most of the unemployment models based on wage efficiency, matching or bargaining or competitive wage determination, all of them generating a wage curve (Olivier Blanchard-1997).

In the short run, it appears that an increase of unemployment produces a decrease of the real wage and vice versa. This could be explained on the fact that many firms fired a lot of people in the analyzed period.

Unfortunately the correlation between the 2 variable is insignificant.

- the relation between real wage and number of employees in the current month shows that a decrease in the employment rate will produce a decrease in the real wage level.

This type of relations reflects exactly the situation of the Romania's wages and employment for the last years:

- the financial crisis slowed down the aggregate demand and the economic activity registered consequently decreases followed by bankruptcies, reorganizations, many people losing their jobs and contributing to the growth in the unemployment rate level;
- even if there were, among the affected areas, people who remained employed, their wages were adjusted accordingly to the new economic situation.

### Final remarks

The main purpose of the empirical analysis was to underline the importance and the complexity of the Romanian labor market structures and to highlight the different ways of interaction between the main economic indicators, the barometers used to determine the state of the economy.

It is certain that there are strong connections between the main labor market indicators such as wages, unemployment and productivity. Any modification in the level of one of them changes the entire configuration of the labor market and also a negative shock, in our case the economic crisis, enhances their contagion effects on the entire economy.

The recent powerful shocks on the labor market and the unresolved internal problems such as low flexibility, weak internal labor mobility, asymmetric information and poor transparency regarding key jobs in many activity domains, are affecting and will affect for a long period of time the dynamics of the labor force in Romania, revealing inefficiency and lack of coordination of the occupational politics.

The transition has shaped a labor force that is unfit for the modern globalized world. High levels of employment in subsistence farming and in black economy seem to be resilient especially in times of crisis.

Furthermore, the financial crisis revealed and emphasized the fragility and lack of stability of the labor market and pointed the need for new strategies and approaches.

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## SOME REFLECTIONS CONCERNING THE CURRENT FUNDAMENTAL PROBLEMS OF ROMANIA

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**Abstract:** *We address these issues, which we consider fundamental for Romania and not only, in a time when the impact of the economic crisis and of the IMF loan are far from being shaped conceptually and pragmatically, as solutions.*

*We, unfortunately alone, express the view that this devastating phenomenon - the crisis - has two distinct components: a real one, induced by the errors that were made, especially in the banking system and a psychological one of fear, of the disorder, the arbitrary restriction of activity, etc., therefore generated out of ignorance, which in our opinion has the largest impact.*

*Regarding the IMF loan, we want to warn that any borrowing for consumption has dramatic consequences for the country and that every household, so any normal person would get a loan only for development, otherwise this person would not create the normal resources for repayment. Unfortunately, this aspect of the issue is enveloped in a dangerous nebula.*

*In this paper we address these problems, covering a reasonable space.*

**Key words:** crisis, loan, impact, management, state, management

**JEL classification:** O 11

We are considering, therefore, the implications of the current global financial crisis and Romania's considerable foreign debt, which is a pending issue.

### 1. Regarding the implications of the crisis

First, we consider that it is necessary to make a distinction as clear as possible between the crisis itself and the psychological effect that was created around this destructive phenomenon. The distinction requires and allows for the understanding, the natural treatment and management, in a scientific manner, one could say, of the two components as imposed by reality: separately, differently, specifically, as such, otherwise the entire arsenal to counter the crisis would be built on sand and would be doomed to failure.

The first component is the real crisis, which was generated by the errors that were made, especially in developed countries (especially by the money allocated without bringing beneficial, normal, performance results), errors whose consequences, in our opinion, have a reduced share in the overall crisis, and should reflect on those who made them, those states having primarily a moral obligation to repair the harm done to mankind. We, however, must identify with the real effects of this part of the crisis, namely, those that affect directly and severely Romania, we have to prepare in a professional manner the people, the entrepreneur and the public institutions for their correct understanding, and especially to establish the necessary solutions and ways of responding to these implications. The solutions must take the form of scientific and realistic strategies and programs developed in compliance with the basic but severe rules of management including clearly and unambiguously: the objectives, resources, expected results, responsibilities, deadlines, actual outcomes and ways to control and especially ways to correctly, completely and operatively inform the public opinion.

The second component is a subjective one, driven by panic, the disorder created by the escalation of distrust between business partners, by the unjustified interruption of the normal money flow and circuits, induced by the distrust, which generated and emphasized the blocking, exclusively for these reasons, of the business performance, a component which is deeply affecting the greatest number of entrepreneurs by destroying their markets, business relations, production capacity, etc. This component affects even those who have interrupted the cash flows, namely the banks, who created instead a rush to attract liquidity with high interest rates, but which they do not exploit to create income generating thus the bankruptcy risk and at the same time even endangering the people's savings, which they hold as deposits, while investors with still efficient business are, as shown, blocked; this fact affects public budget revenues, emphasizing in a chain reaction the subjective implications of the crisis.

The basic economy relationship was destroyed, namely: Money - Factors of production - Processing - Goods and Services (respectively meeting the social needs, as the main way of economic development) - B - Value Added, in essence, capital turnover, which, as known, by acceleration becomes the most important and synthetic indicator in management.

On the other hand, any crisis is a break in the normal functioning of the system in which the crisis occurs, so it's a system crisis. It is the result of the brutal interventions in this system, which, according to the Systems Theory, changes the structure of that system, its relationships, goals, resources, the results and behavior in the macro system around them. Only regarded as such, the crisis can be addressed scientifically not in a chaotic manner and overcoming it is possible only through self-regulation of the respective system. Unfortunately, at all levels of approach this undeniable fact, which is disarmingly simple to understand, was not and is not taken into account and treated as such.

Globalization of business and internationalization of organizations, which are defining phenomena of the contemporary world, in the context of the global system disturbance through the brutal measures and interventions mentioned above, unfortunately complicate the crisis generating factors and increase the radiation of its consequences in unexpected areas and intensity. The current global system that is so fragile was empirically and spontaneously formed by the entrepreneurs speculating the benefits that are brought by new markets. In parallel, however, disturbing phenomena were also interposed, generated by other interests than the economic and social ones, so contrary to the normal evolution requirements, which affected the consolidation of the emerging global economy, opening a wide unprecedented field of manifestation for the current crisis.

Synthesizing the psychotic aspects of the crisis, there is a need to bring back into focus the reality that in any business (we know that over 90 percent of humanity makes a living based on business or in a way or another as a result of business) the capital of trust between the parties is the basic linking platform, which was the most severely damaged mainly as a result of this psychotic component of the crisis. Resuming the rebuilding of trust capital with small but safe steps at first and then gradually expanding the quantity and quality on a medium and long term remains the only solution to be promoted, but, again, unfortunately it is not even conceptually approached, although any delay is fatal.

From another point of view, all these imbalances need to relocate based on the principles of market economy and have to be adjusted for the conclusions imposed by the crisis, resettlement which again unfortunately is done chaotically, with the involvement of states, especially of the highly developed ones, which by the maneuvers of narrow interests, not only does not solve the crisis, but its consequences spread to others, especially to the poor or developing states, which is not only immoral but also counterproductive because this does not lead to the auto-regulation of the global economic system that was so shattered by the crisis.

Globalization and internationalization of business organizations will remain the main dominant coordinate of this century. The phenomenon is defined as one that makes the state of affairs in some parts of the world radiate through their consequences and implications at great distances, in other parts of the world, the interdependencies involving and affecting directly everybody. This reality requires the restructuring of the activities of all international and regional bodies, to become able to stimulate beneficial developments and perspectives of the global economic system, including mitigation of crisis and of the existing serious problems: the resource shortage, pollution, poverty, corruption, terrorism, armed conflicts, etc.

## **2. Regarding the International Monetary Fund loan and agreement**

It is clearly one of Romania's current fundamental problems, which also, unfortunately, in our opinion is not frontally and scientifically approached, and especially from the perspective of the national interest, in order to substantiate a decision to approach the needs and aspirations of the Romanian people, who has been so hard and so much tried by the history and at the expense of which the huge amount of state debt accumulated so far was made, especially after 1990, whose new and unprecedented enslavement is imminent, unless a leap is made from this view of state management representing a serious threat to the quality of life, which is so low and to the current abnormal position of Romania among the modern world countries.

For example, a basic obligation to the people was to be unequivocally informed about the purpose of the previous state debts, and, especially, if they had anything to gain from that debt, the actual current debt balance, the debt maturities and how it will comply with the refund as well as the specific sources from which the payment will be generated and particularly what impact does this have on the people. This

type of information, which has been neglected for 20 years (not to say otherwise), has decisively contributed to the deteriorating economic and political climate, the lack of accountability in the management of the widest civic and national interest, being replaced by sporadic information, made by “some analysts” whose intention was more to create a public image for themselves. Although enormous public funds were spent on all kinds of scientific research studies and works, some more ridiculous and more useless than others, many of which brought serious disadvantages to Romania's image, the minimum necessary funds were not allotted to create an official national structure to inform the population in a systematic, concrete and clear manner on how the effects of each indebtedness are found in the economic and social life of the country and people and especially the responsibilities generated by the errors produced. It would have been not only a moral imperative, but also a responsible, performance-oriented state management, a powerful economic and political culture instrument. The existence of such a system would have naturally been a scientific and practical platform for those who in these days arrogate the mission to define, analyze and approve the loan and the IMF agreement, but also a serious warning not to repeat the mistakes of the past.

If it has not been done so far, it would be high time to take such a measure to start making this work and information, starting from the last government and continuing until 1990.

In connection with loans there are well-known things, concepts and traditions.

A loan was always good if a farmer took it to turn it into development, progress, prosperity, image, in fresh ways of gaining performance.

An important senior Romanian official from the interwar period talking about loans said that they are like rain, which, if dropped on good ground, enriches the owner, but if dropped on a bad field, destroys it. Romania and the Romanian people were always and still are like a good, rich land but it never really had good “farmers”. We hope that at this moment and taking into consideration the above mentioned warning, it would be crucial for the country to find such farmers that Romania has always had but could not use because of the impostors who took their place.

We are aware of what we are exposing to, but we want to warn, with maximum severity and responsibility, that any relationship of the IMF agreement and loan with a consumption that does not produce added value to avoid losses and does not ensure economic and social development as well as secure resources for reimbursement from its use, is a serious prejudice (not to say otherwise) to the Romanian people in a situation where its level of living and overall condition of the economy and country are, as shown, at a serious, critical level.

From this perspective, we express the justified firm belief that there is a need to stop the sterile discussions on the basic choice of the Romanian state and to judge things through the terms we previously discussed, not at a declarative level, but transformed into specific and unambiguous strategy and programs to convince every Romanian citizen that the state is acting in his/her best interest. We believe it is time to send a message to those who make such decisions on behalf of the Romanian citizens to be aware, unequivocally, of their responsibilities that are not only political, which they assume and act knowingly, hoping that at least this time they will be held responsible, effectively and completely, if they neglect the broader goals of the national interest. The Romanian people must therefore not be stuck in debts that bring nothing to gain; otherwise we would be witnessing a real and serious crime, which directly and seriously violates the national interest, the fundamental interests of current and future generations, on very long terms.

We repeat for clarity reasons that we refer to calculations, solutions, programs, strategies that should clearly demonstrate without any doubt or misunderstanding, that the loan and the agreement are only beneficial for the country and the Romanian people. Otherwise, we only require to apply in this fundamental act of the state management, the management processes components as defined by the management science and mentioned above and especially: objectives, resources, expected results, deadlines, responsibilities and, in this case, how to serve the Romanian people and the national interest - all these transposed in a manageable framing.

The Romanian people have unexpected resources, as shown throughout the history, to understand the difficulties that the country is going through, the sacrifices that they have to do, even in the difficult situation in which they are in terms of quality of life and of the gaps that separate us from other EU countries, provided they are properly and fully informed and provided the decision makers assume unequivocally, in a credible and manageable manner their respective responsibilities.

The high performance and accountability management, based on economic, social and political criteria, of the public debt has been one of the basic standards to assess and evaluate the performance of

state management and the real responsibility of those involved to the people that they represent; therefore, this top level management should be restructured and brought to the necessary performance level, as the most synthetic and refined expression of respect for the national interest and the justified aspirations of the people.

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## THE CURRENT ECONOMIC CRISIS: MEASURES AND SOLUTIONS

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**Abstract:** *The main objective of the present research project is the current economic crisis, its effects and consequences. A key problem preoccupying developing countries today is the global economic crisis and how they can address it. The epicenter of the crisis is in the developed countries, especially the USA. But the developing countries that have no role in causing the crisis have suffered the most severe "collateral damage". I will try to present the similarities with other periods of recession that we have crossed-over time. I will present a few measures to remedy this situation, both long-term and short-term, referring of course to Romania an EU as well.*

**Key words:** economic crisis, measures, solutions, Great Depression

**JEL classification:** F 43, N 10

### 1. Introduction

The economic crisis is a phenomenon that affects everyone, be they economists, businessmen, workers, or common people. In retrospect, we observe that, over time, the society was faced with numerous periods of economic instability, resulting in economic crisis and recession in large-scale.

Specialists have shown that economic recessions are quite similar, but they also feature elements that make them unique, which is why you cannot develop a doctrine of economic crises.

Some U.S. politicians believe that the current crisis could not have been predicted, invoking the concept of "black swans" (Taleb, N., 2007), advanced by Taleb, under which the crisis is an anomaly of an overwhelming importance, but which could not had been foreseen. However, there have been a few economists who have paid attention to what will follow.

The onset and development of the tulip bulb's mania is similar to the economic crash that we currently face, the difference being the asset that started it all. The speculative bubble was caused now, not by the rare tulip bulbs, but by the real estate market. After an artificial increase in the real estate prices, the flask broke and housing prices began to fall, the value of the loan contracted for the acquisition of the building not being covered by the warranty.

Certainly we all know the causes that have led to this period of instability felt worldwide, which is why I won't insist on this part. The financial crisis that started just after the bursting of the bubble in US housing market in late 2008 is still continuing to affect the whole world but especially the developed countries. Economic measures taken by developed countries against the crisis which causes the global economic recession appears to be insufficient and this situation poses a great threat to the global economy. I will try to show what the consequences of the current crisis are, and also a few solutions that could help us overcome this period. I will then show the main differences between the Current Crisis and The Great Depression, because there aren't few those who find the two alike. The extent of this crisis is considered to be comparable to the extent of the economic crisis of 1930s.

### 2. Consequences and effects of the crisis

U.S. crisis severely affected all worlds' markets because the financial systems are interconnected, and the banks were filled with U.S. real estate debt mark. This phenomenon manifests itself in the world economy and is, in my opinion the most felt impact of the financial crisis at the moment. Bank losses have reached impressive levels. This phenomenon occurred both in the U.S. banks and the European ones, the difference being that the first were faced with much higher losses.

Stock markets were also destabilized, falling a lot. Some were even closed a period of time. On October 8th, 2008, the Bucharest Stock Exchange (BVB), suppressed the trading session due to the decrease of 10% of the quotations.

Crediting of individuals faces restrictive conditions by limiting the investments in real estate and product lifespan. We are dealing with a limitation of consumption. As far as it concerns legal entities, the observed constraints at this level consist in limiting their investments, by restricting access to credits.

One of the effects of the crisis is a substantial decrease of all countries' exports, as the rapid growth in trade seen this decade will drastically reduce. Exports from Central and Eastern Europe are

strongly correlated with those of the Euro area due to their importance as material goods in the supply chain.

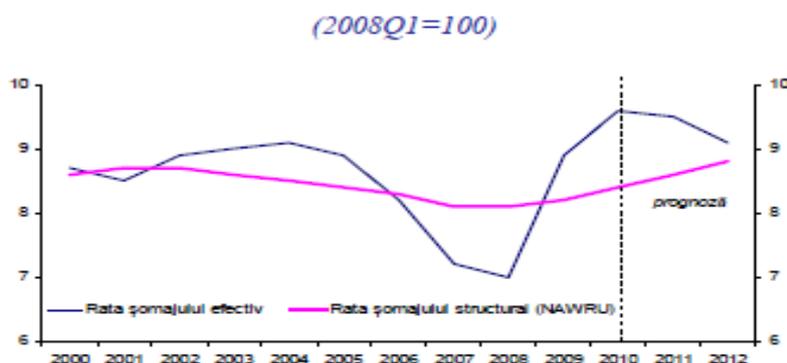
The foreign capital inflow was strongly affected by the financial crisis. The global slow down reduced the demand for consumption goods and industrial products, reducing export earnings. Developing countries now borrow with higher interest because of the exodus to safer markets and higher risk aversion.

In the past, major crises in developing countries focused on a regional level, but the current crisis epicenter is located in developed economies, therefore we see that all developing regions are affected by shocks. Investments decreased especially in emerging markets.

The impact of the international economic crisis on the new EU member states proved to be more severe than anticipated. Here the Greek situation has reached alarming levels and threatens the existence of the Euro and the European Union. There are several factors that clarify the different impact of the crisis in the EU. Countries with current account deficit of less than 10% of GDP have lower external financing needs. Baltic Countries, Bulgaria and Romania need a larger volume of external financing. The exchange rate is another differentiating factor. Countries that have a floating exchange rate, Romania included, registered a sharp depreciation of the exchange rate during the financial crisis.

The recession has reduced capital flows in the EU, leading to the collapse of direct foreign investments in the region. The crisis had a high social cost in Europe, resulted in a strong increase in unemployment. In 2008 the unemployed accounted for 7% of the workforce in the EU-27. In 2010, their number was about 10%, with the prospect that the unemployment rate to remain above 9% in 2012, as shown in the chart below. Unemployment is particularly high, exceeding 12% in Estonia, Ireland, Greece, Slovakia, Latvia, Lithuania and Spain. Youth unemployment rate exceeds 20% in more than half of EU Member States and reaches 42% in Spain (European Commission, 2011).

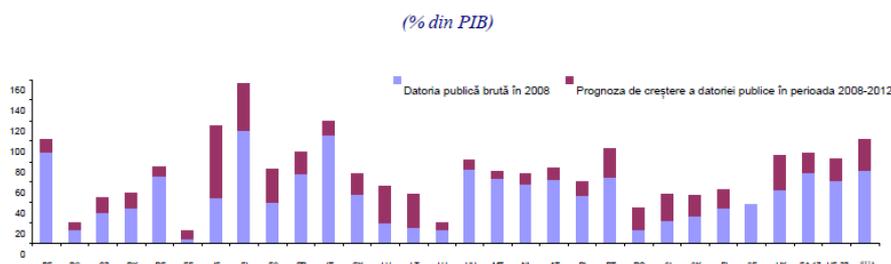
**Figure 1: Actual and structural unemployment rates**



Source: (European Commission 2011, Annual Growth, Macroeconomic Report)

The crisis has especially affected public finances in the euro area and the EU. In a short period of time, the weights of the public debt in GDP have strongly increased in nearly all Member States, negating the moderate progress registered in the years previous to the crisis.

**Figure 2: The public debt in 2008 and its growth forecast for the period 2008-2012**



Source: (ECFIN autumn forecast)

Although the crisis has its origins in the United States, all international economic actors should take urgent measures. It is essential that developing countries should be as prepared as possible to

minimize the risk of recession. Measures have been taken with regards to the deposits guarantee degree, so that people can feel their savings safe. Emerging countries' administrations have two main macroeconomic instruments of reaction to the negative shocks that they are ready to face: monetary policy and fiscal policy.

During 2009 - 2010, the EU most affected countries were: Greece, Portugal, Spain, Ireland, and Italy. Neither our country has escaped unscathed from the meltdown that we cross. EU situation is similar to the Asian crisis of 1997-1999. The most affected are developing countries due to high budget deficits and public debt generated by this crisis. Capital market contraction is in fact real economic contraction.

The economic crisis that Romania is going through is primarily an internal crisis, resulting from an unhealthy growth, because it volatilized in a single quarter. We had during these years a growth based on debt financed consumption, which can be considered a major cause of the crisis.

The international financial crisis was only the trigger of the domestic economic crisis, because it has affected funding. Now we borrow more expensive if at all. This is true both for the government and for businesses and population. The vulnerabilities of an unbalanced economy, with many delayed structural reforms, are now obvious.

The current economic downturn has manifested by slowing exports, production being correlated with the evolution of the global economy. The access to external financing was limited and this reflected in the depreciation of the national currency. There was damage to the net assets of individuals and companies due to the large share of loans in foreign currency correlated with the Ron's depreciation, and falling asset prices and real estate securities. The international financial crisis has important implications on the Romanian financial system, and many analysts have questioned whether Romania will resist.

The situation of Greece is not very comfortable either. Failed to meet the criteria set by the EU in terms of 60% debt and budget deficit to 3% of GDP. Government debt is approx. 150% of GDP. At the same time it is also faced with a mix of inappropriate policies, hostile legislation and black labor market. Over 70% of Greek businesses are family businesses. Because it is supported only on IMF and European banks' infusions, Greek's situation is threatening to endanger the monetary stability of the European Union.

#### Differences between the Current Crisis and The Great Depression

The Great Depression	Current Crisis
crisis of overproduction	subprime crisis
government intervention delayed	the crisis of confidence
unemployment rate 25%	resounding but limited bankruptcies
lending 30%	lending supported by governmental programs
the stock has fallen by 75%	depositors / creditors losses are reduced

### 3. Measures and solutions to the current crisis

It was observed that real estate prices have reached very high values, which not being able to be sustained, began to decline. The government intervention was necessary to sustain banks and leading companies not to go bankrupt, thus diverting artificially the course of the economy.

**The Invisible hand theory** can also be tackled in the current crisis. Although theory says that the welfare of society is achieved by acquiring wealth by each individual, it is exactly the large companies' greed and their desire to increase the profit that brought us into this situation.

The Theory of **state interventionism** is supported by J.M. Keynes, who believes that the state should be involved in the economy through fiscal and monetary measures, which help to mitigate the negative effects of financial crisis. Here is that with the collapse of Lehman Brothers bank, the state became a major player.

**The bank's rescue measures through** cash injection, as part of the stabilization policy, was received and reviewed in 1963 by Milton Friedman and Anna Schwartz in their "Monetary History of the U.S., 1867-1960. Here the U.S. and EU countries save the banking system, based on Friedman's thought 40 years ago.

These measures are applied differently from country to country. U.S. prefers a more liberal model of saving the banking system, while the Europeans a more socialist. Britain has nationalized several banks. In September 2008, the British state bought from the banks the preferred shares, which doesn't entitle it to vote at the general meetings of shareholders. Today's banking "Nationalization" is totally different from the banking nationalization model practiced 60 years ago as not affect shareholders. Once

the crisis will be overcome, actions will increase and the British government will probably sell with a good yield.

During 2007-2008, the Fed opened some unprecedented credit lines, turning to the lessons of the Great Depression and helping banks and companies like GM to avoid bankruptcy. In 2009, we implemented the teachings of Keynes, through a legislative proposal for economic stimulus.

The rescue attempt was extremely expensive, reaching trillions of euros. American government has placed under the guardianship of the government mortgage giants (e.g. Fannie Mae Freddie Mac). To save these entities, the Treasury has injected approximately 200 billion dollars. This government support has limits, because aid is borne by taxpayers, making the number of firms receiving such treatment limited.

Central banks have injected liquidity in November, but with caution as there is a significant risk of inflation. Creation of currency without coverage could lead to soaring prices. They try to recover tritized devalued loans. So the FED has recovered 29 billion of toxic assets from investment bank Bear Stearns and facilitated its takeover by JP Morgan. The solution has its limit as not all toxic assets can be isolated in a short period of time.

A solution to overcome the situation in which we find ourselves would be promoting coherent and credible policies for internal and external imbalances adjustment.

Austrian economists believe that to overcome the crisis, banks and indebted companies should be left to fail, to allow the strong to thrive. They believe that the very excess of regulation caused the crisis, showing skepticism about the regulation. If the volume of public debt increases, becoming unsustainable, creating fiscal deficits, the government will have to raise interest rates. The bill issuance will lead to inflation, resulting in unhealthy growth, stagflation like in 1970. This view is opposed to Keynes's thought that believes that capitalism can be stabilized by the timely intervention of the state.

To overcome this crisis well, we must take the best from each school of economic thought. Thus, on **short-term the solutions** that Keynes proposed are most suitable. It is preferable to prevent collapse of the financial system through loans of last resort, equity injections, supporting aggregate demand through spending and reduce taxes. Doing so will prevent the passage of a crash similar to the Great Depression. At EU level, but not only, I believe that the most appropriate measures are the following: EU and IMF financing of Greece and the affected countries, restrictive fiscal policy, interest rate reductions, elimination of toxic assets, recapitalize damaged institutions, government expenses to support the real economy, depreciation of national currencies to improve external competitiveness.

**In the long run**, the Austrians have a more appropriate vision. Overcoming the recession must be based on debt reduction. Preferably bankruptcy insolvent banks and companies. The EU requires stricter control mechanisms of the EU Member budgets at the European Commission level. At The Same Time is recommended reforming the European financial supervision and stricter regulation of credit. Avoiding macroeconomic imbalances, sustainable growth and reform of credit rating agencies would help all countries to have a healthier economy. A solution is focusing on the capital market and better absorption of funds.

External grant funds may be a solution in particular for Romania, because we speak of external capital. We need an engine of economic growth, which should be exercised by an insufficient infrastructure as mastered areas, tourism, and agrofood sector.

At present, Germany and the U.S. have overcome this period of economic downturn, passing on economic growth. However many of the EU states, including Romania have struggled with the crash that hit the international economies. Unfortunately, due to economic differences, we can not implement packages of measures taken in these countries as it would have no effect.

In our country's case, due to the large current account deficit, we must orderly reduce it, because its reduction by the market in the current conditions of tension and mistrust would have dramatic consequences for exchange rate and economic growth (Isarescu, M. 2008).

The long term objective of the monetary policy should be to achieve a low and stable inflation. It was observed that low and stable inflation helps long-term sustainable growth. There is also the need to accelerate reforms.

An important long-term measure is restructuring of banks to ensure proper function of the credit mechanism. Banks will have to strengthen their capital base and improve their ability to cope with shocks. The effect of these measures should be financial stability. An important role is the bank's image crisis.

Bank behavior in this period will remain etched for a long time, in memory of customers and partners. It is advisable to act in a manner to inspire confidence. A lack of crediting inevitably leads to a marked weakening of purchasing power, which in the long term, without a call, declining prices and a weaker economy, may lead to deflation.

BNR should relax lending rules by separating the consumer mortgage loans and those guaranteed by the unsecured mortgage, so that credit risk will not affect banks' functioning. To prevent these imbalances it's necessary to revise the lending policies that led to the generation of these bubbles. A challenge for decision makers is to implement structural reforms to restrict or eliminate the occurrence of these imbalances.

The crisis exposed factoring financing option in terms of significant reductions in cash flows in the economy. In the current period of economic uncertainty, factoring is a solution that more companies have joined, from Romanian SMBs to multinational corporations. The main purpose of factoring services is the supply of liquidity on the basis of future receipts.

Business process is conducted at high speed during the crisis. Economic and social environment must be considered soberly. We need to carefully consider the facts and to act reactive. Particular attention should be paid to costs. In crisis, cost and process optimization is essential, and the actions will be taken in accordance with a long term vision.

Economic turmoil offers new business opportunities for companies that have identified market opportunities.

#### 4. Conclusions

The current crisis differs in its scope of all other periods of economic instability, currently affecting a large number of countries. If until now the developing countries were mainly affected, in the current crisis even the most developed countries of the world have been involved.

Globalization has been proven to bring great benefits to many countries and people in the world. However it has been observed that due to globalization some chain reactions can be produced that can affect economies around the world. However it is doubtful that foreign investors are the main destabilizing group, as we saw in this paper, that recessions are based on multiple factors, both internal and external. To raise living standards, countries must integrate in the global economy. It can bring, in addition to increasing volume and speed of international capital, the risk of financial crisis. Developing countries which do not benefit from globalization can "zoom out" even more from the other countries' level.

By analyzing the root causes of the financial crisis, it is possible to estimate the costs of resolving that crisis utilizing current policies of bailing out investors who made poor investment decisions. It would seem imperative that the financial managers of the future be better educated in the art of credit analysis.

International financial crisis has increased the cost of capital, availability of funds and lack of confidence in the financial system. The global recession has resulted in lowering the level of global GDP, lower revenues and bankruptcies in the international market.

Crisis in one area can adversely affect operations of other areas of the social life, and in some contexts can produce a succession of crisis, which has very serious consequences on the functioning of human society. Political crisis and economic crisis have the greatest social impact, generating situations that are difficult for citizens, because of their direct consequences on other areas of social activity. However this period should be seen as an opportunity for redefining the economics and public finance reform.

The current crisis has shown the inability of regulatory and supervisory institutions to adapt to market realities.

As a conclusion to the above, we could say that the economy has its own natural laws that guide it and on which interference can only be limited, ensuring a stable legal environment and in which it can manifest.

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## FACTORS INFLUENCING THE BIODIESEL MARKET. THE IMPACT OF THE FINANCIAL AND ECONOMIC CRISIS ON THE BIODIESEL INDUSTRY

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**Abstract:** *The biofuels represent a viable alternate solution to the fossil fuels due to their renewable feature and their contribution to the improvement of the carbon dioxide balance in atmosphere. The development of production of these fuels remains to be done in terms of improving feedstock accessibility, progress in conversion technologies, reduction of capital and production costs and enhancing overall process integration. The work presents the key market and economic factors influencing the development of biofuels industry, particularly biodiesel production. The impact of the 2008 - 2009 economic crises on this industry is also discussed.*

**Key words:** biofuel, biodiesel market, economic crisis

**JEL classification:** Q 21, Q 29

### 1. Introduction

The petroleum resources are limited, various studies predicting the global peak in oil production towards 2035. In the last period, new technologies for energy production based on biomass were developed, using waste or plant matter as raw materials and having the advantage of a lower level of greenhouse gas emissions than fossil fuels.

The liquid or gaseous fuels for the transport sector that are directly or indirectly produced from biomass are currently called biofuels. In this category are comprised the biodiesel, different alcohols (methanol, ethanol, propanols, glycerol derivatives, dimethyl ether etc). The most important in this class is the biodiesel, a variety of biofuel representing, from chemical point of view, the esters of fatty acids with low alcohols, obtained from vegetal oils or animal fats, which represent an excellent option for vehicles that run on diesel or gasoline. It represents one of the forms of renewable source of energy that can easily replace petroleum-based fuels, expecting to reduce dependence on imported petroleum, and greenhouse gas emissions (in comparison with mineral diesel, some estimates put the emissions amount at 50% lower than normal diesel). Biodiesel operates in diesel engines with little or no modification and has close performance to petroleum diesel. Biodiesel could also revitalize the economy by increasing demand and price for agricultural products. It is primarily produced from oilseed crops (rapeseed, soybeans, palm etc.) and represents at present one of the important alternative fuel solutions. In Europe, the biodiesel is produced mainly from rapeseeds or sunflower seeds, and in the United States from soybeans. Biodiesel can be blended with petroleum diesel in various proportions. The most common blend of biodiesel in the United States is 20 percent biodiesel (B20).

### 2. Biofuels market

The biofuels market is still young and relatively small. Similarly with other commercial products it is driven by the balance between demand and supply, likewise on the context in which it develops. The main factors influencing the biofuels production and market are the price of petroleum fuel and accessibility of biomass feedstock. Other drivers for the fuel market are related to whole production chain from raw material to the end-user. Different countries and regions are experiencing specific supply and demand dynamics due to legislation, raw material availability and the complex interactions of primary sources of biomass, conversion routes and applications. With main regard to production of biodiesel, but also for alcohols produced by fermentation, the main problem for industry is the supply of raw material.

In Europe, the main used biofuel is the biodiesel. According to the European Biodiesel Board, EU is the world's largest biodiesel producer. Since 1990, biodiesel production has grown-up rapidly in the EU, attaining approximately 1 million metric tons in 2002 and increased more than ten-fold during 2002-

2009, to more than 9 million metric tons. In 2009 the EU production represented approximately 65 % of the world's one, while installed capacity measured nearly 22 million tons. 50 % of EU biodiesel is produced in Germany and smaller amounts in France and Spain. USA is the second world largest biodiesel producer. In the world, among the five largest producers of biodiesel are Argentina and Brazil.

### **2.1 Economic feasibility**

Several published feasibility studies have evaluated the market potential and economic costs of producing biodiesel from different raw materials. They have shown that the largest cost component for biodiesel production is the primary oil used for processing (80-85%) followed by energy and water. Investment costs average is about 30 \$cents per liter of plant capacity and increase in proportion with plant scale.

The costs of biodiesel production exceed petroleum diesel market prices by 7- 17 \$cents per liter. However, due to policy support to the production and the rapid rise in petroleum prices, biodiesel became more attractive as substitute for petroleum-based fuels.

It is worth to underline also the contribution of EU Commission in this direction, by its call fixing the objectives for biofuels to account for 2% in 2005, 5.75% in 2010 and 10 % by 2020, of overall fuel consumption, so biodiesel production had increased and will increase, given its mature processing and distribution infrastructure. Incorporating biodiesel blends as a commercial fuel will aid in reducing the nation's dependence on imported petroleum and in diminution of air pollution by engine emissions.

### **2.2. Factors influencing the biofuels market**

There are a number of factors that have to be considered when evaluating biofuels: technical (raw material supply, conversion and engine technologies), economic (fuel and engine modification costs, infrastructure) and ecological/ political factors (greenhouse gas emissions, efficient land use, reduced dependency on crude oil).

Biofuels production units are usually complex systems whose performance is mainly determined by three factors: raw material support, conversion technology and energy consumption. All of these components are influenced simultaneously by environmental, economic and societal factors and serve various purposes. Biofuels development is strongly influenced by current global trends such as transition to market economies, globalization, high and volatile fossil fuel prices and the rising concerns about climate change. At present, the development of biodiesel is determined by a combination of economic and policy factors, having sometimes an unexpected influence on global agriculture.

#### ***a. Availability of raw materials for the production of biofuels (quantity, quality, price)***

The biofuels market is strongly dependent on agriculture production and prices of plant crops used as raw materials. For biodiesel industry the main concern is the availability of appropriate feedstocks, as its evolution is mainly influenced by the prices for agricultural products. As already mentioned, the main part of biofuels production cost comes from raw materials. The cost of feedstock can vary significantly by region and fluctuate in time. The cost of cultivating, harvesting and transporting feedstock must be driven down, and scaling up the technology to commercial scale must be economical. Therefore as feedstock prices increase, producing biofuels becomes less profitable. By consequence, the main question that arises is that of sufficient feedstock to meet the scale or demand. On the other hand the biodiesel demand exercise upward pressure on agricultural prices, but is difficult to quantify the exact contribution of expanding biodiesel demand to these price increases. Due to the increased demand of biofuels the agricultural commodity prices have raised sharply, such that the food prices have doubled since 2002. The key factors that could contribute to these evolutions are:

- the strengthening of linkages among different agricultural commodity markets as a result of rapid economic and population growth in many emerging countries;
- the strengthening of linkages among agricultural commodity markets and those of fossil fuels and biofuels, which influence both production costs and demand for agricultural commodities;
- the influence of energy prices on agricultural commodity prices.

It is possible that the agricultural commodity prices to retreat in the next future from their current levels and resume their trend, although prices for oilseeds are likely to remain above the levels that prevailed during the previous decade.

### ***b. The influence of petroleum prices***

Biofuels have a lowering impact on fuel prices as they increase the offer on the fuels market. Nevertheless, as they represent a tiny fraction of total fuel consumption, their prices are strongly influenced by the price of petroleum fuel. As fossil oil price rises it becomes increasingly attractive to produce biofuels. In this situation more feedstocks used for biofuels production turn out to be closer to economically viable status.

When the price of fossil oil drops, this making gasoline more economically friendly, the biofuels industry becomes less competitive. However, at least theoretically, the biofuels industry could limit the growth of petroleum prices, because biofuels are a backstop technology. If petroleum prices increase too rapidly, then the society could substitute biofuels for petroleum. If biofuel prices increase too rapidly, then farmers expand their production of energy crops, decreasing the biofuel's market price. So, trends in biofuel production and prices will depend critically on future developments in the energy market, essentially on crude oil prices.

### ***c. The impact of biofuel policies on international markets and trade***

Most of the countries defined their own policies to encourage biofuels consumption. They are justified by a number of factors including greater energy security, reduction of environmental impacts and the creation of new markets for agricultural products. Many countries use a lot of policy instruments to support the production and consumption of biofuels. These policies have significant implications for international markets, trade and prices for biodiesel and agricultural commodities. Some current biofuel policies could distort biofuel and agricultural markets, influencing the location and development of the global industry, such that production may not occur in the most economically or environmentally suitable locations. Current trends in biofuel production, consumption and trade are strongly influenced by existing policies, especially those implemented in the EU and USA. The increasing of biodiesel production depends heavily on subsidies necessary to achieve competitiveness with petroleum-based diesel in many countries. The governments could support biofuel development by:

- providing an overall strategic vision for biofuel development;
- developing a series of policies related to biofuel development ,
- providing guidance in such areas as possible environmental changes, market identification;
- providing financial assistance to complement the mobilization of local resources;
- protecting against pressures from other economic sectors;
- providing and maintaining basic infrastructure to support biofuel product development and marketing.

### ***d. Technologies for biomass conversion to biofuels***

The transformation of biomass to different biofuels necessitates well developed chemical or biochemical processes. Presently, most of the available technologies are developed only at laboratory or pilot scales, so that technical barriers remain for the next generation biofuel production. This make the production costs uncertain and dependent not only on the cost and availability of feedstock, but also on the process structure (capital requirements) and energy consumption. Another burden is represented by the scale up risk when moving from lab or pilot scale to commercial scale. Demonstration scale testing on suitable pilot plants are thus essential for providing accurate data necessary for design and construction of commercial units.

On the other side, new advancements are expected in the existent commercial technologies in order to become more competitive by increased yields and lower energy consumption. One of these is concerning the production of biodiesel. Presently, several technologies are used in this aim, depending upon the raw materials used and the costs involved. The most used is based on transesterification of greases in presence of base catalysts. The main challenges concern the reduction of energy consumption and discover of new catalysts reducing the effluents amount and their contaminants concentrations.

Due to the mentioned economical factors, some of the existing technologies will probably not become fully commercially viable, in the coming period, without significant government support.

### ***e. Market forces***

Market forces that cause the development of biofuels industry are:

- the competition with the agricultural markets for feedstocks;
- to compete with the petroleum industry to supply consumers with fuel, and
- to develop new markets for the byproducts (such as glycerol).

In the market economy, producers are allocating their resources to the production of their most profitable commodity alternatives, whereas consumers are purchasing different commodities given their needs and income. In this way the market mechanism determines the biofuel industry size, as a function of other markets, petroleum fuel price, biofuel costs and government biofuel subsidies.

### **3. The impact of economic crisis on biofuels industry**

The global economic crisis has an obvious influence on the evolution of biofuel industry. As result of the global economic recession, in 2008 the real GDP of advanced economies declined by 7.5 % and global stock markets fell by 50 percent since 2007. During the same period, biofuel related commodity prices fell and global fuel demand decreased. Due to economic pressures, in 2007, many countries suspended biofuels production. Also, the global financial crisis stopped many technological projects oriented to provide advanced production of biofuels. Despite a period of global economic recession and a decrease in world fuel demand, the renewable energy sources are returning in attention soon. Some developed countries, like Germany and the U.S.A., continued in this period to invest in technology development and job creation. A key factor contributing to the development of this industry, despite the crisis conditions, was the feedstock pricing manipulation by certain large investment groups that invested in upstream vegetable oils and downstream biodiesel production facilities. The main driver for many of these commercial market entrants was higher vegetable oil prices.

Among the factors that have influenced the biodiesel market in crisis period were:

- closer linkages with financial markets and the depreciation of the US dollar against many currencies;
- variation of raw materials price;
- fluctuation of petroleum prices.

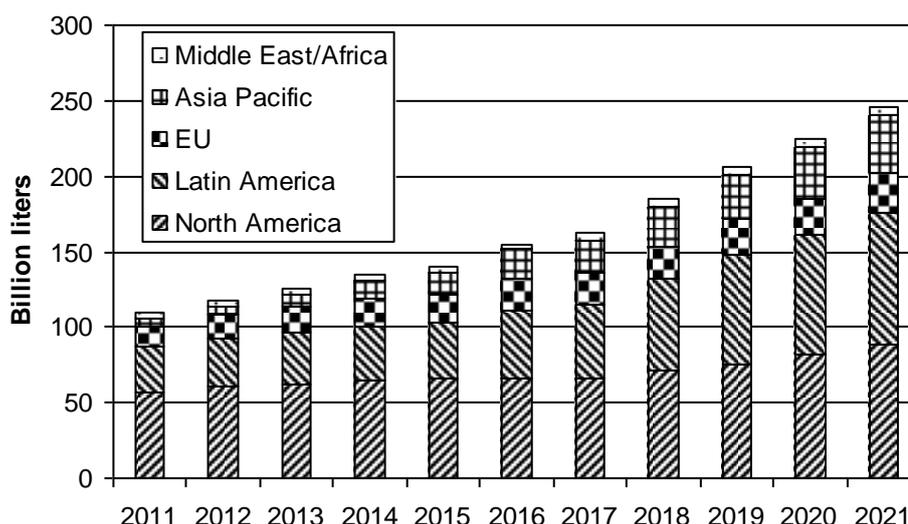
The biofuel industry is particularly susceptible to the fall on oil prices because the high cost of biofuel production and limits of the amount of fuel that can be absorbed by gasoline and diesel blending pools. In many cases biofuel prices are too low to cover the rising cost of the feed stock and operating plant, this generating a lack of funds for investment. Consequently, in the crisis period biofuel investment has fallen seriously. Another factor that decreased the investment in biofuel industry was the higher cost of credit and restricted access to new finance. In the time of crisis lower investment and lower utilization rates of existing plants had reduced biofuel supply. In this case a lot of biodiesel producers have been in sever financial difficulty. The slowdown in investment inevitably led to a decline of biodiesel production capacity. So, many independent biodiesel producers without access to large amounts of working capital hardly have survived in these conditions.

### **4. Prediction of the future development of biofuel industry**

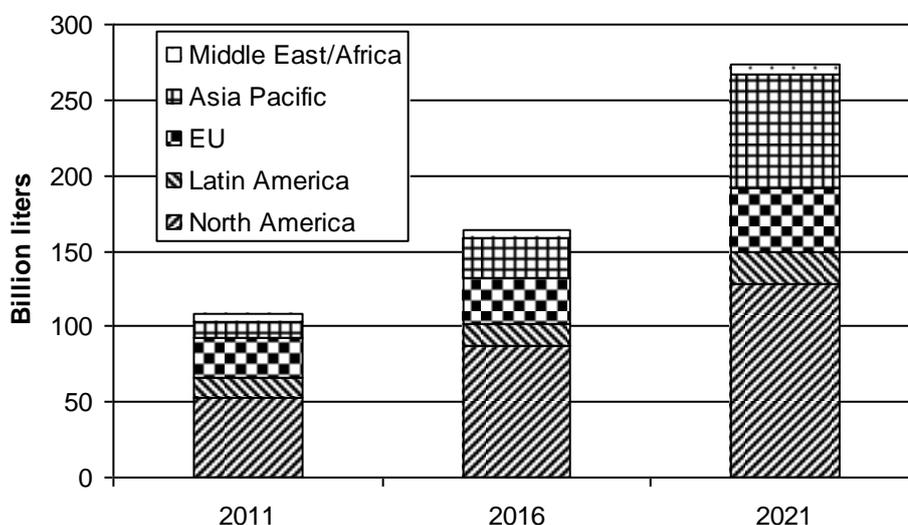
Many analysts provide biofuels production trend scenarios and forecast statistics for the next period, detailing its drivers and challenges and making elaborate analysis of the biofuels economics, while exploring growth opportunities and trends of their market.

The market potential for biofuels is directly related to the size of the existing fossil fuel market. Presently, there is no major technical limitation on replacing fossil fuels with biofuel. There is, however, a limitation on feedstock availability—namely, the biomass, the vegetable oils and animal fats—and consequently on the availability of farmland and forests. The main progress is foreseen for biodiesel production. World consumption of this biofuel is expected to grow at an average annual rate of over 5% during 2011–2016. It is predicted that the global biofuels market will double over the next decade, from \$82.7 billion in 2011 to \$185.3 billion in 2021, mainly by increased feedstock availability and advanced technologies. The key markets which will drive the industry growth are the USA, Brazil, and EU, the three largest markets that represented 85 percent of global production in 2010 (North America led the world in biofuel production with 48 % of the global market, while the EU accounted for 49% of global biodiesel production). Predicted world biodiesel production for the period 2011- 2021 is presented in Fig. 1 and the world demand is given in Fig. 2 (Pike Research report, 2011).

**Figure 1: Predicted biofuels production by world regions, 2011-2021**  
(adapted from Pike Research report, 2011).



**Figure 2: Predicted biofuels demand by world regions, 2011-2021**  
(adapted from Pike Research report, 2011).



Brazil, the EU and the USA are expected to remain the largest producers of biofuels. Also the production may expand in a number of developing countries. Global biodiesel production will grow at slightly higher rates to about 240 millions metric tons by 2017. However, the biodiesel prices are expected to remain well above the production costs of fossil diesel, in the range of US\$1.04–1.06 per liter. Despite this, the combination of tax reductions and blending obligations will help to stimulate domestic use and production of biofuels.

## 5. Conclusion

In present days, when many countries are dependent on fossil energy imports, domestically produced biofuels is expected to contribute to more energy independence. Despite the increase in production, experience in several countries shows that the use of biodiesel is not yet competitive with petroleum products and dependent of public policies. The evolution of biofuels production is characterized by a high degree of uncertainty, mainly because of fossil fuel prices oscillations, biofuel policies and technology developments. Despite of these, biofuels production is expected to increase continuously, but the share of this type of combustible in overall transport fuel supply will remain limited.

Currently, biofuels provide approximately 2% of the world's transportation fuel and is expected to reach 7% in 2020, according the recent report published by EIA. The key factors for introduction of biofuels vary across the world and include a broad range of issues from land-use to energy security, economics and environment. The choice of feedstock, chemicals and technology for production of biofuels are based on such variables as local availability, cost, government support and quality of the resultant fuel. New technologies helping the producers to use the energy more efficiently are under development, providing increased conversion yields and producing high-quality biofuels. Nevertheless, the biggest challenge will remain the feedstock supply facing the growing demand of fuels.

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## ON THE COMPETITIVENESS ISSUE IN THE GLOBALIZATION CONTEXT

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**Abstract:** *This paper rests on the fundamental assumption that, not only manufacturing matters but performance in manufacturing is critical for nations' economic development and welfare increase. Globalization has made these aspects conspicuous. As it was to be expected, advances in competitiveness have gradually reshaped emerging countries' exports structure, the most important mutation residing in the abandoning of labor-intensive industries and the expansion of knowledge-intensive sectors. European integration has acted as a steady catalyst in this process.*

**Key words:** competitiveness, productivity, growth, technology, manufacturing

**JEL classification:** F 29

### 1. Does manufacturing matter?

How much does industrial development matter for a nation? Some e.g. Francis (1992) consider the performance of a nation's industry as a matter of political importance (as nations conduct their affairs on the international stage) and equally "a matter of national pride and morale". It is therefore no surprise, contends the cited author, that "the question of a nation's economic performance and competitiveness attracts such wide attention". The opposite view is also in vogue: it is possible, some contend, to have a healthy national economy without a manufacturing base. The idea is nevertheless disagreed with by others, who contend that "western companies that have chosen to farm out the production of home-developed innovations to emerging economies have created a skills and knowledge gap in their organization. Over time, this can leave them commercially vulnerable." (China's Prime Minister Wen Jiabao's statement at the opening of the Poland - Central Europe - China Economic Forum in Warsaw, Poland, on April 26, 2012).

### 2. On the binomial productivity-competitiveness

If comparative advantage is related to nations' long-term international specialization, international competitiveness reflects their ability to obtain the maximum economic potentials from international trade. The importance of the competitiveness concept in the contemporary theory of international trade has therefore constantly been stressed by scholars: "...where international trade may be an "engine" that drives economic growth of nations, international competitiveness represents the "fuel" that empowers that engine". (Ezeala-Harrison, 1999)

The competitiveness concept can hardly be explained failing an insight into its relation with productivity. Therefore the binomial productivity-competitiveness has been attached high interest by scholars in the course of time. Discussions on this issue usually start from two basic assumptions: (1) both variables play an important role in any nation's economy; (2) they produce different effects and therefore, must not be mixed up. "Productivity is the measure of the average level of output per unit of resource employed and refers to the internal capability of an organization (a firm, industry, or nation). Competitiveness is the relative standing of the organization against its competitors and trading partners." (Ezeala-Harrison, 1999)

The two notions are sometimes treated similarly, as being almost synonymous. This somewhat simplistic vision was very popular in ex-communist countries of Central and Eastern Europe; communist regimes believed that the mere increase in productivity would make the respective economies competitive. Economists nevertheless argued that the two concepts must not be mixed up for they fulfill different functions in the development equation. Mills (1990) for example, contends that increases in productivity do not automatically lead to higher competitiveness, which depends on the price customers are willing to pay for the output. Mills' conclusion: an economy' external competitiveness depends not only on its capacity to produce goods and services but equally on its ability to sell them abroad. From this standpoint, Mills contends, even though productivity is low and production encounters great difficulties,

“if the price is right output will sell”. On the other hand, no matter how good the products’ quality is, if the price is too high output will not sell and foreign markets will be lost.

The idea described above was resumed by other scholars. Hirst and Thomson (2002) for example argue that: “one country’s ability to trade internationally depends on its relative costs structure, productivity and foreign exchange... Thus a primary competitiveness indicator is the relative labor cost in manufacturing”. According to the cited authors, this type of approach, based on the current account balance, has a few limits: first, it establishes a linear relationship between productivity and competitiveness; second, it associates competitiveness to the decline in the unit labor cost. On this plan, Hirst and Thomson argue, the difference between the outlooks prevailing in Eastern Europe as well as in many other emerging economies on one side, and western countries on the other side, is more than evident. As Hirst and Thomson argue, Nicholas Kaldor was among the first to notice the discrepancy in the 1970s, followed by Michael Porter in the 1990s: they explained it by pointing to the paradox created by Germany and Japan, which behaved contrarily to the tradition theory prediction that the decline in the unit labor cost is the chief factor in the competitiveness equation. On the same line of reasoning, Ramaswamy and Gereffi (2000) emphasize that: “if in the early 1980s the levels of unit labor cost in Germany and in the US were equal (about 7-8 USD/man-hour), in 1993, the German industry’s level was 17 USD/man-hour, double the one prevailing in the US”. Although their competitiveness eroded in the 8<sup>th</sup> and 9<sup>th</sup> decades on the 20<sup>th</sup> C, Germany and Japan recorded high current account surpluses whereas countries like the US and the UK, whose competitiveness had improved a great deal, saw their current account balance deteriorate. As Ezeala-Harrison (1999) argues, “...a country would be losing international competitiveness if it suffers from such factors as:

- poor research and development (R&D) record;
- a growing trade deficit in high-tech products;
- an ill-trained labor force, and declining productivity.

This would indicate an overall weakness in its ability to effectively compete with its trading partners.”

The complexity of the relation between productivity and competitiveness was highlighted in other writings as well. Choudhri and Schembri (2002) for instance, using panel data for twenty-five years and forty industries of Canada and the United States conclude that “there is a robust positive link between productivity performance and international competitiveness - the Canadian-U.S. productivity ratio exerts a positive effect on relative shares of Canadian firms in both Canadian and U.S. markets”. They also suggest that “competitiveness...would also be influenced by a composite-factor-price index that represents the effect of the interaction between factor-price differences and factor intensities”.

### 3. Firms’ vs. nations’ competitiveness

If the relation between productivity and competitiveness is by no means linear, the one between firms’ and nations’ competitiveness is no less complex. Two main views predominate over the mainstream literature in this respect: the first and probably the most well-known is the nations’ competitive advantage theory, advocated by influential scholar Michael Porter (1990). Porter introduces a new paradigm, explaining “the role played by a nation’s economic environment, institutions, and policies in the competitive success of its firms in particular industries”. In this attempt, the author “seeks to isolate the competitive advantage of a nation, that is, the national attributes that foster competitive advantage in an industry”. International success in a particular industry, Porter further argues, “lies in four broad attributes of a nation that shape the environment in which local firms compete that promote or impede the creation of competitive advantage”. According to the author, these attributes are: factor conditions; demand conditions; related and supporting industries; firm strategy, structure and rivalry.” The second view, also espoused by a number of scholars, attributes nation’s economic performance to the behavior of the individual firm, which depends upon institutional arrangements that prevail in the respective countries. Francis (1992) for example, notes that “there are identifiable processes within firms that generate competitiveness within that firm...These processes take place within specific institutional arrangements within firms, and these institutions are generic to a particular nation”.

The second view, which obviously bears the imprint of institutionalism, thus implies that it is neither demand and factor conditions within the nation, nor firm/industry structures which are of primary importance in explaining differences in competitiveness, but the institutional arrangements within firms, which are shared by most of the firms within that nation; such social factors play an important role in explaining economic performance. They can also help explain why institutional changes are more difficult to implement than technical changes. (Matthews, 1986) Williamson (2000) observes that “as

compared with technological innovation, the study of organizational innovation has been comparatively neglected". Francis further argues: "We are likely to find that technologies get transferred rather easily across organizational and national boundaries so that firms and nations are not so very differentiated technologically. However, institutional arrangements have much more inertia and so social innovations in institutions do not get transferred so easily, thus differentiating firms and nations."

Globalization has made the above aspects conspicuous. China's scramble to get on a par with the West in terms of technological excellence, is an illustrative case in point. Beckley (2011) emphasizes two opposite views that predominate in contemporary debate on this issue: according to the first, the United States is in decline relative to China due to "the diffusion of technology from developed to developing countries—and the hegemonic burdens the United States bears to sustain globalization". The other view considers that globalization has made America stronger: "the United States, Beckley argues, derives competitive advantages from its preponderant position, and globalization allows it to exploit these advantages, attracting economic activity and manipulating the international system to its benefit...China has narrowed the gap in terms of GDP and now exports a greater volume of high-technology products and employs more scientists than any country in the world. However, GDP correlates poorly with national power; more than 90 percent of China's high-tech exports are produced by foreign firms and consist of low-tech components; and China's quantitative advantage in scientists has not yet translated into qualitative advantages in innovation."

China is the most intensely debated case at this moment but institutional organization is a problem all emerging countries are facing. Actually, as emphasized by the Spence report (2008), it is institutions that make mature markets work by defining property rights, enforcing contracts, conveying information, and bridging informational gaps between buyers and sellers. "These institutions and capabilities, the report goes, may not be fully formed in a developing economy. Indeed, the immaturity of these institutions is synonymous with underdevelopment. That makes it harder to predict how an economy will respond to, say, the removal of a tariff or the sale of a public asset."

#### 4. A new strategy of industrial competitiveness for the EU. The Lisbon commitment

As emphasized in the doctoral research paper, in the 1990s, the EU institutions became increasingly concerned about the Union's continuously losing ground in the competitiveness battle, relative to its main rivals from the Triad, The US and Japan. A new strategy in the field, requiring a radical transformation of the European economy, was therefore considered imperative. Starting from these premises, the European Council held a special meeting on 23-24 March 2000 in Lisbon to agree a new strategic goal for the Union in order to strengthen employment, economic reform and social cohesion as part of a knowledge-based economy. (European Parliament, 2000) The Council set a new **strategic goal** for the Union: to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion.

The competitiveness and dynamism of businesses are directly dependent on:

- a regulatory climate conducive to investment, innovation, and entrepreneurship;
- lowering the costs of doing business;
- removing unnecessary red tape.

According to certain estimations by the European Commission (2006), if Europe would really reach the goals they set, Europe's GDP could increase by 12 to 23percent and employment by about 11percent. For more than a decade economic and employment growth would be at least 0.8percent higher than without these goals. From among the **objectives** of the Lisbon strategy, five are paramount: employment, human capital, research and development (R&D), the internal market for services and the administrative burden.

- *Employment*: a very important goal in the "jobs and growth" strategy is the "employment 70 percent" target, which requires that 70 percent of the population between 15 and 64 aged should have at least a part-time job by 2010.
- *Human capital*:
  - a) An EU average rate of no more than 10percent early school leavers should be achieved by 2010.
  - b) At least 85percent of 22 year olds in the European Union should have completed upper secondary education or higher.
  - c) The percentage of low-achieving 15 year olds in reading literacy in the European Union should have decreased by at least 20 percent compared to the year 2000.

- d) The European Union average level of participation in Lifelong Learning should be at least 12.5 percent of the adult working age population (25-64 age groups).
- e) The total number of graduates in mathematics, science and technology (MS&T) in the European Union should increase by at least 15 percent by 2010 while at the same time the level of gender imbalance should decrease.
- *Internal market for services*: the internal market in services is not working properly, much worse than the market for goods. Service providers often experience obstacles if:
  - they want to export their services to other EU member states, or
  - they want to start a subsidiary company in other EU member states.
 The EC has proposed a directive to reduce the impediments for trade in commercial services. A key element of this directive is the ‘country of origin’ principle. A service provider who complied with the national regulation of the country of origin should no longer be hampered by regulation in the destination country.
- *Administrative burden*: Firms often complain about the time and costs involved dealing with administrative activities. These costs largely consist of wages for workers that firms need to hire:
  - to comply with government regulations and
  - to provide the government with information.
 Fewer workers are needed, while production is not affected directly; the administrative process can be made more efficient.
- *Research and development (R&D)*: R&D is a key factor for technological change, and consequently economic growth. New technologies can boost productivity and raise incomes. Amounting to 2 percent of GDP in 2003, public and private R&D expenditures are lagging behind in Europe compared to the United States (2.8 percent) and the rest of the OECD (3.1 percent). The European Council agreed to raise these expenditures to 3% of GDP in 2010.

According to a paper by the European Commission (2011 b), European industry is of critical importance for the EU as a global economic leader. A competitive industry:

- can lower costs and prices,
- can create new products and improve quality, contributing thus decisively to wealth creation and productivity growth throughout the economy;
- is the key source of the innovations required to meet the societal challenges facing the EU.

As part of the *Europe 2020 strategy*, the Commission launched in 2010 an ambitious new industrial policy that highlighted the actions needed to strengthen the attractiveness of Europe as a place for investment and production, including the commitment to monitor Member States’ competitiveness policies. It also outlined a renewed trade policy. To boost competitiveness it is necessary to:

- move towards innovative, knowledge-based sectors;
- improve product market regulation;
- support innovation;
- invest in education;
- train throughout the lifecycle.

## 5. EU’s competitiveness in the global context

In the global competition, the European Union manifests a number of delays and handicaps relative to its chief rivals although Brussels has shown strong political will in dealing with the said deficiencies. The scoreboard issued by the European Commission in 2004 makes an assessment of EU enterprises’ policy in the field of competitiveness, on the basis of 9 indicators that measure performances at enterprise level across member-countries. The data point to a categorical superiority of the United States and Asian countries in most analyzed aspects, as for example:

1. *Equity financing* has become increasingly important for competitive economies because it allows for investments in intangible assets, in particular R&D, which cannot be used as collateral. In many European countries equity financing (in particular for SME) is at a lower stage; enterprises traditionally rely mainly on bank loans for financing. If measured by market capitalization as percentage of GDP, only three member-countries (UK, Finland and Luxembourg) show levels that are comparable to United States’ (upward of 150 percent of GDP).
2. *Venture capital* (including business angels) refers to “equity investment made for the launch, early development or expansion of a business. It is key to the financing of high growth companies that may

not be able to finance their expansion through loans because of their high risk, limited cash flow and lack of collateral.” (European Commission, 2004) As compared to the US, EU investments in venture capital started falling in 2003. The largest European markets for venture capital are the UK, Sweden and the Netherlands for the raising of funds and UK, France, Germany and Italy for implementation (investments carried out). If measured as percentage of GDP, the EU average was 0.2 percent in 2003, 4.5 times lower than in the US.

3. *Propensity to entrepreneurship* is also lower than in the US. In 2004, only 45 percent of the EU population considered self-employment (laboring in the own firm) as an occupational option as compared to more than 60 percent in the US.
4. *R&D expenditure* accounts for less than 2 percent of GDP in the EU relative to 3 percent in Japan and 2.7 percent in the US.
5. *Administrative burden* on SMEs is significant and they fall disproportionately upon smaller enterprises. In particular, micro-enterprises with less than 10 employees (which account for 93 percent of European enterprises and 34 percent of private employment) often do not have sufficient resources and competencies to handle excessive administrative requirements. Therefore, many member countries have adopted ambitious strategies to fight excessive administrative burdens.
6. *E-Government* refers to the application of information and communication technologies in government services. This can affect “both the efficiency (lower costs and administrative burdens) and the quality of public services and may eventually transform the interface between the business and the government sector and give rise to new service”. (European Commission, 2004)
7. *Taxation*. The decrease in corporate tax rates has been a global trend in recent years. Nearly all countries have lowered their corporate tax rate during the period 1995 to 2004. The rate cuts were particularly high in Ireland (27 percentage points), Poland (21 percentage points), the Slovak Republic (21 percentage points) and Germany (18.5 percentage points). In 2004 the average statutory corporate tax rate of the new Member States was 21.5 percent, considerably lower than the average in the EU-15 (31.4 percent).

## 6. EU in the world production of and trade in knowledge and technology-intensive goods

Services industries have grown in importance over the last decades both in terms of output and employment. Within services, knowledge intensive business services (KIBS) play an important role and have been the main source of job creation in Europe in the last decade and also contributed substantially to value added growth as pointed out in the literature. The share of knowledge-intensive services and products in the total demand and production of both advanced and also less advanced or emerging economies has steadily increased over time. The role of knowledge-intensive business services (KIBS) is undeniable.

The service output of manufacturing firms is termed ‘convergence process’. Knowledge-intensive service firms are increasingly developing new services as a part of a product package that includes physical, tangible goods. Firms developing new products also offer additional services as part of a package including both the physical product and the services. For example, high-tech products are often sold in combination with maintenance services.

From among the knowledge intensive business services, the most widespread are (NACE<sup>1</sup> code in parenthesis):

- computer and related activities (72);
- research and development (73) and
- other business activities (74).

KIBS are important intermediate inputs for the total economy. According to the last European Commission’ annual report (2011), in 2005, they accounted for almost 15 percent of total intermediate consumption in the old EU Member States (EU-15). In Japan, this share was about 12 percent, while in the US it reached 14 percent in that year. (European Commission, 2011a)

The share of extra-EU exports in total exports of KIBS is increasing (80–90 percent of trade in KIBS), while in total services exports, the extra-EU share has been steadily decreasing; it was less than 50 percent in 2007. (European Commission, 2011a)

The EU-15 is the major player on the KIBS market — its share in global KIBS exports is around 50 percent. The US has the second biggest share in KIBS exports (15 percent), while India is in third place with a 6 percent share. (European Commission, 2011a)

The EU-15 is also the biggest player in the market for technology-intensive goods. However, its share is much smaller than for KIBS — 35 percent in 2007. The second biggest exporter in this market is China, with a share of 12 percent in 2007. The US is the third biggest exporter with an 11 percent share. The EU-12, though having a small share in the market for technology-intensive goods, has been increasing it quite fast — from 1 percent in 1996 to 3.6 percent in 2007. The EU-12 and China have approximately equal volumes of exports and imports of KIBS. (European Commission, 2011a)

The value of KIBS trade is relatively low compared to technology-intensive merchandise trade in all the regions. In 2007, the share of KIBS in global exports of technology-intensive goods plus KIBS was only 14 percent — which is about 7 percentage points lower than the share of total services trade in cross-border trade. However, it is important to recognize that KIBS activities represent a large share of the total cost of production in manufacturing. The KIBS intensity of both EU-15 and EU-12 exports has risen substantially on a value added basis, once it is recognized that KIBS are inputs into manufacturing and are not only exported directly, but also indirectly through goods. (European Commission, 2011a)

## 7. Conclusions

The productivity-competitiveness relationship must not be judged simplistically. Growth in productivity is an essential premise for economic growth but is no guarantee for competitiveness. Many countries in the world had significant growths in productivity and yet what they accomplished in the end was an increase in unemployment and inefficient use of resources. A comparison between the US and the former Soviet Union, or more generally, between the OECD and the former COMECON groups of countries, is illustrative from this point of view. The Soviet economy grew at spectacularly high rates (comparable only with Japan's) during the 1950s, 1960s and 1970s; still, these growths failed to translate into growths in international competitiveness. The gap became apparent after 1990: the rough confrontation with foreign competition made the value of the ruble fall hundred fold relative to the dollar. The difference between the outlooks prevailing in Eastern Europe as well as in many other emerging economies on one side, and western countries on the other side, is more than evident and has been highlighted by many a writing.

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## THE CHINESE CAPITAL – A REVIGORATING ELEMENT FOR THE EUROPEAN ECONOMIES

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**Abstract:** *The global financial crisis started in July 2007 and was triggered by the moment when the American investors lost confidence in the securitized mortgage, which led to a liquidity problem and subsequently determined a substantial capital injection in the financial markets by the American Federal Reserve, Bank of England and by the European Central Bank. This rapidly spread beyond the American geographical borders due to the process of globalisation. There are, on one hand, voices that search explanations for the past mistakes that contributed to the failure and to the crisis and also solutions for overcoming this situation. On the other hand, there are opinions that put forward the idea that the crisis was generated by the most important players on the market, with the purpose of reshaping the markets and the influence zones.*

**Key words:** Chinese capital, European market, monetary stability, competitiveness

**JEL classification:** E21, E22, E23, E32, F15, F16, F17, F21, F22, F23

### 1. Introduction

The European Union has found itself at the beginning of the second wave of the financial crisis, in a period characterised by uncertainties that shape new treatment rules, differentiated from those previously applied, which the monetary policy should be based on in the influence of the euro-zone.

At the beginning of 2012 many feared of the effects regarding the inflow in the autumn of 2011 by the European Central Bank of a significant amount of money – 1000 billion EURO in the financial system, in order to try to avoid a crediting crisis.

During the same period, the end of 2011 and the beginning of 2012, ECB has modified its strategy of monetary policy, in the sense that if, up to the present moment the rules for monetary control and the efforts to keep inflation at a steady rate were the main principles of stabilizing the euro. As a result, the ECB understood the importance of liquidities and, more than that, applied a correction in the system of cutting the interest of monetary policy.

Many have stated opinions that there is a significant risk for the euro-zone to be trapped in liquidities. But this aspect might be contested and even overcome only through clear interventions and monetary policy decisions meant to consolidate the public image of the European Central Bank.

It is commonly accepted that the oscillating evolution of the sovereign debt crisis hasn't had a downward trend, because powerful economies of the euro-zone are in an extended recession. The ECB has to deal with the necessity of a new infusion of capital. This should not be derived from direct loans, which are harder and harder to be guaranteed and much harder to be recovered, but from attracted sources of economies or other categories of economic segments interested in direct investments.

Despite the ECB's infusion of significant capital, as we have shown above, at the end of 2011, the European financial market persists in undergoing a severe lack of liquidities, which is also to be found at the central level of the member states of the Union.

### 2. The Sovereign debts - a compromise to attract Chinese capital

The most damaging result for the European Union is the negative surplus of the public debt criterion conventionally stated in accordance with the Maastricht Treaty at 60% of the GDP.

This barrier of 60% of the GDP has been crossed by the most important UE leaders, so that in 2010 the situation was the following:

COUNTRY	PERCENTAGE OF GDP	NOMINAL VALUE
Italy	115,8%	1795 bn. EURO
Greece	115,1%	300 bn. EURO
Belgium	96,7%	326,6 bn. EURO
France	77,6%	1489,025 bn EURO
Germany	73,2%	1700 bn. EURO
Great Britain	68,1%	950,3 bn. LIRE
Austria	66,5%	184,1 bn. EURO
Ireland	64%	104,6 bn. EURO
The Netherlands	60,9%	347 bn. EURO

Source: Eurostat

Figure 1: Map of public debt in EU



Source: Eurostat

Reaching extreme nominal values of the public debt and dealing with sustainability and credibility issues, more and more European states had to reform the structure of the domestic policies, both from their own initiative and in conformity with assumed obligations towards the leading creditors, among which the International Monetary Fund (IMF) is to be found.

A part of the measures taken at the level of the domestic/internal policies have been successfully implemented in countries such as France and Germany, whose internal economic situation allowed for measures that did not cause social reactions or convulsions. Nevertheless, there were states such as Greece, Italy, Spain and Portugal where these measures not only failed to produce the forecast effects, but also generated intense social tensions. Moreover, the effects of such policies led in some countries to the decline of purchasing power with direct impact on diminishing the budget revenues, both at the level of direct taxes and contributions, and the indirect taxes.

Up until the present moment, in the economic policies adopted at the European level, well-known criteria have been used to approach the crisis, but there has never been a correct evaluation of what the real effects of these approaches might be. However, it is true that, in principle, due to the reaction of the financial market, the effects of the crisis have reduced on short term, but nonetheless there might be a new evolution of the crisis at the European level.

In this context, there is the need to identify long term solutions with positive results in the European economic background. Among the medium-term solutions, it seem utterly important to initiate the implementation of a controlled euro depreciation policy by moderate inflation. We consider that this solution does not have sufficient impact in the reduction of the public debt, but it is intended to create a

balance for stimulating the entire euro-zone and for helping at the same time countries of the euro-zone that do not have outstanding economic performances (Croitoru, 2012).

The consequence of a moderate inflation phenomenon would be characterised by a positive evolution of demands with benefic effects for the increase of work productivity, resulting in an increase in the budget revenue.

Another measure already taken into consideration as part of the larger ensemble of medium-term policies and implemented by numerous states belonging to the EU is represented by the fiscal measures meant to cut down on monetary mass and cash flows in the underground economy with the purpose of reducing the budget deficit.

The long-term measures are realized with the direct goal of consolidating the image of economic stability of the euro-zone and to subsequently stimulate the investments. It is a well known fact that by attracting investments, an economic growth is generated with long-term effects, which at this point seems the only solution capable to provide real economic balance.

Because the European economy is weakened by the impact of the ongoing recession, and the economic agents of the Euro zone could not realise investment with significant results, not even with the help provided by the credit institutions, it is obviously important to identify new investment sources whose involvement could have positive long-term effects over the European economy.

Among the active participants on the European market of state bonds, the Chinese capital could also be included. This capital is mainly invested in bonds in states with a less viable economy or with excessive public debt accumulation higher than the criterion adopted in the Maastricht Treaty, namely: Greece, Italy and Spain. These aspects are publicly admitted by the representatives of the Chinese government in Beijing: Hua Chunying – a counsellor at the European Department of the Ministry of Foreign Affairs of China: “China has bought the sovereign debt of Greece, Italy and Spain.”

The investing potential of China should not be ignored as long as the Public Bank of China (PBOC) announced in the middle of 2011 a currency reserve in amount of 3.197,5 billion dollars, with an annual growth of 30.3%.

The source for the increase of this Chinese currency reserve was the monetary policy of sustainability of the local currency at an artificially lower exchange rate compared to the dollar, resulting in massive purchase of foreign currency that entered the Chinese economy and at the same time massive injections of domestic currency in the financial system. In order to prevent the further acceleration of the inflationist phenomenon, China initiated moderate cuts on obligatory minimum reserves and the effects of such actions led, for the moment, to an increase in the domestic consumption prices. At the beginning of 2012 the prices grew with 4.5% than the previous year.

Due to a sustainable economic growth, the Chinese economy has become the main debate point in the analyses and discussions of economic analysts, which emphasis the strategic importance of the effects generated in relation with the global economy.

It is true that for the European Union the Chinese capital can be traced back to some of the most strategic investments, such as the acquisition of Volvo company, of a packet of 21% of EDP – Energias de Portugal or the renting by the state company COSCO for 35 years of the facilities provided by the largest European passenger harbour of Piraeus. Nevertheless, at the end of 2011, the percentage of the Chinese invested quantum was only 0,2% of the total foreign investments made in the Union.

However, China's intention to invest in acquiring technology and European know-how is targeted at improving the image of the Chinese products and the growth in the competitiveness for such products. An eloquent example would be the acquisition of the Swedish company Volvo by the Chinese, which allow them the access to advanced technologies, accepted, under the brand name, by the European market.

China's interest in the European economy can best be seen in the setting up of a \$10 billion credit line in April 2012 “to support joint projects in infrastructure, new technologies and green energy”.

Taking into consideration all these strategies, it would mean that China's interest have transferred from the American zone to the European one and that the target of the Chinese government are the strategic points of the European economy in decline.

Three years ago, in 2009, the Europeans imposed limits on the investments of the Chinese state, but this policy was not conducive to positive effects in the European economic zone, which, in fact, determined the change of perspective in the economic relationship between EU and China.

For the moment, the capital injection from China seems to be the main source of economic revigoration of the European economy, which is still in recession since the economic policies proposed and implemented have not led to the expected results on the medium-term yet.

For the European economic puzzle, the rise of the external debt through loans from the IMF which was supposed to be the necessary link to reconsolidate the economic sphere, did nothing more than to further accelerate the uncertainty. In fact, there arose the necessity to identify new measures in order to produce long-term effective results.

China's interests in the European zone have grown recently as a result of the United States' intention to relocate the production on the American continent. As a study conducted by the Boston Consulting Group (BCG) shows, the production costs starting with 2015 are thought to be lower in the United States than in China, where the salaries anticipate an average annual growth of 18%.

We consider that there is a low investment interest both from China and from the United States to attract a significant part of the Chinese currency reserve on the American market, since the undertaking would generate a rise in the inflation of the United States and thus a depreciation of the value of the monetary reserve owned by China. At the same time, if the American companies are not relocated to the continent, it would perpetuate the actual situation in which the American liquidities in dollars would have been swept away by the Chinese market.

Not leaving aside the negative effects of placing the Chinese capital in the American economic area, there is also the investment supremacy in Asia and Africa that China owns, as well as the fact that there is in Europe a very well harmonized and stable system, with a unitary economic, monetary and fiscal policy, with a well-developed consumption market that has generated a constant investment interest in this geographical area.

In the present economic environment, in which the situation of the PIIGS group (Portugal, Italy, Ireland, Greece and Spain) has been constantly depreciating with an irreversible tendency, the rapid possibilities of intervention of the European Central Bank do not produce the forecast effects in the real economy of the Union. More than that, when the IMF is in search of supplementary methods for guaranteeing the already realised exposures, there is only one choice left: attracting the direct investments might generate an economic revigoration.

The more the economy has been aggravated continuously, and the recession periods have subsequently intervened on the European Union, the more acute is the necessity to have a massive infusion of foreign capital which led to an increasing interest from European governments to attract Chinese capital, which is both significant and available.

The growth policy in the public debt within the European states by successively contracting loans from the IMF generates an indirect control from the most important contributor to the fund and at the same time from the biggest participant on the European market, namely the United States of America. This might lead to burdening the investment action of Chinese capital in Europe.

### 3. Conclusions

Therefore, the rise of the production costs predicted for the following period in China, the increased protection interests of the existent economic-monetary unions against foreign products, and the well established customs barriers will make impossible the access of the Chinese products on those markets. Only if China became a producer right within the economic and monetary unions will it be able to eliminate the barriers imposed by the customs duties and to sell its products at competitive prices on these markets, considering that in this situation the transport and logistics costs are also avoided which reflect only the total value of the product.

Finally, we will be able to identify two major components of the Chinese interest in the European area:

- The first component would be the possibility to place financial availability in a different currency and thus balancing the depreciation risk of the value of the domestic currency reserves.
- The second component refers to the possibility to unlimited access for the Chinese products on a more secured market stabilized by the Chinese investments.

As a result of these two components and by changing the economic strategy, China has the possibility to accumulate the profits realized in the production activity on the European level, without increasing their own monetary mass and keeping a moderate inflation rate in the country.

So far, the Chinese monetary policy has been focusing on inflow of domestic currency so that to buy the liquidities in dollars available on the internal market, targeting the acquisition of significant

foreign currency reserve that would put China in a dominant position during a financial crisis situation. At the present moment, there is a change in that strategy in the sense that the financial accumulation will be realised from the revenues obtained on the external market as a consequence of using the capital, financed from reserves, with no need to use their own currency.

Throughout its relationship with the European Union, China has observed that the placement in state bonds did not have the planned effects, nor did this boost economy or stabilize the monetary situation. The beneficiary states used these amounts only to cover their current needs and this led to a motivated uncertainty regarding the real possibility of those states to buy back the issued bonds and to pay the associated interest.

In this situation, only through a direct investment with long-term effects can the European currency become stable so that the capital infusions should not depreciate in value and, in addition to this, should prove to be profitable.

#### 4. Acknowledgements

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- e) *Ziarul financiar*, <http://www.zf.ro/>

## FLOW OF REMITTANCES CONTRIBUTION TO ENHANCE FINANCIAL RESILIENCE OF THE DEVELOPING COUNTRIES

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**Abstract:** *In recent years the emerging and developed economies were face a series of crises: food crisis, oil crisis and financial crisis. The capacity of resistance of the economy was put to test. During this time some economies have either resisted or were affected by the consequences of the crisis differently.*

*In the latest financial research on operate with a new term - financial resilience. In this paper we purpose to precise of the concept of financial resilience and presents comparative analysis of resilience of different financial flows.*

**Keywords:** resilience, Inherent resilience, Adaptive resilience, financial stability, financial flow.

**JEL classification:** A 10, A 23, G 01, G 15

Originally the term "resilience" was used in physics and referred to the ability of a metal to return to its original form after being stretched or bent. Subsequently, this concept was extended in the sphere of psychology and has crystallized over the years as a result of the psychologists' interest in the individual's ability to cope with trauma or major changes.

The use of the concept has expanded gradually and in relatively close approaches entered many fields, from engineering sciences to ecology, environmental studies, psychology, sociology, economics, etc. For example in philosophy and logic resilience is interpreted as an indicator of stability.

Resilience is based on the assumption that different states of a system involves different equilibriums. It is considered that if an economic system is resilient, then it should be able to meet new challenges through sudden qualitative changes. In other words, if the economy is resilient, the chance to change from its current state to other states is higher.

In the context of economic and financial systems, resilience can be interpreted as a measure of a system to remain stable.

The concept of resilience can not be analyzed without its causal relationship with the financial stability, which requires some explanations in this regard. Financial stability is a broad concept, which considers various aspects of the financial system - infrastructure, institutions and markets. In the literature and science, there are no still a well established concept of financial stability nor an evaluation model.

In general terms, the financial stability describes the equilibrium state when the financial system fulfills its key economic functions such as its capacity to allocate in an efficient way the economic resources (both from time and space perspectives), to evaluate, measure, allocate and manage the financial risks.

The economist A. Crockett considers that in order to ensure financial stability, it is necessary to respect the following assumptions:

(I) the basic institutions of the financial system should be stable, credible and able to honor their contract obligations without any external assistance,

(II) the basic markets must be stable and their participants should be able to carry out transactions by respecting the confidentiality, at stable prices that don't vary substantially in the short term.

In order to achieve financial sector stability, the scientist, C. Meyer proposes to estimate the three "C": Causes, Consequences, Cure of the financial instability. However, C. Mayer believes that prevention is far easier than treating the consequences of instability, and thus governments and central banks shall act appropriately, firstly in order to prevent financial crises.

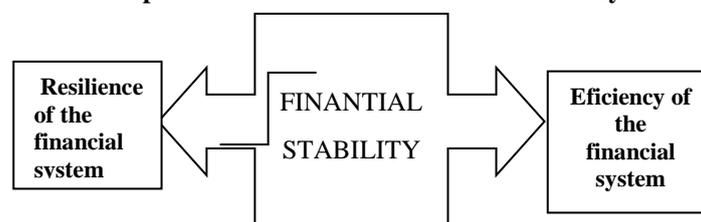
There is still no measure unit for the financial stability; this reflects its complex nature. The measures to enhance financial stability often involve rationalizing the efficient allocation of financial

resources in relation to the ability to exclude or absorb the shocks of the financial system. This implies a risk that is difficult to handle in an objective way.

For example, in the sphere of prudential policies, the higher solvency requirements will reduce the risk of a bank to not be able to absorb an adverse shock, but on the other hand will also involve some capital costs and unrealized investment opportunities. Similarly, foreign exchange restrictions may reduce or exclude certain risks related to the international capital flows, but can also limit the effectiveness of the internal financial market.

The logical presentation of the information above shows that policies aimed to ensure financial stability often relate to a compromise between efficiency and resilience of the financial system (Figure 1).

**Figure 1: Interdependence between resilience and efficiency of the financial system**



Source: elaborated by the authors.

In a broad sense, resilience is the ability to recover quickly from an incident or disaster. In a narrower sense, resilience means adaptation of the mode of existence, through, fundamental or gradual changes.

Prof. Dr. Al Siebert declares in his book "The Resilience advantage" that resilience is more important than ever in today's world. The volatile and chaotic period through which we pass today, will not end soon. Al Siebert claims that the terms resilience and resilient relate to:

- the ability to successfully cope with continuous and major changes;
- the ability to maintain viability and energy under constant pressure;
- the ability to overcome adversity;
- the ability to find a new way to activate and exist, when the old way is not more possible;
- the ability to perform all these, without acting in a destructive or dysfunctional way.

In the context of current achievements, the concept of resilience is even a more relevant goal than that of "sustainability". Therefore, resilience represents an environmental factor (variable-condition) of sustainability.

In the context of development, the capacity to adapt refers to the ability of individuals, communities and systems (socio-economic, institutional and / or cultural) to adapt to external perturbations such as climate change or natural disasters, and other forms of disturbance, such as economic and political fluctuations.

In our opinion, "resilience" defines the system's ability to neutralize the occurring imbalances by consuming the risks, by "absorbing" distortions and changing and then by reorganizing itself under its own self regulation conditions, maintaining, however, the same identity or use, given also the ability to learn from disturbance situations.

The means of self regulation result from the quality of the system components (natural resources, financial resources, human capital) and quality and size of interactive relations which ensure its functionality.

Resilient systems adapt and grow better than others in terms of permanent change. They adapt quickly to new realities, operate well under constant pressure and deal successfully in crisis situations.

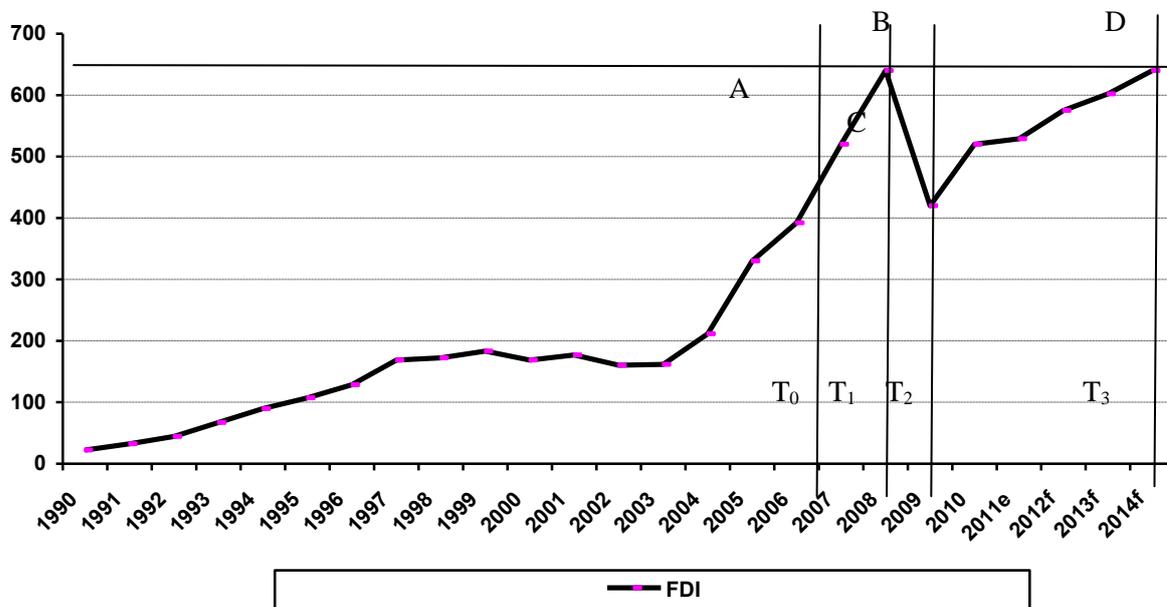
There are two types of resilience:

- Inherent resilience, which is the ability to remain sustainable under normal conditions, as a result of small disturbances, for example, to substitute resources for that reduced by an external shock, or the ability of markets to reallocate resources in the response to price signals etc.;
- Adaptive resilience - the ability to remain sustainable in crisis situations due to ingenuity or extra effort, for example the substitution possibilities or even the increase of business activity by implementing new operations or consolidating the market by providing information to mediate the relations between the suppliers without customers and consumers without suppliers.

In our view, resilience is determined by a variety of qualitative factors, which can be hardly quantified, as a rule, as well as by a number of quantitative indicators.

To facilitate the presentation of quantitative indicators that measure the capacity of resilience of a financial flow, we represent schematically the evolution of FDI flows worldwide in the Figure 2.

**Figure 2: FDI flow to developing countries, bil. USD**



Source: Balance of Payments Yearbook, various years and World Bank staff estimates.

On the base of the figure 2, we'll analyze the capacity of resilience of global FDI flows to the shock caused by the U.S. mortgage crisis, called suppress crisis. The causes of this crisis are foreseen from the end of the last century yet, but it's top was reached in 2007.

If we consider the end of 2007 year the moment of shock propagation (the moment T0 in figure 3) then the resilience of FDI flow can be characterized by the following points:

The reaction time of the shock flow, which is measured by time period between the moment of shock/ disturbance appearance and the moment of time the analyzed indicator (FDI) changes its trend from ascending to descending (period of time from T0 till T1). In that case the response time of FDI flows amounted to about 1.5 years.

Note that the response time in the case of economic and financial variables can record values ranging from several hours up to years.

In the case of a superficial analysis the reaction time can be related to resistance time. Analyzed in terms of resilience, the period of time between T0 and T1 is divided into two distinct time intervals:

- i) the time of shock transmission under the analyzed flow, by various mechanisms of transmission, which is lower as there are more interdependence between the nature of the shock/process and the nature of the flow directly affected by disturbances (if both are considered financial flows) and
- ii) the time of action of the inherent resilience in the analyzed period of time characterized by investors resorted to reallocate resources in response to external crisis.

The exact division of this time interval in two distinct ones discussed above is possible, only if the analysis of the phenomena and processes are performed at the microeconomic level using the observation method.

In case of the FDI flow, it is very difficult to divide the reaction time in these two distinct intervals and to calculate the duration of action resilience inherent.

The period of time between T1 and T2 represents the contraction of the flow.

- The severity of the decline can be characterized by the intensity of the decline, measured by the ratio of the volume of activities from the decline period to the duration of the decline period, respectively the volume of activities between the B and C points activities over the time period between T1 and T2.

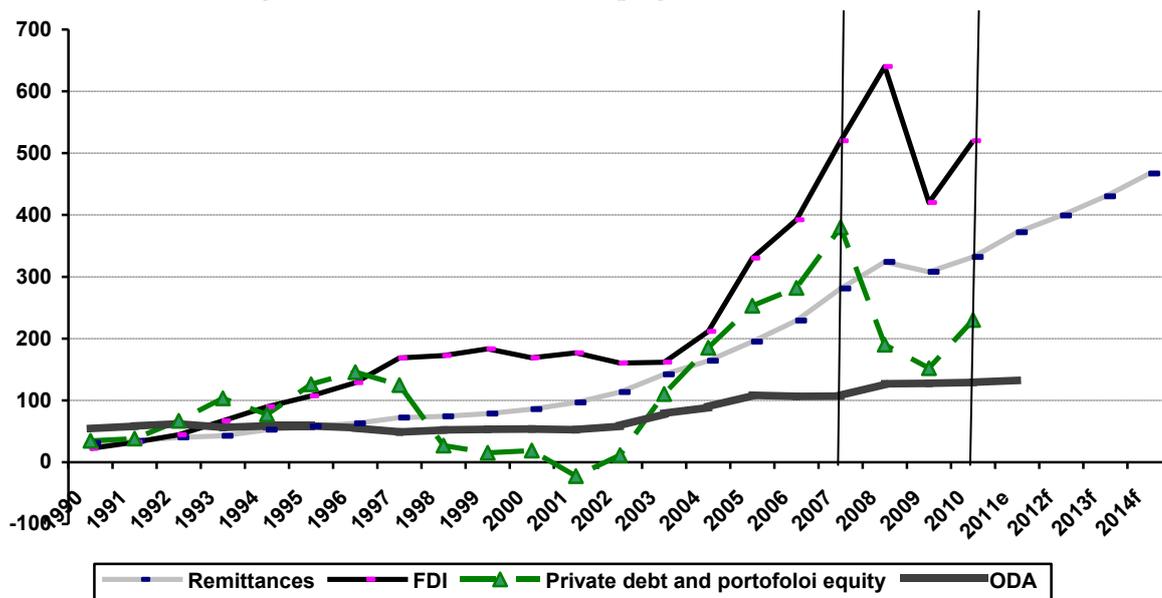
From the perspective of our study, at this moment of time, we can say that the analyzed flow is characterized by inherent resilience in the context of the analyzed perturbation.

- The period of time between T2 and T3 is the time of action of the adaptive resilience, which is recovering from disaster due to ingenuity or some additional efforts.

- The speed of recovery to the state or level held in the moment of shock triggering is measured by the ratio between the volume of recorded activities (traveled distance) to the period of time between the moment of shock / disturbance and time when the analyzed indicator reaches the recorded level at the moment of shock triggering.

To study the impact of the crisis on the financial sector of developing economies, we will focus on four macroeconomic variables of this sector of economic activity: a) foreign direct investment, b) remittances, c) private capital flows, d) external financial assistance for development (Fig. 3)

**Figure 3: Resource flow to developing countries, bil. USD**



Source: IMF, Balance of Payments Yearbook, various years and World Bank staff estimates.

The available statistical data shows that remittance flows to developing countries reached 372 billion dollars in 2011, increasing with 12 percent from 332 billion dollars in 2010 and exceed the flows of official assistance for the development to the developing countries and private capital flows, but in 2009-2010 years the volumes reached values comparable with FDI flows.

From the perspective of our study we can say that the highest degree of resilience during the suppress crisis, that began in 2007 in U.S. proved to have the financial aid flows to developing countries, followed by flows of remittances, and FDI flows and finally by private capital flows.

From a qualitative point of view, the financial assistance flows must be excluded from this analysis as they don't prove any resilience capacity because the financial resources directed as financial assistance were obtained following the additional issuance of currency or through additional distributions of SDRs and not through specific market economy mechanisms.

Applying the proposed indicators in this study, allows us to assert further that the flow of remittances has shown the greatest degree of resilience, especially adaptive resilience, along with the high degree of inherent resilience. Inherent resilience is evidenced by the reduced reaction time period (guessing that in it's most part inherent resilience manifested) and increased speed of recovery, adaptive resilience is demonstrated by the low ratio obtained between the recovery rate and the intensity of decline.

A special interest presents the different behavior patterns of the flows of FDI and private capital in the time of crisis, FDI flows demonstrating the emergence of inherent resilience, the adaptive resilience being mainly the same.

In conclusion we can say that the new analysis indicators proposed in this study, allow to analyze more closely the characteristics of the economic phenomena / processes / elements, and to highlight a number of additional features, such as :

I. effectively from relatively poor migrants that work in rich countries, flows more money into developing countries than the total volume of government aid, private bank loans, financial aid and advice of the IMF and WB

II. These flows show greater inherent resilience and

III. increased adaptive resilience compared to other analyzed flows

IV. the positive impact on social welfare is increased (remittances are financial flows that go directly to millions of households: about 10 percent of the world) and because their efficiency is increased, they are exempt from indirect government costs

V. the costs of obtaining the result (the social welfare) are reduced in terms of government (government are exempted from indirect costs).

Resilience is a critical feature for a system in case of disturbance conditions. A resilient system generates policy options and rebuilt faster than its potential rivals. Therefore, resilient systems have competitive advantage.

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## PROPOSAL FOR INCREASING THE INNOVATION OF ROMANIAN REGIONS

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**Abstract:** *The importance of innovation has been highly discussed and brought into public's attention in the last period as it is considered an efficient way of overcoming crises and increasing economic development. In the present paper we will present the state of the art at the level of European Union regarding innovation and innovative regions and compare it to the situation of Romania. Trying to enhance the great results that innovation brings to regional development, we will make policy recommendations in order to persuade Romanian authorities and entrepreneurs to invest more in innovation.*

**Key words:** innovation, regional development, economic crises, innovative regions

**JEL classification:** F 14, F 15, O 25, O 31

### 1. Introduction

In a global context of economic crisis, all eyes are headed towards innovation as a solution of economic growth. The European Commission specified in a Communication from October 2011 that the economic recovery from the crisis is still an important issue for European authorities. They highlight that the most important drivers of economic growth are competitive enterprises, and, in order to enforce companies, measures must be taken to facilitate the proper environment for stimulating the innovativeness of companies.

In accordance to Europe 2020 strategy, the European Commission aims to assist the Member States “to use their limited resources smartly in order to increase the global competitiveness of their industries” (European Commission a, 2011, p.3). In this context European Union created the Europe 2020 strategy that sets a target of 3% investment of the European Union's member states budget in R&D. Romania translated at national level the target and plans to commit 2% of its GDP for R&D by 2020. We will discuss in the present paper the innovation policy of the European Union and the way in which it has influenced the innovation policy and regions of Romania. As an Eastern country, Romania passed through several approaches regarding innovation as part of the industrial policy: from a centralised economy controlled by a single political party to free market, adjusted in accordance to EU requirements and development paths.

### 2. The concept of innovative regions and state of innovation in the European Union

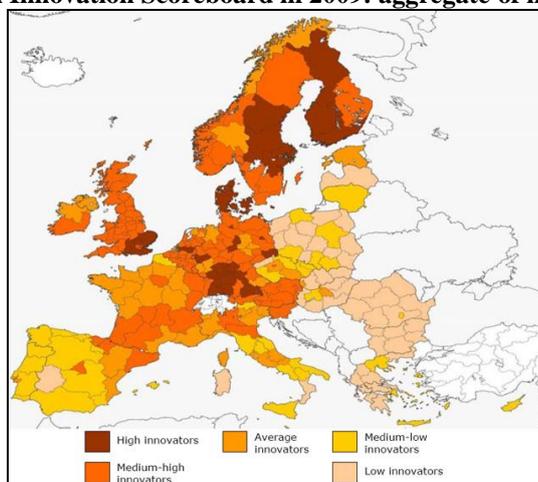
Even if the concept of innovative regions has been discussed before the introduction of Europe 2020 strategy, its importance has increased with the adopting of the aforementioned strategy, a strategy that promotes smart growth. However, in order to create a proper socio-economic framework for innovation development, regional level has been given great importance. As Asheim and Gertler (2004) have stressed, a medium level between national and the local level of clusters and firms, more exactly a regional level, is necessary for a proper governance of the economic processes, having an important role in sustaining institutional backgrounds that can stimulate innovation. Lundvall and Borrás (1999) have elaborated a study regarding the impact of the global economy on innovation policy and stated in their study that *innovation is produced at regional level through regional networks of innovation, local clusters and the cross-fertilising effects of research institutions*. Regional innovation systems bring to light the importance of regional level, focusing on localised learning and intra and interregional knowledge flows. The concept of innovative region has been increasingly associated with the so-called knowledge region, a concept specific to the ‘New Economy’, based on two approaches: the first one is that knowledge emphasizes business competitiveness and the second one considers region as a platform for interaction that encourages accumulation of knowledge (Asheim, B., Cooke, P., Martin, R., 2006; M., Perry, 2010).

However, geographical proximity is considered an enabler of innovation, position given by the tacit character of knowledge spread, learning being understood as a socially interactive process, built on trust between the knowledge holders (Lundvall 1992; Cooke 2002). Spatial networks, territorial

agglomerations, clusters, industrial parks and so on became gradually instruments of interpretation and action for regional and local development (Aghion and Durlauf 2005; Armstrong and Taylor 2000). At present, innovation is considered in the entire world as the best mean for recovering economy and face global challenges. On the basis of this understanding, European Union chose to invest in a society based on knowledge and smart development.

European Commission monitors the level of innovation in regions, and, in order to accomplish this task, it has created the European Innovation Scoreboard (EIS), a tool intended to help monitor the *implementation of the Europe 2020 Innovation Union flagship through making a comparative assessment of the innovation performance of the EU27 Member States and the relative strengths and weaknesses of their research and innovation systems* (according to PRO INNO EUROPE). In 2009 European Commission released a report regarding *Regional Innovation Scoreboard*, based on the European Innovation Scoreboard (EIS) approach and methodology that assessed innovation performances across 201 regions in the EU and Norway. It concluded that innovation is very different across European regions, the most heterogeneous countries being Spain, Italy and the Czech Republic, where innovation performance varies from low to medium-high (See Figure 1). While on average the pattern of innovation is quite stable between year 2004 and 2006, several regions, in particular in Spain and France, have improved their innovation performance (JRC, 2009). Analyzing the innovation of the regions, we could say that the regional innovation follows the same core-periphery pattern as regional development, namely the regions situated in the core of EU are more innovative than the regions situated at the periphery. Also we notice that regions containing the capital city tend to be more innovative, as a result of their higher grade of attractiveness for entrepreneurs and investors.

**Figure 1: Regional Innovation Scoreboard in 2009: aggregate of indicators per region**



Source: European Commission, Joint Research Centre, [on-line],

[http://ec.europa.eu/dgs/jrc/index.cfm?id=1410&obj\\_id=9590&dt\\_code=NWS&lang=en](http://ec.europa.eu/dgs/jrc/index.cfm?id=1410&obj_id=9590&dt_code=NWS&lang=en), accessed on 30.03.2012

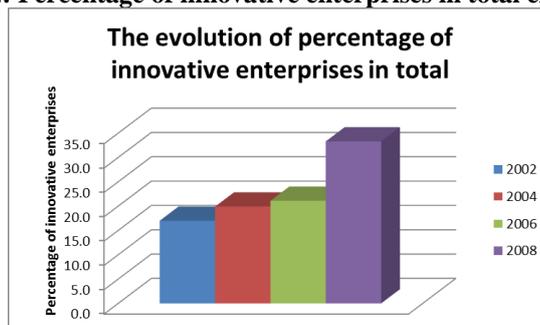
The second edition of the Innovation Union Scoreboard 2011 (IUS), released to public by the European Commission in 2011, divided European countries into 4 categories: innovation leaders (Denmark, Finland, Germany and Sweden), innovation followers (Austria, Belgium, Cyprus, Estonia, France, Ireland, Luxembourg, Netherlands, Slovenia and the UK), moderate innovators (Czech Republic, Greece, Hungary, Italy, Malta, Poland, Portugal, Slovakia and Spain) and modest innovators (Bulgaria, Latvia, Lithuania and Romania). The analyse taken considers 8 dimensions of innovation, which are: human resources, research systems, finance and support, firm investments, linkages and entrepreneurship, intellectual assets, innovators, economic effects. Among the main findings revealed by the report is the fact that Bulgaria, Estonia, Romania, Portugal and Slovenia are the growth leaders with an average annual growth rate well above 5%. The research identified a steady convergence, because the general trend is that less innovative Member States have grown faster than the more innovative Member States. However, this convergence process, that has Bulgaria as EU catching-up leader, followed by Romania and Estonia seems to be slowing down. The identified weaknesses of the moderate and modest innovators are considered an unbalanced research and innovation systems. It is noted that very low shares of SMEs introduce product or process innovations as well as marketing and organisation innovations (IUS, 2011).

### 3. The innovation policy in Romania

Romania has experienced in the last 20 years a process of deindustrialization (like other Eastern European countries) caused primarily by a deep crisis of the system. Representative factories were closed in mono-industrial cities. Hundreds of thousands of jobs were lost in industry. Some national brands in industry have been saved through privatization, others not (GEA, 2010, p.5). After 1990, the image of Romania as a communist highly industrialized country, consisting in the grim suburbs of cities, dominated by vacant land, plants and factories mammoth, gradually begins to change. Even though in Romania industry is seen with scepticism because of the former communist regime, we have to reindustrialize the country in an innovative way if we want to obtain an economic growth based on smart, knowledge-based, long-term development, concepts that are missing in Romania at present (GEA, 2010,p.5).

According to the same report, Innovation Union Scoreboard 2011, *Romania is one of the modest innovators with a below average performance. Relative strengths are in Human resources, Firm investments and Economic effects. Relative weaknesses are in Open, excellent and attractive research systems, Linkages & entrepreneurship, Intellectual assets and Innovators.* Having an average growth of 5%, Romania has serious problems in attractiveness of research systems, aspect revealed by several indicators: negative share of Non-EU doctorate students, firms do not invest in R&D, there are no innovative SMEs collaborating to others, we do not have PCT patents applications and so on. In other words, the interest of firms to invest in innovation is very low and, in the same time our research system lacks a major characteristic: attractiveness. Even though according to data revealed by the National Institute of Statistics (NIS), from 2002 to 2008 the share of innovative enterprises raised constantly in the number of total enterprises (Figure 2), our percentage is still very modest compared to other countries. From 17% share of enterprises that invested in innovation in 2002, at the end of 2008 the share of enterprises that invested in innovation was 33%, which means that over a period of 6 years, the number of enterprises investing in innovation has doubled. If we can kept the same trend we could catch-up in a few years, that the problem is that the convergence process of innovation has lost in speed and intensity.

**Figure 2: Percentage of innovative enterprises in total enterprises**



Source: Author's representation on the basis of the National Institute of Statistics, [on-line], [http://www.insse.ro/cms/files/Web\\_IDD\\_BD\\_ro/index.htm](http://www.insse.ro/cms/files/Web_IDD_BD_ro/index.htm);

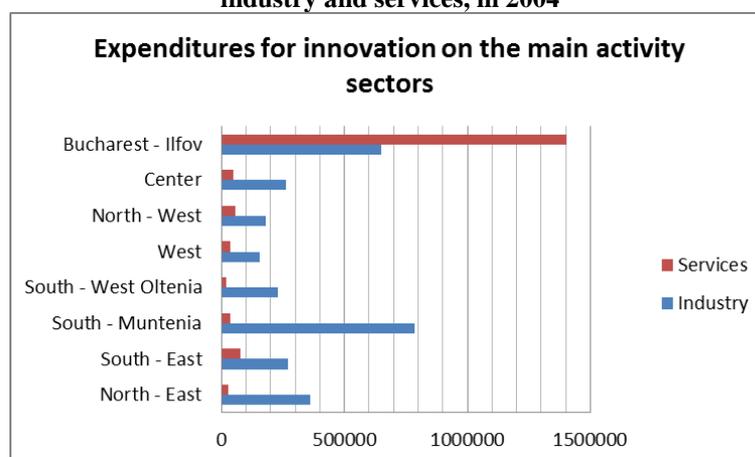
However, as a part of innovation policy of Romania, the Romanian Government, through legislation (Law 490/2002 regarding creation and functioning of industrial parks), has provided several facilities for investors willing to concentrate in certain locations with adequate infrastructure for industrial activity in order to facilitate SMEs collaborating to others and encourage knowledge spill-overs between themselves. In 2010, in the records of the Ministry of Interior and Administrative Reform were registered 63 industrial parks (IPs), totaling an area of over 2000 ha, of which 1200 ha are investments of "greenfield" and the rest of "brownfield" with various objects of economic activity. However, the discrepancies of innovation between regions are still high. In the next part of the paper we will do a presentation of the situation of innovation in Romania.

#### 3.1. Innovative regions in Romania

According to EU norms, *the Romanian development regions* - standard unit with an average size of 13,000 square kilometres and a population of approximately 2.5 million inhabitants, i.e. the intermediate level NUTS 2 – were created in 1998, in order to allow regional development framework for

Romania's accession to the EU. As we understood in the first part of the paper, regions are very important for innovation, because they offer the support for a proper implementation of innovation policy. Using the data available from the NIS, the situation in 2004 regarding regional innovation in Romania was very diverse. Analysing *Figure 3*, we notice that the most innovative region is Bucharest – Ilfov, the region containing the capital city of Romania. We can also identify a tendency of entrepreneurs to locate in the economic, social and politic centre of the country. This is the reason why the most developed and innovative region of Romania is Bucharest-Ilfov. The second region regarding the level of innovation is South – Muntenia, a region situated near Bucharest-Ilfov region, which means that innovation has had a spill-over effect from centre to periphery. We also notice a surprising element: North-East region, which has long been the poorest region of EU, and is until now the poorest region in Romania was the third region in 2004 regarding expenditures on innovation. If we notice the structure of expenditures, we will notice that with respect to services, after Bucharest-Ilfov, which has well surpassed all other regions, the next one spending for innovation in services is South-East, followed by regions in centre and West of the country. Those regions are more developed in terms of services. With respect to industry, the region investing most in innovation is South-Muntenia, followed by Bucharest-Ilfov, North-East and other regions in the South of the country. As a partial conclusion, we notice that regions in the South and East of the country tend to spend more money to obtain an innovative industry, while regions in the North and West of the country tend to invest more in innovative services.

**Figure 3: Expenditure for innovation of the businesses in the main sectors of economy, industry and services, in 2004**

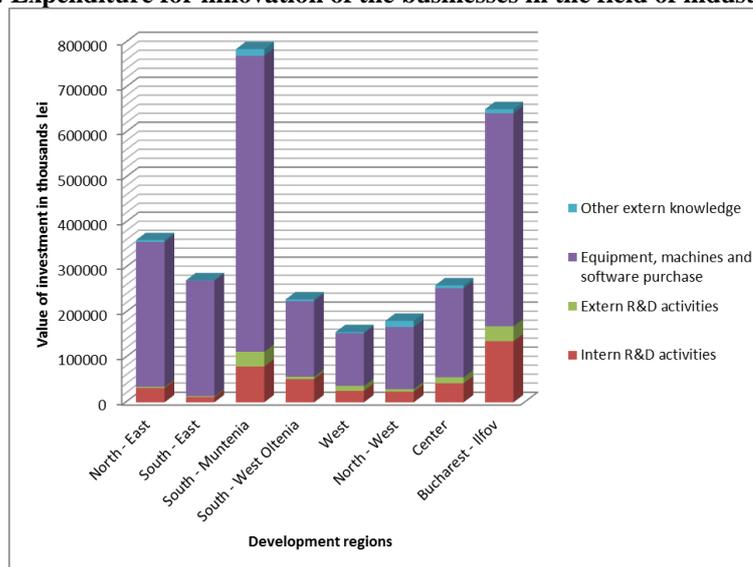


Source: Author's representation using NIS data, [on-line],

<http://www.insse.ro/cms/files/statistici/Statistica%20teritoriala%202008/rom/Tabel46.htm>, accessed on 30.03.2012;

Regarding investment in innovation made by the industry sector, in *Figure 4* we notice that in 2004, most of the money were spent for purchasing innovative equipment, followed by internal activities of R&D, external activities of R&D and finally purchasing extern knowledge. As we have seen earlier, in the field of industry the leader of investment in innovation was South Muntenia region, followed by Bucharest-Ilfov, North-East, South-East, Center, South-West, North-West and West. We notice that closer we get to West the least investment in the industry innovation is done.

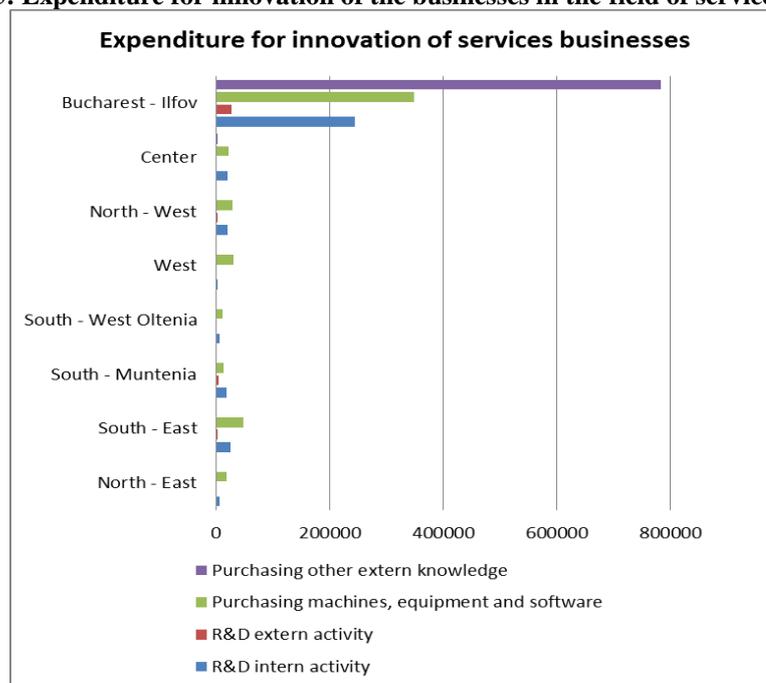
**Figure 4: Expenditure for innovation of the businesses in the field of industry, in 2004**



Source: Author's representation using NIS data, [on-line], <http://www.insse.ro/cms/files/statistici/Statistica%20teritoriala%202008/rom/Tabel46.htm>, accessed on 30.03.2012;

As it regards investment in innovation made by the services sector, according to Figure 5, we notice that in 2004, regions follow a different pattern of spending money between the region containing the capital city and the other regions. In Bucharest-Ilfov most of the money was spent for purchasing external knowledge, followed by innovative equipment, internal activities of R&D and the least was spent for external activities of R&D. The other regions spent for innovation quite similar: the first place was taken by machines, equipment and software, the second one by internal R&D activities, the third one by external R&D activities and the last one, barely noticeable, by purchasing other knowledge. It seems that services enterprises like to spend more for buying performing equipment to ease their work, rather than investing in R&D or external knowledge to help them produce higher-level services.

**Figure 5: Expenditure for innovation of the businesses in the field of services, in 2004**



Source: Author's representation using NIS data, [on-line], <http://www.insse.ro/cms/files/statistici/Statistica%20teritoriala%202008/rom/Tabel46.htm>, accessed on 30.03.2012;

After analysing the situation of Romanian innovative regions, we realise that the discrepancies between Romanian regions regarding investment in innovation are high. This is why the Government decided to take some measures to help innovation spread and stimulate enterprises to locate in less innovative regions. The solution that Romanian local authorities come with regards fiscal and logistic facilities meant to attract more investors in certain locations and determine innovation spread in the country, without focusing in a single region. The most successfully used method for spreading innovation and knowledge is supporting the creation of industrial parks. The closest form of innovative policy intervention similar to the nature of the clusters are related to legislative and administrative decisions on the establishment of industrial parks, free zones or science parks. Industrial parks are usually administered by a company which holds the title of industrial park while the land of the industrial park must meet certain conditions, provide certain facilities (access to road infrastructure and / or rail, exemption from taxes for example) and obligations. Industrial parks (and related concepts such as business incubators and technology parks) are a relatively new phenomenon in Romania. Government actively promotes the concept as a means to encourage the overall economic system and especially innovative development of the eight development regions of the country. Romania has all prerequisites to overcome the economic crisis, as it benefits not only of a cheap and qualified labour force, but also of operational programs dedicated to the development of economic competitiveness (allocated by the European Commission, concept that is based on the innovation capabilities of enterprises) being allocated over 5 billion euros. Following successful models in the European Union, Romania succeeded to attract investments of "Greenfield" or "Brownfield" in various industrial parks, from the textile industry to the software and electronics. Even if so far this policy has given positive results, we consider that further actions should be taken to sustain the average growth of 5% that places Romania among the growth leaders in the European Union, according to The second edition of the Innovation Union Scoreboard 2011 (IUS), in order to help it catch-up with the more developed countries, innovative leaders and followers. In our opinion is not enough to encourage enterprises locate in a less innovative region, even if it a good start, but we must also encourage them to invest in R&D. Romania should firstly import the knowledge, technology and patents from the innovative leaders and followers, a process that implies less expenses and can develop faster. In order to do so measures should be taken to encourage innovation diffusion as well in Romania.

#### 4. Conclusions

Studying the phenomenon of innovation we notice that both at the level of European Union and at the level of Romania are severe discrepancies regarding innovation of regions. The core-periphery model regarding innovation spread it seems to be valid in this case as well as in the case of regional development. Regions containing the capital city of the countries are more developed and have a higher grade of innovation as they are more likely to attract foreign investment and innovative enterprises. This phenomenon is met in Romania as well as, on the basis of the latest data provided by NIS regarding innovation expenditures; Bucharest-Ilfov is the region that spends the most for increasing the innovation. The entrepreneurs that locate here are interested in the advantages that locating in the capital city can give regarding nearness to embassies, to decision centres, and so on. On the same time, we have noticed that in Romania the regions situated in the North and West of the country tend to spend more for innovative services while regions situated in the South and East of the country are more interested in investing in an innovative industry.

However, we find that in order to obtain a *balanced research and innovation systems*, an aspect considered weakness for Romania by the IUS 2011 report, we should invest more in R&D, and not only in innovation systems (machines, equipment and software). Even if at this stage we have to adopt and import the technologies and knowledge already discovered and implemented by the more developed countries in the European Union, we should be prepared to start our own researches as well if we want to individualise and have a certain field of specialization. We consider that the government should rediscover its role as an innovation engine and invest in research centres. We consider that every industrial park that has been created should be in direct link to research centres that should provide research results in order to help them improve their work. Also, we consider that in the same way creation of industrial parks has been supported through exemption from local taxes, low land prices and infrastructure and utilities provided, there should be taken measures to enforce internal R&D, such as: exemption from profit tax for the firms that choose to invest their profit in R&D, exemption from paying wage taxes for the employees working in the R&D department, other facilities regarding the location of

the research centres for the determination of a movement of innovations from centres to periphery and for a general stimulation of research in Romania.

We consider that if those measures were taken, in a general frame that supports innovation, Romania's average growth would not be subject of slowing down of the process and would help it obtain much better results in terms of innovation and innovative regions.

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## EVALUATIONS OF THE LABOUR PRODUCTIVITY PER PERSON EMPLOYED IN MANUFACTURING

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**Abstract:** *I have preferred some evaluations of the labour productivity per person employed in manufacturing, because everywhere the manufacturing is the hardcore of the economic competitiveness. On the way in which the industry is structured and specialized depends to a very large extent the export and competitiveness in general.*

*I have reflected in two modalities the labour productivity per person employed in manufacturing:*  
*- as gross value added per person employed (lei per person employed);*  
*- as indices of labour productivity per person employed.*

**Keywords:** labour productivity per person employed, gross added value, population employed

**JEL classification:** J 24, E 23

### 1. Introduction

According to the opinions of some elite economists from the both sides of the Atlantic (Bernanke, 2007, Gomez, 2006), from a fairly large time period the labour productivity had divergent trends within the two considered economic blocks – Europe and USA.

The evolution of the labour productivity increase in the euro area (measured as real GDP per hour worked), starting with the second half of the 1990 years was disappointing, decreasing from a mean of 2.1% in the 1990 – 1995 period to only 1.2% in the 1996 – 2005 period (Gomez 2006).

In the USA, from the beginning of 1970 years until 1995, the increase of labour productivity has recorded in the non-agricol sector an average rate of 1.5% per year, a figure to disappoint by reporting to the historic performance of the USA, but also to the performance of other industrialized states in the same period. Starting with 1995 until 2000, the labour productivity growth ratio has recorded a substantial jump to 2.5% per year, and from the end of 2000 until the end of 2003, the labour productivity yearly ratio was of 3.5%. After revisions in decrease it is estimated that labour productivity has grown with a yearly average ratio of 2.25% from the end of 2003.

Considering the causality, these evolutions of the productivity in the two considered economic blocks are explained (according to the opinion of the quoted analysts) as presented below.

Firstly, the decline in the labour productivity in the euro zone was caused by a lower capital provision, partially associated with a sustained rhythm of jobs increase from the second half of 1990 years, including a larger use of workers with a lower skill.

Second, from a sectorial perspective, the industries which do not produce and neither use IT appear as the most responsible for the decline of average labour productivity increase in the euro area, from the middle of 1990 years.

About the identification of the fast technologic progress and increased investment in IT intensively used in 1990, as the first source of labour productivity increase in the recent period in the USA, the analysts opinions, Americans and Europeans as well, are convergent.

Economy of the euro area seemed to benefit far less from these factors, reflecting a lower investment in IT as compared to the USA, and barriers in the diffusion and proper use of the new technologies.

### 2. Sections Analysis of the labour productivity per person employed in manufacturing

#### 2.1 The increase of productivity and competitiveness, major imperative suggested by the strategic documents issued at European and national level.

Starting with march 2000, with adopting of the Lisbon strategy, UE went on a sustained increase, on competitive bases, by applying the newest results of the modern science and technology. This approach is a consequence of the strategic objective of transforming the European economy in the „most competitive and dynamic knowledge-based economy”.

The objectives are even more ambitious in the Europe 2020 Strategy, by orientation to a new type of intelligent growth, sustainable also on a social plane, favoring the social inclusion, fundamented on the encouraging the research and innovation, a more efficient use of digital economy, which would sustain the industry modernization, technological update of the productive sector, but also the investment in intangible capital, by consolidating the lifelong learning.

In a full resonance with these ambitious objectives, the first initiatives mentioned in the document – digital agenda for Europa, a Union of innovation (an innovation based on the consolidation of all the rings from the innovation chain from the fundamental research up to the sale) is the fundament for the answer to the globalization era: an industrial policy according to the globalization imperatives.

The increase of economic competitiveness and development of a knowledge-based economy, on a national plane, is the first thematic priority of the National Development Plan 2007 – 2013, which has as main realization instrument the Sectorial Operational Program „Increase of Economic Competitivity” (POSCCE, from Programul Operațional Sectorial „Creșterea Competitivității Economice”).

The general objective of POSCCE is the increase of Romanian companies productivity, for reducing the gap from the average EU-level productivity, and the target is a yearly average increase of the productivity of some 5.5% up to 2015. This would allow Romania to reach a productivity level of some 55% of the UE mean.

Directly connected to productivity and competitiveness is especially the second axis of the program „Research, technological development and innovation for competitiveness”.

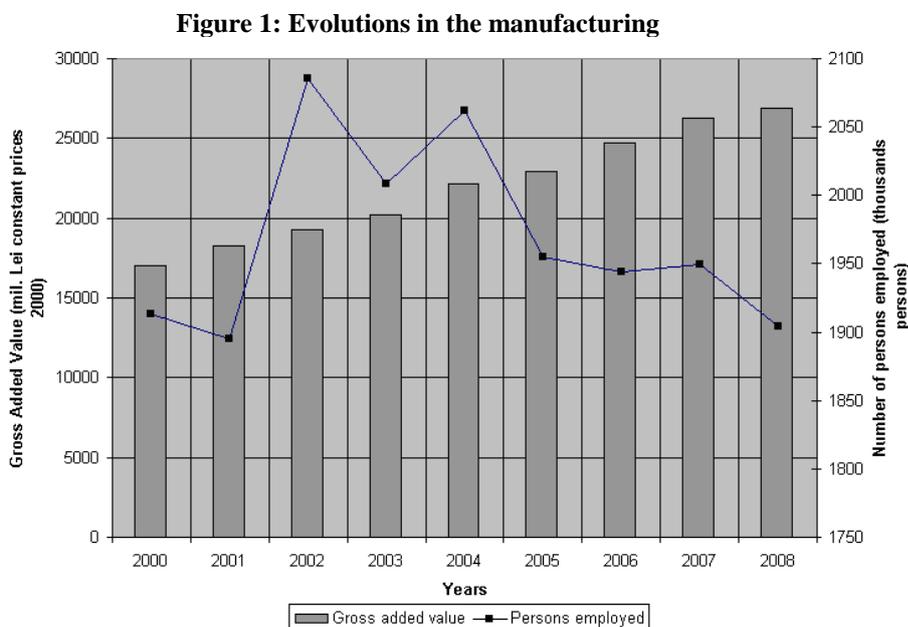
The declared objective of the second axis is the stimulation of cooperation between the R&D institutions and productive sector, so that research and development projects have a direct applicability in economy and to increase their capacity to solve the current problems of the production.

## 2.2. Evaluations of the labour productivity per person employed in manufacturing.

I have analyzed the labour productivity per person employed in manufacturing during the preadhesion period 2000 – 2007 and in a single year from the post-adhesion period, 2008 (the last year for which there are available data about the gross added value and population employed in manufacturing, in the Romania Yearbook, National Accounts chapter).

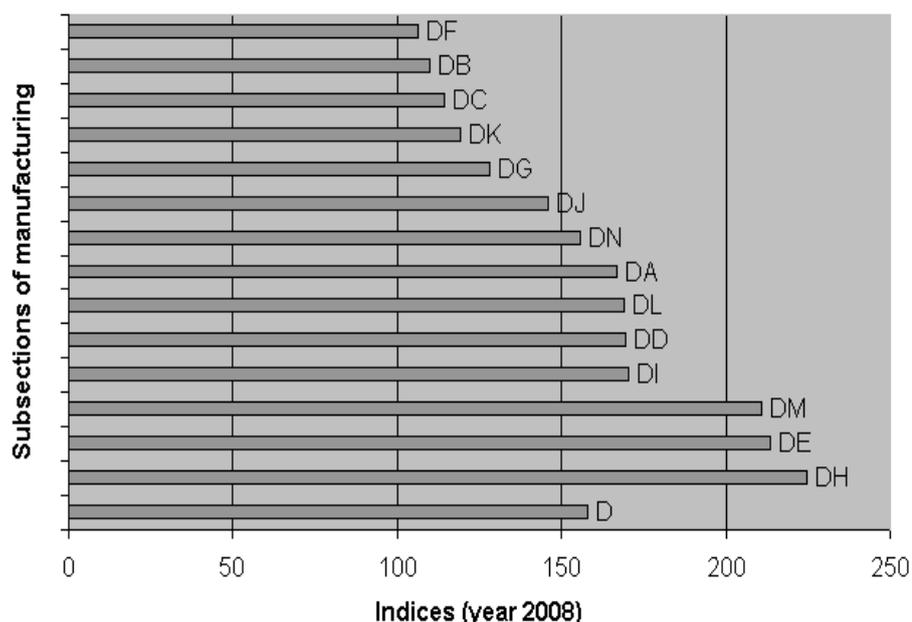
On the analyzed period, the gross added value in manufacturing went on a trend of continuous growth, but in an extremely moderate rythm from a year to another, evolving from 17029.0 millions lei in 2000, to 26895.6 millions lei in 2008, in 2000 constant prices (figure nr. 1).

The population employed in manufacturing has recorded an oscillating evolution in the first part of the analyzed period, engaging thereafter on a decrease trend, marked in the least year (figure nr. 1)



Source: Romanian Yearbook, 1990 - 2010

The analysis of the dynamics of the gross added value in manufacturing (in constant prices 2000) reveals a moderate overall growth of 57.9% and three subsections categories delimited upon the size of recorded dynamics. (Figure nr. 2)

**Figure 2: Dynamics of the Gross Added Value in Manufacturing, Constant Prices 2000**

Source: Romanian Yearbook, 1990 - 2010

The codification of the component economic activities, as used in the CAEN Rev. 1 (NACE) classification proved to be indispensable for interpreting these evolutions.

#### Manufacturing Subsections According to the Activities Classification from National Economy (CAEN Rev.1)

- D** Manufacturing
- DA** Manufacture of food products, beverages and tobacco
- DB** Manufacture of textiles and textile products
- DC** Manufacture of leather and leather products
- DD** Manufacture of wood and wooden products
- DE** Manufacture of pulp, paper and paper products; publishing and printing
- DF** Manufacture of coke, refined petroleum products and nuclear fuel
- DG** Manufacture of chemicals, chemical products and man-made fibres
- DH** Manufacture of rubber and plastic products
- DI** Manufacture of other non-metallic mineral products
- DJ** Manufacture of basic metals and fabricated metal products
- DK** Manufacture of machinery and equipment n.e.c.
- DL** Manufacture of electrical and optical equipment
- DM** Manufacture of transport equipment
- DN** Other manufacturing activities n.e.c.

The labour productivity per person employed in manufacturing was reflected in two ways:

- as gross added value per person employed, in constant prices 2000 (annex nr. 1);
- as indexes of labour productivity per person employed (fixed base in 2000 year).

Upon the first way of productivity evaluation (gross added value per person employed) we distinguish three areas of indicator's value amplitude:

- an area including four subsections with the greatest values of the indicator, far larger than the mean of the branch, between 40,000 lei and 20,000 lei per person employed;
- an area of moderate productivity, built around the mean of the branch, with values between 20,000 lei and 10,000 lei per person employed;
- an area of very low productivity, with values under 10,000 lei per person employed.

Among the four subsections included in the high productivity area, just the "Manufacture of food products, beverages and tobacco" has a consolidated position within the branch: the largest contribution

to the creation of branch's added value (26.6% in 2008), and third position in employment hierarchy (11.3%).

The other three subsections are recording very low contributions to the added value creation (just 4% - 5%) and even lower weights in branch's employment (2% or even 1.6%).

A base industry of the branch "Manufacture of transport equipment", as for the "Manufacture of rubber and plastic products", although recording a very high dynamics of the added value (in constant prices), on the ground of the strong employment growth in the analyzed period, will remain just in the area of a moderate value of added value per person employed.

Even more deplorable is the fact that "Manufacture of machinery and equipment", as for "Manufacture of electrical and optical equipment" (which issue products with a higher degree of processing, with a larger added value embedded) are placed in the area with a very low added value per person employed.

Moreover, the "Manufacture of electrical and optical equipment" records even a decrease of the indicator in constant prices, leading to an index of the labor productivity per person employed less than 100%.

On the same area, of the index of labor productivity per person employed, we are noticing firstly very large differences between manufacturing sections, with values recorded starting from 77.5%, up to 250.8% (table nr. 1).

**Table 1: Indices of Labour Productivity per Person Employed, on Manufacturing Subsections**

**2000 = 100**

	2001	2002	2003	2004	2005	2006	2007	2008
<b>D</b>	<b>108,2</b>	<b>103,7</b>	<b>113,2</b>	<b>120,5</b>	<b>131,7</b>	<b>142,8</b>	<b>151,4</b>	<b>158,7</b>
<b>DK</b>	104,6	112,2	119,8	171,9	201,8	193,3	234,1	250,8
<b>DE</b>	114,0	134,2	106,2	129,1	129,8	167,7	194,2	237,7
<b>DD</b>	103,8	112,4	117,4	145,9	142,4	145,8	176,3	212,2
<b>DI</b>	107,1	143,2	129,4	179,2	157,7	191,0	202,5	206,0
<b>DF</b>	100,6	117,2	112,7	105,3	149,4	153,2	269,3	195,5
<b>DG</b>	104,8	100,4	106,9	123,6	122,9	160,7	154,5	177,0
<b>DA</b>	111,9	125,2	148,4	134,2	144,9	156,9	161,5	170,8
<b>DM</b>	91,5	88,2	116,7	108,2	130,0	138,8	143,6	157,2
<b>DJ</b>	111,4	101,6	106,6	123,1	137,7	154,9	165,7	151,5
<b>DH</b>	120,4	167,5	141,0	204,9	196,1	241,0	139,6	129,2
<b>DB</b>	110,8	96,3	101,2	104,6	105,3	104,2	113,5	118,5
<b>DC</b>	111,5	90,0	97,7	78,5	87,6	95,6	91,6	91,6
<b>DL</b>	99,0	89,4	91,2	80,4	88,3	92,3	87,7	77,6
<b>DN</b>	98,9	61,3	71,2	61,7	68,8	77,9	83,8	77,5

Source: Time series, Romania Yearbook, 1990 -2010, National Accounts

Upon the criterion of labor productivity per person employed, the manufacturing subsections can be grouped also in three categories:

- a first category is of those recording an index of the productivity between 250% and 200%, far superior to the mean recording overall on manufacturing;
- a second category includes the subsections which record a productivity index of a level closer to the mean index of the branch (158.7%), with values between 200% and 150%;
- a last category includes the subsections with very low values of the index, less than 130%.

Among these, three subsections are recording even a decrease of the added value per person employed in constant prices 2000.

- Among the sections with high values of the productivity index we remark just "Manufacture of machinery and equipment", the other subsections are not top technology industries.

- A base industry of the branch "Manufacture of transport equipment", despite a very high dynamics of the added value in constant prices, on the ground of marked growth of employment will not perform under the aspect of productivity index, recording a value at the level of the mean per branch (157.2%).

- Also on the ground of marked increase of employment (in the 2000 – 2008 period), “Manufacture of rubber and plastic products”, despite recording the highest dynamics of the added value in constant prices 2000, has in the analyzed period just a low productivity index (129.2%).

- “Manufacture of leather and leather products” and, even to a larger extent, “Manufacture of electrical and optical equipment”, such as “Other manufacturing activities” record a productivity index less than 100%, reflecting the decrease of added value (in constant prices) per person employed in these branches, in the 2000 – 2008 period.

- In the European context, the productivity level of Romania represent a real challenge for the Romanian economy.

- The comparison with the other European states, from this point of view, reveal the fact that our country has to make sustained efforts for reducing the considerable productivity gaps which separate it from many of these..

- The productivity level of Romania, which places it in the European hierarchy of productivity on next-to-last place, just before Bulgaria, represents only 49% of the average productivity level recorded at the UE-27, to a very large distance from western countries, but also from the neighboring countries.

### 3. Conclusions

I have chosen, for evaluating the labor productivity per person employed in manufacturing, because this represent the hardcore of the economic competitiveness. On the way the industry is structured and specialized depends the overall competitiveness.

I have evaluated the labor productivity per person employed by using the gross value-added indicator per person employed and I have estimated its dynamics, through the indices of productivity per person employed.

If we consider the criterion of the gross added value per person employed, from the area of high values of the indicator, one notices that a consolidated position within the branch has only the “Manufacture of food products, beverages and tobacco”, which provides the largest contribution to the creation of the branch’s value added (26.6% in 2008) and holds the third position in the employment hierarchy (11.3%). The other three subsections provide very modest contributions to the creation of the added value (just 4% - 5%), but even smaller weights in the branch employment (2% or even 1.6%).

A base industry of the branch “Manufacture of transport equipment”, despite a very high dynamics of the added value (in constant prices 2000), on the ground of the marked increase of employment in the analyzed period will be placed just in the area with a moderate value of the added value per person employed, and will not perform neither on the productivity index, recording a value just at the average level of the branch (157.2%).

Deplorable is the fact that “Manufacture of machinery and equipment” and “Manufacture of electrical and optical equipment” (which generally issue products with a higher degree of processing, with a larger added value embedded) are placed in the area with a very low added value per person employed. Moreover, “Manufacture of electrical and optical equipment” records a decrease of indicator value in constant prices (annex nr. 1), leading to an index of productivity smaller than 100% (table nr. 1)

On the same area of the index of productivity per person employed one notice firstly the existence of very large differences between manufacturing subsections, the index recording values from 77.5% up to 250.8%.

Among the subsections with high values of the index of productivity one notices only the “Manufacture of machinery and equipment”, the others not being industries of the top technology.

Three subsections: the “Manufacture of leather” and, more deplorable, “Manufacture of electrical and optical equipment” along with “Other manufacturing activities” record an index of the productivity lower than 100%, reflecting the decrease of the added value in constant prices per person employed, in these industries in the 2000 – 2008 period.

In European context, the Romania’s level of productivity represents a real challenge for the Romanian economy.

Placed in the European hierarchy of the productivity on the next-to-last place, just before Bulgaria, with a level of productivity representing only 49% from the mean recorded at the level UE-27, Romania is placed to a very large distance from the western countries, but also from the neighbouring countries.

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**ANNEX 1****Labour Productivity per Person Employed (lei/person employed) in Constant Prices 2000.**

	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
<b>D</b>	<b>8901,3</b>	<b>9634,3</b>	<b>9235,5</b>	<b>10077,8</b>	<b>10729,9</b>	<b>11725,5</b>	<b>12713,0</b>	<b>13473,6</b>	<b>14125,8</b>
<b>DA</b>	23435,6	26219,5	29352,3	34780,1	31461,3	33966,0	36766,2	37839,6	40031,2
<b>DE</b>	13881,1	15824,4	18628,3	14740,0	17923,2	18018,9	23286,2	26957,6	32991,3
<b>DF</b>	14286,7	14373,1	16741,2	16099,2	15037,7	21338,5	21885,0	38479,8	27936,1
<b>DG</b>	13890,6	14562,7	13942,0	14845,2	17167,3	17068,6	22321,2	21468,0	24584,1
<b>DI</b>	9257,0	9918,3	13255,4	11981,7	16584,9	14599,0	17681,4	18750,0	19071,2
<b>DH</b>	12050,6	14511,9	20183,9	16987,9	24694,4	23629,6	29045,4	16828,9	15572,6
<b>DD</b>	5398,5	5605,4	6070,4	6338,7	7877,4	7689,7	7869,8	9518,9	11456,8
<b>DM</b>	7024,5	6429,1	6192,9	8200,4	7598,4	9134,7	9750,9	10084,9	11041,4
<b>DJ</b>	6834,1	7610,6	6946,1	7283,8	8415,3	9408,6	10589,7	11324,8	10352,0
<b>DN</b>	13233,4	13087,4	8117,5	9427,6	8162,7	9105,3	10308,0	11095,0	10256,6
<b>DK</b>	3962,5	4146,4	4446,2	4746,7	6811,9	7995,8	7660,2	9276,9	9937,9
<b>DL</b>	12477,5	12348,6	11153,8	11375,7	10038,2	11014,1	11520,8	10945,6	9686,8
<b>DB</b>	4139,9	4589,2	3988,8	4189,8	4329,1	4359,3	4313,7	4698,6	4907,8
<b>DC</b>	4055,1	4519,9	3650,0	3963,8	3185,0	3554,3	3875,2	3716,2	3713,6

Source: Time Series, Romania Yearbook, 1990 – 2010, National Accounts

## ANNEX 2

### Labour Productivity per Person Employed

Index EU 27=100

space/time	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
EU (27 countries)	100	100	100													100
EU (25 countries)	104,6	104,7	104,9	105	104,9	104,7	104,6	104,4	104,3	104,1	104	103,8	103,6	103,3	103,3	103,2
EU (15 countries)	115,2	115,1	115	114,8	113,9	113,2	112,5	111,9	111,4	110,9	110,6	110,5	110,1	109,7	109,4	109,1
Euro Area (17 countries)	115,5	114,9	114,5	114,3	113,3	111,9	111,4	110,6	109,9	108,9	109,1	109	109,1	109,3	109,3	108,7
Euro Area (16 countries)	115,9	115,3	114,9	114,7	113,6	112,2	111,7	110,8	110,1	109,1	109,3	109,2	109,3	109,5	109,5	108,8
Luxembourg	175,7	173,5	166,9	166,3	176,9	176,8	163	164	168	170,5	170,3 <sup>b</sup>	179,5	179,9	178,1	168	170
Norway	115,4	121,4	122,8	114,5	120,6	139,4	137,1	132,1	135,6	144,1	154,5 <sup>b</sup>	159,1	153,3	159,8	145,6	150,8
United States	138,3	139,5	140	141,5	144,1	142,4	140,9	140,7	142,6	143,5	144,6 <sup>b</sup>	140,6	139,7	138,2	140,6	143,5 <sup>c</sup>
Ireland	120,8	124	127	127,1	126,7	129,3	129,7	135,2	137,7	137,1	136 <sup>b</sup>	136,4	137,9	128,6	132	137
Belgium	140 <sup>b</sup>	137,4	137,8	134,7	134,5	137,3	134,1	136,8	135,4	132,4	130,4 <sup>b</sup>	129,1	127,6	126,8	127,5	127,5
France	121,9	120,8	121,2	121,7	120,4	120,3	120,4	120,7	116,9	116,2	117,4 <sup>b</sup>	116,2	116,4	116,1	117,1	116
Austria	125,5	125,3	123,2	124,2	123,1	123,4	118,3	120,2	120,4	120,8	118,5 <sup>b</sup>	119,1	117	116,5	115,5	115,3
Netherlands	110,8	110,6	110,6	111,4	112,2	115	113,7	113,7	111,3	112,8	114,5 <sup>b</sup>	114,4	114,5	115,4	112,3	113,2
Sweden	111,2	112,5	114	113,2	114,7	114,9	109	109,2	111,8	115,5	112 <sup>b</sup>	113,1	114,9	114,2	110,9	113,1
Denmark	109	110	110,3	109,7	109,2	111,1	107,9	108,9	106,7	109,2	107,2 <sup>b</sup>	107	104,8	105,8	106,2	111,6
Finland	111,3	109,1	111	114,2	113,6	115,4	112,9	112	109,9	113,5	111,2 <sup>b</sup>	110,6	113,6	113,3	110,1	111,5
Switzerland	113,4	112,9	113,5	112,9	111,3	110,4	106,6	106,8	105,2	104,8	103,5 <sup>b</sup>	105,1	108,3	110,5	109,7	110,3
Italy	131,4	130,6	130	131,5	128,9	127,4	126,7	118,8	116,6	113,1	112,1 <sup>b</sup>	111,1	111,6	112,9	112,6	109,6
Spain	110,4	110	108,7	108,3	106	104,2	103,5	105,1	104	102,3	101,4 <sup>b</sup>	102,8	103,1	104,3	109,8	109
United Kingdom	105,5	107,5	109,4	109,6	109,6	111,3	112,1	112,6	113	114,3	113 <sup>b</sup>	112,6	110,1	106,8	105,5	106,6
Germany	115,6	114,9	113,6	112	110,9	107,1	106,2	105,8	107,8	107,5	108,6 <sup>b</sup>	108,7	108,4	107,9	104,9	105,3
Japan	102,3 <sup>c</sup>	103,1	102,2	99,5	99,3	100,6	99,6	99,9	100,7	100,9	100,4 <sup>b</sup>	97,6	97,7	95,4	92,9 <sup>c</sup>	96,5 <sup>c</sup>
Greece	89,8 <sup>b</sup>	90,8 <sup>b</sup>	93,6 <sup>b</sup>	91,3 <sup>b</sup>	91,6 <sup>b</sup>	94,1 <sup>b</sup>	97,6 <sup>b</sup>	100 <sup>b</sup>	101,8 <sup>b</sup>	101,1 <sup>b</sup>	95,9 <sup>b</sup>	91,6 <sup>b</sup>	95,2 <sup>b</sup>	97,9 <sup>b</sup>	98,3 <sup>b</sup>	94,8 <sup>b</sup>
Iceland	:	:	:	111	108,3	103,3	104	104,7	101,7	108,3	105,9 <sup>b</sup>	99,2 <sup>b</sup>	96,5 <sup>b</sup>	100,9 <sup>b</sup>	100,2 <sup>b</sup>	93,8 <sup>b</sup>
Malta	:	:	:	:	:	98,8	91,8	93,8	92,9	91,2	91,7 <sup>b</sup>	89,8	88,6	90,5	93	91,5
Cyprus	80	80,1	80,1	81,9	82,9	84,3	86,4	84,2	81,9	82,3	82,9 <sup>b</sup>	84,1	85,5	91	91,4	90,3
Slovakia	50,3	51,9	54,6	56,6	56,9	58,4	60,8	62,8	63,6	65,7	68,8 <sup>b</sup>	71,7	76,4	79,8	79,8	81,6
Slovenia	66,8	69,9	73,7	75,5	77	76,1	76,1	77,4	78,8	81,5	83,2 <sup>b</sup>	83,4	83,1	83,8	80,8	80,4
Croatia	:	60,5	61,3	63,5	63,7	62,2	67,4	67,1	69,6	70,4	71,4 <sup>b</sup>	73,6 <sup>b</sup>	75,7 <sup>b</sup>	78,3 <sup>b</sup>	76,9 <sup>b</sup>	77,4 <sup>b</sup>
Portugal	71	70,5	70,6	70,6	72,3	72,1	70,9	70,7	71,1	69,8	72,9 <sup>b</sup>	73,1	74	73,5	75,8	76,4 <sup>b</sup>
Czech Republic	64,5	66	64,6	63,9	65	65,6	67,8	67,6	71	73	73 <sup>b</sup>	74	76,3	74	75	73,4
Hungary	55	54,9	56,4	57,6	56,5	57,1	61,5	64,7	65,9	67	67,7 <sup>b</sup>	67,8	67	70,9	72,1	71,2
Estonia	34,1	36,5	40,1	41,6	43,5	47,2	48,3	51,2	54,9	57,7	60,8 <sup>b</sup>	62,4	66,7	66	65,8	69,3
Poland	46	47,8	49,6	50,8	54,3	55,5	56,3	58,9	60,3	61,8	61,6 <sup>b</sup>	61	62,2	62,3	65,5	66,8
Turkey	35,7	37	40,1	56,1	52,5	55,8 <sup>b</sup>	51,8 <sup>b</sup>	50,4 <sup>b</sup>	50,8 <sup>b</sup>	55 <sup>b</sup>	59,1 <sup>b</sup>	62,5 <sup>b</sup>	64,6 <sup>b</sup>	65,9 <sup>b</sup>	63,1 <sup>b</sup>	63,4 <sup>b</sup>
Lithuania	36,2	37	38,6	41,1	40,6	43,2	47,3	48,5	52,5	53,8	55 <sup>b</sup>	56,8	59,6	62,1	57,5	62,3
Former Yugoslav Republic of Macedonia	:	:	46,8	46,2	47,5	48,5	46,5	46,7	49,7	53,1	56,3 <sup>b</sup>	57	56,7	58,5	60,1	58,3 <sup>b</sup>
Latvia	33,3	34,9	35,6	36,9	38,1	40,1	41,5	42,8	44,1	45,9	47,8 <sup>b</sup>	48,8	51,4	51,6	52,8	54,6
Romania	:	:	:	:	23,4	23,7	25,7	29,4	31,2	34,6	36,1 <sup>b</sup>	39,7	43,4	49,1	49,2	49
Bulgaria	31,6	27,5	26,4	27,4	29,3	31,3	32,1	34	34,7	34,8	35,8 <sup>b</sup>	36,4	37,5	39,6	40,1	41,8
Liechtenstein	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Montenegro	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:

:= Not available b= Break in series p= Provisional value f=Forecast e= Estimated value

Source of data	Eurostat
Last update	17.02.2012
Date of extraction	18 Feb 2012 21:59:25 MET
Hyperlink to the table	<a href="http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&amp;init=1&amp;plugin=1&amp;language=en&amp;pcode=tsieb030">http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&amp;init=1&amp;plugin=1&amp;language=en&amp;pcode=tsieb030</a>
Short Description:	Gross domestic product (GDP) per person employed is intended to give an overall impression of the productivity of national economies expressed in relation to the European Union (EU-27) average. If the index of a country is higher than 100, this country's level of GDP per person employed is higher than the EU average and vice versa. Basic figures are expressed in PPS, i.e. a common currency that eliminates the

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	differences in price levels between countries allowing meaningful volume comparisons of GDP between countries. Please note that “person employed” does not distinguish between full-time and part-time employment.
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## ECOLOGICAL DUMPING

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**Abstract:** *Ecological dumping refers a situation where national governments choose less strict environmental standards. In this context, dumping refers to producers obtaining hidden subsidies in the form of less strict pollution abatement requirements, which allows them to dump their products in international markets at prices that do not reflect the true cost of production. In contrast to normal dumping, ecological dumping is an activity performed by governments, not by companies. Further enlargement plans of the European Union towards the Balkans and Turkey, where environmental standards are less rigorous than in other member countries, fuelled the debates concerning ecological dumping.*

**Key words:** ecological dumping; subsidiary; environmental standards; emissions trading system

**JEL classification:** Q 56

### 1. Introduction

Nowadays, in an interdependent world economy with globally integrated markets, environmental problems are becoming, also, global. The environmental policy of a single country is not independent anymore of what is going on in the rest of the world. Environmental preservation is an important contemporary issue, and many countries are attempting to develop institutional design and policies to deal with this issue. However, environmental preservation is difficult in countries that place high priority on economic growth, because such countries are concerned about the decline in the international competitiveness of domestic companies. Thus, the governments in such countries may impose lax environmental regulations on firms so that they are able to retain their competitiveness. Ecological dumping is characterizing this situation.

In an international trade context the problem arises that even a country acting in a benevolent fashion by unilaterally addressing transboundary pollution and global environmental problems would be discouraged to do so by so-called leakage effects (Rauscher, 2001): tighter environmental standards in one country simply move the source of the problem from one side to the other side of the border and global pollution remains unchanged.

In the same time, industry lobbies often argue that tight environmental standards and high pollution taxes have a negative impact on competitiveness. Many environmentalists fear that international differences in environmental policies lead to unfavorable patterns of specialization, for example developing countries becoming pollution havens, and an international downward competition in environmental policies which makes all countries, especially the developing ones, worse off. In particular, the possibility that ecological dumping occurs is higher if export goods are more labor intensive than import goods, as in developing countries (Sugiyama; Saito, 2008). With the lowering of natural and institutional barriers to trade, cross-country differences in environmental legislation matter much more than before. Thus, the connection between free trade and the environment has been the subject of considerable debate between specialists from many years ago.

More recently, at the European Union (EU) level, the debate has been fuelled by the plans of further enlargement towards the Balkans and Turkey, where environmental standards are arguably less rigors than in West Europe. In addition to the usual proposition that freer trade accelerates environmental degradation through more consumption, environmentalists have proposed that freer trade may harm the environment through less strict regulation if national governments use environmental policy as a substitute for trade policy.

European Union has, partially, solved this problem by creating the European Union's Emissions Trading System (EU ETS). Under the EU ETS, large emitters of carbon dioxide within the EU must monitor their CO<sub>2</sub> emissions, and annually report them, as they are obliged every year to return an amount of emission allowances to the government that is equivalent to their CO<sub>2</sub> emissions and not only in that year.

## 2. Ecological dumping and free trade

The use of direct export subsidies decreases the price of exported products which become more competitive on the world markets. Export subsidies, however, generate negative external effects on the profits of the companies located in competing exporting countries (Walz; Wellisch, 1997). Thus, a coordinated ban of direct export subsidies increases the income of exporting countries. It helps exporting countries to extract rents from importing countries. This fact generated a strategic trade policy adopted by exporting countries which had decided to get together to agree not to use export subsidies. However, exporting countries can use other instruments to subsidize their exports if international treaties prohibit direct export subsidies, like the WTO or the EU treaty, like ecological dumping.

The term of ecological dumping is used when producers obtain hidden subsidies in terms of low pollution abatement requirements and they dump their products in international markets at prices that do not reflect the true cost of production. This is considered to be a practice of unfair international trade. Ecological dumping was defined as an environmental legislation that does not fully internalize the domestic social cost of pollution and, thereby gives domestic producers an advantage in international markets (Rauscher, 1992). In contrast to normal dumping, ecological dumping is performed by the governments and not by an individual company. Moreover, it does not in the first place affect the price of a commodity but that of a factor of production which differs between countries, respectively, nature's capability to provide environmental resources.

In a situation of ecological dumping the environmental standards in exporting countries are lower than those in importing countries. By undercutting the environmental standards the governments reduce the production costs of domestic companies (Walz; Wellisch, 1997). These companies can produce at lower costs than their foreign competitors and this is considered to be unfair. In addition environmentalists consider that a more and more free trade accelerates environmental degradation through more consumption, and may harm the environment through less strict regulation if national governments use environmental policy as a substitute for trade policy.

It is obvious that trade liberalization may lead to indirect subsidization of exports via ecological dumping. Free trade nevertheless increases the welfare of symmetric exporting countries. Free trade agreements push exporting countries in the direction of the joint welfare maximizing trade policy. This positive welfare effect is partially offset by indirect non-cooperative trade promotion via too low environmental taxes. The indirect trade policy leads to a negative external effect on the other exporting country as well as to a deterioration of the national environment. But exporting countries do not decrease the emission tax rate sufficiently strong to compensate for the cost increase that their companies experience by the reduction in the direct export subsidy. Therefore, the negative external effect on the other companies' profits becomes smaller. This positive effect of reducing direct export subsidies overcompensates the deterioration of environmental quality in the exporting countries.

Thus, it is considering that to ensure a fair trade all countries should use the same environmental standards. As a consequence a desirable world of fair trade would be characterized by complete harmonization of environment policies, desiderate that is very difficult even not possible to be accomplished. This remedy contrasts, however, with the view held by a majority of economists and policy makers.

## 3. The European Union's emission trading system (Eu Ets)

The European Union's Emissions Trading System (EU ETS) is a cornerstone of the European Union's policy to combat climate change and its key tool for reducing industrial greenhouse gas emissions cost-effectively. Being the first and biggest international scheme for the trading of greenhouse gas emission allowances, the EU ETS covers some 11,000 power stations and industrial plants in 30 countries.

The European Union is not a strong federal union like the United States of America. The constituent member states are independent nations that display and exercise the principal attributes of sovereignty. While some authority in some domains has been ceded to central European institutions, the basic decision-making entity in the EU remains the Council of Ministers, which consists of the relevant ministers of the member states with carefully negotiated voting rights. The ETS Directive (European Council, 2003), which provides the legal basis for the EU ETS, can be seen, like all EU directives, as a specialized multi-national agreement within the broader framework of the Treaties that have established the European Union. Although surely different in many particulars, a global trading regime will exhibit a similar high degree of decentralization. European Union marks a significant degree of diversity. The demarcation between East and West in Europe is consistent. The difference in per capita income between the richest and poorest nations in the EU is significant. The concerted efforts to transform institutions conform to Western European norms has

diminished East/West disparities, but the success in the effort has been uneven and the remaining differences make participation in the EU ETS more of a challenge for some than for others (Lars; Magnusson 2006).

As an agreement between sovereign nations with diverse historical, institutional, and economic circumstances, the EU ETS can be seen as a prototype for an eventual global climate regime.

Conceived in the late 1990s as a mean of ensuring that European Union's members could meet their commitments under the Kyoto Protocol, the EU ETS has grown constantly and now includes thirty countries. This expansion was accomplished in three steps (Ellerman, 2009):

- the accession of ten mostly East European member states to the European Union on May 1, 2004;
- the subsequent expansion of the EU to include Romania and Bulgaria at the beginning of 2007;
- the inclusion of three of the four nations constituting the European Economic Area (Norway, Iceland, and Liechtenstein) beginning in 2008.

The EU ETS works on the "cap and trade" principle. This means there is a "cap", or limit, on the total amount of certain greenhouse gases that can be emitted by the factories, power plants and other installations in the system. Within this cap, companies receive emission allowances (European Union Allowances) which are almost entirely distributed freely to affected installations that are obligated in turn to report their emissions. Companies can sell to or buy from one another emission allowances as needed. The limit on the total number of allowances available ensures that they have a value. At the end of each year each company must surrender enough allowances to cover all its emissions, otherwise heavy fines are imposed. If a company reduces its emissions, it can keep the spare allowances to cover its future needs or else sell them to another company that is short of allowances. The flexibility that trading brings ensures that emissions are cut where it costs least to do so.

The number of allowances is reduced over time so that total emissions fall. In 2020 emissions will be 21% lower than in 2005 (European Commission, 2011).

In order to neutralize annual irregularities in CO<sub>2</sub>-emission levels that may occur due to extreme weather events such as harsh winters or very hot summers, emission credits for any plant operator subject to the EU ETS are given out for a sequence of several years at once. Each such sequence of years is called a trading period. The first EU ETS trading period expired in December 2007; it had covered all EU ETS emissions since January 2005. With its termination, the first phase EU allowances became invalid. Since January 2008, the second trading period is under way which will last until December 2012.

Currently, the installations get the trading credits from the National Allowance Plans which is part of each country's government. Besides receiving this initial allocation, an operator may purchase EU and international trading credits. If an installation has performed well at reducing its carbon emissions then it has the opportunity to sell its credits and make a profit. This allows the system to be more self contained and be part of the stock exchange without much government intervention.

The more serious problems that emerged from the experience of the EU ETS were:

- developing a central coordinating organization;
- devising side benefits to encourage participation;
- dealing with the interrelated issues of harmonization, differentiation, and stringency.

The EU ETS covers CO<sub>2</sub> emissions from installations such as power stations, combustion plants, oil refineries and iron and steel works, as well as factories making cement, glass, lime, bricks, ceramics, pulp, paper and board. Nitrous oxide emissions from certain processes are also covered. Airlines will join the scheme in 2012. The EU ETS will be further expanded to the petrochemicals, ammonia and aluminium industries and to additional gases in 2013, when the third trading period will start. At the same time a series of important changes to the way the EU ETS works will take effect in order to strengthen the system. Notably, transportation, buildings, the service sector, and agriculture are not presently included, although it was envisaged from the beginning that additional greenhouse gases and sectors would be incorporated over time. As it now exists, the EU ETS includes about 45% of the CO<sub>2</sub> emissions and a little less than 40% of the greenhouse gases emissions of the EU.

The choice of a cap and trade system in Europe and the particular structure that it assumed are the result of four factors:

- the need of adoption of additional measure at the European Union level in order to meet the obligations under Kyoto Protocol;
- an EU-wide carbon tax was off the table since the proposal to enact one had failed in the 1990s in part because fiscal matters, unlike regulatory measures, require the unanimous agreement of all member states;

- the early experience with the U.S. SO<sub>2</sub> trading system and the embrace of trading in the Kyoto Protocol made trading a logical approach;
- the recognition of the lack of trading experience and the requisite trading infrastructure in Europe prompted the adoption of a trial period to provide these prerequisites.

In January 2008, the European Commission proposed a number of changes to the scheme, including centralized allocation (no more national allocation plans) by an EU authority, a turn to auctioning a greater share (+60%) of permits rather than allocating freely, and inclusion of other greenhouse gases, such as perfluorocarbons.

As concerning the earmark of the permits through auction, European Commission drew up a regulation stipulating that the number of the permits to be auctioning by the member states will be settled as follow (Berariu, 2012):

- 88% of the permits will be distributed to member states in accordance with the greenhouse gas emissions 2005 level or in accordance with the average registered in the 2005-2007 period;
- 10% of the permits will be distributed to member states with lower per capita income in view to encourage the investment in non polluting technologies;
- 2% of the permits will be distributed to member states which have reduced, in 2005, 20% or over greenhouse gas emissions under the levels settled in accordance with Kyoto Protocol.
- These changes are still in a draft stage; the mentioned amendments are only likely to become effective from January 2013 onwards.

#### 4. Conclusion

The assumption that liberalization of trade may harm the environment through lax environmental regulations adopted by governments in order to ensure a higher exports competitiveness on international markets represents one problem within the more general issue of environmental federalism, respectively, the division of responsibility for environmental management between different levels of government. It is not yet settled if environmental standards are better set at the federal or national level.

European Union has demonstrated that a multinational trading system, consisting of sovereign nations with considerable disparities in economic circumstance and in willingness to adopt climate change measures, can be constructed. In spite the institutional disparities between East and West that takes more time to put the necessary regulatory infrastructure of trading in place in Eastern Europe than it did in the West, it was done and the companies in the new member states are complying and increasingly learning to price CO<sub>2</sub> into their operational and investment decisions. Although the EU ETS adoption of a multi-year trial period has set a useful precedent.

The EU ETS is only beginning to test the practicality of harmonizing allocations within the trading system, differentiating responsibilities among participants, and increasing the stringency of emissions caps. From a global perspective, the answers that are being worked out in Europe will say a great deal about what will be feasible on a broader, global scale.

The success of the EU ETS has inspired other countries and regions to launch cap and trade schemes of their own. The EU hopes to link up the ETS with compatible systems around the world to form the backbone of a global carbon market.

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## ECONOMIC GROWTH AND THE SECTOR OF RESEARCH AND DEVELOPMENT IN THE CONTEXT OF GLOBALIZATION

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**Abstract:** *If at the beginning of the 20<sup>th</sup> century the average life expectancy slightly surpassed 30 years, nine decades later this index managed to outrun its double and to reach 62 years. It is universally acknowledged that this increase would have never taken place without the discoveries in the field of research and inherent without the impetus of the globalization phenomenon that encouraged the development of research. The current paper intends to analyze the impact of globalization upon national economies, bringing into discussion the case of Romania and more precisely the trend followed by GDP/capita and research and development expenditure.*

**Key words:** GDP/capita, research and development expenditure, globalization

**JEL classification:** O 16, O 30, O 47, O 52

### 1. Introduction

Half of the entire increase of human life expectancy took place in the 20<sup>th</sup> century. Thus, if in 1900 global life expectancy at birth was approximately 30 years, towards the end of the century this index more than doubled, reaching 62 years (Rosenberg, 2007). Today, at European level, the average life expectancy has reached 82 years (Negrescu, 2012). Nevertheless, this growth would have never taken place without the discoveries in the field of research (Disease Control Priorities Project, 2006) and that is why specialists from all over the world militate for an increase in investments in this sector. On the other hand, when talking about research and development, it is absolutely impossible not to bring into discussion the notion of globalization because, whether we refer to its negative or positive aspects, globalization itself stimulates the development of research.

If we were to enter a general store, regardless its location on earth, we will certainly find electronic products made in Malaysia, mobile phones made in India, vegetables from Turkey or rice from Pakistan and even clothes made in China. All this mixture of commodities from various corners of the world is actually the direct effect of a process that is very used nowadays and that has become a dominant attribute of the present-day world because it changes the perception and general philosophy about existence and development. Globalization is not something new, dating back to the Egyptian, Babylonian or Roman empires; just the term used today is relatively new. Many specialists, including Akram Ch. et al. (2001), claim that the phenomenon of globalization is long blamed for its various disadvantages. The same authors have built a list of eleven effects of globalization on the world economic development. The emergence of global markets that make trade boundaries disappear, of international institutions that govern relations among countries, the changes which have occurred both at international trade and corporate level, as well as the effects from the technological, industrial, cultural and environmental fields are only some of the discussed aspects. Nevertheless, one thing is certain: globalization is spreading amazingly fast and tends to cover all spheres of human activity and inherent the way countries develop or grow in economic terms.

### 2. The economic growth – from theory to practice

The current global economy presents complex features and various trends, as well as multiple challenges, especially for decision-makers, allowing even the possibility to state that goods, capital and people have never been more mobile than now (Ammendola, 2011). That is why it is necessary to describe and analyze some aspects of the world economy as economic development or growth.

First of all, we need to set some limits regarding the notions of economic development and growth. Of course there are differences, but most of them are encountered at theoretical level because the two concepts actually take place in the same time. The first term refers to the complex process of an increase in the national production per capita when there are certain major structural changes in what concerns production, infrastructure, resources reallocation, as well as in the institutional, cultural and mental domains

(Dusmanu, 2011), while the second one represents only an increase in one of the production indexes, a quantitative and positive shift. It must be underlined the fact that in the first case we are dealing with a qualitative aspect, a level of economic, social and political transformations, whereas in the second one we have a quantitative aspect, the result of the industrialization process that started couple of centuries ago.

Secondly, we must mention that this economic growth can be translated into the existence of some economic indexes among which we can list the gross domestic product, the gross national product, the national income or the net national product, the gross world product, etc. Referring only to the gross domestic product, in economic terms, the latter represents “the market value of all goods and services designed for final consumption and accomplished with the help of production factors within a country, in a certain period of time” (Angelescu et al., 2005).

In addition, the interactions between economic growth and globalization have generated various discussions during the years, some studies in this field proving that when countries wish to maximize their economic growth they need a higher globalization level (Mutascu and Fleischer, 2011). In this context, two aspects need additional attention: 1) this result is valid only in the medium and long run, and 2) when a certain saturation level of the economic growth is reached, there is the possibility that the opening for globalization does not take place any more.

An example of how globalization influences national economies is given by the Department for Business, Enterprise and Regulatory Reform (BERR) from the United Kingdom. According to it, the current globalization wave is unique because it brings together three important factors (BERR, 2008):

- the adoption of open economic policies on behalf of more countries, which led to an increase in international trade and in capital and labour flows;

In many countries of the world the taxes levied have reduced considerably once the GATT in 1948 was adopted or the World Trade Organization in 1995 was created. Thus, in Germany, from 1950 till 2004, the tax for manufactured goods dropped from 26% to 3.6%, in Japan and in Italy decreased with more than 21%, while in the United States has fallen by 10%.

- the rapid technological breakthrough, which led to a decrease in transport and communication costs;

While in 1990 the cost of a telephone call between London and New York was slightly over 1% from the amount registered in 1930, the price for an airline ticket was 84% cheaper.

- the emergence of developing economies on the world stage.

Some fast-paced populated countries such as China and India have developed amazingly in the last decades as a result of the political and economic reforms that took place within these nations. In addition, it seems that the phenomenon of globalization had a positive effect on the United Kingdom, its economy being able to take advantage of the technological development which allowed various services to become more commercial and to transform the country in a leader in what concerns the export of specific financial and business services.

Some opinions (Kose et al., 2009) head for the policies that promote the development of the financial sector, towards those that refer to an institutional quality, as well as for the policies that focus on a certain openness towards trade and that are considered to help emerging countries to use only the benefits of globalization. Nevertheless, the relation between financial integration and economic policies is a complex one, full of tensions in what concerns the evaluation of risks and the benefits associated to financial globalization. In the case that financial integration takes place ahead other reforms (such as those ones from the national financial sector or larger exchange rate flexibility), then we will face devastating consequences if unexpected shifts occur in the intensions of international investors. As a result, we need to adapt the macroeconomic and structural policies to the characteristics of every nation, as well as including these financial integrations in a full reform package. Moreover, we need to enlarge the research programs that deal with the financial openness level of countries, focusing on the indirect benefits of financial globalization which can be expressed through increases in productivity and macroeconomic stability.

Other studies have shown that the phenomenon of globalization does promote economic growth, but not to a sufficiently high extent as to reduce worldwide poverty (Dreher, 2003). In other words, the statement according to which poverty continues to deepen as a result of an expanding globalization is not true. In the same time, it seems that informational cross-border flows contribute to an improvement of economic growth. According to some indexes calculated in this study, the most globalized country in the world is the United States of America thanks to its high social and political integration levels, while the least globalized is Rwanda, a country which was nearly destroyed by the civil war and poor institutional system. Moreover, this nation is almost isolated from a political point of view as in the year 2000 it had only 16 embassies

worldwide. Romania is ranked 53 from a total of 123 countries, running neck and neck with China and being closely followed by South Africa. Contrary maybe to all beliefs, it seems that Romania is doing well at political integration, while in what concerns social globalization it has results similar to countries such as Turkey, Saudi Arabia, Lithuania or South Africa.

The tendency of globalization to deepen has also led to an intensification of knowledge exchanges between countries, as well as to an exacerbation of the competitive spirit, each nation wishing to excel in a certain direction, thus attracting the best scientists and investing large amounts of money in research and development. Under these circumstances, the European Union exerts itself in order to make up for part of the gaps registered in comparison with the United States of America, thus placing research and development as a top priority (Autoritatea Nationala pentru Cercetare Stiintifica, 2006).

Innovation is a key element of economic competitiveness and of technological breakthrough that lies beneath the improvement of the quality of life (National Science Board, 2008). Furthermore, the willingness of a global collaboration is in a continuous growth because most countries of the world possess important research and development capabilities. This is the reason for which a series of companies worldwide outsource their research and development departments in order to benefit from the best specialists and the lowest costs. One of the driving forces of the internationalization process consists in new technological opportunities, especially in the information and communication technology domain, which led to new collaboration possibilities among countries and to a larger specialization in the global innovation system (OECD, 2008). Even if most investments in research and development gravitate around countries such as China, India or the United States of America, it is expected that in the following years a shift towards less known emerging countries to occur. That is why governments need to withstand the challenges of adjusting national policies in the light of certain growing international innovation networks. One of the OECD (2008) reports mentions the necessity to meet some requirements that will adequately answer the current challenges:

- an excellent framework (political stability, public infrastructure etc);
- an excellent innovation system based on local capabilities (solid research base, well trained workforce etc);
- stronger international connections;
- coherence between various policies.

### 3. Romania and its research and development sector

Individualizing for the case of Romania, the situation is quite sad because, after 1989, the sector of research and development was underfinanced and the number of researchers dropped dramatically, especially due to the fact that most of them have chosen to go abroad, as the National Research, Development and Innovation Strategy claims (Autoritatea Nationala pentru Cercetare Stiintifica, 2006). In addition, among the reasons for which a career in this field does not seem to attract many people we can mention:

- low level of wages;
- late institutional reform;
- poor research and development infrastructure;
- lack of an evaluation system that stimulates and rewards excellence;
- lack of clarity and transparency in what concerns the promotion in this career.

A first target of 1% from the GDP allocated to research and development till 2010 has not been reached, but the circumstances give us faith that the percentage of 1.5% that was set for 2013 is not a probability but a certainty.

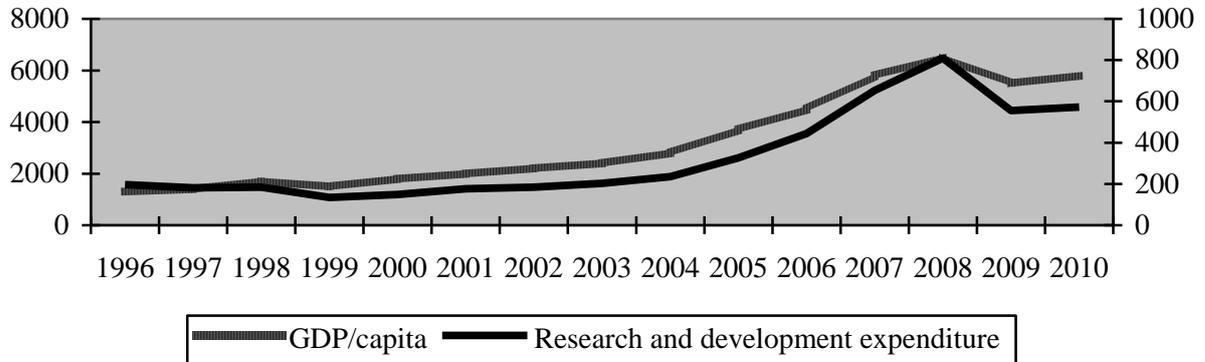
The guidelines acknowledged in the strategy are few, but aim at the essence of the steps needed to be followed. These mainly refer to an increase in the number of researchers by attracting young people as well as foreign researchers into various projects, to an integration of the personnel into the international community, providing a better access to information resources, supporting projects, especially those that aim at international cooperation, and also to improving the research and development infrastructure.

On the other hand, referring to the Romanian standard of living, it can be observed that it did not manage to keep up with the rest of the world as, from 1920 till 2010, Romania's gross domestic product per capita increased by 3.6 times, while the world average raised by 4.1 times (Sisu, 2011). At the same time, at European level, our country did not have quite a favourable evolution, ranking among the last places. Some specialists consider that the gap in comparison with the United States is due exclusively to the inadequate mixture of fiscal and monetary policies from the period before the crisis, and especially to the incorrect way in which the crisis has been administrated (Soviani, 2011).

Unfortunately, the financial-economic crisis that followed the collapse in 2009 could still have serious social and economic consequences over the eastern countries, and the austerity measures taken in our country and that have led to street violence lately will only prolong the exit from this crisis (Cauea, 2012). The effects are already visible: the number of jobs abroad diminished, fewer Romanians send money at home and more investors avoid conflict areas due to uncertainty.

All that has been mentioned so far actually represents the reason for which we have chosen to analyze the evolution of the Romanian gross domestic product per capita and the research and development expenditure. The graphic below captures the situation between 1996 and 2010.

**Figure 1: The evolution of GDP/capita and research and development expenditure**



Source: author’s own computation according to Eurostat data (2012a; 2012b)

Using the regression function of the Microsoft Office program Excel, we considered appropriate to show the link between the two elements whose evolution has been described above. The obtained results can be seen in table 1. One of the most known modeling equations, also applied in this paper, is the following:

$$y_i = \alpha + \beta x_i + e_i \quad (1)$$

We ought to underline that both  $x_i$  (research and development expenditure) and  $y_i$  (GDP/capita) represent values of the cause and effect variables, while  $\alpha$  and  $\beta$  are nothing else but the parameters of the regression equation. Moreover, the residual value  $e_i$  consists in the influence of the other not relevant factors. Replacing with the results generated by the program, the above mentioned function will have the following feature:

$$y_i = 471.56 + 8.35x_i + e_i \quad (2)$$

**Table 1: The results of the regression function**

SUMMARY OUTPUT	
<i>Regression Statistics</i>	
<b>Multiple R</b>	0.972235957
<b>R Square</b>	0.945242756
<b>Adjusted R Square</b>	0.94103066
<b>Standard Error</b>	453.2650221
<b>Observations</b>	15
<b>ANOVA</b>	
	<i>df</i>
<b>Regression</b>	1
<b>Residual</b>	13
<b>Total</b>	14
<i>Coefficients</i>	
<b>Intercept</b>	471.5622546
<b>X Variable 1</b>	8.358980473

Source: author’s own computation using the data in Figure 1

Consequently, as it fits the interval (0.95; 1), the correlation coefficient of 0.97 shows that we are dealing with a very strong correlation between the two variables considered, while the determination

coefficient (0.94) underlines the fact that the expenditures related to research and development influence in proportion of 94% the variation of the GDP/capita. This determination coefficient actually expresses the quality of the regression function and can be very easily obtained by squaring the value of the correlation coefficient. The most important aspect of this analysis is formed by the coefficient  $\beta$  whose positive value (8.35>0) points out that at every increase with one million Euros in the research and development expenditure, the GDP increases by 8.35 Euros per capita. Last but not least, through the agency of the positive value of  $\beta$  we can notice the direct connection between the two variables.

Unfortunately, Romania has another problem: the corruption encountered at governmental level and which expresses itself in granting contracts to several private agents that are not efficient in the field they activate and that results in losses in terms of economic growth. Under these circumstances, we are also talking about a low institutional level, represented by a judicial system that does not work properly. That is why poor institutions and corruption are considered true obstacles in the way of economic development and growth. A study conducted at the end of the last year revealed that countries with a high level of corruption tend to impose higher taxes and tariffs, situation also met in our country (Kunieda et al., 2011).

#### 4. Conclusions

From the research conducted in the case of Romania we can point out that at each increase by one million Euros of the research and development expenditures, the GDP/capita increases with approximately 8.35 Euros. Both indexes have followed an upwards trend during the period under observation, but overall evolution is an unsatisfactory one under the current conditions and growing needs of the population.

In conclusion, whether we like it or not, in order to obtain growth in a sustainable, economic or ecological way, we need to cooperate with each other, within and without national boundaries. This idea is also supported by several specialists, among who Huo and Tribe can be mentioned, both authors claiming that what is happening at global level with the national economies is not a question of choice between a market liberalization mechanism and a systematic intervention of the government, but a question of finding the best way through which governments and civil societies are able to work in a cooperative and complementary manner.

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## POTENTIAL AND LIMITS OF RENEWABLE ENERGY IN THE CENTRAL AND SOUTH-EAST EUROPE REGION

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**Abstract:** *Renewable energy sources (solar power, wind power, hydroenergy, biomass, biofuels) with energy efficiency contribute to increasing security of electricity supply, competitiveness and sustainable development.*

*The countries of the Central and South-East Europe region must to develop a focus on alternative energy sources and on energy efficiency and energy saving.*

*Developing the renewable energy sector in a sustainable manner in the Central and South-East Europe region would enhance security of supply, reduce greenhouse gas emissions and create jobs in the area.*

*Renewable energy sources move to the centre of the energy mix in Europe, from technology development to mass production and deployment, integrating local and more remote sources, from subsidized to competitive.*

*Investment in European Union wind farms, in 2011, was 12.6 billion €, a similar figure to 2010; the onshore wind power sector attracted 10.2 billion.*

*Hydropower still ranks first among renewable energy sources and currently accounts for almost 90% of renewable electricity production worldwide. The planet has yet to achieve its full hydroelectric potential - at about 15,000 TWh, its potential is 3 times higher than current levels.*

*Biomass electricity is responsible for 19.1%, against solar electricity for 8.5%; biomass has a big economic potential.*

*The main objective of the Central and South-East Europe Regional Centre of Renewable Energy is to maintain a community and regional policy and legislative proposals, specifically with regard to the integration of renewable energy sources into the electricity grid region, and to find value opportunities investments and ways to leverage innovations and technologies in renewable.*

*Romania has a good natural potential for all renewable sources. To reach at economic practicability of renewable energy sources, Romania accelerates the development of the national RES industry and removes several legal and administrative barriers.*

*Romanian RES framework as European Support Schemes is Green Certificate and Quota Obligations. The target for the share of energy from renewable sources in gross final consumption of energy in the year 2020 is 24%. Romania promotes environmental leadership, and considers energy preservation to be a cornerstone for the reduction of the climate changes impact.*

**Key words:** Renewable energy; onshore wind; biomass, photovoltaic energy; Green Certificate

**JEL classification:** O 01

### 1. General framework

Europe has entered into a new climate and consequently energy era. Unprecedented challenges like climate change, volatility of fossil fuels prices, and energy poverty have made our society vulnerable. Renewable sources and energy efficiency outline the way to future developments in the energy sector. The international community is at cross-roads regarding the future of energy.

Renewable energy sources with energy efficiency contribute to increasing security of electricity supply, competitiveness and sustainable development. Renewable energy technology range from solar power, wind power, hydroenergy, biomass and biofuels for transportation. However, because of their development and production cost as well as their storage, transport, and distribution costs, renewable energy sources are not yet fully competitive.

Europe has a large experience in promoting renewable energy sources and defining adequate legislation. The European Union's commitments to reducing CO<sub>2</sub> emissions by 20%, producing 20% of its total energy (transport, heating, electricity and cooling & lighting) from renewable sources and improving energy efficiency by 20%, all by 2020, represent a considerable challenge for the energy sector.

For the electricity network, the triple commitment is even more challenging as it means that approximately 35% of all electricity will be generated from renewable sources. In the future will appear more electricity applications, such as the heat pumps and electrical vehicles coming into use. The many inherent benefits of renewable energy sources make a positive contribution to environment, contribute to energy security and create new employment opportunities.

Average energy consumption per square meter (m<sup>2</sup>) of living space in the countries from the Central and South-East Europe is about 2-3 times higher than in Northern Europe; yet in more than one in four households the amount of heated space per person is below minimum health standards while available heating device is 2-3 times more fuel intensive than usual technical standard.

The Central and South-East Europe region vast fossil resources make it attractive, but also controversial to instability due to competitive if not clashing interests. The Central and South-East Europe region could provide solutions for energy supply diversification because of its unexplored potential on renewable energy.

The gap between use and potential is larger in the Central and South-East Europe region and requires swift action. The countries of the region must to develop a focus on alternative energy sources and on energy efficiency and energy saving. Wind, hydro, biomass, wastes and solar energy could make the region emerge as a key element of Europe's energy strategy. On this basis, the European countries should promote regional ownership, developing meaningful cooperation on energy from renewable sources.

Renewable energy issues are in conformity with some results from 2010, such as:

- renewable energy – sourced primary consumption: 11.3%;
- the rising of the share of gross final energy consumption: 12.4%;
- wind power turnover in the EU: 29 billion Euros;
- the PV sector's turnover: 45 billion Euros;
- in the solar thermal in France: 8,000 jobs;
- the geothermal energy sector in the EU: 12,500 people employed;
- ground source heat pumps: 40,000 people directly or indirectly employed;
- 25,390 people employed by the renewable municipal waste sector in European countries;
- 6 billion Euros made by Sweden's biomass sector.

Renewable energy estimated value of the repowering market, in 2025: 40 billion Euros.

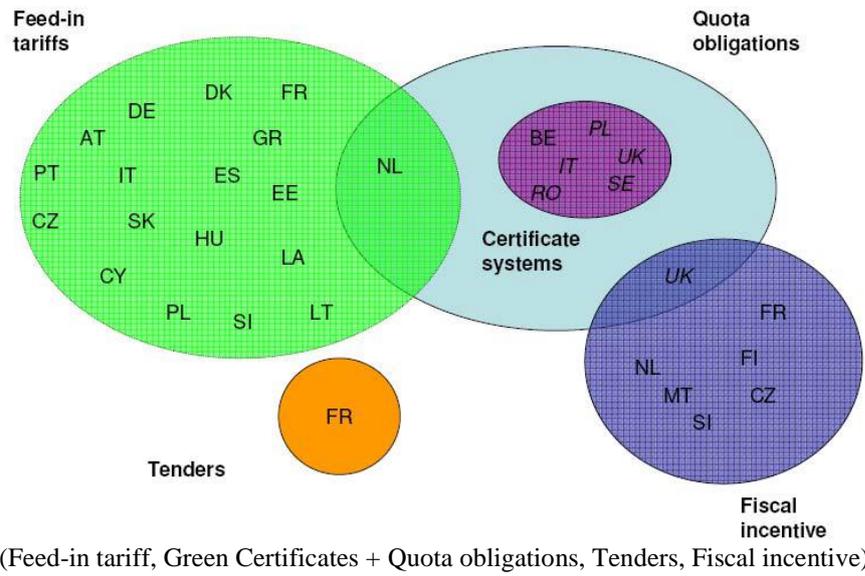
## 2. Conjecture

Developing the renewable energy sector in a sustainable manner in the Central and South-East Europe region would enhance security of supply, reduce greenhouse gas emissions and create jobs in the area. It would increase the share of renewable energy sources in Europe's energy mix, to guaranteeing affordable and clean energy supply to their citizens. The renewable sources are the key component of any effort to achieve higher degrees of energy independence regionally.

In order to capitalize upon renewable energy sources to full potential in the Central and South-East Europe region are required thorough analysis and concerted efforts on political, legal, financial, administrative, social, cultural, economic and marketing aspects.

Renewable energy sources move to the centre of the energy mix in Europe, from technology development to mass production and deployment, from small scale to larger scale, integrating local and more remote sources, from subsidized to competitive. However, because of their development and production cost as well as their storage, transport, and distribution costs, renewable energy sources are not yet fully competitive.

**Figure 1: Renewable energy system payment's EU Member states**



Looking at the overall growth rates per renewable energy type, for the period 2010 – 2020, the growth rates are smallest for renewable heating and cooling (between 4.5% and 5.7% annually), and that renewable transport is growing fastest (7.2% to 8.5% annually). Renewable electricity has a growth rate of 6.2% to 6.8% annually. These growth rates are average values, and that the conventional renewable technologies (hydropower electricity, solid biomass heating) constitute a large part of the renewable energy stock. From the renewable energy sources (RES) - specific projections, the average growth rates for new renewable (wind power, solar electricity – photovoltaics and solar thermal energy, heat pumps and biofuels, for example) are significantly higher.

At the mix of renewable electricity technologies for the year 2020, the most important contribution is expected from wind power (40.7% of which onshore wind power contributes 28.9%). The second largest technology is expected to be hydropower (30.4% of all renewable energy sources in 2020, of which large hydropower takes 25.4%).

**The current level of support** for RES-E differs significantly among the different EU Member States. This is due to the different country-specific cost-resource conditions and the considerable differences in the support instruments applied in these countries. In order to compare the prices paid for the different RES-E generation options with the costs in each Member State, both quantities are analysed and shown simultaneously for wind onshore, agricultural biogas, biomass forestry, small-scale hydropower and solar photovoltaic.

The support level in each country needs to be normalised according to the duration of support in each country, e.g. the duration of green certificates in Italy is only eight years compared to 20 years for guaranteed feed-in tariffs in Germany. The support level under each instrument has therefore been normalised to a common duration of 15 years. The conversion between the country-specific duration and the harmonised support duration of 15 years is performed assuming a 6.6% interest rate.

The effectiveness can be defined as the outcome in renewable electricity compared to what's remains of the 2020's potential. This means that a country with an 8% yearly average effectiveness indicator over a six-year period has been delivering 8% of the 2020 potential every year over that period – as is the case for Germany (wind). Over the complete six-year period, therefore, 48% of Germany's 2020 potential have been deployed.

In more complex terms, effectiveness is defined as the ratio of the change in the electricity generation potential over a given period of time to the additional realisable mid-term potential by 2020 for a specific technology.

The definition of effectiveness is a measure of the available potentials of a specific country for individual technologies. This appears to be the correct approach since Member State targets as determined in the RES-E directive are based mainly on the realisable generation potential of each country.

The yearly effectiveness of a Member State policy is the ratio of the change of the electricity generation potential in that year compared to the remaining additional realisable mid-term potential until 2020 for a specific technology.

**Table 1: Overview of the main policies for renewable electricity in EU-10**

Country	Main electricity support schemes	Comments
<b>Cyprus</b>	Grant scheme for the promotion of RES financed through an electricity consumption tax of 0.22 E/kWh.	Promotion scheme is fixed only for a 3-year period.
<b>Czech Republic</b>	Feed-in tariffs, supported by investment grants Revision and improvement of the tariffs.	Relatively high feed-in tariffs with 15-year guaranteed support. Producer can choose between a fixed feed-in tariff and a premium tariff (green bonus). For biomass cogeneration, only the green bonus applies.
<b>Estonia</b>	Feed-in tariff system with purchase obligation.	Feed-in tariffs paid for up to 7 years for biomass and hydro and up to 12 years for wind and other technologies. All support schemes are scheduled to end in 2015. Together with relatively low feed-in tariffs this makes renewable investments very difficult.
<b>Hungary</b>	Feed-in tariff combined with purchase obligation and tenders for grants.	Medium tariffs but no differentiation among technologies. Actions to support RES are not coordinated, and political support varies. All this results in high investment risks and low penetration.
<b>Latvia</b>	Quota obligation system combined with feed-in tariffs.	Frequent policy changes and the short duration of guaranteed feed-in tariffs result in high investment uncertainty.
<b>Lithuania</b>	Relatively high feed-in tariffs combined with a purchase obligation. In addition good conditions for grid connections and investment programmes.	Closure of the Ignalina nuclear plant will strongly affect electricity prices and thus the competitive position of renewable as well as renewable support. Investment programmes limited to companies registered in Lithuania.
<b>Malta</b>	Low VAT rate for solar.	Very little attention to RES-E so far.
<b>Poland</b>	Green power purchase obligation. In addition renewable are exempted from the (small) excise tax.	No penalties defined and lack of target enforcement.
<b>Slovak Republic</b>	Programme supporting RES and energy efficiency, including feed-in tariffs and tax incentives.	The low support, lack of funding and lack of longer-term certainty make investors very reluctant.
<b>Slovenia</b>	Feed-in system combined with long-term guaranteed contracts, CO <sub>2</sub> taxation and public funds for environmental investments.	None.
<b>Bulgaria</b>	Combination of feed-in tariffs, tax incentives and purchase obligation.	A green certificate system to support renewable electricity developments has been proposed. Bulgaria recently agreed upon an indicative target for renewable electricity, which is expected to provide a good incentive for further promotion of renewable support schemes.
<b>Romania</b>	Green Certificate and Quota Obligations	Romania can support to develop a long-term legal energy framework, stable and coherent energy policies based on a mix of energy resources

**The production and balancing power** need for an appropriate combination of internal market and renewable regulation. The balancing costs will depend on the volume of intermittent power that has to be balanced, which again depends on the prediction of renewable production, gate closure etc. The cost will depend on the availability of balancing power, which will in turn depend on the generating system (energy mix) and interconnectors to other countries.

An appropriate forecast of wind generation so as to minimise deviations will optimise system costs and regulation services. Under certain conditions, RES-E integration can match with local and regional demand peaks (e.g., solar energy with respect to peaking and grid-destabilizing air-condition demand in countries during daytime).

It should be stressed that most existing power markets are designed to cater to the needs of conventional thermal and hydropower, and therefore only to a very limited degree take into account the needs

of new renewables. At EU level, the need for rules and other measures to integrate intermittent RES-E technologies should be considered.

Arrangements for power plant scheduling, the possible rigidity of the structure of electricity market, reserve capacity for cross-border transmission and congestion management seem to be crucial points requiring further analysis.

If developed in a more intensive manner, demand flexibility can handle some of the fluctuations in power production from intermittent sources. This flexible demand which could ensure a better balance between supply and demand, may offer advantages not only for integrating RES-E capacity, but also for the general operation of a liberalised power market.

The transparency of consumers of the different support systems depends almost entirely on the design of the system, especially the flexibility of the market. The majority of countries in the EU do not give the explicit cost of renewable energies in electricity bills. The transfer of the cost of renewable electricity depends on national regulation aspects and the tariff structure.

The structure of the electricity market and the design aspects are very different in Europe. The cost of the renewable support systems as reflected in the tariff is between 4% and 5% for Germany, Spain and UK and around 15% for Denmark (the share of renewable electricity is higher than 20%).

### **Administrative barriers**

Many Member States recognise the problem that renewable energies come in many cases under different codes and legislations. Complex legislation concerning renewable projects:

- spatial planning laws involve competent authorities at different hierarchical levels (e.g. central and local government); civil construction works law and building codes involve local government as the competent authority;
- environmental laws justify a favorable environmental impact assessment for granting environmental permits;
- noise disturbance laws (case of wind) are intended to limit noise 'pollution'; competent authorities are typically at local and/or provincial level;
- nature diversity laws aim at protecting indigenous plants and animals, notably birds; the competent authority is typically central government;
- laws for the management of water and road infrastructure seek to protect and promote the efficient use of public infrastructure; the competent authority is central government (more problematic in the case of small hydropower plants);
- electricity laws governing the transmission, distribution and supply of electricity.

**Wind power** accounted for 9,616 MW (21.4%) of new installations in 2011 year, the third biggest share after solar PV 21,000 MW (46.7%) and gas 9,718 MW (21.6%).

Wind power capacity installations: during year 2011, was installed wind power - 10,281 MW across Europe of which 9,616 MW was in the European Union (8,750 MW was onshore and 866 MW offshore), similar to the previous year. The annual on-shore market remained stable, compared to the previous year, whilst the offshore market decreased slightly (-1.9%).

Investment in EU wind farms, in 2011, was 12.6 billion €, a similar figure to 2010; the onshore wind power sector attracted 10.2 billion €, while the offshore wind power sector accounted for around 2.4 billion € (19%). In terms of annual installations, Germany was the largest market in 2011, installing almost 2,100 MW of new capacity. The United Kingdom came in second with 1,300 MW, of which 752 MW offshore (58%), followed by Spain with 1,050 MW; Italy (950 MW), France (830 MW) and Sweden (763 MW) are followed by Romania (520 MW).

Among the emerging markets, after Romania, Poland installed the second most capacity in 2011 (436 MW). Both remain among the 10 biggest EU markets for the second year running. Offshore wind accounted for 8.9% of total EU wind power installations in 2011 year.

Coal installed 2.2 GW (4.8% of total installations), fuel-oil 700 MW (1.6%), and large-hydro 607 MW (1.3%). Biomass (234 MW), waste (69 MW), geothermal (32 MW) and ocean technologies (4.5 MW), each represented less than 1% of new capacity installations. Overall, 2011 was a record year in the EU, with 45 GW of new electricity generating capacity installed, a 3.9% increase, compared to 2010 year.

The share of renewable in total capacity additions has also grown to 3.5 GW, represented 20.7% of new power installations, increasing to 23.3 GW (53.8%) in 2010, and 32 GW (71.3%) in 2011.

Since 2000, new power capacity installed has been 302.6 GW, of this 47.8% renewable, 90.8% renewable and gas combined and 28.2% has been wind power.

Since 2008 renewable capacity installations have represented more than half of all new installed capacity.

**Hydroelectricity** represents almost 20% of global electrical capacity and has development potential of 3 times its current level. Hydropower has low operating and maintenance costs. Its life cycle is extremely long; and it is highly reliable in operational terms because it is a tried and tested technology. Hydropower still ranks first among renewable energy sources and currently accounts for almost 90% of renewable electricity production worldwide. The planet has yet to achieve its full hydroelectric potential - at about 15,000 TWh, its potential is 3 times higher than current levels. The small hydro projects use natural river currents to produce energy, or tidal and wave energy, the techniques used are less invasive, therefore more environmentally friendly.

**Solar energy** is clean, and every year the earth receives 8,380 times the amount of energy spent annually by humankind - 11 billion tons (oil equivalent).

Key data for solar PV power capacity in the European Union (EU-27):

- solar PV power capacity at the end of 2011: 51.4 GWp (29.8 GWp end of 2010);
- installed PV capacity during the year 2011: 21.5 GWp (13.7 GWp during 2010);
- cumulative solar PV electricity production: 44.8 TWh in 2011 (22.6 TWh in 2010).

*Biomass energy has a promising future. Biomass electricity is responsible for 19.1%, against solar electricity for 8.5%. E-RES from waste wood was developed based on carbon credits; biomass has a big economic potential. The term **biomass** refers to all organic matter that can be used as an energy source, such as:*

- wood and plants from farming and forestry;
- agricultural waste;
- waste from certain industrial activities (sawmills and paper-mills);
- organic household waste (e.g. peelings);
- algae and microalgae

The European Union Member states' political resolve to develop the energy potential of solid biomass has started to pay off, as in 2010 there were clear signs that growth of primary energy production had quickened pace. The output rose to 79.3 Mtoe in 2010, which is 8% up on 2009 and deserves comparison with the previous year's 4% rise (from 70.6 Mtoe in 2008). The trend, which was driven deeper by Europe's particularly cold winter of 2009-2010, demonstrates that the economic downturn failed to scuttle the member states' efforts to structure the solid biomass sector.

At the same time, scientific and industrial research is developing new uses of organic matter while taking into account a number of environmental constraints.

For renewable heating and cooling the largest share in the year 2020 is from biomass (81.1%), notably solid biomass (72.6%). Second is renewable energy from heat pumps (10.9%), followed by solar thermal (5.7%) and deep geothermal heat (2.4%).

**Geothermal power** is inexpensive, making it attractive to emerging countries for electricity and heat production. In Europe, Italy is the leader in terms of primary energy produced. The largest producing countries are located in active volcanic regions, because it uses underground heat. This particularity means that many countries that have little involvement with other energy markets - such as the Philippines, Indonesia, and Iceland - use this energy source.

Geothermal technology uses the earth's heat to produce heating or electricity. This environmentally-friendly but underused energy source could represent an interesting opportunity for the sustainable development of energy.

*High-temperature geothermal resources worldwide (used to produce electricity) are concentrated in a limited number of countries near active volcanic regions around the globe. Most of these are located in Asia and North America. In all, about twenty countries worldwide produce geothermal electricity, with capacity of about 9,700 MW. This energy source plays a key role in some countries such as the Philippines,*

where it accounts for 17% of electricity produced, and Iceland (30%). Global installed capacity is expected to double to 18,000 MW by 2020.

Installed capacity for heat production (low-energy geothermal power) is estimated at 27,000 MW. From 2005 year, over 70 countries stated that they used geothermal power to produce heat, including Japan, China, Iceland, the United States and Europe (2,500 MW). However, the planet's geothermal potential remains largely underused, particularly in developing countries.

Most developing countries remain dependent on external aid. The availability of geothermal energy is also geographically limited.

The renewal capacity of geothermal resources is based on:

- internal heat sources within the earth's crust (mostly radioactivity);
- energy input from outside the reservoir (solar heat);
- underground water circulation that reheats them through contact with heat sources located far from the reservoir before returning to the reservoir.

### 3. Regional center of renewable in the Central and South-East Europe region

A coordination between authorities in the Central and South-East Europe region and the public and private sector should work together for more direction at national and regional level. A regional center of renewable in the Central and South-East Europe region could focus on:

- a) renewable energy and climate change policies;
- b) stimulating measures and innovative mechanisms to promote renewable energy sources, including R&D;
- c) meaningful regional cooperation on renewable, training and education with a strategic look at the way forward.

The main objective of the Central and South-East Europe Regional Centre of renewable energy is to maintain a Community and Regional policy and legislative proposals, specifically with regard to the integration of renewable energy sources into the electricity grid region. Another objective is to find value opportunities in operational expertise, investments and ways to leverage innovations and technologies in renewable.

A regional center of renewable in the Central and South-East Europe region can act to:

- extend the best practices on renewable energy sources, through dedicated training or public communication;
- strategic partnerships on renewable at economic and political levels by bringing together international partners and regional stakeholders;
- draw attention to renewable across the Central and South-East Europe region through regional networks of academics, NGO's, and public acceptance of renewable energy;
- provide opportunities for scientists, politicians and industry leaders to meet, network and discuss solutions to bridge the gap between new technologies and market entrance;
- explore the practical cooperation on renewable energy between private enterprises, public operators, and academia ("*renewable energy clusters*");
- regulatory framework of the renewable energy sector in Central and South-East Europe countries and interoperability with EU legislation;
- market-oriented stimulating instruments for renewable energy and appraise renewable energy investment needs in the Central and South-East Europe region;
- renewable energy industry's perspectives and development through thematic reports by members of the working group on renewable energy Central and South-East Europe; focus on industry sectors to benefit from renewable energy (agriculture, heating, automotive construction, shipping, wood processing, etc.).

The Central and South-East Europe Regional Centre of Renewable Energy might lay down policy recommendations regarding an integration of renewable energy sources in Europe's energy framework; it could set a number of targets, such as:

- renewable energy in the region strategic review (potential, priorities, financing, regional connectivity, public awareness, etc.);
- renewable energy regional database supported by a functional regional network connecting universities and research institutions with private companies and public authorities.

Potential interested parties include representatives of the national and international renewable energy agencies or associations representing renewable power producers, employers federations, renewable energy companies and organizations operating or interested to invest in the Central and South-East Europe region, utilities, universities, research centres, environmental non-governmental organizations and consumer groups, consultants, financial institutions and all interested in renewable energy in the Central and South-East Europe region.

Main issues can be considered:

- renewable energy developments and projects in the region;
- stimulating regional cooperation on renewable energy;
- role of Renewable Energy on the future of networks;
- renewable energy Directive/grid access issues/regulatory incentives;
- technical solutions and standards (necessary R&D and innovation);
- smart grid (role of Transmission and Distribution System Operators – TSOs & DSOs, incentive schemes and demand side management).

**Romania** has a good natural potential for all renewable sources: solar, wind, biomass, geothermal. To reach at economic practicability of renewable energy sources RES, Romania needs to accelerate the development of the national RES industry and to remove several legal and administrative barriers.

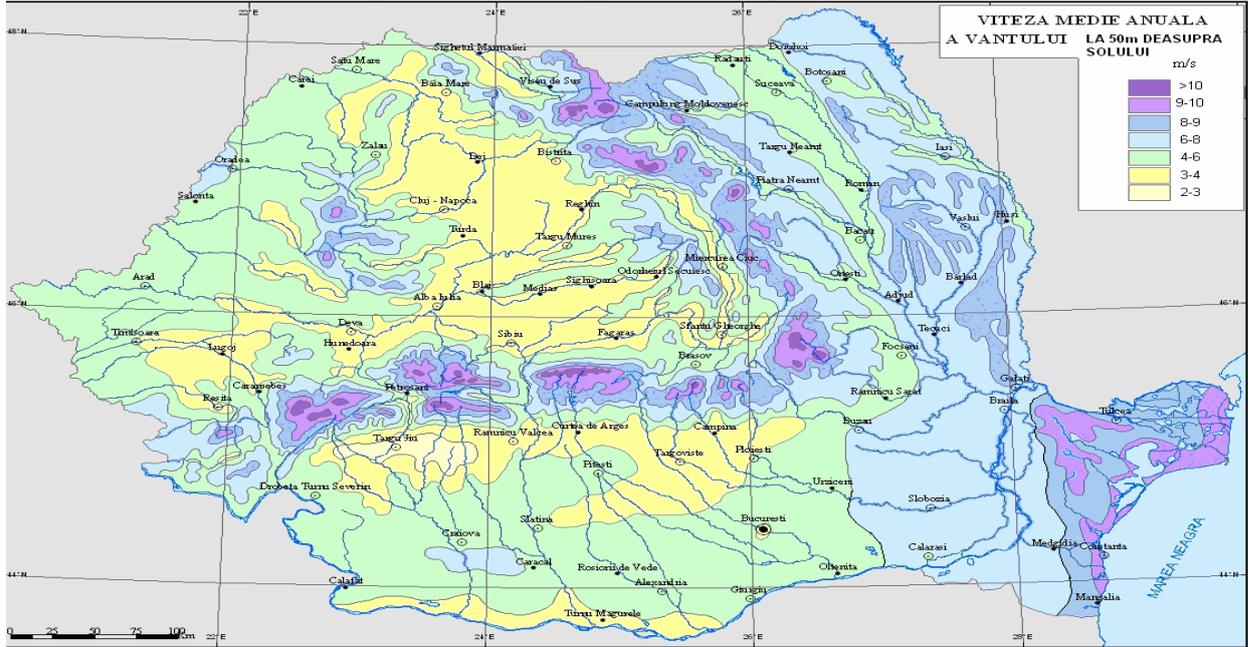
Romanian RES framework as European Support Schemes by Feed-in tariff and Green Certificate is Green Certificate and Quota Obligations.

The sustainable use of Romania's Natural Capital, of the "Natura 2000" network and of the national network of protected areas will assist Romania in meeting European Union's political commitment to halt biodiversity loss by 2010.

A stable and comprehensive legislative framework for national and foreign investors envisaging to develop electricity generation capacities from renewable energy sources will "maintain" and/or encourage the appetite of various entities in this field.

Promoting the use of renewable energy sources is a major energy policy objective and the total technical energy potential of Romania's renewable energy sources was published as early as 2003. The principles of energy saving and efficiency should be included as mandatory conditions in all public tenders. To develop the potential of RES and reach the targets, Romania has established a legal and institutional framework appropriate for promoting the use of renewable energy sources in line with the Community acquis. Romania adopted the "Strategy for the development of the renewable energy sources", and promoting the production of electricity from renewable sources, by the system of mandatory quotas coupled with the trading system for green certificates. The acquisition quotas for green certificates are established in correlation with the targets, and their values increase every year. The market energy has dispatching mechanisms that give priority to sales of electricity from renewable sources. The Romanian mechanism for promoting the production of electricity from renewable sources covers the electricity produced by companies and delivered to the public grid, as follows: hydro energy, wind energy, solar energy, geothermal energy, biomass, biogas, landfill gas and sewage treatment plant gas.

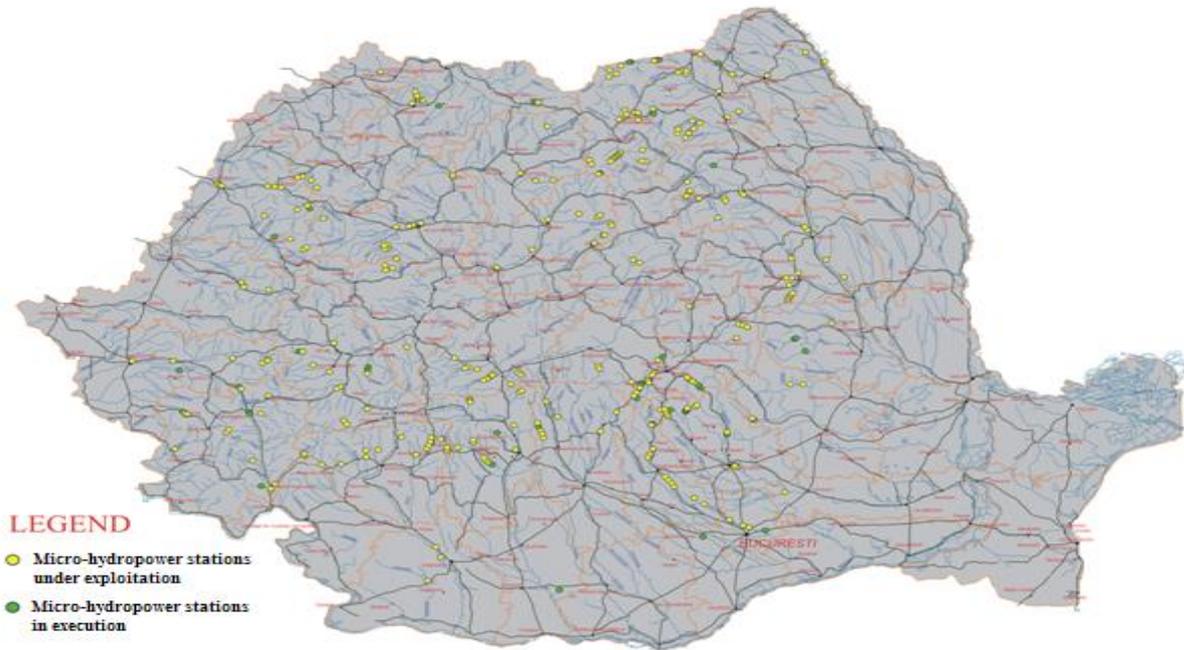
**Figure 2: Wind Energy Potential Map of Romania**



(wind speed spread to 50 m high)

According to the Directive 2009/28/EC on the promotion of the use of energy from renewable sources the target for the share of energy from renewable sources in gross final consumption of energy in the year 2020 for Romania is 24% (in the year 2005 the share was 17.8%).

**Figure 3. Small-Hydro Potential Map**



In Romania there is a mandatory quota system accompanied by Green Certificates (GC) system. The RES-E mandatory annual quotas for 2010-2020: 2010: 8.3%; 2015: 16%, 2020: 20%. For the period 2020-2030, the quotas shall be set through a governmental decision and cannot be lower than the quota for 2020.

The investors in RES have the good opportunities to apply for different structural funds or national programs.

The Law 220/2008 (approved in 2010) lay down the following: 2 green certificates, until 2017, and 1 green certificate, as from 2018, for each 1 MWh produced and delivered by the producers of electricity from wind energy. The promotion system shall apply for a period of 15 years, for electricity produced in new

electric units/power plants. Romanian E-RES market is dominated by wind energy (from 2010) and small hydro.

The scheme sees wind energy producers get two green certificates per MWh of electricity produced up to 2017, after which one certificate per MWh will be awarded. The total wind power installed capacity of wind farms in Romania amounts to 982 MW. The planned extension is 3,200 MWe in 2015 and 4,000 in 2020. In accordance with the data issued by European Wind Energy Association, with a probability of over 90%, wind power units with an installed power of 956 MW and 1,067 MW shall be installed in 2012 and 2013. It has been considered that by 2020 no offshore installations will be established since the attention (and funds) shall be concentrated on the establishment of onshore installations; the problem related to the discharge of the power generated in Dobrogea region emphasizes the difficulties encountered in the establishment of offshore installations.

Romania's PV annual potential is 1,200 GWh, considering the irradiation the PV average 1,220 kWh/kW (1,525 kWh/m<sup>2</sup>/year). Solar energy is rewarded with six green certificates per MWh of RES-E produced and delivered.

A stable and comprehensive legislative framework for the functioning of the emission trading scheme after 2012, including clear rules on the application of the auctioning rules and "carbon leakage" protections is contemplated under the EU framework.

Romania will provide support and expertise to address the key challenges in the energy sector, in the context of the regional energy market and the enforcement of the EU Energy Efficiency Policy, in terms of a sustainable, competitive and secure energy future. Romania can support to develop a long-term legal energy framework, stable and coherent energy policies based on a mix of energy resources (including hydro, clean fossil fuels, renewable energy resources, nuclear) and new technology, committed to market mechanisms. It should demonstrate a consistent approach of the triad: competitiveness of the domestic energy market – sustainable impact of the domestic energy sector on climate changes – security of energy supply. The needed technology to address both security of energy supply and climate change challenge exists. Its deployment will require policy support, as well as at the level of implementing projects aimed at meeting the commitments of the EU for reducing greenhouse gas emissions and increasing the renewable energy sources quotas used at the EU level (such as projects to produce energy using renewable resources, such as wind or biomass).

Romania supports the actions based on political consensus, consistent high-level approach and best industry practices, in order to address the triad competitiveness-climate change-security. Romania needs a coherent energy strategy and a mechanism which will ensure a certain degree of predictability of this strategy. Romania promotes environmental leadership in all of business activities, from operations to the design of the products, services and use of technologies, and considers energy preservation to be a cornerstone for the reduction of the climate changes impact.

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## THE PRODUCTION COSTS OF CONVENTIONAL AND ORGANIC APPLE ORCHARDS IN THE VENETO REGION (ITALY)

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**Abstract:** *In times of crisis people are thinking how to make the best choice to be more profitable. Both the manufacturers and the consumers must choose the best solutions for them and their businesses. Making a choice between organic and conventional methods in times of crisis is even more difficult considering production costs and consumption patterns. What is the composition of production costs for an apple orchard, how they can be divided into homogeneous categories and why to choose green are the questions we have tried to answer in this paper.*

**Key words:** apple orchard, production costs, organic, conventional

**JEL classification:** Q 1,Q 15

### 1. Introduction

Concern for the environmental degradation is caused by production activities and may be deemed to have negative economic effects with intrinsic character of the process of production and consumption, which highlights growth rates economically and demographically superior.

Environmental pollution as a result of production activity is considered a negative factor because it determines a social cost to the company or responsible consumers are not penalized and subjects suffering the consequences are not compensated in accordance with the effective suffering caused.

### 2. Transition to organic farming

In the transition from the "green revolution" to organic farming, there were significant changes in terms of nutrients, pesticides, disease management and plant material (Tab. 1).

**Table 1: Changes in farm management**

Nr. crt	Types of management	"Green revolution"	Organic Farm
1	Management nutrients	- application of organic fertilizers each season	- apply granular waste when necessary; - manure; - inclusion of rice straw; - rotation; - pig-manure
2	Management pesticides and diseases	- application of fertilizer or as required or during the season from time to time - use traps for mice; - weeding; - foreign varieties, resistant varieties;	- is based on natural ecological control; - repellent plants; - weeding; - traps for mice - local varieties, resistant varieties; - sprays botanical
3	Management of plant material	- various foreign varieties; - selection of varieties close - exchanges of varieties between farmers	- locally grown varieties - selection of similar varieties; - exchanges of varieties between farmers

Source: Carpenter, 2003

If all those who adopted the style to make organic farming would be grouped in one group might say that were determined in their choice of factors and had some reason.

Estimated price of a product on the market has important implications due to the fact producers have different relationships in the market that they are associated with transaction costs may explain why different households have different links on the market. There are several types of costs for a household but we can highlight: the proportional costs of trading and fixed costs of trading. Proportional costs of trading can increase the price paid by buyer and seller lowers the price obtained. They may contain costs that can be very difficult to notice such as "cost" of time that a farmer spends to market vegetables.

**3. Statistical data regarding ecological orchards in Veneto region (Italy)**

In 2010 in Italy were cultivated 22,196 hectares of organic orchards. 16.251 hectares were processed with the biological method while 5.945 hectares were in conversion. Among them were a total of 4.010 hectares of apple orchards from which 3.119 hectares planted in organic and 891 in the conventional system. In Veneto 1.632 hectares were cultivated in organic orchards, up by 13.7% compared to 2009 when it was grown only 1.435 hectares.

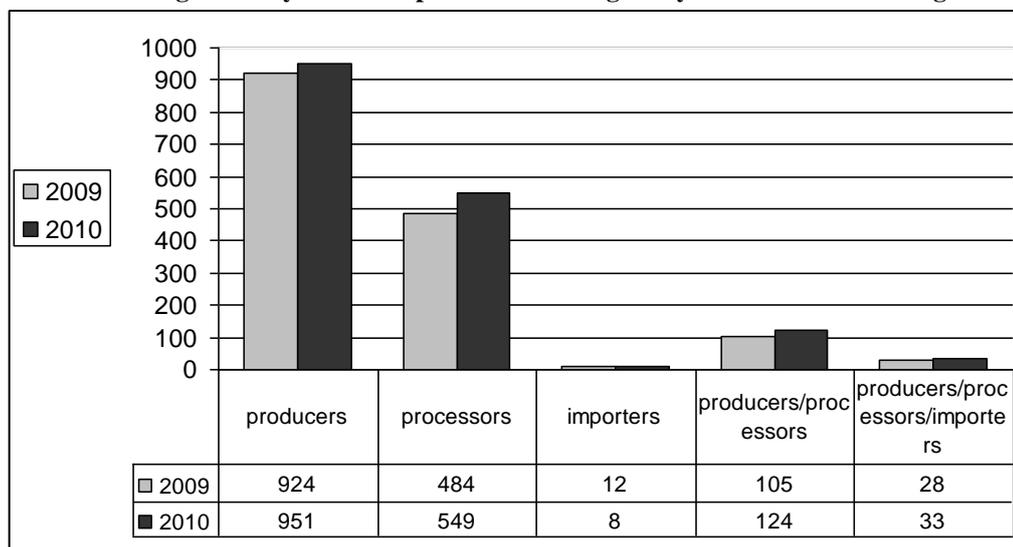
**Tabel 2: Italian organic orchards surface**

	<b>In conversion (ha)</b>	<b>Ecologic (ha)</b>	<b>Total (ha)</b>
<b>Total orchards</b>	5.945	16.251	22.196
<b>Apple orchards</b>	891	3.119	4.010

Source: SINAB (National Information System regarding Biologic Agriculture in Italy), 2011

In 2010 in Veneto region the importers of organic farming have been decreased by 33.3% compared to 2009 (Fig. 1), while the opposite trend has been registered both for producers (+ 2,9%) and for processors (13,4%).

**Figure 1: Dynamic of operators in ecological system in the Veneto region**



Source: SINAB (National Information System regarding Biologic Agriculture in Italy), 2011

**4. Apple production**

Analysis of supply of perennial crops as opposed to annual crops received less attention from researchers because of the complexity of data to those of annual crops. More than the long term, Devassos (2010) believes that the analysis is more complex because:

- Trees that are a long term investment;
- Range from planting to fruition is much higher;
- Once the trees begin to bear fruit, is an extended period of productivity and then a gradual decrease in production;
- After the trees have reached their maximum level of productivity decline are replaced

Reganold (2001) were of the opinion that in terms of economic and environmental sustainability, organic production system ranks first, ranks second integrated system and conventional system ranks last. Ecological system produces sweet and juicy apple with a higher profitability and efficiency.

Integrated production system is a system incorporating both sides of both organic and conventional parts of the system. It incorporates conventional production methods, but also it reduces the use of chemical products.

Even if a system is chosen to be organic or integrated, does not mean that this system is sustainable. To be sustainable, a farm must meet several conditions in terms of environmental protection, high quality crop, in terms of profitability, conservation of resources and not least in terms of social responsibility term.

### 5. Category of costs in the production of orchards

Among the different methods that could be used to evaluate the profitability of fruit production, this study focuses its attention on the cost of producing one hectare of orchard. This method has been chosen because of it is considered more efficient in the representation of the actual market situation that is characterized by higher labour costs and frequent growth in production tools price..The study analyzes five types of costs:

- 1) cost of labour;
- 2) cost of materials;
- 3) cost for organic certification;
- 4) cost of the plant;
- 5) operating costs and capital.

The first category of costs (labour costs) defines the cost of labour required for each activity of the production process. Individual activities considered are:

- i) collection;
- ii) pruning;
- iii) thinning;
- iv) treatment plant;
- v) binding and preparation plant;
- vi) mulch;
- vii) herbicide treatments;
- viii) accommodation providers and irrigation;
- ix) visual inspections of the parasites;
- x) fertilization;
- xi) transport of fruit;
- xii) hail protection system;
- xiii) others.

The second category of costs (material costs) covers the cost of purchasing products that are used in the production process. Among the products have been considered:

- i) plant protection products;
- ii) herbicides;
- iii) mineral fertilizers;
- iv) petrol and diesel to agriculture;
- v) others.

The third category of costs (cost of organic certification) considers the costs incurred in obtaining the documentation necessary to demonstrate that the production process conforms to the standards required by the organic rules.

The fourth category of costs (cost of equipment) covers the cost of purchase of inputs that are used in the production process. Among the equipment were considered:

- i) tractor;
- ii) the moving platform;
- iii) atomizer;
- iv) irrigation pump;
- v) trailers for bodies;
- vi) rear fork;
- vii) mulching rotary;
- viii) bars herbicide treatment;
- ix) equipment rental;
- x) others.

For each item of cost has been calculated the depreciation to be charged to every productive operation considering the useful life of machinery equal to 10 years.

The fifth category of costs (operating costs and capital) covers the costs of the inputs "land" and "capital" needed to engage in the production process. Among them were considered:

- i) amortization of the orchard;
- ii) depreciation of the irrigation system and hail;
- iii) administrative costs;
- iv) rent
- v) hail insurance and equipment;
- vi) others operating costs.

For each item of cost is not directly quantifiable by the annual accounts, we calculated the depreciation rate to be charged to every productive operation by taking an asset's useful life equal to 20 years.

## 6. Data analysis

Data for case study on costs were analyzed from interviews conducted with farmers in the Veneto region of northern Italy. The choice was based on farm near Verona to study farms with climatic conditions as close together, given that Italy is a country with predominantly Mediterranean climate, Alpine in the north, but in the south is hot and arid.

The study was conducted also on medium and large farms, three orchards with production in biologic system compared with three that were worked with conventional system.

In terms of organization, the overwhelming majority of farms in Italy, regardless of their type are organized in cooperatives, in this case, the cooperative is the one that takes over the production and dealing with it until the end, whether the product is sold in the form which was taken from farms, whether manufactured and sold under various forms.

Farms producing organic food cooperatives were organized exclusively organic products being sold products more difficult mainly because of their high prices, while farmers were producing conventional products have direct contracts with wholesale fruit stores.

All farmers with biologic orchard were young farmers given no more than 36 years, and are interested, and looking with "an open mind" at the organic production, looking for news in the field and actively participating in market research and system development. One of the latest market analysis attended one of the farmers indirectly through the cooperative was in a hospital, which the cooperative provided organic food from its own farm. It was found that patients using organic products have had a time of healing and response to drugs much faster than others patients, leading to rapid outsourcing and decrease patient hospitalization and therefore costs of medicines are given.

Organic farmers have found a demand for such products to parents with small children or infants. Parents are interested in products without chemical products, and less treated so give their children biologic products. Pediatricians especially recommended such products because babies and young children are sensitive to different factors and can make various forms of allergies. Nurseries and kindergartens are also interested in purchasing these products.

Conventional farmers have older ages, ranging up to 75 years, but not as open to new ideas and test new methods in their orchards.

Unfortunately, because it does not practice direct sales and are members of cooperatives, organic farmers have the disadvantage of increasing the product price to the final consumer.

In terms of type of study and work time there were no significant differences, both types of farmers have specialized through university or college studies, and the firm was dealing with the owner hired full time as the main income generated in this work.

Farmers were also a taking series of training sessions, each on their specificity, fire protection, a series of annual lectures organized by the Ministry of Agriculture, courses organized by companies selling phytosanitary products for organic orchards production and those who have had a some extra training on how to organize and provide documentation for their products. In addition to these courses farmers were interested in visits colleagues from their country and other countries in order to acquire new competencies and develop new technologies. The most interesting courses in their view were those organized by the companies producing phytosanitary products, and were the most complex.

Decisions on size and variety of trees can cause a potential harvest over time and lifetime of the orchard (Hester, 2003). These decisions may also influence the cost and profit per hectare. Apple grower determines the type of fruit characteristics such as shape, colour, flavour, resistance to pests and diseases.

Horticultural techniques to track growth and fruit production are: pruning, cutting and thinning. To determine all these features, the farmer must take a series of prior decisions such as the type of apples will be grown, tree size, density, tree form, the age at which trees can be the first fruit and the age at which trees should be replaced. Each apple in turn can meet different situations and may receive different prices.

Labour is the main component of cost from the final cost. Cost per kilogram depends on variety and harvest orchard system used. Small and compact trees require less work than the tall and large crown. Fruit in a tree density may depend on tree age. Trees cutting and thinning activities are made to achieve the most profitable fruit size. If a tree that can produce a larger quantity of fruit is thinned only slightly, it may produce a few fruit next year, which will negatively affect profits. Fruit size may also be affected. A small fruit crop may be worth less than the same amount of fruit, but larger.

If we look at selling the green apples are 20-30% higher than those produced in conventional systems, which are found in higher costs of fertilizers and treatments plus the necessary documents for accreditation orchard.

Compared with Italy, Romania can have great development potential for this side of agriculture, is able to associate and cooperate in the sale of products, and has unused land which can be converted into orchards exploited to their maximum production.

Paun (2011) thinks that European farmers are more favourable than poorly organized and Romanian farmers not benefiting from economic and institutional structures functional. Access to European funds is limited by the state of Romanian agriculture, some provisions of the agreement negotiated by the high demands of EU rules on cross compliance and the difficulties of organization and institutional.

## 7. Conclusions

If we compare Italy orchards with those from Romania, we will see that in Italy they are primarily more developed technologically. Most of them have drip irrigation systems and cooperative agreements. Also production per hectare is higher because in Romania there are few orchards that produce intensively, with the latest technology in the treatment and processing plants.

As Furdui (2011) said we can see a very large gap between rural and urban, by changes generated at economic, social or cultural level, the urban succeeds in breaking through the rural areas causing damages hard to be recovered. Due to the urban area characteristics it presents, it will always be an attraction for the elements that make up the countryside. Moreover, the intensification of industrialization in the cities tends to create a greater disparity and opportunities for fighting back from rural areas are scarce.

In Italy more producers pass to the organic production because it is more profitable than the conventional one, and more and more consumers are attracted to this new/old way of growing fruits and vegetables.

## 8. Acknowledgments

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## EUROPE 2020 STRATEGY – OVERVIEW OF THE EUROPEAN SOCIAL MARKET ECONOMY FOR THE 21ST CENTURY

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**Abstract:** *Europe 2020 represents the EU strategy for economic growth for the 2010-2020 period. Through the achievement of the strategy objectives, EU intends to become an intelligent and sustainable economy favourable to inclusion. These three priorities are mutually supportive and are able to help EU and its member states to obtain a high employment, productivity and social cohesion level. The paper presents the values of Romania's national objectives for the Europe 2020 Strategy.*

**Key words:** EU strategy, sustainable economy, reform

**JEL classification:** F 15, F 19

### 1. Introduction

Europe 2020 represents the EU strategy for economic growth for the 2010-2020 period. Through the achievement of the strategy objectives, EU intends to become an intelligent and sustainable economy favourable to inclusion. These three priorities are mutually supportive and are able to help EU and its member states to obtain a high employment, productivity and social cohesion level. The key element of the new strategy is to continue to implement the reforms in a coordinate and firm manner. In this respect, the EC proposed a thematic approach of the reforms, focused on a number of 3 representative priorities, quantifiable in 5 main objectives, which are included in a joint roadmap with 7 flagship initiatives.

### 2. Sections

The new European strategy for the period 2010-2020 occurred on the background of a deep economic crisis and of the intensification of the long-term challenges, as well as of the globalization, of the pressure on the use of the resources and of the population ageing.

The Europe 2020 Strategy launches a new vision for the European economy in the next decade, based on an enhanced coordination of the economic policies, in order to generate economic growth and increased labour employment that should support the economic and financial revival of the EU. The new strategy focuses on the following key areas: knowledge and innovation, a more sustainable economy, a high level of employment and social inclusion.

The strategy is intended to be a solution for the recovery from the current crisis, by actions at the Community level, thus turning the EU in a 21<sup>st</sup>-century economy, intelligent, sustainable and favourable to inclusion, able to lead to an increase in the employment, productivity and economic, social and territorial cohesion.

The Commission's Europe 2020 Communication proposes that, in the centre of the Strategy for intelligent, sustainable and inclusive growth, should be three interlinked priorities, defining the vision of the Community on social market economy for the 21<sup>st</sup> century:

- intelligent growth: the development of an economy based on knowledge and innovation (economy in which the production, movement and use of the information of any kind are democratic, massive and operate in a network with an increasingly higher degree of automation);
- sustainable growth: promoting a more resource efficient, greener and more competitive economy (economic growth meant to meet the economic needs of the current generation without a negative effect on the chances of the future generations to satisfy their own economic needs);
- inclusive growth: fostering a high-employment economy delivering social and territorial cohesion (economic growth likely to generate the increase in the quality of the social integration of all the

members of the society, by decreasing and eventually elimination the economic and social disparities that are not based on merit disparities).

These principles were also provided, more or less explicitly, in the Lisbon Agenda, but this time they are highlighted in particular, in order to point out the general philosophy of the European construction, at the economic and social levels, in the next decade.

The Europe 2020 Strategy proposes the implementation of seven sectoral, but also transversal pilot-programmes, meant to facilitate the achievement of the objectives, by specific and convergent actions, carried out in key areas of the economic and social processuality:

- *An innovation union*, the purpose being the re-focus of the research-development-innovation on the current challenges: climate change, energy and resource efficiency, health, and demographic change

- *Youth on the move*, the purpose being to enhance the performance and international attractiveness of Europe's higher education and raise the overall quality of all levels of education and training in the European Union

- *A Digital Agenda for Europe*, the purpose being deliver sustainable economic and social benefits from a Digital Single Market based on fast and ultra fast internet and interoperable applications

- *Resource efficient Europe*, the purpose being to support the shift towards a resource efficient and low-carbon economy to decouple our economic growth from resource and energy use

- *An industrial policy for the globalization era*, so that the industry may promote competitiveness (in the primary, secondary, and tertiary sectors) and to exploit the opportunities of globalization and of the "green" economy (along the entire international value chain)

- *An Agenda for new skills and jobs*, the purpose being to create conditions for modernizing labour markets, with the view of raising employment levels and the sustainability of the social models (including labour productivity)

- *European Platform against Poverty*, the purpose being to ensure economic, social and territorial cohesion

The objectives of the Europe 2020 Strategy are:

1. the objective to raise the employment rate of the population aged 20-64 to at least 75%;
2. to improve the conditions for research and development, especially in such a way as the combined levels of the public and private investments in this sector reach 3% of the GDP;
3. reduce greenhouse emissions by 20% compared to the 1990 levels; increase the share of renewable energy in our final energy consumption to 20%, and achieve a 20% increase in energy efficiency;
4. improving the education levels, especially by setting the objective to reduce the share of early school leavers to 10%; and the share of the population aged 30-34 having completed tertiary education;
5. promoting social inclusion, especially through the decrease by at least 20 million of the number of persons risking poverty and social exclusion, by 2020.

These objectives constitute a general idea of the Commission's vision concerning the EU position in the EU in 2020 concerning the established key parameters. They are not an approach applicable for everybody. Each Member State is different, and EU with its 27 Member States is less homogenous than a decade ago.

At European level, the general framework of the Strategy was adopted at the European Council of 25-26 March 2010 and completed at the European Council of 17 June 2010. Most elements of the Strategy (The integrated guidelines concerning the economic policies and integrated guidelines concerning the employment, the flagship initiatives, the European semester) were prepared during 2010 and adopted by the Council formations. The Strategy is implemented at the level of the Member States (MS) through National Reform Programmes (NRP). The member states sent to the European Commission (COM), by 12 November 2010, the draft National Reform Programmes for the period 2011 - 2013, and the final version was sent by the end of April 2011. The elaboration of the final document took into account both the correlation with the Convergence Programme as well as the answer of the national authorities to the observations and recommendations made by the European Commission in the *Annual review of the economic growth*, a document published on January 12, 2011. The monitoring and assessment of the progress recorded by the Member States in reaching the targets and in the implementation of the integrated guidelines will also be a central topic on the annual agenda of the European Council.

There are two factors accepted by the European Council for the substantiation of the differences between the national targets and the targets set in the Europe 2020 Strategy:

- a) the starting point of the respective country, at the timeline set as initial position;

b) the specific conditions of the respective country concerning economic growth, the institutional system, financing conditions, constraints concerning the economic dynamics, etc.

At national level, value targets were set for all the objectives of the *Europe 2020* Strategy. Under the coordination of DAE, the project NRP 2011 – 2013 was prepared in which the following were approached: the national targets, the main measures to reach these targets, the priority reforms and bottlenecks to economic growth and employment. In order to provide the continuity of the reform measures already undertaken in the period 2007 - 2010, and also the consistency with the provisions of the *Memorandum of Understanding* signed by Romania with the European Community, and with the 2009 – 2012 *Ruling Programme*, the NRP Programme proposed, as priority reforms, *the improvement of the business environment*, and *the increase in the public administration efficiency and transparency*. The NRP was adopted in the Government meeting of 17 November 2010 and set to COM.

PNR 2011-2013 was completed in April 2011 following two rounds of consultation with the representatives of the European Commission and a comprehensive public consultation process that included a national conference and three round tables. The final version of the 2011-2013 NRP was adopted by the government on April 29, 2011 and sent to the European Commission on the same day.

**Table 1: The objectives of the Europe 2020 Strategy**

Objective	Target	Nominal Value the Europe 2020 Strategy	Nominal Value Romania	National achievement of the European target - %
<b>Economic</b>	The employment rate of the population aged 20-64 - %	75,0	70,0	93,3
<b>Social</b>	Decreasing relative poverty rate -- %	25,0	16,0	64,0
<b>Technological</b>	Decreasing the rate of greenhouse gas emission rate - - %	20,0	20,0	100
	Increase the share of renewable energy in our final energy consumption - %	20,0	24,0	120
	Increase in energy efficiency - %	20,0	19,0	95,0
<b>General development support</b>	Research and development expenses - %	3,0	2,0	66,7
<b>Educational</b>	Reduce the share of early school leavers - %	10,0	11,3	87,0
	The share of the population aged 30-34 having completed tertiary education - %	40,0	26,7	66,7

Source: (E. Dinga - Europe 2020 Strategy: Presentation EIR, March 30, 2011)

Romania believes that the Europe 2020 Strategy must become the Domestic Market consolidation framework. In this respect, it supports the elimination of obstacles to the domestic market operation, especially those concerning the infrastructure and the free movement of labour.

### 3. Conclusions

The role of the external dimension of the Europe 2020 Strategy is essential for providing an adequate answer of the EU to the challenges generated by globalization. It is necessary to support a firm EU position on very special topics such the level of the carbon emissions, regulating financial markets, energy security and the intellectual property right.

At national level, the NPR must unite all the sectoral programmes, strategies and public policies in order to reach the national targets proposed in this programme.

There are three institutional conditions for the successful implementation of the *Europe 2020* Strategy:

a. “Declaring” the *Europe 2020* Strategy the program master institutional building programme of the European Union, in the economic and social area by:

- subordination to the objectives of the *Europe 2020* Strategy of: the common policies of the European Union; the harmonized policies of the European Union; the national structural policies; the national macroeconomic adjustment policies

- adapting the Stability and Growth Pact to the objectives and logic of the *Europe 2020* Strategy

- providing consistency between the *Europe 2020* Strategy and the Euro-Plus Pact

- defining the process of real economic convergence as the crucial institutional means for achieving the objectives of the *Europe 2020* Strategy

- providing consistency between the *Europe 2020* Strategy and the European budget spending structure for the 2014-2020 financial perspective

b. Providing, on an annual basis, the consistency between the National Reform Programmes and National Convergence/Stability programmes, with the purpose of providing non-contradiction between the process of real economic convergence and the process of implementation of the *Europe 2020* Strategy, a requirement met by the national governments by preparing the annual *correspondence/consistency* matrix

c. Establishing a *two-step* progress monitoring system by:

- the elaboration of annual progress reports on the stage objective accomplishment, in order to identify, in real time, the bottlenecks and negative effects. This step must be made by the European Commission, through GGs that “supply” the objectives of the *Europe 2020* Strategy, through a *European Council* exclusively dedicated to this purpose

- biannual assessment of the implementation of the *Europe 2020* Strategy with the purpose of: making the normative, mechanism and resource adjustments, required by the objective implementation process. This step must be made by an individual rapporteur, and by an individual co-rapporteur, appointed by the President of the European Commission by institutionalising *Biannual European Forum* for the assessment of the *Europe 2020* Strategy

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## THE RELATIONSHIP BETWEEN QUALITY, CLIENT AND PROFIT IN EUROPEAN COOPERATIVE BANKS

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**Abstract:** *In this study, the authors intends to underline that a European credit institution is dynamic and ever-changing system in the competitional context of the market economy.*

*The study also aims to approach the concept of quality management at credit institutions as consisting of placing the client in the centre of the units activity and the subordination of all activities to the imperative to fully satisfy him.*

*These are also presented the conditions involves in fulfilment of the imperatives of total quality programme of European credit institutions.*

**Key words:** European credit institutions, total quality management, client satisfaction, client fidelity, profit

**JEL classification:** G 01, G 21, G 23

### 1. Introduction

In Europe and elsewhere in the world, the banking system is built and develops as an open system, which enables it to organise its activity through mobilising its own resources and to continuously adapt to market signals and economic developments, of which it is a cause.

With specific characteristics, Cooperative Banks are recognised both by national and by European legislation. They are valued by all financial rating agencies and ranked as a real banking force.

Cooperative banks, consisting of 4.600 credit organisations and 65.000 agencies, perform an essential role in the European economic and financial system. One out of every two banks is a cooperative, and they control 30% of the operations in the banking and financing market.

Cooperative banks have a distinguished tradition in maximising the advantages offered to over 150 million clients and 80 million cooperative members; they also employ over 750.000 staff.

The bank model has been a success factor because it associates services offered to clients and democratic leadership with the stimulation of financial progress through competition.

Through constructive dialogue with the representatives of European institutions, cooperative banks have put forward the three directions that will enable them to create and develop a new image of enlarged Europe.

Descendents of the original model based on democracy, transparency and closeness to the client as an associate member and co-owner, cooperative banks contribute to stability and competitiveness of the economic and financial system.

This role was stressed by all financial analysts who believe that the cooperative banks have an important and unique role within the banking community through their capital ownership structure based on the principle of 'one-man, one vote', through the structure of central organisms and through guarantee mechanisms.

Transparency in decision-making and the participation of co-operating members in the daily management of capital is an alternative to the model of anonymous companies.

The management principles are based on persons rather than shareholders, and this is the fundamental distinction on which cooperative banks were created more than a century ago.

Involving members and clients in decision-making provides force and confidence for those who invest in cooperative banks, which become efficient in decision-making, partly also because of the independence of the members of the executive boards.

Within these characteristics, the activity of s is regulated through national legislation, as well as European directives. The EU adopted in 2006 a new European Cooperative statute, which offers opportunities related to trans-border cooperation, as cooperative banks play an increasingly essential role in European development. Furthermore, cooperative banks have forced the EU Member States to acknowledge the cooperative as a legal form of organisation.

Secondly, European cooperative banks emphasise their support in favour of the European Commission's initiative regarding competition and integration for national markets, as long as their activity is regulated by the same statutes.

They are wary of the principle of 'biggest is best'. The plurality and diversity of the cooperative banking system mean that these banks can offer their respective regions a wide spectrum of banking services, aimed at both the local population and local economy.

The notion of 'helping people help themselves' paves the way towards the market economy without renouncing the fundamental values based on solidarity.

In this context, the commercial model of cooperative banks is akin to reality, and the profit handed back to its member-clients is considered a real success within enlarged Europe.

Thirdly, cooperative banks contribute to the accomplishment of the objectives in the Lisbon Agenda by ensuring social competitiveness and cohesion.

Cooperative banks contribute to financing local economies and have the capacity of meeting the needs of co-operating members and of other clients. They are a moving force of cohesion and social integration and attempt to combat financial exclusion, so that all social categories in the demographic may have access to financial services, without any discrimination.

cooperative banks equally play an essential part through their staff and collaborators, as the personnel of these banks accounted for 15% of all European employees over the last three years.

Cooperative banks wish to play a decisive role in consolidating the banking sector within the enlarged EU and to offer their clients services that are perfectly tailored to their needs.

Unique in their diversity, cooperative banks have proved that they have the capacity to meet the economic and social needs of the demographic, and of the regions, as well as the requirement to adapt and become actively involved in the development of the European Union.

## 2. Quality, client satisfaction and profit in European cooperative banks

Cooperative banks offer clients financial services and products, so therefore quality becomes measurable and represents the sum of quality characteristics of the service or product.

The market economy presupposes the existence of a free competitive struggle between suppliers, in which the quality of services offered by the banks becomes the main criterium for the client who is selecting the right offer.

Given the increase in the global productivity of labour as a consequence of technical and scientific progress permanently evident in society, the offers available in all sectors of activity are developing and diversifying, to the point where they exceed demand. This situation naturally leads to only a part of the services offered being consumed, namely the quality services.

On the other hand, the consumer becomes implicitly more demanding, as the service is only consumed through client participation as its beneficiary.

For cooperative banks, the immediate consequence is that the preoccupation with quality, the satisfaction of client needs and expectations becomes a pre-condition for survival. This leads to a need to adopt an efficient strategy to manage quality.

The main characteristic of the conceptual revolution in quality management at cooperative banks is the placing of the client at the centre of the unit's activity, and the subordination of all activities to the imperative to fully satisfy him.

For the manager – president of the cooperative bank, knowing the client involves:

- understanding what the client expects from the service ordered;
- understanding what makes the client take a service;
- understanding what produces satisfaction in using the service offered by the cooperative bank.

The action of managing quality in the cooperative bank involves the following:

- full understanding and involvement of the bank's leadership in promoting services beyond reproach;

- calling on cooperation with those who have the necessary responsibility and the determination to ensure quality services;
- instituting a philosophy among the associated members and employees in the spirit of strictly following the quality standards set by BNR;
- conceiving and designing services matching client expectations;
- motivating the entire staff to consider the opinions of clients, cooperating members and shareholders;
- permanent openness to identify and correct any disfunctions;
- identifying efficient forms of influencing and improving client fidelity;
- permanent comparisons with competing banking services and adaptation of own services to the market.

Each of these actions must materialise into specific measures and approaches, adapted to the bank's activity profile, but their finality will be perceived by clients as part of the fulfilment or exceeding of own expectations.

Total quality represents a modern variation on the concept of managing quality and matches a set of activities which aim at delivering irreproachable services above the clients' expectation levels.

The imperatives of total quality involve the fulfilment by the cooperative banks of the following conditions:

- foresight and strategy, which means fulfilling the objectives set thoroughly as regards the quality of products, through anticipation of situations that may displease clients;
- excellence – as a philosophy for the whole personnel involved, backed up by conviction in delivering the service;
- the responsibility of personnel expected to adopt the climate and tradition enshrined in the cooperative bank and to identify the cooperative's objectives, showing shareholder clients responsibility, efficiency, kindness, security, value, the attributes of a worthy organisational culture.

Each of the conditions listed above need to occupy the centre of manager president concerns. The latter needs to identify and apply concrete optimal solutions, depending on the nature of services, by adapting the information, decision-making and control system of the company's management.

Managing a total quality programme in a cooperative bank must respect the following rules:

- quality reflects the entire activity of cooperative banks, not just the services and products they offer;
- quality presupposes the total and permanent involvement of personnel;
- quality requires competitive partners, which can become associates of a traditional banking service system;
- quality allows for the continuous improvement of activity, as the quality management process is linear, not a single campaign;
- quality is never cost-prohibitive; what is costly is the lack of quality;
- quality is a necessary, but not sufficient, with clients being increasingly demanding;
- a quality improvement programme cannot replace a weak product offered to clients, hence the permanent need for personnel to specialise on all levels, whether decision-making or execution.

Competitiveness is the most important success factor in the market economy. This means that the cooperative bank needs to have many products to offer, which can prove their increase in efficiency.

Given the strong competition on the financial and banking market, quality is a priority condition for survival.

For the complete success of a cooperative bank, its products must::

- satisfy a well-defined purpose;
- satisfy client expectations;
- comply with legal measures and other conditions imposed by the social and economic environment;
- be competitive on the market.

A total quality management system considers two independent aspects, namely:

1. the needs and interests of the cooperative bank to offer quality products at optimal cost, influencing the efficiency of activity;
2. the needs and expectations of clients, who need to trust in the capacity of banks to offer quality products.

Satisfying the needs of clients represents the main objective of total quality management, the main lever for performance management. It is therefore necessary that cooperative banks firstly consider the fundamental needs of clients, namely:

- the bank should select and create a wide variety of products to allow the client to enact his preferences;
- the bank's personnel should be permanently available to the client;
- the relationship between the bank's clients and staff should always be positive;
- belonging – the clients expect to be treated as members of a large family and not to be discriminated against in any way;
- security – the clients expect to be morally protected, without the risk of being defrauded;
- the services' quality standard must be upheld;
- autonomy – the client must be allowed to decide which project best suits him;
- personal development – the client must be encouraged to develop his experience in banking within the cooperative.

Generally, the quality of the products offered to clients has become a key factor in determining client preferences for a specific bank. Through the liberalisation of international stock exchanges, through the globalisation of economies, the standards of quality are on the rise constantly.

It is essential for manager presidents to assess the clients' satisfaction, as positive feedback and opinions will enhance the reputation and image of a cooperative bank, improve client fidelity and increase profits (Figure 1.)

**Figure 1: The relationship between quality, client and profit**



Source: Authors

Total quality management in the cooperative bank is the sum of principles and methods applied within the framework of a wholistic strategy aimed at the permanent improvement of the quality of products through the optimisation of the bank's performance. The specific characteristic of this concept is the integrated, systemic approach to quality. This approach applies to all the bank's functions, personnel, relations and products offered..

The dynamic changes which characterise the market economy and the exigencies levied by the European Union lead to a considerable increase in quality expectations. Seen from the perspective of the objective process of amplifying and diversifying economic exchanges, quality is at the same time an essential condition for competitiveness, and, implicitly, for the participation of any company within its business domain.

The problem of quality must be approached globally. It must therefore be based on the following fundamental considerations:

- quality is assessed through the ability to satisfy user requirements;
- quality is built throughout the activity's processes;
- quality must be maintained, which implies a demanding attitude within the company, in a close relationship with the client and in accordance with procedural, technical and organisational regulations.

Within a cooperative bank, quality management is a topical preoccupation, which is given the appropriate attention, in spite of the current difficulties associated with the financial crisis from 2008.

In order to take certain steps towards improving the quality of the cooperative bank's products, a programme was initiated based on the improvement of management and the development of executive staff closely linked to the clients' opinions and suggestions.

The first results of this process are very favourable opinions expressed at general shareholders' meetings as regards the bank's products, staff and management practices by the executive team..

### 3. Conclusions

In Europe, the integration of cooperative banks is a real, complex and multi-faceted problem, both within the EU and in its dealings with the rest of Europe. The process of integrating the Romanian cooperative bank into the European flow is proving to be a lengthy one and involves major transformations.

Cooperative banks that belong to their members and clients become involved in long-lasting, transparent economic relations for the latter's well-being and wealth.

Cooperative banks are determined to continue to play an active part in European economic development. Cooperative banking networks are alternatives to the banking system already present in the countries of the EU, and, through their organisation, they have contributed fully to the economic and financial prosperity of hundreds of thousands of Europeans, to whom they have guaranteed access to financial services of a high quality and at low cost, and will continue to do so in the future. The cooperative banking model is still under-estimated, especially in the new EU Member States (including Romania), in spite of the fact that they could play a decisive part in the latter's economic development.

Enlarged Europe stresses the need to develop an initial impact study of all the legal initiatives regarding the cooperative banking system, arguing that there must be a constructive dialogue and that it is imperative that the directives of the European Commission and other norms aimed at regulating the activity of cooperative banks be drafted by the banks themselves, as they are a form of society that submits to the same financial rules as the commercial banks; we must demand equal competition circumstances, but also that our specific characteristics be taken into account.

The fundamental values of responsibility and solidarity, the result of services offered to associate members and clients, the closeness to members and clients and democratic leadership mean that cooperative banks are uniquely placed to respond to current concerns about durable development, thanks to their willingness to be responsible for their decisions.

Given the strong competition on the financial and banking market, quality is a priority condition for survival.

For the complete success of a credit institution, its products must:

- satisfy a well-defined purpose;
- satisfy client expectations;
- comply with legal measures and other conditions imposed by the social and economic environment;
- be competitive on the market.

Competitiveness is the most important success factor in the market economy. This means that the credit institutions need to have many products to offer, which can prove their increase in efficiency.

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## RATIONALITY AS AN EXPLANATION FOR ECONOMIC FLUCTUATIONS

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**Abstract:** *The aim of this paper is to demonstrate that rationality is one of the main factors determining economic fluctuations. From this, derives the issue that rationality is not only a concept tangent to the science of economics but also a homogenizing factor and a sine qua non condition of praxeology. However, rationality as a connecting factor of the decision and action processes is not always directly proportional with decisive motivation or with the determining goal.*

**Key words:** rationality; irrationality; limited rationality; rational expectation; economic action

**JEL classification:** A 12, A 13, B 25, B 41, D 01, D 03

### 1. Introduction

We will start the first part of our research by describing the working hypotheses, At the roots of analysis, as defining notion for the  $\alpha$  (alfa) hypotheses, lies the fact that rationality is common to man, that individual which was named by **Descartes** "*the thinking reed*". **The first hypothesis** tells us with certainty *that the premise of the existence of the rational (rationally limited) individual is a correct one.*

In a previously published paper titled *Homo oeconomicus vs homo irrationalis* I have proven that in society there are only people with *limited rationality*. It is, therefore, wrong to talk objectively about *rational* or *perfectly rational individuals*. **A second hypothesis** supports the idea that *we can analyze human action based on the characteristics of limited rationality.*

**A third hypothesis** is derived from psychoanalysis and praxeology and reveals *that human action is dependent on an impulse, on motivation and has a set goal.* It is necessary to take out from this hypothesis the necessity of the existence of a goal or aim because, it will be shown later on in this paper, that although most actions have a specific aim and are determined by motivation there are also disinterested actions even though they do have a driving force behind them. Our hypothesis is thus reduced to the idea that *human action is dependent on motivation and on a motivational impulse.*

**The fourth and last hypothesis** claims that *from the point of view of the emitter, all independent actions are rational (with a greater or smaller degree of rationality).*

Within the framework, *the research* can be said to be *fundamental, the phenomenology* is used as *technique* as well as a *working method*, in order to explain the influence of rationality on economic fluctuations.

Due to the fact that rationality is impossible to quantify (a fact which will be explained in this paper), the research demands arriving to conclusions through **deduction** and by using a predominantly **qualitative** method.

The *statistical method* is not considered to be relevant in this particular case, that is why, it will not be taken into consideration. The understanding of individual behaviour is necessary and compulsory, however, this is done empirically, through observation because individuals have, more often than not, different goals and objectives from those explicitly declared. For this purpose, there are experimental studies in psychology as well as sociology and, more recently, even in economics, which demonstrate the fact that most of the time people not only think differently from what they actually declare but that they do not always understand their own reactions.

As a consequence, this analysis will primarily relate to the individual, to his psychology and behaviour, to the way in which he decides to take action with different degrees of rationality. It will further discuss the effects that derive from this independence, thus trying to establish if the effects can be considered determinants of the economic dynamics, to analyse to what extent and under what principles it functions.

*Conclusions* will be constructed based on the essential ideas that will have resulted from the research, by trying to create a model against which the degree of individual rationality and economic dynamics can be measured. The model will have the role of narrowing down the perception about economic rationality to its degree of applicability and to reconstruct the right perception about *homo oeconomicus*, by relating him to verifiable facts.

## 2. Prolegomena

First and foremost, we do not claim our study to be original through the novelty of the field of investigation and through the lack of conclusive, objective, systematic approaches or through the lack of applicable relevance of these approaches. Rationality is found in analyses and it is talked about in the abstract, from a philosophical and mathematical point of view but can also be found in purely applied contexts which claim to be models worth following in risk analysis scenarios. It is obvious that the field of study dedicated to rationality is not at all narrow and that often the researcher has to deal with numerous other aspects of the field that tend to thwart him from his initial goals. Likewise, people such as Descartes who was fascinated by the illusion of comprehensibility has come to declare that “... *we have to let ourselves be convinced only by the evidence of our rationality*” (Descartes: 1990, p. 134) and came to believe that he would succeed in eliminating history and relying on his own judgment, constructing his own, singular system of ideas. Knowing these pitfalls we will try to steer clear of them for the sake of originality and we will start our research equipped with the essential ideas, which will help us to place our findings on a stable and verifiable foundation. This aspect will not hinder originality but will act as ideological bench-mark constructed on mathematical, philosophical and sociological pillars set against an economic background.

It is fairly easy to notice the challenge the issue of rationality poses by judging the implications it uncovers. Paraphrasing **John Locke** in his work *An Essay Concerning Human Understanding* – “Researching the intellect – **rationality**, in this particular case – *is pleasant and useful.*” (Locke: 1961, p. 13). Useful for the knowledge it can reveal and from an individualistic point of view, of the researcher who seeks new challenges.

The study of rationality and human behaviour with regards to the field of economics is often criticized and considered irrelevant because it is viewed as strictly belonging to the fields of philosophy, psychology and sociology. Economics is closer to mathematics and natural sciences. This fact does not imply that there are not economists whose preoccupations include the human behaviour. Moreover, in the field of human behaviour, a new field has recently emerged which is generically called “*behavioural economics*”. This segment of researched is owed to the classic **Adam Smith**, the author of the best-seller titled *The Theory of Moral Sentiments*. Book published by Adam Smith in 1759 and considered by many to be more important than *The Wealth of Nations* (1776). In the *Theory of Moral Sentiments*, Smith shows a real preoccupation with the behaviour and ethics of individuals.

Coming back to the criticisms of the study of behaviour in economics and as not to look as if we were trying to relate it to philosophy more than it is necessary, we feel the need to mention that the analysis of the markets, graphs, the calculations of the different indicators and other aspects that imply a high degree of abstraction, is an important and necessary part of the science of economics. Alone, however, the models are not able to wholly define it. Moreover, markets are not composed of abstract, perfect, quantifiable and foreseeable entities, superior to us. *In economy, capital does not “flow”, money does not “depreciate”, credits are not “made” and banks do not cause bankruptcy without the real individuals.* Therefore, any economic movement, however small or impressive value-wise, is triggered by a series of actions that are more or less rational. In a certain context we can talk about market analysis without reducing economy to a pure history of numbers if not through the study of the causality which impresses the dynamics of the markets, then through the study and understanding of the way in which economic actions of individuals with different degrees of rationality can be explained by mechanisms and models.

## 3. The static principle of relating to individual rationality

The degree of rationality of an action, without taking into consideration time, can be obtained from the one who does the action. Only he knows exactly what its goal is and what results he is waiting for from that action. As **Raymond Aron** suggests in the *Preface* to **Max Weber**’s book *The Scientist and the Political Man*, „To act reasonably means that, after thinking things out, you take a decision that reveals the biggest chances of attaining your goal. A theory of action is both a theory of risk and a theory of causality” (Aron: 2011, p. 7). This idea is complementary to what Kant called an *a priori* knowledge but that apparently contradicts **Carl Gustav Jung** and **Vilfredo Pareto**’s “*rationalizing man*”. According to the latter and making a superficial interpretation, man is the being that first acts and then rationalizes in order to justify his actions. *This theory contradicts the classic one only when it is used to talk about the need to take a decision in new circumstances. In fact, however, most decisions are taken based on past experience even if these were acquired through rationalizing processes.*

Accepting the theory of the rationalizing individual we can support the idea that decisions are taken according to feelings, experience and other factors which together are called “residues”. **Residues can be interpreted as complex manifestations of tendencies, feelings, knowledge, fears and instincts that act as a constant of human motivation.** As a consequence, if a context implies similar circumstances as those of a past experience individuals tend to repeat that same action (lived or observed) even if this had a long-term negative effect. In the case of reasoning association is done from the perspective of immediate results. In economics this idea can explain the so-called “irrational” behaviour of stockbrokers, of banks, or other economic agents thus coming back in an apparently absurd way to the old mistakes. Those actions have been perceived as rational because they brought immediate profit and were deemed correct. Therefore, they will be repeated in the hope that the immediate results will be the same or nearly the same thus naturally omitting their long-term negative repercussions. Modifying standard behaviour is done through a new reasoning of one’s own actions and of the consequences these entail. The capacity to understand effects (*re-reasoning*) is different from individual to individual and it depends on one’s analytic skills.

As long as the individual is the only one able to anticipate his own goal he is also the one capable of deciding which action carries the greatest degree of rationality, according to his capacity to work with currently known information. The moment *informational shocks* (pieces of information that have not been taken into consideration or were not interpreted correctly) change the results of individual actions, we cannot talk about individual irrational action even if, retrospectively, we have the tendency to ask ourselves “What would have happened if...?”. As mentioned before, we believe that we should discuss the individual’s rational action *a priori*. Once its contact with the other actions has been established a myriad of variables and factors with different impact are born which can help either to better accomplish the goal or to destroy the action. *These factors cannot make the action from moment t become an irrational one since it is revealed that the pieces of information of moment t' (t<t') have only been partially taken into consideration especially when the one analysing the action is not the same person with the doer of the action.* At most, this decision can be called “inadequate” because it has been taken with regards to the measures and factors of a previous period of time and not the current one. Book published by Adam Smith in 1759 and considered by many to be more important than *The Wealth of Nations* (1776). In the *Theory of Moral Sentiments*, Smith shows a real preoccupation with the behaviour and ethics of individuals. If we extend this to the general practice, what **Raymond Aron** narrowed down to scientific truth we arrive at the conclusion that the “partial character of truths.... and the plurality of values”[Aron: 2011, p.11] constructs the foundation of rationality rather than the subjectivity and relativity of actions.

***In another context, we are right to believe that what we consider to be rational may not be considered the same by other people and, what is more, what is today rational for us may not stay the same in the circumstances of tomorrow.***

If we were to establish a connection between *motivation, rationality* and *action* in a so-called *static* sense without considering the statements in the previous paragraph, we could connect these terms in a simple, linear fashion. Motives trigger the degree of rationality which finally leads to the decision to act. This dependence from a Paretian view point, causes permutations in this chain of thought, the result of which, is Motivation - Action - Rationality (M-A-R), which makes us wonder if the individual can reason and be rational at the same time.

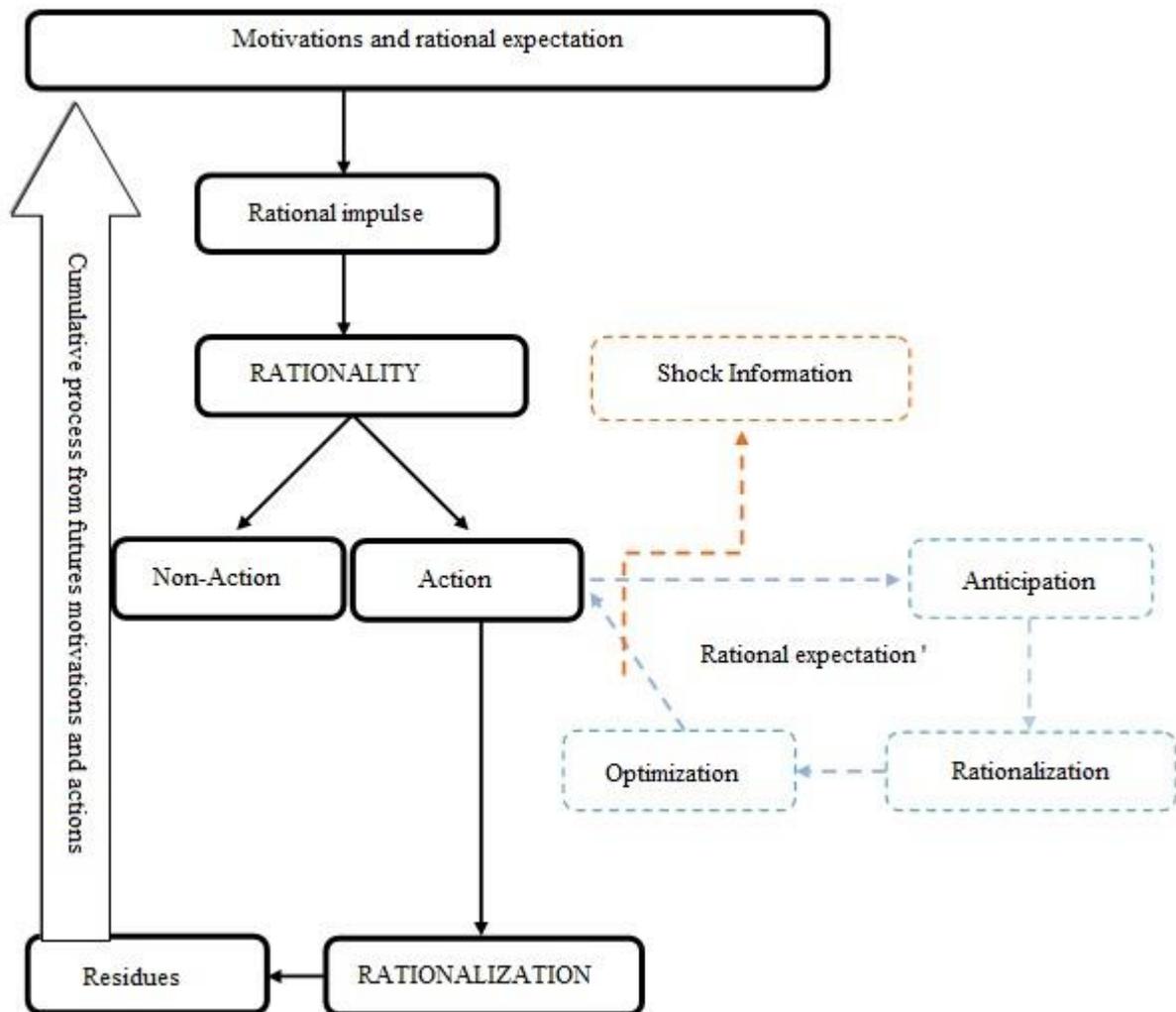
#### 4. The dynamic principle of relating to human rationality

When discussing dynamics within the field of economics, we most likely, cannot simplify matters but we will remain under the influence of what Heraclit described as “*panta rei*”. The interpretation of this aphorism is that of flow, a permanent motion of all things, of nothing ever staying the same. In the study of rationality but not only, the dynamic can complicate the data a lot. We will try to shortly describe the essential modifications that appear in what we called the *dynamic of individual rationality*. The way in which we view the process of decision in order to link *rationality, reasoning, asymmetrical information, and rational expectancy*, makes the decision mechanism to continually integrate new pieces of information and knowledge.

We do not claim to have taken into consideration all the psychological aspects in the course of our representation because that would have hindered our model without actually enhancing it. We are mostly interested in rationality and how this affects individuals' decisions before taking action.

Within the process of decision making shown below we start from motivation without representing individual needs, the tensions, imbalances, goals and objectives of the individual and other aspects which differentiate humans, which we have considered to be part of what we called motivation and expectations.

Figure 1: The role of rationality in economic action



Source: own creation

What we seek to explain with the help of this schema are the changes that intervene in the structure and role of rationality within the economic processes which imply actions that take place in time. More to the point, our intention is to emphasize the following aspects:

- motives can be derived from an accumulation of facts, needs, past experiences and their intensity differs according to what they come to determine;
- part of motivation is the creation of rational expectations which individuals believe are the possible results of an action;
- between motives and rationality there lies the *rational impulse*, a factor which makes us decide over the necessity of rationalizing our actions and which helps us shorten the time required to take a decision (a subconscious impulse). According to the time available we will further see that the individual's reasoning is not finalized until right before the beginning of the action; (see **Amartya Sen**, *Maximization and the act of choice*);
- if rationality determines actions while reasoning supports and precedes it, these do not exclude each other anymore;
- people take decisions based on acquired information. In general the pieces of information are incomplete or asymmetrical. Thus called based on the theories about markets with *asymmetric information*. In 2001 *George Akerlof, Michael Spence and Joseph E. Stiglitz* received the Nobel Prize for economics for their analysis of markets with asymmetric information. This aspect determines the individual to monitor the effects of his economic actions (long-term investments, speculations) in order to intervene in the case of *informational shocks*.

- most economic actions take place over time, they imply correction procedures and other complementary actions which serve to support the initial action in order to accomplish the goal. This correction factor is similar to rationality in that it derived from a reasoning process according to the *principle of satisfactory choice*. Often, searching for solutions in the hope of finding one better than the minimum solution that would meet expectations can generate bigger costs than the gain obtained through the difference between the minimum solution that meets the expectation and the solution considered to be better and more efficient from the economic point of view. The principle developed by Simon constitutes the foundation of the theory of the *administration of decision-making* and comes into conflict with the *principle of maximization*. According to this theory, the individual decides on certain alternatives, according to his own expectations and not after analysing all possible options. The moment the individual finds an alternative that matches his expectations, he is satisfied

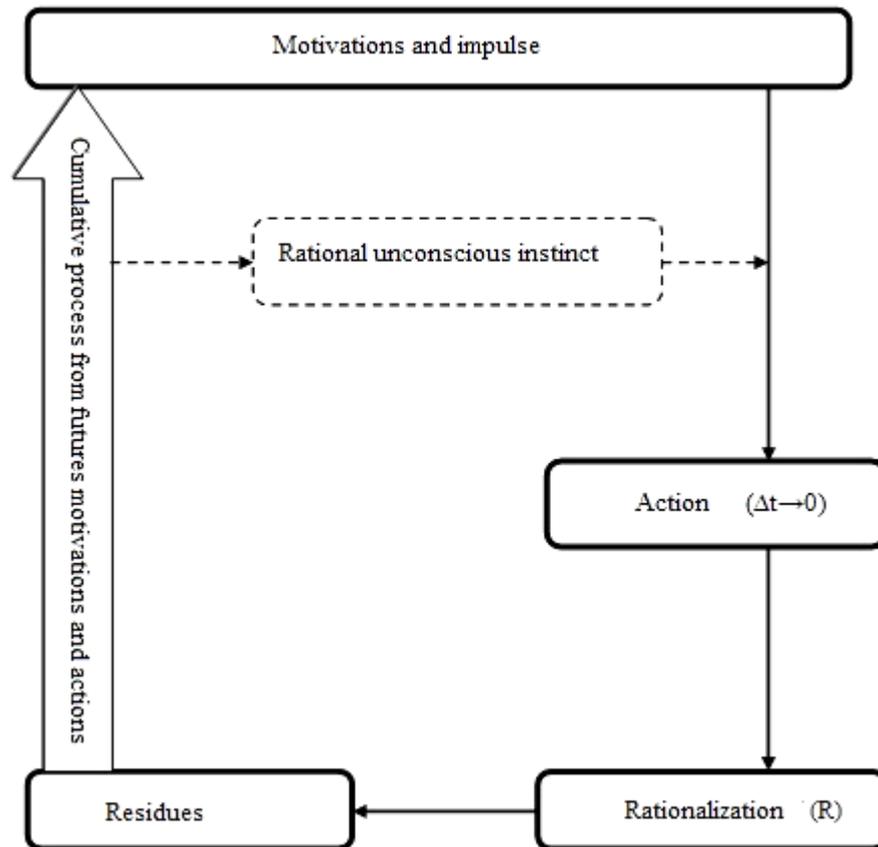
Action is not unique and the result of the reasoning process will constitute the base for future motives. Thus *residues* or prejudices are formed which will affect future decisions. Because of this, information accumulates and the decision process can be illustrated as a cone-shaped spiral that is formed starting from its small base.

*In conclusion we need to add that this model only represents an attempt to explain the connection between different economic theories. Its aim is to demonstrate that the typology of the rationally limited individual does not conflict with these if the action allows adjustments.*

There are, however, frequent cases in which actions not only do not allow adjustments but they are also time-bound - a really short time interval. Not even in these cases do individuals submit to the theory of irrationality. The given situation, **George Akerlof** reminds us, was emphasised by **Amartya Sen** when she compared *the trajectory of light*, which physicists claim follows the principles of the *shortest amount of time possible*, and what some economists call *rationality*. We notice that when physicists humanize light they apply a rational premise to it. The fact that *light follows the principle of travelling in the shortest time possible* makes us claim that in fact it *chooses* an ideal trajectory. The physical movement of photons is not based on reason and scientists know that, of course. What matters to us, the uninvolved observer, is that light *seems* to behave as if it were reasoning. Economists are equally tempted to submit it to rationality because it acts according to expectations. The advantage of physics in this case is that it is researching given data and does not try to modify their substance. If we follow the same principle and we study human behaviour in general in order to extend the findings to the field of economics we notice that we have not included *conscience* in our schema or better said, the *awareness of reasoning*. In that moment the time segment does not require us to be aware of the reasoning process. When there is a limited amount of time and the action is closer to the moment when the individual realises its necessity he does not have time to become aware of the steps leading to the decision. We know fully well how easy it is to deceive the human brain. **Akerlof** is the one to remind us that great economists have not forgotten this aspect. He also sees a connection between **Amartya Sen** and **Milton Friedman**. They share the opinion that in some cases *the reasoning process is not internalized*.

The unconscious is also taken into account by Ludwig von Mises in his work *Human Action*. He reminds that not only this aspect is present in praxeology but also the fact that "Term «unconscious» as used in praxeology, and that of «unconscious» and «subconscious» as used in psychoanalysis belong to different systems of thought and research. Praxeology alongside other fields owes a lot to psychoanalysis. That is why it is necessary to acknowledge the frontier between praxeology and psychoanalysis" (Mises: 2002, p.12). It is therefore suitable to mention that in this paper we are using the term «unconscious» defined by praxeology and we do not make any references to remnants of long forgotten actions that now reside in the unconscious.

Figure 2: The role played by irrational impulse in economic activities



Source: own creation

It is obvious, from the diagram above, that the following changes come into action:

- replacing *reasoning* and *rational impulse* with *instinct*; this is, however, not an irrational thing to do. It is derived from *experiences*, from *residues*, from *reasoning other actions out*, from *observations* and *one's own reasoning*, consciously assimilated or not yet used as part of instinctual action, unconsciously;
- *the action* is short-lived and does not allow adjustments; the rational expectation suggested by Thomas Sargent is valid only in *intermediate, subordinate actions*.
- naturally, in these circumstances, reasoning has a more intense character; it is characterised by doubt and its conclusions are scrutinised;

We can consider this to be the end of our endeavour to explain the nature of limited rationality and how we perceive it, alongside arguments against irrationality. At the same time we close the pleading in favour of individual rationality in order to continue to bring counter arguments to the idea of the existence of collective rationality.

## 5. Instead of a conclusion: additions, critiques, observations

### 5.1. Additions

We could say we have avoided bringing into discussion some weak points of our model representing a rationally limited individual. We have omitted something pertaining to the psychological nature of the individual, namely, the *instinct of imitation*. Changing the theory or our diagram to include *imitation* would not change our data considerably, we will further see.

For example, if we have followed the logical sequencing of the classical discourse and if we were optimistic about the capacity of individuals to reason and about the unique existence of rational actions (with different degrees of rationality), the *imitation instinct* is only a part of what we previously called *subordinate actions*. In this situation if we have the following x, y, z rational individuals, as part of a group, subject to the temptation of imitation, their reasoning will be based on the following:

- a) x and y individuals imitate the behaviour of z because he is considered to have more information about the context of the subordinate action, the one to be imitated. At the same time x and y can take into consideration z's past performance in similar situations that rendered favourable results. Imitation is thus the principal rational action. It is made based on evaluation and reasoning. *the action being imitated is subordinate to the reason behind the action of imitation.*
- b) x imitates y and z's similar actions because they represent the majority in a group and x wants to be part of the group. In this context the rational action is the one that ensures belonging to a group and those that copy this action are the subordinate ones.

It can be said that there is a situation where we can talk about *collective rationality* and we will call it *collective rationality through compromise*. We can put *state rationality* and *group rationality* under this umbrella term. These rationalities emerge whenever a group concedes its right of taking action to another person (in an absolutist regime) or to several people (in a democratic one). Individuals who have given up the right to some actions are considered to have done this for *private reasons*. In this case, the executive party, the state, act on behalf of those who chose them. *It practically acts based on rules established in the name of a common rationality*. We called this *collective rationality through compromise* for two reasons:

- because the state acts through compromise and in the name of those who did not wish to concede their rights to act;
- giving up the right to act to the state is, generally, reversible and is not suspended with the gradual exclusion or disappearance of members of the group who previously gave up their right too. It acts through compromise due to collective rationality, in the name of individuals who were born under its "rationality of existence".

### 5.2. Achieved Objectives

- the first aspect we consider to have accomplished is being able to find the linguistic origins of rationality (lat. *ratio*) which came into the Romanian language through French and Italian and more importantly, tracing back to the Greek word *logos* its ideological origins. *Logos*, moreover, has a wider metaphysical spectrum than *ratio*.
- using three separate arguments: the argument of knowledge, the golden mean, and the ethical argument of freedom we considered them important and sufficiently representative to plead for man's most important trait: that of reasoning.
- we believe we have managed to maintain our objectivity, to construct a few hypotheses with which to support our choice in favour of the *unique existence of limited rationality*. At the same time we have tried to present opposing viewpoints that would also support our final conclusion.
- we have established as many connections as possible between the *philosophic concept* of rationality and the *economic hypothesis of the rational individual*.
- we have also brought arguments to talk in favour of irrationality; its existence is caused by the subjective perspective, involved attitude of the researcher in the economics field.
- it is practically a substitute for the individual who acts and catalogues the action as irrational when this does not match available models or when its objective is not met.
- we have tried and think we have succeeded in demonstrating that any *economic action* is the cause of a *motive*, and between these two there is *rationality*.
- in figure 2 we tried to demonstrate that the hypothesis according to which everyone has a limited rationality does not oppose the qualitative economic models.
- towards the end of our research, in the last chapter, we support the idea of the existence of individual rationalities only, that cannot become collective rationalities. Our main arguments were the following: the impossibility of arriving at collective rationality by quantifying and the fact that collective rationalities actually refer to common objectives which are determined by different reasoning. Put simply, we often act the same but not for the same reasons.

### 5.3. Possible criticism and observations

- a) the first objection that can be raised is that the paper has not managed to include the full spectrum of ideas offered by the domains taken into consideration. We are thus grateful for any corrections or criticisms brought to our attention because we admit it is possible to overlook some aspects of rationality's vast domain.

- b) another error might consist of the unique point of view. in other words, we may not have succeeded in choosing the best perspective from which to analyse the issue. In technical terms, this would be a “parallax error”.
- c) trying to transmit the ideas of experts in the field as objectively as possible may have lead to the use of numerous quotations compared to the length of the paper. We have resorted to this in an attempt to eliminate any errors which can appear through the absence of context.
- d) another objective can be raised with regards to the fact that we may have referred too little to economics and more to philosophy and psychology. The sequel to this paper will deal more with aspects of economics because we mean to include the conclusions arrived at in this paper in another one that will trace back the findings to economic fluctuations.
- e) at times, the logical discourse takes a different turn and draws the discussion away from its original purpose. This does not necessarily harm the outcome because this is merely done in an attempt to get as closer as possible to the idea we are trying to support.

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## CHALLENGES AND OPPORTUNITIES OF ECONOMIC RECOVERY

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**Abstract:** *The new economic paradigm and the new economy are terms that appear more often in the conceptual system of contemporary economic science amid difficulties regarding the investigation of transnational and integrating economic processes, and also to those characterizing globalization, but also the transgression in the evolution of economic science in the theoretical foundations of classical and neoclassical economics.*

**Key words:** global crisis; global economy; post-crisis economy; macromodels of budget planning; multidisciplinary; interdisciplinarity; transdisciplinarity; sustainability.

**JEL classification:** B 41, D 23, D 61, D 63, K 00

### 1. Introduction

The economic theory, science in the real sense of the word, has a short history compared with that of other sciences. The twentieth century it is the most significant period in terms of maturity, diversification and integration of economic theory and doctrines- the development of economic science in general. In this troubled century- the epistemology, historians and theorists say that Economics with its various segments have traveled three stages.

In the first part of the century, economics has matured and developed under the new vision of the neoclassical paradigm, vision promoted by English economist Alfred Marshall (1842-1924). The new vision has become the world's economic science through its applied valences, by the coherent ideas and formal elegance of its results under imperfect competition.

Thus, in neoclassical theory the depressions and economic crises were not to be found. As a result, there were no concerns for their analysis so that they can be fixed.

In the second third of the twentieth century, the development of economic science was based on a new paradigm. It was imposed as a consequence of the inability of traditional neoclassical theory to analyze the causes of depressions and economic crisis and to propose solutions for the prevention of them, respectively to solve them if they arise and manifest. The one who redesigned the entire economic theory was J.M. Keynes (1883-1946). He proved that the "law outlets" does not act, that the offer does not create its own demand, like the French economist J.B. Say claimed.

Therefore, Keynes demonstrates that in essence the demand creates the offer. The recipe to handle a crisis is relatively simple: support demand by increasing public spending. This new vision has allowed the English economist to build a whole range of theories and doctrines, which, after all, was established in the fundamentals of macroeconomic science.

In the last third of the previous century science has brought upfront new issues. In this major work the specialists had to explore the theories and doctrines accumulated throughout nearly three centuries of economics.

The increasing complexity of economic life in the last four or five decades and its amplifying interference in other aspects of the society have been a major defiance of Economics in general, and specifically for fundamental Economics. In turn, the economic science has benefited from the new achievements of human genius, from the analyzing tools that have become more pervasive in their complexity during the progress of real world, being discovered and polished by scientists from all fields. In these conditions, the theoretical economic science, the schools and currents of thought that were previously established were now in the position to seek a new standard reference for tests and to exposure their research results.

### 2. Literature Review

**2.1.** The paradox of a unified global economy and a divided global society is the greatest threat to the planet because it makes impossible the necessary cooperation for solving the remaining challenges.

We must admit that the most important principle of life on Earth is its limited resources. In the past, some experts and politicians have classified countries into three different "worlds" : "first world" nations were allied with the U.S. and capitalism, "second world" countries were allied with the Soviet Union and the idea of communism and the "third world " countries (in general, poor countries). The classification of countries according to wealth, power and stage of development has become increasingly sophisticated in recent decades.

Like any economy, the global economy represents a system in which transactions - exchanges of goods and services through money - are held in this case under the form of foreign trade and international finance. There are several factors that are complicating these transactions, more than in a national economy. These factors focus on several differences between nations in terms of: currencies, laws, languages, customs and culture.

Economics deals with fundamental problems, often the most vital of a national economy. That is why economy is so important. The challenge is found in her mysteries: we do not know when the next recession or expansion will take place; we do not know if a future tax relief will help economic growth; we do not know what new technologies should be used and what should be discarded. And, unfortunately, do not know how to overcome poverty, hunger, crime and other illegal acts of economic reality. But economics is the branch of social sciences dealing with these issues and we wonder if she is really ready to help us solve these problems.

It is important to understand, that then the experience of the 1930s Great Depression and World War II influenced the political and economic leaders to have strong doubts about the stability of the free market. Corresponding to these doubts, they were convinced of the need of an active economic advisor for the central political authorities, so that the leader would raise the level of macroeconomic policies.

The model of economic fluctuations gives us the tools to analyze several important debates about macroeconomic policy. Monetary and fiscal policy affects the economy and economic disturbances can lead to fluctuations in production and employment, to inflation.

Building a macroeconomic policy can be like walking on a rope. If you bend too much in one direction the unemployment increases. If you lean too far in the other way the inflation increases. Slowing economy to reduce inflation will lead to a worsening of unemployment, while growing the economy to reduce unemployment risks it will lead to higher inflation.

After a quick check of the basic goals of macroeconomic policy, we will reflect on fundamental questions such as: should the government intervene to stabilize the economy? If yes, how? With a fiscal or monetary policy? What are the changes to be faced? How are they affected by the macroeconomic policy's choices?

Governmental intervention does not have a helping role in the economic activity. The new classical economists believe that government intervention is limited because the weekly wages and prices adjust rapidly and the private sector helps to anticipate the policy so that impact is not strong.

Other authors believe that while markets adjust slightly, the more subtle macroeconomic policies make the situation worse than help it due to long delays in determining the need of political action, in implementing political change and in economic damage.

There are major differences between monetary and fiscal policy in terms of composition as a result. Let us suppose, at first, that we may use monetary policy or fiscal policy to stimulate the economy. If we use monetary policy, we reduce real interest rate, stimulating investment. Thus, the future levels of income will be higher. Using monetary policy, governors can monitor both total wealth and employment. If we use fiscal policy the interest rates will raise while inflation decreases.

**2.2. Market participation (free, regulated) and government regulation: unity and differences.** In this context we need to make a clear distinction between economic and political spheres. Market participation and regulation are two different functions. The markets allow participants to enter the free exchange. This is entirely justified for participants to be influenced by profit motivation. Contrary, making and enforcing the rules must be guided by the consideration of the public good. In this case the profit motivation is wrong. This is when people try to bend the rules to their advantage, the political process becomes corrupt and the representative democracy fails to produce results that would make the open society a desired form of social organization. Today organizations are no longer asking themselves whether in the future they will have to deal with a major crisis, but they are asking, what type of crisis and how the organization will be affected. The creation and development of an effective plan for economic crises is essential. The main objective of

managing an economic crisis is to give accurate and truthful information as soon as possible - information for external audiences affected by the crisis.

To overcome the crisis the trend of state intervention appeared in many countries' economies. Although to some extent, this can be a saving solution - then, according to economic theory, the state has to maintain its principal role only on the social and the security side. If the State stayed only in the strictly necessary regulations zone and he would provide the general framework, its "natural" tendency of tainting the markets, the competitive system and finally even modern democratic system will be avoided. Although a consensus on what represents the "optimal State" was not yet reached, the research regarding its dimension will be useful in the future.

While we have an effective crisis management team, to have an effective communication plan it is necessary have information about the plan or crisis simulation. The governments should analyze very carefully the management of a crisis; they must simulate and repeat practical situations, so that they will be sure that they'll be ready for the occurrence of a crisis. Financial crises rarely occur in a vacuum, most times, a financial crisis begins only after a real shock makes the economy to slow down; thus it serves as a mechanism of acceleration.

In any society, the government seeks to maintain order and economic growth. Economic disorder leads to the disturbing of the society and to political change. The lack of economic growth leads to unemployment, which also generates anxiety. Most modern governments take an active role in managing their economies through economic policy. The purpose of these policies is to maintain a stable currency and economic growth.

But the markets only fit the needs of individuals, not social decisions. It is accepted that individuals exchange freely products but they are not allowed to exercise social decisions such as rules that should govern society including how the market mechanism should work.

The subjective character of state involvement derives from the fact that the state is not something abstract, but an economic unit represented by civil servants. These officials have their own conceptions about state involvement, often subjective, even if it forms on the basis of economic reality. In addition, other economic units react in their own way to the measures adopted by the state, which brings an additional bias.

Government programs have multiple objectives. If the only target of the government is to redress market failures, then it would have been faced with difficult technical problems, such as - how to reduce pollution. But the biggest problems are those for which the government must face obstacles, especially for increasing market efficiency and promote equality. Normally economic times have an asymmetric shape. The economic boom is long and unclear, slowly at the beginning, accelerating gradually until it flattens and descends during the downturn. Disappointment turns to panic, reaching the maximum point through a financial crisis. A new growth model should provide more extensive guidance of resources towards the production of exportable goods and services and which cover better the domestic demand, the so-called "tradeables", while crediting should be fueled more by domestic savings.

**2.3.** Two basic principles of Economics status; three common elements of business models. The future of economic theory should be based on the following elementary principles: economic laws have proved to be valid on a long-term; the large number of rational economic agents. It seems that in the pre-crisis period the two principles have been severely violated. And not because of the economists. It should be recognized that they have been unprepared in front of the current crisis, many times their prediction methods and models being improper to the new situation and especially regarding its degree of expansion due to the so-called globalization.

In a widely accessible form, the growth policy is the actions made by the State for GDP growth for a period of time. It's actually a matter of resource allocation, a problem that has several features: establishing long-term development targets - which can lead to the increasement of quality of life; the identification, the orientation and the size of products required to achieve targets - a fact which is done by respecting principles: enhancing the capacity for assimilating leading techniques; the economic rationality of minimum use with maximum results; the balance between generations regarding the resources; maintaining a balance between the immediate and long lasting effects of economic growth.

A new option in the growth mechanism should have as a basis the quality of life on a long-term. The dispute over state interference in the economy has been exceeded, but now the issue for is how much and especially how the State should intervene to achieve the desired results. These issues must be linked to market mechanisms.

The early efforts have resulted in the theoretical sphere when the traditional theory of economic growth based mainly on extensive use of factors and resources generated inconsistencies between resources and goods, between the welfare of present and future generations.

The extreme social polarization, present in all countries, the educational and informational gaps has become source of instability at a national and even global level and any disruption cannot be fixed following "traditional recipes".

The fiscal and monetary policies can be used to increase total of demand and production on short term. Both types of policies can be used to discourage demand when inflation threatens to rise. But these two policies do more than change the total of demand. Because they have different impacts on investment they may have different long-term effects on the economy. A monetary growth lowers the real interest rate, stimulating investment. In contrast, a tax increase reduces national savings, increase real interest rates and lower investment. Using fiscal policy to stimulate the economy, by reducing private investments could have harmful effects on the potential of future production.

The financial stability is a natural condition of a financial system devoted to productive investment, in contrast to the inherent instability of financial credit system, of decay and speculation. We need to create a new financial system to provide financial services to meet the community's needs in the choices they made.

The economists study these choices using different models. Most economic models have three common elements: failure, cost and marginal analysis. These three concepts form the basis on which the economy is built.

In the self-organizer cycle of economy the basic processes are autocatalytic; they are orientated to produce ever more capital from an initial volume of monetary capital. The influencing factors of this process can be grouped as: personal (physical abilities, skills, knowledge, experience, etc.), social (technology, science, the volume and efficiency of production factors, cooperation, forms of labor division and methods of organization) and natural. The driving forces in economic growth can only be seen in relation to workforce. The system can never be reduced to its component forces because it is greater than the sum of its parts. Consumption, distribution and production are continuously resumed, the economic processes are cyclic. To solve the new global issues we required new forms of global regulation, based on solidarity, humanism, cooperation, realization of human rights, etc. A joint global society can be an alternative form in globalization.

Taking into account that modern society is a system that is based on processes of dynamic accumulation (of money and power), resulting in trends of unlimited concentration of capital and power, a networked direct democracy is needed to counter sliding towards totalitarianism.

### 3. Conclusions

Economy as a „discipline” is a concept torn apart by current economic crisis, where fierce competition, greed and consumerism will neither solve the crisis in progress nor will they rehabilitate the economy. It is true that the current economic crisis and the times of slower economic growth that will inevitably follow are old system-related symptoms of the excesses and the recklessness accumulated in time at global level, for which reason we see ourselves forced now to reconsider the options that are lay ahead and outline a clear future perspective.

Even the most optimistic economists admit that we live in an imperfect world, faced with much too many injustices, inequalities and inequities. We continue to witness to an increase of the international turmoil, with the world beset by many crises, including structural ones, by violence and armed conflicts, famine and diseases, pollution and imbalances. There is however still hope that mankind will eventually muster its resources to overcome crisis. Each country has its own strategy for adapting and restructuring its workforce in times of crisis or major economic changes.

The economic "coagulations" have continued and widened gradually until reaching today various forms of interpenetrable levels that were unimaginable a while ago, representing a balancing factor between regional and international levels. The current developments are confirming old predictions regarding the indissoluble relationship between economic factors and international stability.

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## PROPOSALS FOR IMPROVING QUALITY MANAGEMENT SERVICES IN AGRITOURISM - SOLUTIONS AGAINST THE ECONOMIC CRISIS

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**Abstract:** *The international economic crisis will drastically reduce the number of tourists visiting Romania this year. There will be a tough fight over tourists' money. One way for keeping the existing tourists and gaining new ones is by raising the quality of accommodation and nourishment services. The study analyzes the possibility of developing the management of the quality services in agritourism by implementing the Q brand in the agro tourist hostels in Romania. We have carried out a study on one hundred hostels located in the main agrotourist areas of the country. The study comprises a set of quality criteria for the agro tourist hostels.*

**Key words:** The management of the quality services, The „Q” Brand, the international economic crisis, the agro tourist hostels

**JEL classification:** F 0, F 41, M 11, Q 01, Q 1, Q 59

### 1. Introduction

Quality is the main factor of success on the market when it comes to agro tourist hostels [13]. This is no major discovery as we all know that quality goods do not need advertising and sell by themselves. In this case, a quality service cannot be something else than a quality goods. Quality is the main factor determining competitiveness, performance, results and therefore profit. Quality supposes good practices (on a high level, that of excellencies, this means the best practices), in conformity with the standardized models, with standards (and on a high level, with the excellency models) [2]. These items are figuratively illustrated (in the figure no. 1).

The criteria for adhering to the European Union, the more and fierce competitiveness with the tourist markets in the region, the increase in the clients' exigency, either Romanians or foreigners, for quality services in tourism, force us to approach this topic with a completely different view than the operators in the Romanian rural tourism system have been previously accustomed to [7].

For the future, the three evaluation levels of conformity on the offered services will be configured as such: the base level will be compulsory, the standard and the excellence levels will be voluntary and certified by the accredited structures for certifying quality and management, including according to ISO 9001, ISO 22000 [4].

**Figure 1: Performance and good practices**



## 2. Results and discussions

The quality criteria can be divided into 10 components [2]. Each of them regulates the activity of a part of the B&B's services. These components are: MANAGEMENT; STAFF PERFORMANCE; ACCESSIBILITY/LOCATION; FRONT FACE/EXTERIOR SPACES/PARKING; COMMON SPACES; RECEPTION; ROOMS/TOILETS; BREAKFAST/RESTAURANT; CUSTOMER SERVICE/RECREATION; SUPPLY.

For each component we will also mention the specific criteria, according to the type of B&B (according to the European norms adopted by ANTREC) [11]. Following herewith, we shall analyze these criteria for the three, four and five daisies B&B [12].

### 2.1. Management (pension manager)

Managers will establish and communicate the organization's vision, mission, values, policies and strategies to the employees or to other interested partners; managers will establish and communicate the unit's policy and objectives with regard to quality; managers will establish the short, medium and long-term detailed objectives in order to meet the customers' needs, requirements and expectations. Managers will focus on providing the value expected by the customers and other interested partners; Managers will establish a system of determining the needs of the market, by identifying target clients according to market segments; Managers will create a working environment favourable to a continuous improvement and innovation within the organization [1].

Managers will create a working environment which would impose ethical and legal attitudes and behaviours; the manager will continuously evaluate the organization's and staff's performances; managers will organize an efficient and effective communication system both at internal level as well as with partners outside the organization; the managers will elaborate position sheets for all the employees; the managers will check the permanent update of the customer database and will ensure their being kept confidential; managers will elaborate checklists for all the activities; managers will organize a daily information session of the employees regarding the activity of the bed and breakfast; managers will organize and maintain a system for collecting staff's feedback; managers will establish a rightful system of recruiting, selecting and motivating the employees; managers will provide a personal example of attitude and behaviour with respect to quality; managers will create a transparent environment within the organization; managers will promote teamwork at all levels; managers will establish an efficient and effective system of solving quality issues; managers will create a system of permanent evaluation of the customer's satisfaction level; managers will keep contractual terms confidential in their relationship with the providers, customers and creditors.

### 2.2. Staff performance

**General:** the employees must permanently have a neat and adequate aspect; the employees who come in contact with customers must speak at least one or two internationally used foreign languages, according to the B&B type; the employees will provide information with respect to the services offered by the respective bed and breakfast; the employees will ensure the security and confidentiality of the customer's personal information.

**Answers to the reservation request:** the employees will provide a personalized answer to the reservation request; the reply will contain details regarding the services which have been booked; the reply will mention the means of transportation and the access route to the B&B.

**Reservation:** phone calls answer will be prompt (at most 3 calls before answering it, at the 4<sup>th</sup> call the phone machine of the B&B will be connected); the reply will be polite and will include a greeting formula which will mention the name of the bed and breakfast and of the person answering the phone; the reply will be stated clearly, accurately and in a friendly manner; the reply will provide correct information with respect to the means of transportation and the access route to the bed and breakfast; the reply will include alternative suggestions in case the bed and breakfast is fully booked; the reply will include services suggestions (non-smokers rooms, conference rooms, swimming pool, sauna, recreation etc.); the reply will include an information request with respect to the customer's arrival date as well as the instructions in case the customer will arrive late; the reply will repeat at the end all the data of the reservation; the conversation will end up with a friendly greeting.

**Welcoming:** the customer will be welcome by all the reception staff standing up; ideally, function of the area where the bed and breakfast is located, the customer should be welcomed according to the area's customs (with bread and salt, with plum brandy, with knot-shaped bread, and the person who welcomes the customer can wear a traditional costume); the customer will be greeted politely; the employees will welcome their customers smiling; the employees will establish the eye contact with the customers; disabled persons

will be welcomed with increased care; the requested services will be provided immediately; the employees will permanently show availability, affability and solicitude in their relations with the customers; the employees should offer at least a map of the tourism area of the bed and breakfast and accurate and complete information regarding the tourism, sports, cultural, ethnographic activities of the area, as well as the addresses of the institutions which facilitate these activities; the employees will guide the customers towards the access ways to the rooms.

**During the customer's stay:** the employees will work without making noises, without smoking in the presence of customers or in the kitchens; the managers will check at random the way the rooms have been prepared for the customers.

**Restaurant:** the customer is welcomed by the employees of the restaurant in a cordial manner; the customer will be greeted politely; the employees will welcome their customers smiling; the employees will establish eye contact with the customers and will guide them to their tables; the employees will take the customers' orders quickly and promptly; the employees will adapt their waiting speed according to the client's requirements; the employees will answer correctly to the customers' questions; preferably, the customers will be offered fresh and natural local products, produced in the host's household or in the respective area; the employees will ask the customers if they would like to order anything else; the employees will wait their customers according to the latter's orders; the employees will make sure of the customers' satisfaction, by asking them questions; the employees will greet the customers in a friendly manner at the customers' departure.

**Payment:** the customers are greeted politely; the employees will welcome their clients smiling; the employees will establish eye contact with the customers; disabled persons will be attended with increased care, the requested services will be provided immediately; the employees will make sure of the customers' satisfaction, by asking them questions; the employees will offer the customers suggestions with respect to calling a cab; the employees will make a copy of the pay bill in case of any further checking; at the customer's departure, the employees will address them in a friendly and polite manner.

### 2.3. Accessibility/ Location

There are street marks with respect to the nearest main route; the street marks are clean; the street marks are well cared for; the street marks are updated; there is a plan/ map/ other materials of the locality where the position and the means of transportation to the bed and breakfast are marked [9].

### 2.4. Front Face / Exterior Spaces / Parking

The name of the bed and breakfast is easily readable both during day and during night; the name plate of the bed and breakfast is kept clean; the surrounding area of the bed and breakfast is well illuminated; the night illuminating system is functional; the garbage tanks/ the rubbish disposal areas are not visible to the customers; the supply entrances and other areas for equipment and services will be kept clean; the supply entrances and other areas for equipment and services will be well cared for; the doors and door cases will be kept clean; the doors and door cases will be well cared for; front faces will be kept clean; front faces will be well cared for; the fence will be kept clean; green areas will be kept clean; green areas will be well cared for; the sidewalks will be kept clean; the sidewalks will be well cared for; the furniture and accessories of the sidewalks and alleys will be kept clean; the furniture and accessories of the sidewalks and alleys will be well cared for.

**Parking (preferably with permanent surveillance):** the parking will have indicators; the parking will be illuminated; in the parking/ garage there will be waste bins (at least one for 20 parking spaces); the gates will be well cared for; the parking security will be ensured [10].

### 2.5. Common spaces

**Cleanliness and general aspect of the welcoming and reception hall:** the reception and the hall will be permanently clean; there will be no unpleasant smells in the reception area/hall; the reception and the hall will be well illuminated; the reception and the hall can be heated (if the bed and breakfast is open between October and April).

**Other common spaces specialized for the customer (living room, TV, club, conference room):** common spaces specialized for the customer will be permanently clean; the common spaces specialized for the customer will be well determined.

## 2.6. Reception

There will be a reception counter and a key panel which will be kept clean and well cared for; there will be phones; there will be a tariffs notice; the authorizations obeying the regulations in force will be posted at sight; there will be personalized typified for all kinds of services; there will be informative materials: leaflets, maps, phone numbers, trains, buses, planes and boats schedule, events timetable; there will be a valuables safe-deposit box; the reception area will be clean [2].

## 2.7. Rooms/ Toilets

The room will be sound-insulated; the entrance door will be illuminated; the entire room will be illuminated properly; 20% of the rooms will be for non-smokers.

### Furniture and equipment

#### Cleanliness and general state of the rooms

#### Toilets

#### Cleanliness and general state of the toilet

## 2.8. Breakfast / Restaurant

### Breakfast

Available products (preferably natural, traditional, produced in own household or surrounding areas); cleanliness and general state of the breakfast room.

### The restaurant

Diversifying the menu; Cleanliness and general state of the restaurant (if it is different from the breakfast room).

## 2.9. Services provided to the customers

**Non-paid services:** providing information, giving messages, wake-up alarm on request, booking restaurant tables.

**Paid services:** renting event halls; renting halls equipment; communication services (internet, inter-city and international phone, fax, etc.); swimming pool, sauna, and massage; selling alimentary and non-alimentary products, souvenirs, handicraft products etc; special areas and playgrounds for children (who will be looked after); all the services must be advertised by means of adequate pictograms, materials and indicators.

## 2.10. Supply

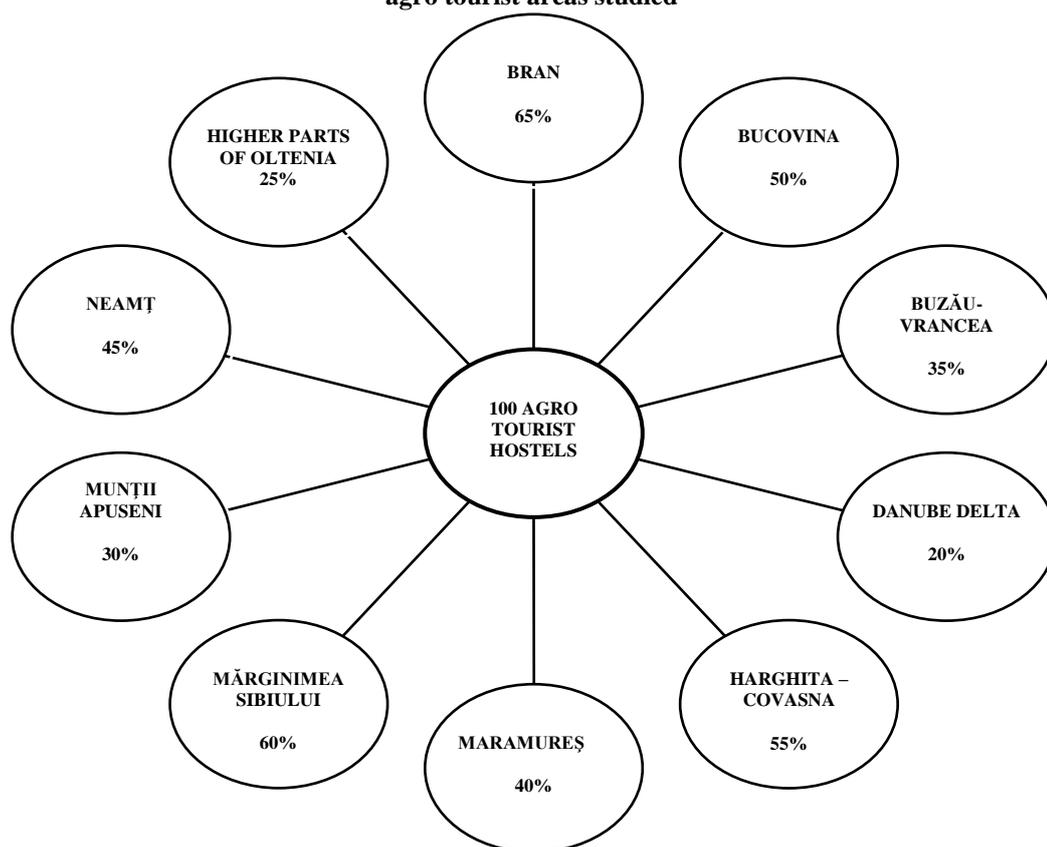
The process of selecting and assessing the suppliers must be efficient and effective; the products purchased must have specifications, a contract, a quality certificate; purchases are performed in order to obtain a maximum efficiency, profitability and to improve the B&B's image; the supply requests are specified by technical and commercial standards, the brand or the commercial name; the system for establishing the necessary supply must be efficient and effective, and it must aim at avoiding useless stocks.

## 3. Conclusions

The results of the study carried out in the main agro tourist areas in the country are not satisfactory, but the discussions with the hostels owners and their willingness to learn give us the hope that agro tourist hostels in Romania will have in the future a management of quality services close to the European Union standards.

The possible implementation degree of the Q brand in the 10 agro tourist areas studied is shown under (the figure no. 2).

**Figure 2: The possible implementation degree of the Q brand on the 10 agro tourist areas studied**



It is obvious that the closest areas to the requirements of the Q brand are Bran and Mărginimea Sibiului, while the farthest are the high parts of Oltenia and the Danube Delta.

On a country level, the average possible implementation amounts to 42.5%. The conclusion is that more than half of the agro tourist hostels studied will not be able to implement the Q brand in a short period of time.

We can only hope that the re-establishment of the ministry will lead to finalizing the program for all public nourishment and accommodation units.

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## COUNSELING AND PROFESSIONAL ORIENTATION OF THE YOUNG PEOPLE - AN IMPORTANT STEP IN ADAPTING THE WORKFORCE TO THE MARKET CURRENT REQUIREMENTS

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**Abstract:** *The role of counseling and professional orientation in high schools is to reduce the gap between supply and demand on the labor market. The aim of this work is to guide students in their final years of high school to discover their vocational interests, skills and competencies available and, not least, the motivation related to the career they choose.*

**Key words:** counseling, economic crisis, labor market, vocational guidance.

**JEL classification:** A 21,A 22

### 1. Introduction

The economic crisis has brought a new orientation of supply and demand in the labor market. The frequent fluctuations of the labor market produced major changes not only in their occupational structure of the labor market. The new conditions have changed the expectations of employees and the employers' requirements as well.

In Romania, as in most of the European Union countries, youth unemployment remains a social issue with important implications for the whole society and that is why facilitating the transition from school to work must become a national priority.

Analyzing the factors that influence young people's insertion on the labor market in Romania, we believe that they are related to the young people's preparation, their socioeconomic status, the technological changes inside the companies, and the current financial and economic crisis, which require a permanent need of fast adjustment to the changes of the economic environment, a more and more competitive one.

This led to an increase of the training activity and also to an orientation towards the professional counseling of high school students in the final years. So, according to a study on analysis of skills deficit in South-West Oltenia, South and Center, over the past year, in Romania were implemented two thousand three hundred ninety seven (2397) courses, of which four hundred ninety three (493) of initiation, one thousand seven hundred fifty (1750) of re-qualification, one hundred and five (105) of training and forty-nine (49) of specialization. The explanation lies in the fact that the region of South-West Oltenia, according to the General Directorate of Statistics Dolj, in the late 2011, recorded an average of 7.5% unemployment rate compared to 5.1% recorded at the national level.

The big number of courses is explained by the increased interest of organizations to reinvent themselves according to new market needs, but also by the needs of employees and persons who have lost their job to match the existing jobs on the market. On the other hand, we must not neglect the fact that a part of the skilled labor migrated in the countries that are members of the European Union.

The study also shows that 9.9% of the employers prefer to hire people whose age is between 26-35 years, the opposite being the youth between 18-25 years (11.3%) and persons over 45 years (0.8 %).

According to the International Labor Office, professional orientation requires a minimum of information about the universe of professions, the access conditions, their characteristic requirements, their social outlook based on material documents. Also, an important step, in improving the labor market insertion is the flexibility of the labor market.

Flexibility is the socio-economic and demographic process that means improving economic, educational and demographic conditions, the diminishing ratio between labor supply and demand. This concept describes, on the one hand, changes made in the nature of work that aim at the diversification of employment, and on the other hand, changes made in the used technology. It should be taken into account

the difference between the action of flexibility and flexibility itself, the latter representing the purpose and product. This refers to the acquisition and the growth of the labor market capacity to adapt to the conjuncture and to the internal and international environment for its better functioning.

From this regard we consider that an important step is the legislation's responsibility, related to youth employment, to provide more consistent facilities to the employers that hire young people.

## 2. A deep research in counseling and training of the young people

### 2.1 The role of counseling and training of the young people.

Counseling and guidance in the future career is the condition of successful socio-professional integration and the obtaining of good results in that particular area that young people have chosen in life. There is a permanent support offered by the European Union regarding the employment of graduates. The characteristics of this process became a priority in the expression of the employment policies, as well as the educational ones. Evaluating the degree of insertion of young graduates on the labor market we obtain, on the one hand, an image of the young people's transition from school to work, the degree of concordance between the supply and demand at a certain time in the labor market and, on the other hand, essential information regarding the effectiveness of education.

Regarding the term "career", throughout time, many definitions of it have been formulated. We do not think there is a complete definition of the term "career" but according to the stages of development of the society we have several definitions. We consider a professional career as a "succession of positions, roles, activities and professional experiences encountered by a person or an employee of an organization throughout its professional history." (Arnold, Cooper & Robertson, 1998).

Analyzing this definition we have to define certain aspects, namely:

- a) The sequence of positions is more than a job. Instead of looking at the work station occupied by a person, as an isolated case, we are more interested in how the specific job or profession is related to the past and the future of that person.
- b) The experiences that people faced over the career should be analyzed subjectively. For example, a person's perception regarding the professional success in his career can be subjective. So, while one person can consider the appointment in the position of chief executive as a success, another may consider it as a disappointment. Some people may be more concerned with how well they can reconcile the service with the personal life, rather than job advancement.
- c) Careers are not limited neither to professional and managerial occupations, nor to advances on "conventional" paths in your career and which take into account seniority in the same position or inside the organization. When it comes to career we should take into account several of factors related to personal needs, social context, the environment in which we live and personal interests.

The choice of the profession and the job reflects the individual's self image. It is structured by integrating a unique content of the perceived expectations of others to themselves. Identity is formed gradually, while organizing and structuring information about itself and includes aspects related to: innate and acquired characteristics of the personality, talents and personal skills, identification of patterns, ways of interaction, conflict resolution, social roles, behavior control, vocational and gender characteristics adopted by an individual at a certain time.

Also the evolution of perception upon career should be seen in terms of socio-economic dynamics as:

- the increasing of labor migration;
- the emergence of new fields of work and the massive loss of employability in the traditional ones.
- the legislative flexibility concerning the forms of employment (part-time employment, pre-determined)
- the attempt to make the professional qualifications system flexible.

The orientation of young people regarding their career is an important aspect that organizations perceive it subsequently through the light of the future employees' motivation and not least through the light of the high fluctuations. One of the aspects of the self-knowledge process it is found when choosing the career that - experts say - may be associated with the acquisition of professional identity, once the integration and the initial adjustment to the profession is performed. There are also situations in which this change is felt in the affective as a "shock" due to the confrontation between reality and ideal, between the emotional investment of the young in his work and the feedback received from the employer.

Even though there has been a series of studies on labor demand in the market, Romania is facing a major problem related to the inadequacy of the professional training to the labor market. This situation is found

in most studies and reflects an alarming aspect: over 50% of the employers prefer not to hire young graduates. The explanation is their lack of professional qualification.

This is due to, on the one hand, predominantly theoretical education in schools and universities that is not consistent with the market demands, and on the other hand, to the lack of interest of young people.

In Romania, as in most European countries, youth unemployment remains a social problem with profound implications at the level of the entire society that is why facilitating the school is a national problem.

Each person's career path is determined by several factors such as the environment, the family, but the most important is considered to be personal motivation. It is therefore important to analyze and know, in detail, what factors motivate us in long term, both in the choice of each job and in choosing a career path. So, one of the risks that we have to take is failure ever since the beginning of the career. Or, this thing can leave its marks on our professional future. The lack of professional motivation is an important factor that needs to be analyzed and seriously taken into account.

Personal motivation, inside the organization, is due to the feeling that you add value to the company and if you feel that your personal evolution is positive. Each individual has certain factors that motivate him and each has a profile of motivations and values. Therefore, before starting a career and taking a professional decision, it is important to know our motivations so that we can take favorable decisions on long term. Prioritizing our motivations also helps us to face the professional challenges. Motivation is not something you can learn. In many situations, especially in the case of young people that start out their careers, making up a profile of motivations is very important.

When we talk about the career we should take into account several factors related to the personal needs, the social context, the environment in which we live, personal interests, etc.

Besides the counseling in career, we also consider that training in order to reduce unemployment is very important.

Training can be:

- a) the initial training of adults which will provide the necessary training to acquire minimum professional skills in order to get a job.
- b) the continuous training that comes after the initial training and which provides either the developing of professional skills already acquired or acquiring new skills in order to adapt to the demands, that permanently change, in the labor market.

The current situation shows that Romania has made significant progress in restructuring the training system been given the great number of courses, on the one hand, and legislation that requires assuring training courses to the employees at least once every 2 years.

## 2.2 Research

In order to identify the motivation of young people that choose their careers and to compare if their vocational interests correspond to the profession they chose, we surveyed on a sample of 200 students, been selected students that are in the final years of high school in the area of Oltenia and the South, the sample being representative by region and number of schools. We considered this research as being necessary in the light of the subsequent analysis of current demand in the labor market and the professions they choose and implicitly how they will find a job after graduation. The final goal of this research is to bring ideas to reduce the gap between the demand and supply in the market by supporting the transition from school to work, in order to adapt them to the macro-economic demands.

The research involved the following steps:

- a) a set of tests to identify vocational interests for people of both sexes, over a common set of dimensions. Vocational identity combines aspects relying on the knowledge of their interests, values, skills and competencies, on the one hand, with a preference for a certain style of activity, interaction styles and work environments, on the other hand. When choosing the educational and professional path and the job satisfaction an important role is given by interests and skills and personality type (realistic, social, investigative, enterprising, artistic, conventional), the type of environment we want to act, so personal experience.
- b) administered questionnaires on which students responded to a set of pre-formulated answers - questions about the factors that motivate them in choosing the professions, their perception about professional counseling and also the aspects that they consider important to succeed in life.
- c) counseling students taking into account the interview which took into account three particular aspects:
  - personal - development (self-knowledge)
  - explore career (knowledge opportunities)

- career management (making decisions and planning the transition period)
- d) the design of a career plan by the students;
- e) the comparison of results between the identification of vocational interests and the students' career plans;
- f) the evaluation and analysis of the results that consist in monitoring the young people after graduation.

Since the beginning of the study we found out that they had no information about the orientation on the labor market, implications that we consider important in terms of deficit or surplus of the future in labor.

The interpretation of the study results revealed that 60.8% of students have identified their vocational interests, 20.2% had a moderate joint of vocational interests, and 10% a decreased index of the consistency of responses which concluded that they did not identify their vocational interests or demonstrated a lack of interest in solving the test.

Correlating these results with the question "After what criteria have you chosen your occupation?", with the career plans and the interviews with students the study revealed that, of those 60.8% who have identified their vocational interests 27% recognized that they have chosen their job taking into account their family's influence, 10% taking into account the prestige of the institution and profession and 5% other criteria (proximity to the domicile, the suggestion of teachers, etc.). and the remaining 18.8% said they will take into consideration when choosing their profession, the vocational interests.

The study also revealed that students of prestigious colleges are influenced in a small and very small extent (68.9%) by the professional counseling in the choice of a job, and the influence of family and environment is predominant. Instead, there was a higher influence among students in school groups (48.7%) which are influenced in a big and very big extent by the professional counseling.

The identification of the vocational interests had a greater impact for the 20.2% who had moderate articulation of these interests. So over 80% said they will take into account the vocational interests in choosing the profession.

About the aspects they consider important for success in life, the results are presented in the table below:

**Table 1: Aspects considered important for success in life**

Aspects considered important for success in life	Sex	
	Male	Female
<b>Ambition</b>	46.6%	53.4%
<b>Talent</b>	49.2%	50.8%
<b>Luck</b>	48.4%	51.6%
<b>Influent relationships</b>	66%	34%
<b>High education</b>	45%	55%
<b>Work more</b>	40%	60%

The perception that young people have of success in life is related to the fact that over 60% of young males believe that influential relationships are important for success in life and only 40% think it is important to work more.

This becomes alarming more, as these perceptions decrease the level of motivation of young people.

The gratifying thing is that among young females 55% believe that higher education is an important factor for success in life while 60% consider important to work more. We notice a positive change among young female motivated to make a career by the impact of professional counseling. The study showed that the females are more influenced by professional counseling than males. (61% of the females are influenced by professional counseling).

The continuity of studies in higher education is the option of most students from real and human, while 10% of the students in technical profiles chose secondary education. Only 20% of the students in school groups said they are willing to work and not to continue their studies.

At the same time, the research has shown that students need help to know the local job market, employment and training opportunities, to know their strengths and weaknesses and also to know how to present their skills, and abilities to employers.

The researches in the recent years have shown that gender and cultural differences are taken into account so that the guidance in their career to meet the specific needs of all students. With regard to the preparation of the career plans we noted that 40% of them did not need support in the design of the career plans (most students came from schools groups with industrial profile). The explanation is that students believe that the skills and competences acquired during high school and the profile do not match with the employers' requirements. Therefore many had hesitation in terms of filling in the domain in which they would want to work and preferring a shift in career after graduation.

Synthesizing the results of the research one hundred (100) of the two hundred (200) students entered to college the higher share of 80% being ensured by the admission of students among colleges. Of these the largest share have chosen economic faculties (40%), followed by technical ones (25%) (mainly by young males). Of the young people enrolled in higher education that have chosen for economics and 75% motivated their choice considering that they can professional focus and refocus easier. Also 5% of students chose to study at universities abroad. One of the aspects on which we insisted in our study was to identify the true motivation of young people in choosing the profession beyond the influence of family, environmental or material aspects. For a better understanding of the internal process of motivating young people, in general, we must focus on one of the direct factors that affect motivation, namely self-knowledge, along with the self-esteem and personal belief, freedom and determinism - representing the indicative coordinates the most relevant in the study of motivation and the impact felt on a personal level. In psycho-sociological terms, self-knowledge is correlated with self-perception - as a personal filter through which we perceive people and social phenomena, a filter of which depend our behavior, our reporting to the world and people around us. To be able to do performance it is required besides knowledge and skills, in a certain field, to have the pleasure to practice in that specific field. The research has shown that although 50% said that the most important factor in choosing a career is the pleasure of doing what they love, only some of them had good knowledge about that profession, the rest of them arguing their motivation through the information received from relatives, friends and media. On the second place of motivation in choosing the career is the money with about 30% followed by the social position with about 10%. The level of knowledge is also an important aspect to have a successful career. Although even if more than 80% of them expressed willingness to acquire new knowledge in order to succeed in their careers, results from high school final exam denied these allegations, the rate of promotion being very low especially in industrial schools.

### 3. Conclusions

The study highlighted the need to continue and develop the professional counseling process but with someone qualified that can help students in the process of self-discovery, of identification of the abilities and skills that they have.

In the context of all changes on the labor market, taking realistic and well informed decisions regarding the future career is an extremely important step and schools should ensure that students are well prepared to plan their future careers optimally. The process of making decisions must stretch over a larger period of time, to make sure that students make the best decision.

The research has shown that 100% of the students have expressed interest regarding the necessity of counseling and professional orientation but considered that this should take place in a large period of time, with school counselors or other persons that can provide advice and with who they should work in partnership. We also noticed the importance of informing the students with regards to the understanding of the labor market, its changes according to the European markets and the expectations they should have from the career they chose. A good knowledge of the labor market helps to influence the career and therefore to influence the gap between demand and supply.

The study revealed that students need help in assessing their achievements, concerns and skills, in developing action plans. The main objective of self-knowledge and personal development is the development of realistic self-assessment skills of their own characteristics and the emotional and behavioral self in different situations related to life and career.

Researches show that young people's transition from school to active life became longer and more difficult nowadays. Our study shows that only 10% of students have found a job within 6 months after high school. The high rates of youth unemployment and the significant underemployment point that young people are experiencing important difficulties in the transition from school to work. This phenomenon occurs not only in countries that are in course of developing but also in advanced economies where active measures and support programs are well developed. The time extension for the transition

from school to work is explained by several factors, the most important are: the restructuring and economic developments, the increase of youth unemployment, the changes in the system of social protection, the extension of education and not least, the skills acquired during the school that do not match with the requirements of employers. For the young people in our country, choosing the profession is more difficult as it supposes to focus both on theory and practice, talent, vocation. On the other hand many young people make decisions pressed by their parents. Young people are advised to be pragmatic, to rather think about the financial consequences, and less about discovering themselves.

In order to reduce the gap between the supply and demand on the labor market, one of the solutions that we believe to be necessary, is an adjustment of the educational and training systems in order to generate new skills that are able to meet the requirements of new jobs to be created following the changes on the labor market. School counseling and guidance are essential in building a workforce able to cope successfully with all sectors of social life.

The study results show that although counseling and professional orientation of students are important, the school has lost its traditional role, which is to prepare young people professionally and help them adapt to current conditions on the labor market. The fact that 5% of the counseled students chose to continue their studies abroad, indicates the perception of young people that merits recognition and professional success will be more appreciated abroad than at home.

In these circumstances we consider that in future school along with family should increase its contribution to support the youth in building a career based on self-knowledge and motivation in close correlation with the dynamics of the labor market demands.

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## SCAVENGERS OF A NEW AGE

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**Abstract:** *The current paper tackles the main issues surrounding the aftermath of the financial and economic crisis of 2008-2011, with the accent put on organizations that, in our opinion, will have the most to gain from all that ensued after the fall of Lehman Brothers. Are threats like terrorism real threats, or is the threat of financial markets a much scarier enemy? Have we learned anything at all, as states and as individuals, from what we have witnessed? How bleak or positive does the future look? An answer is daunting, but required.*

**Key words:** aftermath, crisis, scavenger, financial markets,

**JEL classification:** A 10, A 11

### 1. Introduction

A crisis which has become somewhat of a mass media superstar, with impacting effects which are difficult to account for, let alone number. A crisis which generated more sorrow than wars did, which created whirlpools of financial turmoil, thundering columns of stocks crashing down, only to rise again. A crisis of chaos, of desperation, which plunged countries and individuals in a struggle for their very survival and which has vanished, or so it would seem. A crisis which has taken its toll on the financial markets, but generated an existence for new breeds of financial institutions, ready to prey on the misguided savings of the many. A crisis which brought memories of Bretton Woods to our minds, and which has created the possibility of a global, financial meltdown. A crisis for some, but also a means for the development of others, as we shall see. A crisis in which, while most of us were left stranded in the fog, abandoned to the will of uncompromising financial markets, some were thinking very clearly and generated massive profits for unseen individuals or corporations. This was the crisis of 2008-2011. And we are now living its aftermath, a perspective which is almost as frightening as the crisis itself.

However, throughout the paper, we should keep in mind that the question still lingers: was this a disaster which was impossible to predict or was it a generated “perfect storm”? And even though we still struggle to find an answer, we must question ourselves, who is to blame for the billions of lives shattered, for the billions of dollars and Euros which wasted away into the ever-hungry pockets of the few and wise? How frightening will the answers to these questions be?

### 2. A storm brews in the east

A better understanding of economics and macroeconomics in particular, is impossible without some knowledge concerning economic cycles. A notion studied by many specialists, including Kitchin, Juglar (Korotayev, 2010) and Kondratieff, economic cycles revolve around the idea that all economic activity follows a certain pattern of events. It is the belief of such acclaimed authors as the ones stated above that an economy cannot avoid its periods of going up and falling down. While Kitchin (Kitchin, 1923) cycles are concerned with short terms, of about 40 months (Kitchin, 1923) and Kondratieff (Korotayev, 2010) cycles are concerned with long terms (45 – 60 years), the most common cycles used to explain economic fluctuations are the Juglar cycles. A Juglar cycle (Korotayev, 2010) represents a fixed investment cycle of 7 and up to 11 years, which was first identified by Clement Juglar, in 1862.

What is amazing in Juglar’s theory is that, within such a cycle, one can observe oscillations of investments into fixed capital and not just changes in the level of employment of the fixed capital, ergo, respective changes in inventories, as within the Kitchin cycles, for instance. According to the same authors (Korotayev, 2010), the recent research employing spectral analysis has confirmed the presence of Juglar cycles in the world GDP dynamics up to the present time.

If we begin to realize the fact that the Juglar cycles are a constant of the world economy, recent events reveal the same elements. A period of 7 to 11 years usually means around 4-5 years of economic growth, followed by 4-5 years of decreasing economic activity.

Let us consider the facts: the year 1996 marks the beginning of the Asian crisis, followed by a series of setbacks during the beginning of the 21<sup>st</sup> century, and now, the current crisis world crisis. The need for

transparency (Noland, 1998) in world finances became apparent and a necessity, but again, the world did not take heed of warnings. The spectre of a global financial meltdown has been looming around ever since the crisis of 1996. Although, at that time, the financial quake was contained, it laid the basis for what was to come, some 20 years later.

We must understand, a disaster of such magnitude, which engulfs the entire world, is not a simple happening. Disasters do not just occur, rather, they reveal several signs which must be taken as warnings. They have their own physics, and their own dynamics. We have all seen the results of financial turmoil, which in turn, leads to social unrest. A booming economy has now stalled, and the effects were merely catastrophic.

The crisis in Asia was a mere sign of things to come. Unfortunately, the world, as a whole, did trust a banking system which has encompassed our way of life. In spite of the lessons which must be learned, we fear that these financial institutions, faceless behemoths, have become the new scavengers of our modern times.

### 3. The West crumbles

But what did the Western world have to do with the Asian crisis of 1996? The answer comes in a theory which is more present today than it was ten years ago. We speak of course, of "the butterfly effect". According to the theory of this concept, it has been stated that the battling of the wings of a butterfly in Europe can cause a typhoon in Japan, and so on.

This concept applies entirely to economics, particularly in modern times, as markets have become more and more bound together. This has come to be as a direct result of globalization, the fall of trade barriers among different states and regions, and the expansion of the service sector.

The service sector has increased tremendously in importance during the last 20-30 years and in Romania ever since the 1989 Revolution. The three main composing elements of this sector are the tourism sector, the telecommunications sector and the financial services sector. The development of services and their increase in importance in the world economy has created interdependency among states and regions. This reliance, of one state on another, has led to the distinct possibility of a "domino effect" manifesting itself. Namely, if one country falls, the rest will follow. This is the case of Greece, today. But let us return to the subject at hand.

The West, or Western Europe, where some of the financial centres of the world are located, namely London and Frankfurt, among others, has become, during recent decades, overly dependent on Asian markets. This has come to be due to the fact that stock markets all across the world form a time continuum, which means that, in fact, stock markets are open 24 hours a day.

Considering the way the world revolves, we can clearly see this: when European markets close, Asian markets open, when Asian markets close, American stock markets open, and, when American markets close, European markets open again.

More important however, than the time span, is the continuous effect, the spirit of the markets, which is taken from one side to the other. This means that if Asian markets are low, so are the American and European ones, and so forth. The crisis of 1996 in Asia created a downward spiral, in which the Asian markets continued to put their negative state on all of the others. And a psychological loop was created, the only direction being down.

Sinking lower and lower, markets simply could not find their way up again, for some time. And we did not use the word "psychological" at random. As Thomas Friedman said (Friedman, 2004) the best way to describe investors on a market is the academic term of "herd". This means that if someone startles a member of the herd, and it starts to gallop one way, the others follow. And that is exactly what happened to the global markets, which followed the Nikkei 225 and the Hang Seng all the way down.

Western markets plummeted, as fears of a global meltdown were omnipresent. The disaster was averted right at the end, due to serious intervention. But the crisis had taken its toll.

Unfortunately, not learning from our mistakes, several years later, we made the same mistakes again. But one cannot help but ask himself, how random were these mistakes? Was it really not possible to see such an impending disaster? Or were we blinded, right until the edge of the cliff? We believe the latter to be much more than a foolish rumour.

And the answer lies within the most developed component of the service sector, the same sector which offered us perks such as the internet, communications at almost no costs, the ability to transfer currency across the globe instantaneously. We believe the answer lies within the financial sector. It is here

that monsters were born, not wearing horns or pitchforks, rather, guiding our savings into oblivion. These are the scavengers of our brave new world.

A brave new world of free communication, of unlimited possibilities, but also, of unlimited risks. The irony of this world is that no matter how many bankers would be responsible for the current financial debacle, they will never be held responsible for their crimes. Because indebting a country, sentencing its people and their children to lives of slavery, for corporate gain, should be considered a crime. The economy can be a horn of abundance, but it can also enslave for generations.

#### 4. Scavengers of a new age

Thus, such scavengers appeared, driven by one of the most primal of human emotions: greed. Of course, such a categorical classification might seem quite unethical. However, one must realize that the world is not a perfect place. Not by a long shot. In terms of Pareto efficiency, we can safely say that 20 % of the world population inherits 80 % of the world's wealth, while 80 % of the population battles severely for the 20 % of wealth which remains. Such a division is not only unethical, but unfair to the billions of people living in severe poverty, and to the millions of people which are threatened by poverty every day. This is a world in which 35.000 children die needlessly every day from curable diseases (Zeitgeist, 2008). So, something is obviously wrong.

In our opinion, the issues lie within the financial sector. Driven by aggressive marketing targets, by objectives which have absolutely no regard for the humanity of our actions, banks and financial institutions became faceless profit factories. This is all fine and dandy until an economy is growing, but, as we saw before, economics is a process of cycles.

Ergo, according to the cyclical theory, periods of growth alternate with periods of recession. Without any concern for protecting even their own resources, let alone the resources of their clients, i.e. deposits, banks began to grant credits for almost anything, a situation which we have seen in Romania as well.

Usually, the granting of a credit by a bank to a customer, be it a private company or a person, is made on the basis of a scoring analysis, which is basically the completion of a chart, by the bank, and the granting of points to a potential customer. Fuelled by high demand, banks, particularly in the U.S., but in the rest of the world as well, including Romania, gradually lowered their criteria, and granted credits to more and more customers, thus enlarging their portfolios.

The only issue was that some of these clients were becoming insolvable, which meant that they could not pay their credits, their mortgages. Ergo, the "uncertain clients" increased within the portfolio of the financial institutions, exceeding numbers of up to 7 % - 10 % in Romania (BCR, 2010). This meant that, even though those clients were ranked as actives, they became "toxic" and thus, affected the portfolios of local banks.

Banks, which, in turn, sought help from the main banks, located in countries such as Austria, Portugal, even Spain or the West. All the pieces being into place, the domino effect could now follow. Ergo, countries started falling, one after the other, beginning with small ones, such as Iceland or Latvia. When the fire extended to countries such as Ireland, Greece, and more recently, Italy, the issues became much more serious.

Measures of financial and fiscal prudence ensued, and were drastic in their enforcement. However, it will prove to be too little, too late. The euro is crumbling, and even its existence is questioned by the end of the year. If we were to indulge a metaphor, we are now living in a financial wasteland. And there are only several species of animals which survive such an environment: scavengers. Those who feed on whatever they can, and do whatever they can to survive. Sadly, the financial institutions which govern our world, have adopted such behaviour, with us as prey.

After three years of credit abstinence, the financial sector, as a major component of the service sector, has begun to credit again. We should, however, realize that when a bank issues currency, it does something more: it creates inflation. Thus, the seeds of destruction have been sown. And we can clearly observe how the encouragement of credit gives birth to such scavengers.

The term, although harsh, is used to reveal the fact that banks will stop at nothing to hunt for resources. "By any means necessary" seems to be their motto. In times of turmoil, these financial colossuses recorded profits, because they simply passed provisions which they created in the past, onto the income section of their balance sheets. And so, even during financial debacles, they reign.

Unfortunately, another argument which sustains the "scavenger" alias is the financial system itself. To put it simply, you cannot achieve anything today, without contracting credit. And if you contract credit, you are subject to debt. We must understand that banks and financial institutions do not gain from short term

loans, rather, from long term loans, with a time span of 20 – 30 years. Of course, interest may seem smaller, and it actually is, but the problem is that it does not matter. You are a bank customer for that time span. That is the profit credo. Auxiliary services are then sent in, as special offers, to indebted you, the customer, even more. For those who choose to gather money, ergo, to stay hidden from banks, the system works too: in the way that they are sentenced to a more difficult process of accumulating wealth.

All this time, we become a sort of “slaves to the system”, because of a fundamental economic and behavioural principle which is at the core of economics itself. In effect, the “need principle”, which loosely mentions that once a need is satisfied for a consumer or the consumer, has satisfied its need of a respective product or service, it will create the need for other products and services. On the long term, this argument implies that we will continue to struggle to have more and more, to accumulate as much as we can, on the same principle of greed, which governs most of our actions. An ugly truth, but this is the truth nevertheless.

Of course, people will always crave for more, and will pay more and more to obtain goods and services. The endeavour will become more apparent in years to come, as most of our resources, such as oil, for example, become more and more scarce. And, more importantly, there will always be someone there, with the best offer, customized to our needs, the best credit that money can buy. Another scavenger, waiting for it certain prays. The architecture of this “crystal mountain”, built on blind faith in financial institutions, built upon deception and greed, is astounding. But the purpose of the mountain, inhabited by such scavengers, as banks, large corporations and financial institutions, remains the same.

This will come to be because in spite of all that has happened, lessons have not been learned and will not be learned. Whether they are not learned intentionally or not, we are unable to say. But the mistakes of our past will continue to hunt our future. And based upon our motivation to buy, to purchase, the task is made ever so easy.

## 5. Conclusions

Perspectives are rather bleak concerning our brave new world. With scavengers looming around, and with crises still haunting our horizon, how can we learn from our mistakes becomes an essential prerequisite for survival. It is a certainty that crises will come, as they did in the past, so they will in the future. Perhaps not with the same intensity as in 2008-2011, but our savings will again be eroded by the ruthless financial markets.

Banks and financial institutions will continue to follow their own rules, because it better serves their interest. This means that, in spite of the lessons learned so far, the populace will, in time, become more engulfed in debt, because financial markets have a defect, they benefit from short term memory loss. In time, the turmoil of 2008 – 2011 will be forgotten, as even today, the media covers subjects concerning Greece occasionally, or when riots occur.

Forgetfulness is a spell which the financial services will use continuously on a public which became more and more reliant on gain. Having the greed of consumers as another argument for such a devious plan, they will continue to feed of the dew of savings of unsuspecting individuals. Although this is a somewhat melodramatic landscape, we strongly believe that it is not far from the truth.

Lending comes with a price. A high price, which has to be paid, in the end by the poor and the needy, as always. Even in Romania, commercial banks do not take heed of the warnings set forth by the National Bank. A concrete argument is the fact that the lowering of the NBR’s interest rate, which, in theory, should make credits more available, had no effect on the interest rates of the commercial banks. And the NBR has decreased this rate, twice, to a current level of 5,5 %. The financial sector did not react.

Instead of decreasing credit prices, and gaining from the volume of contracted credits, financial institutions have sought other ways in which to maintain their effectiveness, such as closing down several branches, dismissing personnel and so forth. Personnel which increased the number of unemployed people in our country, but not only here. A logical question then follows: if a person lives on state subsidies, i.e. unemployment funding, instead of having a job, how can one expect the consumption level of that person to rise? It will certainly not rise, at least until that person finds a new job. Tenthhs of thousands of people are in the same situation, being dismissed either from state companies or from private ones.

Adding insult to injury, the “toxic portfolio” of banks has increased, yet they continue to keep prices high on credits and low on deposits. So low in fact, that when calculating the profit margin, using the rate of inflation, you end up at a profit of less than 2-2, 5 %, for an entire year.

And let us not forget other risks, such as the risk of inflation which is omnipresent, even if the European Central Bank manages to keep it at bay, at the moment. Banks issuing credits are banks which create inflation. In terms of money mechanics (Chicago FED, 2003) the multiplication effect of such an

issuing of currency is about nine times its original amount. This means that, for example, for each billion of Euros which the banks issue, the money which actually finds itself within the market is circa 9 billion Euros. A collapse of such a “tower of cards” is catastrophic for an economy, or even the world economy, for that matter.

The crisis which has recently passed was only one of many, and the future seems to be at the hands of the very people which have brought the world in the state that it's in. A realistic scenario puts us still at the mercy of ruthless scavengers. Let the feast begin.

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## THE EFFECT OF FACTORS INFLUENCING UNEMPLOYMENT SPELLS AND EXIT DESTINATIONS OF ROMANIAN HIGHER EDUCATED PEOPLE

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**Abstract:** *The effect of factors influencing unemployment duration and exit destinations of higher educated people from Romania is analyzed. The empirical analysis is based on a nationally representative database of 150568 completed unemployment spells gathered from the National Agency of Employment Romania. The results of empirical analysis show a significant influence of gender, age, region of residence, urban/rural area, marital status, if the subject received unemployment allowance or not during his/her current spell, previous work experience before registering in unemployment, disability and start year of registration covariates on the unemployment spells and exit destinations of higher educated people from Romania.*

**Key words:** hazard, model, risk, event, survival

**JEL classification:** J64, J21

### 1. Introduction

The aim of this paper is to analyze the duration and exit destinations of registered unemployment spells for higher educated people in Romania. The micro-data were collected from the National Agency of Employment Romania and the analyzed period is January 1<sup>st</sup> 2008- December 31<sup>st</sup> 2010. The dataset has 150568 registered spells, representing 8.13% from the total registered unemployed during the analyzed period. For each registered spell we received information concerning the gender of unemployed person, age at the start of registered unemployment, education, region of residence, urban/rural area, if the subject received unemployment allowance or not during his/her current spell, the reason of exit from unemployment for every registered subject, if they had previous work experience on the Romanian labour market before entering into unemployment and whether the subject has disability or not. Subjects whose unemployment spells begun and ended on the same day were removed from the dataset due to the non-existent duration of unemployment. Also subjects with discordance between age and education were dropped out.

The dependent variable of our study, *duration of an unemployment spell*, was calculated as the difference between the first and last day of unemployment and is measured in days. The exogenous *gender* variable was coded as 0 for women and 1 for men. The *age at the start of unemployment spell* variable has values in between 21 and 64 years and was divided in the econometrical analysis into five intervals, as follows: 21-24 years, 25-34 years, 35-44 years, 45-54 years and 55-64 years. The *education* variable includes the following two categories: college and university. Until the Bologna process, we had in Romania short-term university education, namely college (three years of study), and long-term university education (four, five or six years of study). Unfortunately, we didn't receive information about post-university education, e.g. master level or PhD. Thus the highest educational level in our analysis is university education, were people with a master or maybe a PhD are included. There are some studies demonstrating that *gender, age and type of education* are affecting the unemployment duration and exit destinations of the higher educated people.

We analyzed also the impact of *urban or rural area* for the duration of unemployment spells. The variable area was coded as 0 for rural area and 1 for urban area. The exogenous variable *region* was coded as follows: 1- North-East Region, that includes six counties- Iași, Botoșani, Neamț, Suceava, Bacău and Vaslui, 2 - West Region with four counties, Arad, Caraș-Severin, Hunedoara and Timiș, 3- North-West Region, with six counties, Bihor, Bistrița Năsăud, Cluj, Maramureș, Satu-Mare and Sălaj, 4- Central Region, with six counties, Alba, Sibiu, Mureș, Harghita, Covasna and Brașov, 5- South-East Region, with six counties, Vrancea, Galați, Brăila, Tulcea, Buzău and Constanța, 6- South-Muntenia, with seven counties, Prahova, Dâmbovița, Argeș, Ialomița, Călărași, Giurgiu and Teleorman, 7 – Bucharst-Ilfov Region, which includes the

capital Bucharest and Ilfov county, and 8 – South-West Oltenia Region, with five counties, Mehedinți, Gorj, Vâlcea, Olt and Dolj.

For *unemployment allowance* we had just information about if a subject has received allowance during his/her unemployment spell or not (0- if not, 1-if he/she received allowance). Since the data are anonymous, and no identification number was added to every spell, the existence of multiple spell is possible in our dataset. After we investigated the coding used by NAE Romania for unemployed subjects we noticed that a particular category of individuals being in a transitional state of unemployment are a potential source of multiple spells existence. A part of these subjects (especially young graduates) changed their status from being registered as unemployed without allowance into unemployed with allowance in a few days, and implicit a new spell for the same subject appears. In order to avoid the problems generated by the intra-person correlation, we decided to keep in the database just the last spell of these subjects, which is also the longest. Thus having multiple spells with the same exit state in the dataset was avoided. However, there still exists the possibility of double spell for the same individual, but with a different value of the unemployment allowance variable and for the exit destination variable. For example, a person can be registered as unemployed having the right to receive unemployment allowance; he or she can stay in unemployment the entire legal period, after that exit from registered unemployment due to expiring the legal period of receiving allowance, but he or she make a request to be kept in the registration database, as a registered unemployed without the right to receive unemployment benefits. Thus, he or she has a spell as unemployed entitled to receive benefits and another spell as unemployed without the right to receive benefits. Thus, when we are analyzing the impact of receiving or not benefits for the exit destination, it is actually analyzed the impact of UI for the current spell and its exit destination. We do not know if an individual did not received at all UI during his/her registered unemployment duration, or received UI during one spell and lost the right for the other spell or spells. Therefore the impact of UI variable is kind of problematic and unclear. We would say that it is the impact of UI received during the current spell of an unemployed for the current exit destination. However, we would like to underline that we used as unit of our analysis unemployment spells rather than individuals.

Same situation I had for *previous work experience* (0- no experience at the time of entry in unemployment, 1- if subject had previous work experience) and for *disability* (0- no disability, 1- subject with disability). For *marital status* we have the following categories: 0-unknown marital status, 1- unmarried, 2- married, 3- widowed and 4- divorced. For *the entry year in unemployment*, we have subjects that entered in unemployment in 2008, 2009 and 2010.

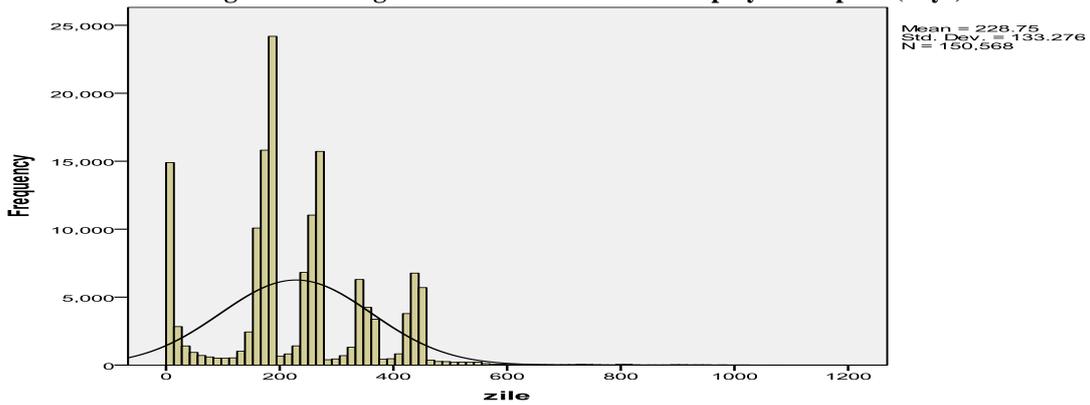
## 2. Preliminary descriptive statistics

The minimum duration of unemployment, in days, is 1 day, and the maximum is 1202 days, with a mean of 228.75 days. In table 1, we presented descriptive statistics for the duration of unemployment spells and in figure 1 it is presented the histogram for the duration of unemployment spells (days). The distribution of the unemployment spells is positive asymmetrical and leptokurtotic (Table 1 and Figure 1).

**Table 1: Descriptive statistics for the duration of unemployment (days)**

Central tendency	Mean	95 % confidence interval for mean	Median	Mode
	228.75	(228.07,229.42)	184	184
Dispersion	St.deviation	Range		
	133,276	1201		
Skewness and kurtosis	Skewness	Kurtosis		
	0,494	1,332		

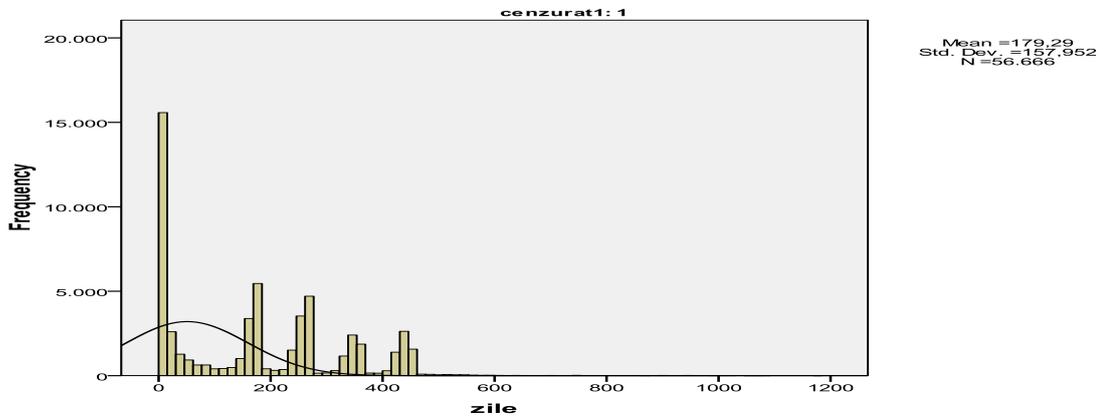
**Figure 1: Histogram of the duration of unemployment spells (days)**



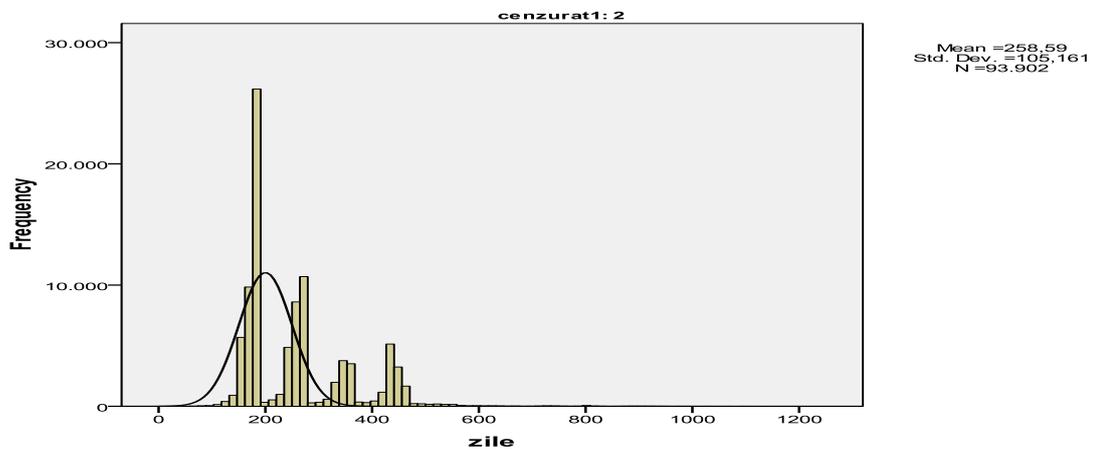
Out of all the 150568 completed unemployment spells of higher educated people, 56666, representing 37.6% ended due to employment, 93472, representing 62.1%, ended in inactivity and 430, representing 0.3% ended by going abroad. Due to the small sample of higher educated unemployed that exit from unemployment by going abroad, we will treat them in the econometrical analysis like inactive subjects on the Romanian labour market.

The corresponding histograms for duration of higher educated people unemployment spells that ended due to employment or inactivity are presented in the figures 2 and 3.

**Figure 2: Histogram of the duration of unemployment spells (days) ended due to employment**



**Figure 3: Histogram of the duration of unemployment spells (days) ended in inactivity**



Analyzing all the above presented histograms, we can notice peaks that, in the case of figure 1, and 3, appear to suggest a strong link between end destinations of spells and legally period of unemployment allowance received. The highest frequencies of the unemployment end are registered after 1 day (3.3%), 181

days (4.0%), 182 days (2.9%), 184 days (6.7%) and 273 days (2.4%) (an important part of the analyzed subjects are young graduates and they have legal right to receive unemployment allowance for 6 month).

Out of 150568 analyzed higher educated people unemployment spells, 58.6% represents women unemployment spells, and 41.4% represents men unemployment spells. For the entire database the number of men spells is higher than the number of women spells. In the case of higher educated people, we can notice that is the opposite. The decomposition of higher educated unemployment spells by destination state and gender is presented in table 2. Among higher educated women, 35.93% of unemployment spells end with a transition in employment and these spells have the mean duration of 180.71 days and a median of 175 days. For higher educated men, 40.05% of spells end due to employment, having a mean duration lower with 3.23 days and a median duration lower with 6 days compared with women. Spells ending in economic inactivity have the longest mean duration, especially for higher educated men.

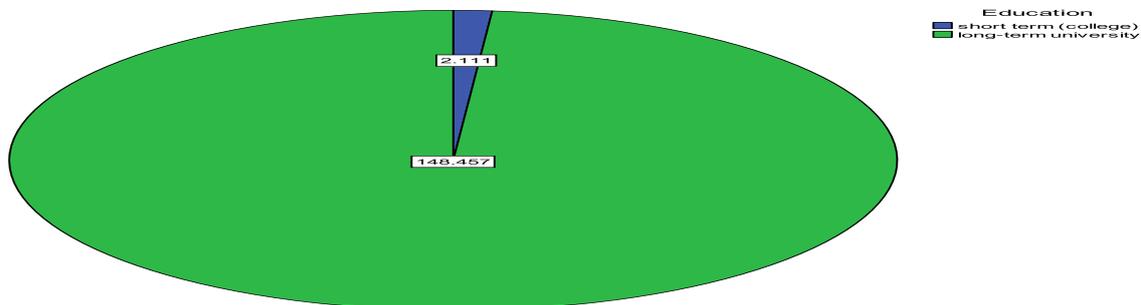
**Table 2: Duration (days) of higher educated unemployment spells by end state and gender**

Destination state	Women			Men			Total		
	%	Mean	Median	%	Mean	Median	%	Mean	Median
Employment	35.9	180.71	175	40	177.48	169	37.6	179.29	173
Inactivity	64.1	250.10	225	60	271.42	252	62.4	258.59	244
Total	100	225.17	184	100	233.80	231	100	228.75	184

By age, from 150568 higher educated people unemployment spells, 34.7% represents subjects aged in between 21 and 24 years, 37.5% represents subjects aged in between 25 and 34 years, 13.2% are subjects aged between 35-44 years, 11.2% for the 45-54 age group and 3.3% for the 55-64 age group. We can notice that 72.2% from the analyzed spells belong to the young higher educated people, aged in between 21 and 34 years. The distribution of the spells that ended in employment by age groups is the following: 32.81% for the 21-24 age group, 39.19% for the 25-34 age group, 41.43% for the 35-44 age group, 43.58% for the 45-54 age group and only 35.22% for the 55-64 age group. 131.61 days is the mean duration of spells that ended in employment for higher educated people aged in between 21 and 24 years old, 163.41 days for the 25-34 age group, 244.81 days for the 35-44 age group, 253.28 for the 45-54 age group and 225.51 days for the 55-64 age group. Even from this preliminary descriptive statistics we can notice a positive association between age and duration of unemployment.

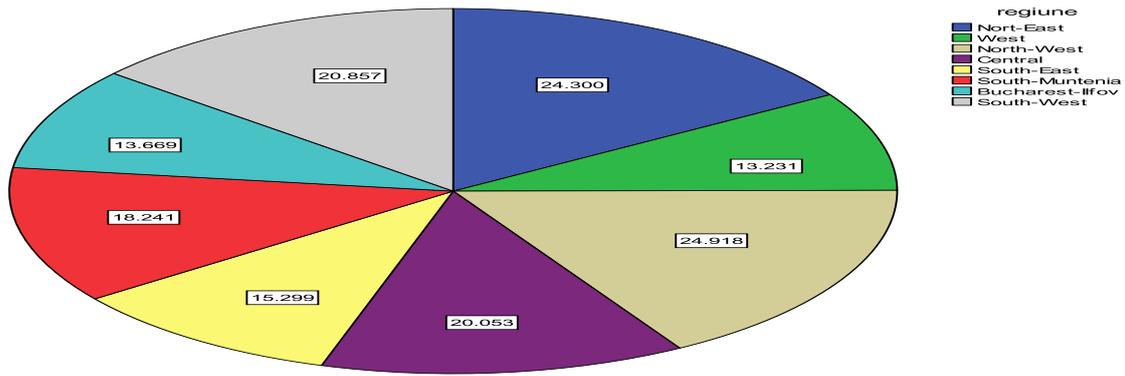
Figure 3 shows the distribution of unemployment spells by type of education: long-term university education or short-term university education, college. We can notice that most of the unemployed subjects have the long-term university education level.

**Figure 3: Distribution of the unemployed by type of education**



By region, 16.1% of the total analyzed spells belong to the North-East Region of Romania, 8.8% to the West Region, 16.5% to the Nord-West Region, 13.3% to the Central Region, 10.2% to the South-East Region, 12.1% belong to South-Muntenia Region, 9.1% to Bucharest-Ilfov Region and 13.9% to the South-West Region (Figure 4). 43.14% of the total spells from to the North-East Region of Romania ended due to employment, 41.05% is the similar rate for the West Region, 32.72% for the North-West Region, 37.61% for the Central Region, 31.78% for the South-East Region, 38.68% for the South-Muntenia Region, 46.37% for the Bucharest-Ilfov Region and 30.16% for the South-West Region. Central Region has the longest mean duration of spells that ended in employment, and North-East the shortest.

**Figure 4: Distribution of youth unemployment spells by region**



Out of the 150568 higher educated people unemployment spells analyzed in our study, 82.6% are urban spells, and only 17.4% of the spells belong to the rural area. 32.90% from the total rural spells ended in employment, compared with 38.63% for the urban area. Mean duration of unemployment spells ended in employment is 165.93 days for rural area, and 181.78 days for urban area.

8.6% from the total analyzed spells don't have the marital status declared, 51.3% are unmarried subjects, 37.5% are married, 2.3% are widowed and 0.2% are divorced subjects. Divorced subjects have the longest mean duration of the spells that ended in employment, 268.92 days, and unmarried subjects the shortest- 155.32 days.

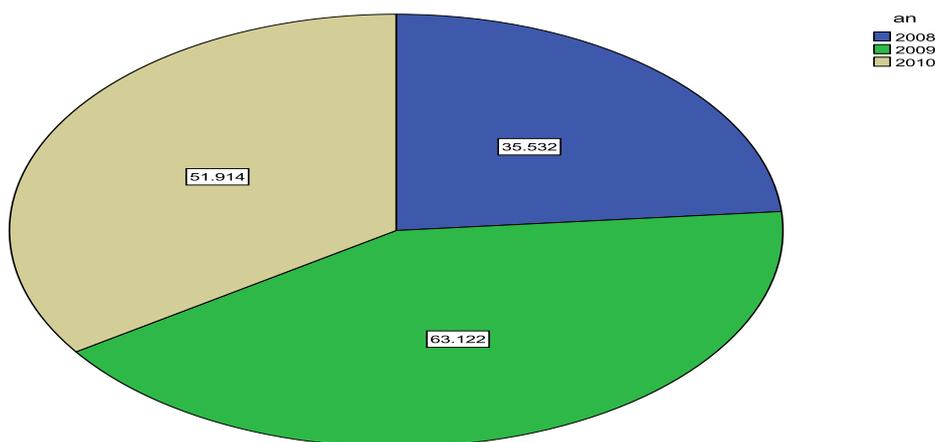
68.8% from the total analyzed spells belong to subjects that received unemployment allowance, and 31.2% spells belong to subjects that did not received unemployment allowance. 30.02% from the total spells with unemployment allowance ended in employment, compared with 54.44% from the spells without unemployment allowance. Mean duration of unemployment for spells without unemployment allowance is 48.01 days compared with 287.09 days for spells with unemployment allowance.

49.8% from the total analyzed spells belong to subjects that had previous work experience before unemployment, and 50.2% from the total spells belong to subjects without previous work experience. The high rate of spells without previous work experience is due to presents of many young subjects. Most of them are young graduates, without work experience prior to unemployment. Mean duration of the spells with previous work experience that ended due to employment is 96.42 days, compared with 282.49 days for spells without work experience that ended in employment.

Regarding existence or non-existence of a disability, from the total analyzed spells, 99.8% belong to subjects without disability, and only 0.2% spells belong to subjects with a disability. 33.2% from all the spells of disability subjects ended in employment, compared with 37.64% spells without disability that ended in employment.

The distribution of higher educated unemployment spells by entry year in unemployment is presented in figure 5.

**Figure 5: Distribution of higher educated people unemployment spells by entry year in unemployment**



As we expected, for both 2009 and 2010 we have an increase of the number of higher educated people unemployed compared with 2008 year, due to economic crises which began to make its presence felt on the Romanian labour market. 48.20% from all the 2008 spells ended in employment, compared with 35.32% in 2009 and 33.20% in 2010.

122.85 days is the mean duration of unemployment spells that start in the 2008 year and ended in employment, 248.19 days for 2009 and 146.24 days for the 2010 year. According to OUG no. 28/2009 regarding the implementation of a social protection measures, all the people dismissed due to the economical difficulties have the right to receive unemployment allowance three months more than the legal period. This can be one of the reasons because the mean duration of unemployment is higher compared with 2008 and 2010 year (for the 2010 year we have to take into account that the end of period of our study led to an artificially shorter duration).

### 3. Empirical findings

The empirical analysis of our paper is based on a semi-parametric Cox proportional hazard model in a competing risks framework. With the data in hand we could distinguish between two potential destinations of exits from unemployment for higher educated subjects registered in unemployment: exit in employment and exit in inactivity. In the case of a competing risks model, the probability of leaving unemployment is given by the sum of two or more transition probabilities. A transition probability is defined in our study as the probability of going to one of the two potential end destinations, employment or non-participation (inactivity).

The quantified effect of the above mentioned variables on the duration of higher educated people unemployment spells is presented in table 3 and 4. The reference category is the last category for *gender, age, type of education, region, urban/rural area, unemployment allowance, previous work experience, disability*, and the first category for *year of entry into unemployment*; the Enter method was selected. When the event is exit in employment, we have only 37.6% spells with this exit destination. The other 62.4% spells are ending in inactivity, being censored.

Analyzing the competing-risks results presented in table 3 and 4 we can draw the following conclusions:

- The regression coefficient for women is lower than 0, meaning a decrease of the exit to a job hazard compared with men, the reference category. Women have a 9.5% lower hazard rate of exit to a job than men. The presence of a higher education reduced the gap between men and women, however differences are still present, and women are most prone to exit to inactivity.
- Higher educated individuals aged in between 25 and 34 years are in the best position on the labour market. The most disadvantaged age group is 55-64 years. We can notice an inverse correlation between age and exit to a job hazard. Having a higher education gives better chances of reemployment for the 21-24 age group, than the individuals with same age but medium or low educated.
- The sample for college graduates was too small compared with the sample for long-term university graduates, thus the statistical significance is poor. Due to the changes in our educational sector we had just not so many spells with college at the education variable.
- We have the same situation for Bucharest-Ilfov region, the sample with higher educated people from this region is too small compared with the other regions, and thus the result is controversial. Higher educated people from Bucharest region have one of the lowest level of median survival time until employment occurs, 365 days, after North-East region with 354 days. Individuals with a higher education from North-East region have the highest hazard rate of exit to a job, and individuals from South-Oltenia the lowest. Subjects from Oltenia region are most prone to exit in inactivity.
- Divorced individuals have the highest median survival time until employment occurs and the lowest exit to a job hazard rate, compared with the other categories.
- Higher educated individuals living in rural area have the highest median duration of unemployment until employment occurs and the lowest chances to reemployment. They are

most prone to exit in inactivity. However, the presence of higher education substantially reduces the gap between rural and urban area in our country.

- The lack of UI grant during a spell increase the exit to a job hazard rate almost four times compared with having the UI during the current spell. The frequency of the non – UI spells ended in reemployment is much higher than the UI spells, and the probability of exit in employment is also much higher. UI spells are most prone to end in inactivity.
- Higher educated individuals having a disability are disadvantaged on the Romanian labour market, compared with disabled subjects with the same level of education. However the presence of higher education led to a decrease of gap between individuals with a normal health condition and individuals with a disability.
- Having a previous work experience before entering in registered unemployment increase the exit to a job hazard with 55.5%. Individuals without previous work experience are most prone to exit in inactivity.
- The exit rate from unemployment is very sensitive to the economical situation in Romania. In 2009 and 2010 the impact of economical crises led to negative consequences on Romanian labour market. The spells with the 2009 as start year are affected by Government Ordinance OUG no.28/2009, that led to an artificially increase of the unemployment duration.

**Table 3: Results of the Cox proportional hazard model in a competing-risks framework, event employment**

Variables in the Equation								
Variables	B	SE	Wald	df	Sig.	Exp(B)	95,0% CI for Exp(B)	
							Lower	Upper
Women	-,100	,009	129,977	1	,000	,905	,890	,921
Men	Reference category							
21-24 years	,733	,028	699,763	1	,000	2,082	1,972	2,198
25-34 years	,988	,026	1439,022	1	,000	2,686	2,552	2,826
35-44 years	,452	,027	289,329	1	,000	1,572	1,492	1,656
45-54 years	,277	,027	108,551	1	,000	1,319	1,252	1,390
55-64 years	Reference category							
College	-,073	,036	4,161	1	,041	,929	,866	,997
University	Reference category							
North-Est	,308	,016	372,126	1	,000	1,360	1,318	1,404
West	,131	,019	49,760	1	,000	1,140	1,100	1,183
North-West	-,007	,017	,169	1	,681	,993	,961	1,026
Central	,180	,017	111,508	1	,000	1,197	1,158	1,238
South-East	,072	,019	14,310	1	,000	1,075	1,035	1,116
South-Muntenia	,287	,017	275,817	1	,000	1,333	1,289	1,379
Bucharest-Ilfov	-,216	,019	136,122	1	,000	,806	,777	,836
South-West Oltenia	Reference category							
Unknown	,629	,094	44,775	1	,000	1,875	1,560	2,255
Unmarried	,355	,093	14,482	1	,000	1,427	1,188	1,713
Married	,445	,093	22,945	1	,000	1,561	1,301	1,873
Widowed	,296	,097	9,392	1	,002	1,345	1,113	1,625
Divorced	Reference category							
Rural	-,115	,012	92,477	1	,000	,892	,871	,913
Urban	Reference category							
Without UI	1,318	,012	11699,050	1	,000	3,738	3,649	3,828
With UI	Reference category							
Without disability	,439	,110	15,914	1	,000	1,550	1,250	1,923
With disability	Reference category							
With w.e.	,318	,013	612,577	1	,000	1,375	1,341	1,410
Without w.e	Reference category							
2008	Reference category							

2009	-,403	,011	1415,459	1	,000	,669	,655	,683
2010	,102	,011	81,891	1	,000	1,108	1,084	1,133

**Table 4: Results of the Cox proportional hazard model in a competing-risks framework, event inactivity**

Variables in the Equation								
Variables	B	SE	Wald	df	Sig.	Exp(B)	95,0% CI for Exp(B)	
							Lower	Upper
Women	,051	,007	55,093	1	,000	1,053	1,039	1,067
Men	Reference category							
21-24 years	1,315	,021	3877,778	1	,000	3,725	3,574	3,883
25-34 years	1,075	,020	3039,814	1	,000	2,931	2,821	3,046
35-44 years	,082	,020	16,503	1	,000	1,086	1,043	1,129
45-54 years	-,142	,020	48,025	1	,000	,868	,834	,903
55-64 years	Reference category							
College	-,088	,028	9,881	1	,002	,916	,868	,968
University	Reference category							
North-Est	-,146	,012	149,499	1	,000	,864	,844	,885
West	-,355	,014	627,850	1	,000	,701	,682	,721
North-West	-,106	,011	87,552	1	,000	,899	,879	,919
Central	-,245	,012	397,494	1	,000	,783	,764	,802
South-East	-,071	,013	29,777	1	,000	,932	,908	,956
South-Muntenia	-,113	,013	78,891	1	,000	,894	,872	,916
Bucharest-Ilfov	-,718	,015	2346,107	1	,000	,487	,474	,502
South-West Oltenia	Reference category							
Unknown	,088	,064	1,885	1	,170	1,092	,963	1,240
Unmarried	,133	,064	4,360	1	,037	1,142	1,008	1,294
Married	-,076	,063	1,448	1	,229	,927	,819	1,049
Widowed	-,086	,067	1,675	1	,196	,917	,805	1,045
Divorced	Reference category							
Rural	,076	,009	79,659	1	,000	1,079	1,061	1,097
Urban	Reference category							
Without UI	,112	,010	128,871	1	,000	1,119	1,097	1,141
With UI	Reference category							
Without disability	-,065	,078	,712	1	,399	,937	,805	1,090
With disability	Reference category							
With w.e.	,441	,010	2022,200	1	,000	1,555	1,525	1,585
Without w.e.	Reference category							
2008	Reference category							
2009	-,274	,009	871,786	1	,000	,760	,746	,774
2010	1,006	,010	10381,363	1	,000	2,735	2,683	2,789

#### 4. Acknowledgements

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## THE IMPACT OF FACTORS INFLUENCING EMPLOYMENT/REEMPLOYMENT PROBABILITY ON THE ROMANIAN LABOR MARKET

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**Abstract:** *The impact of factors influencing employment/reemployment probability for registered unemployed people in Romania is analyzed using multinomial logistic regression. The empirical analysis is based on a nationally representative dataset of 1851288 completed unemployment spells gathered from the National Agency of Employment Romania for the period January 1<sup>st</sup> 2008 – December 31<sup>st</sup> 2010.*

**Key words:** probability, spell, logistic regression, employment

**JEL classification:** J 64, J 21

### 1. Introduction

Numerous studies have examined the *economical* (Reyher, 1979; Klugman and Kolev, 2001; Arulampalan, 2001; Fitzenberger and Wilke, 2007), *social* (Fajnylber *et al.*, 1998; Fedorov and Sahn, 2005, Fougère *et al.*, 2006) and *individual* (e.g. Lewis and Sloggett, 1998; Stakunas, Kalediene, Starkuviene and Kapustinskiene, 2006; Tansel and Tasci, 2010) consequences that unemployment induces in both developed and developing countries.

The aim of this paper is to analyze the impact of factors influencing the probability of employment/re-employment for registered unemployed people in Romania, during January 1<sup>st</sup> 2008 – December 31<sup>st</sup> 2010. At the end of this period a subjects can be long-term employed (for more than 12 months), short-term employed (less than 12 months), or inactive on the Romanian labor market. The probability of employment or re-employment is estimated function of the following exogenous variable: *gender, age at the time of registration as unemployed, education, region of residence, marital status at the time of registration, urban or rural area of residence, receiving or not unemployment allowance during the current registered unemployment spell, previous work experience prior unemployment and health status.*

For the variable *receiving or not unemployment allowance*, I had the values of *yes* or *no* for every registered spell. Since the data are anonymous, and no identification number was added to every spell, the existence of multiple spell is possible in my dataset. After I investigated the coding used by NAE Romania for unemployed subjects I noticed that a particular category of individuals being in a transitional state of unemployment are a potential source of multiple spells existence. A part of these subjects (especially young graduates) changed their status from being registered as unemployed without allowance into unemployed with allowance in a few days, and implicit a new spell for the same subject appears. In order to avoid the problems generated by the intra-person correlation, I decided to keep in the database just the last spell of these subjects, which is also the longest. Thus having multiple spells with the same exit state in the dataset was avoided. However, there still exists the possibility of double spell for the same individual, but with a different value of the unemployment allowance variable and for the exit destination variable. For example, a person can be registered as unemployed having the right to receive unemployment allowance; he or she can stay in unemployment the entire legal period, after that exit from registered unemployment due to expiring the legal period of receiving allowance, but he or she make a request to be kept in the registration database, as a registered unemployed without the right to receive unemployment benefits. Thus, he or she has a spell as unemployed entitled to receive benefits and another spell as unemployed without the right to receive benefits. Thus, when I am analyzing the impact of receiving or not benefits for the exit destination, it is actually analyzed the impact of UI for the current spell and its exit destination. I do not know if an individual did not received at all UI during his/her registered unemployment duration, or received UI during one spell and lost the right for the other spell or spells. Therefore the impact of UI variable is kind of problematic and unclear. I would say that it is the impact of UI received during the current spell of an unemployed for the current exit destination. However, I would like to underline that I used as unit of my analysis unemployment spells rather than individuals.

For every spell that ended in employment I had information about the type of employment, namely short-term employment, for less than 12 month, long-term employment for more than 12 months and self-employment. Since I had information regarding the individuals self-employed, first I wanted to analyze the probability of self-employment at the end of the registered spells. However, the sample was too small and I had a high number of subpopulations with 0 frequencies that can led to questions about the validity of the regression model, or bias results. Thus, I decided to present in the preliminary description of the dataset section also the case of the self –employed subjects, but in the econometrical analysis, spells of these subjects were included in the long-term employed category.

The dependent variable was named *statut*, and it takes the following values:

- 1 – for the spells that ended in employment for a period less than 12 months (short-term employment).
- 2 – for the spells that ended in employment for a period longer than 12 months (long-term employment)
- 3- for spells that ended in non-participation on the Romanian labor market (inactive subjects).

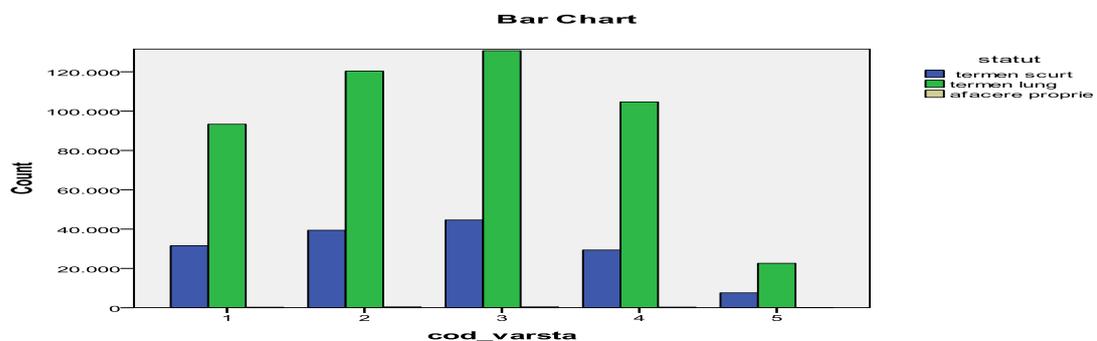
Out of all 1851288 completed registered unemployment spells, only 625833 ended in employment or re-employment, representing only 33.8% from the total analyzed spells during the specified period.

The methodological approach is based on multinomial logistic regression. My study is a first attempt to analyze factors influencing employment/reemployment probabilities of registered unemployed in Romania using a multinomial logistic regression model, seeking also to fill a gap in the empirical literature in our country.

## 2. Descriptive statistics of the dataset

From all the 1851288 analyzed spells, 41.4% are women unemployment spells and 58.6% are men unemployment spells. The employability rate is with 3.8% higher for men spells ended in employment than for women spells ended in employment. 22.2% from all the women spells ended in short-term employment, 77.5% ended in long-term employment and 0.3% ended due to self-employment. By age, we have the following distribution: 20% of the spells that ended in employment belong to young unemployed aged in between 15 and 24 years old, 25.6% belong to unemployed aged in between 25 and 34 years old, 28.1% to the 35-44 years age group, 21.5% for the 45-54 age group and only 4.8% to the 55-65 age group. As I expected, the unemployed aged in between 55 and 65 years have the highest percent of exit from unemployment due to retirement. The employability rate by age has the following structure: 31.2% for young unemployed aged in between 15 and 24 years old, 35.5% for unemployed aged in between 25 and 34 years old, 35.8% from 35-44 years age group, 34.4% for 45-54 age group and 25.9% for 55-65 age group. Figure 1 shows the distribution of the short-term employment, long-term employment and self-employment by age of the registered subjects.

**Figure 1: Distribution of short-term employment, long-term employment and self-employment by age at the time of registration at the NAE**



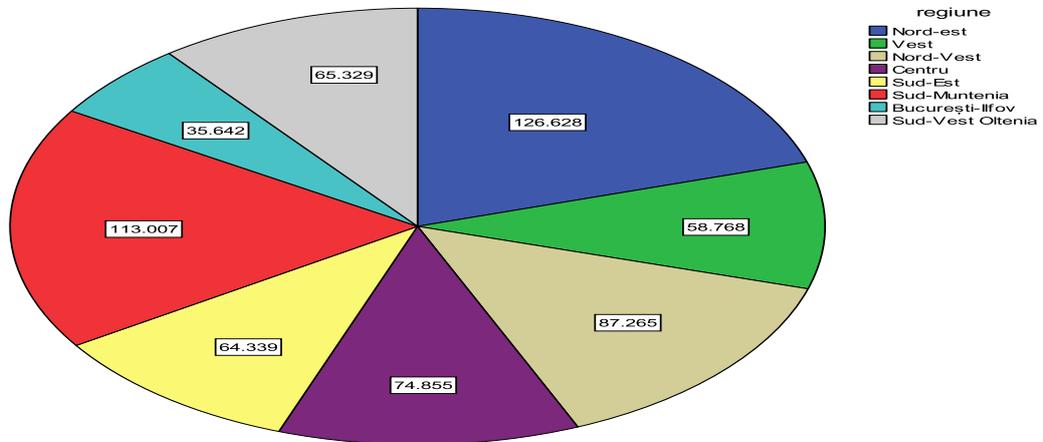
We can notice that 45-54 age group has a short-term employability rate lower than the 15-24 age group, and a long-term employability rate higher than this age group. For all the three mentioned employment types the employability rate is dramatically decreasing for the 55-65 age group.

Regarding the *educational level*, we have the following distribution of the unemployment spells ended in employment: 4.3% are subject without education or with primary education, 23.8% are subjects with gymnasium, 21.6% are subjects with vocational school, 22.6% are high-school graduates, 0.1 % are special education graduates, 0.7% are foremen graduates, 1.3% are post-high-school graduates, 0.1% are

short-term university graduates (college), 9.2% are higher education graduates and 11.8% did not mention their educational level. The highest employability rate is registered by subjects that are vocational graduates, followed by subjects with long-term university level. The lowest employability rate is registered for subjects without education or with primary education. The highest number of self-employed belongs to the higher educated group, vocational school group and apprenticeship school group.

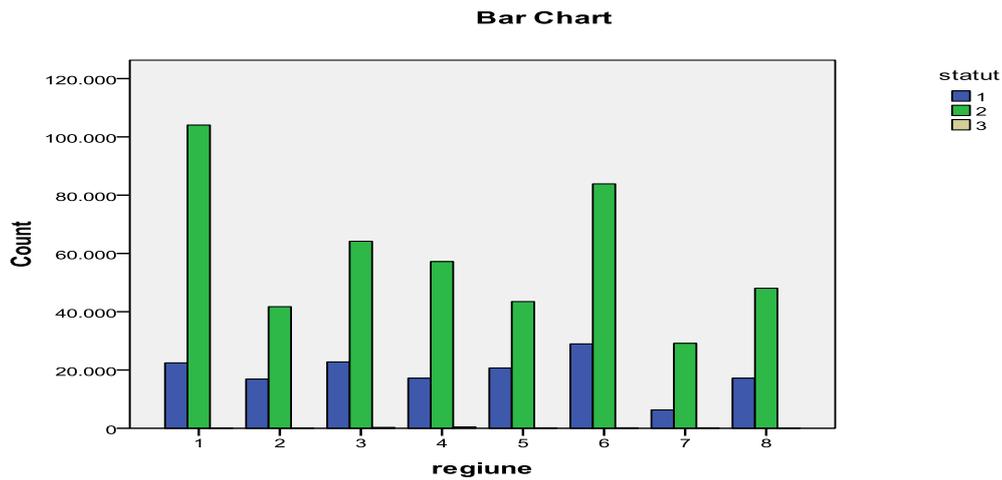
In the figure 2 is presented the distribution of the unemployment spells ended in employment by region.

**Figure 2: Distribution of unemployment spells ended in employment by region**



The highest employability rate is registered in the West region, 41.7%, followed by Bucharest-Ilfov region, 40.9% and the North-East region, 37.4%. The lowest employability rate is registered by the South-West Oltenia region, 28.5%. In figure 3 is presented the distribution of all the three types of employment by region.

**Figure 3: Distribution of short-term employment, long-term employment and self – employment by region**



The highest frequency of unemployment spells ended in short-term employment are registered in the South-Muntenia region, and the highest frequency of the self-employment is registered in Bucharest-Ilfov region.

43.2% of the analyzed spells ended in employment belongs to subjects living in rural areas, and 56.8% to subjects from urban area. The employability rate is 38.6% for urban area and 29.1% for rural area. The distribution of the three types of employment is presented in table 1.

**Table 1: Distribution of unemployment spells ended in employment, by the type of employment and by the urban-rural area**

Urban/Rural area	Status of the unemployed at the end of spell			Total
	Short-term employment	Long-term employment	Self-employment	
Rural	78495	191290	429	270214
Urban	74000	280440	1179	355619
Total	152495	471730	1608	625833

From the above presented table we can notice that the short-term employment is more frequently registered for subjects from rural area than from urban area. Also, the frequency of subjects that end from unemployment due to self-employment is higher for the urban area than the rural area.

12.1% from the total unemployment spells ended in employment belong to subjects with an unspecified marital status; 28.8% are unmarried subjects, 56.1% are married subjects, 2.5% are widowed and 0.6% are divorced. During the analyzed period, the highest employability rate is registered for married subjects, 34.7%, followed by widowed subjects, 34.8%, 33.9% for unmarried and only 24.8% for divorced subjects.

In table 2 is presented the distribution of the unemployment spells ended in employment by the type of employment and by the marital status.

**Table 2: Distribution of unemployment spells ended in employment by the type of employment and by the marital status**

Marital status	Status of the unemployed at the end of spell			Total
	Short-term employment	Short-term employment	Short-term employment	
Unknown	19311	56233	78	75622
Unmarried	46349	133217	515	180081
Married	82206	267942	948	351096
Widowed	3599	11841	57	15497
Divorced	1030	2497	10	3537
Total	152495	471730	1608	625833

From all the analyzed spells ended in employment only 38.5% belongs to subjects that received unemployment allowance during their current spell, the rest of 61.5% belong to non-UI subjects during their current spell. Employability rate is 43.4% for non-UI spells and 25% for UI spells. In table 3 is presented the distribution of unemployment spells ended in employment, with or without UI during their duration, and by the type of employment. Analyzing the data we can notice that the frequency of non-UI spells ended in short-term employment is higher than the frequency of UI spells ended in short-term employment. There is no UI spell that ended due to self-employment.

**Table 3: Distribution of the spells ended in employment by type of employment and by receiving or not UI**

Unemployment allowance	Status of the unemployed at the end of spell			Total
	Short-term employment	Short-term employment	Short-term employment	
Yes	40721	198826	1608	241155
No	111774	272904	0	384678
Total	152495	471730	1608	625833

99.9% from all the registered unemployment spells ended in employment belong to subjects with a normal health condition, and only 0.1% belongs to subjects with a disability. The employability rate is 33.8% for subjects with a normal health condition and 28.7% for subjects with a disability. The frequency of short-term employed or reemployed subjects is higher for disability subjects than for normal health condition subjects employed on short-term too. From all the 833 disabled subjects reemployed, only one is self-employed (table 4).

**Table 4: Distribution of the spells ended in employment by type of employment and by health status**

Health status	Status of the unemployed at the end of spell	Total
---------------	--	-------

	Short-term employment	Short-term employment	Short-term employment	
Without disabilities	152359	471034	1607	625000
With disabilities	136	696	1	833
Total	152495	471730	1608	625833

**3. Results of the empirical analysis**

The impact of factors influencing the probability of employment/reemployment of registered unemployed was analyzed using multinomial logistic regression. In the beginning of this section I will present briefly basic notion of multinomial logistic regression.

Multinomial logistic regression (known in the literature as *politomic logistic regression*, or *discrete choice model*) is a generalizations of binary logistic regression model, the dependent variable taking more than two values, 0 and 1.

Supposing that dependent variable  $Y$  takes values from the unordered elements of  $\{1, \dots, g\}$ . The probability for variable  $Y$  to take the value  $s$  in the  $i$  observation is function of variable values  $x_{i1}, \dots, x_{ip}$ , as follow:

$$P(Y_i = s) = \frac{e^{\eta_{is}}}{\sum_{t=1}^g e^{\eta_{it}}}, \tag{1}$$

where  $\eta_{is} = \sum_{k=1}^p x_{ik} \beta_{ks}$  is a linear function. We can notice that, in the multinomial logistic model there are different regression coefficients  $\beta_{ks}$  for every  $k$  and especially  $s$ , thus every potential value of variable  $Y$  has an associated model.

Multinomial logistic regression is over-parameterized, requiring a simplification by setting a value of  $Y$ , (e.g.  $Y=1$ ), as reference category; choosing a reference category can facilitate interpretation of the statistical model.

A detailed presentation of binary or multinomial logistic regression we can find in Amemiya, T. (1985), Balakrishnan, N. (1991), Hosmer, D. W. and S. Lemeshow (2000), Agresti, A. (2002) and Green, W. H. (2003).

As I already mentioned above, I wanted to analyze the probability of self-employment or self-reemployment at the end of the registered spells function of the specified exogenous variables. However, the sample was too small and I had a high number of subpopulations with 0 frequencies that can led to questions about the validity of the regression model, or bias results. Thus in the econometrical analysis, spells of the self-employed subjects were included in the long-term employed category (2).

Data were processed using the SPSS 17.0 package. *Enter* was the chosen method for multinomial logistic regression model, and the exogenous variables were simultaneously analyzed. The reference category in my study is the third, subjects that at the end of their unemployment spell are inactive on the Romanian labor market.

In table 5 are presented the results of estimating the parameters of regression model. The reference category is *statut=3*, inactive subjects. The values of the Wald test show us that the regression coefficients  $\beta_i$  are different of 0. Thus we can reject the null hypothesis. Estimated values of the regression coefficients  $\beta_i$  are denoted by  $B$ , and the  $Exp(B)$  represents *odds ratio (OR)* for every exogenous variable, namely  $e^{\beta_i}$ .

**Table 5: Estimated values of regression coefficients**

Statut	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)		
							Lower Bound	Upper Bound	
1	Intercept	-4,087	,098	1739,061	1	,000			
	Gender								
	Women	-,356	,006	3578,825	1	,000	,700	,692, ,708	
	Men	0 <sup>b</sup>	.	.	0	.	.	.	
Age									

15-24 years	,415	,015	769,150	1	,000	1,514	1,470	1,559
25-34 years	,583	,014	1797,023	1	,000	1,792	1,744	1,841
35-44 years	,604	,013	2019,583	1	,000	1,830	1,782	1,879
45-54 years	,357	,014	668,080	1	,000	1,429	1,391	1,469
55-65 years	0 <sup>b</sup>	.	.	0	.	.	.	.
Education								
Unknown	-,466	,014	1131,098	1	,000	,628	,611	,645
Primary education or none	-1,142	,015	5907,050	1	,000	,319	,310	,329
Gymnasium	-,150	,012	149,789	1	,000	,860	,840	,881
Apprenticeship complementary education	-,065	,018	13,885	1	,000	,937	,905	,970
Vocational school	,032	,013	6,310	1	,012	1,032	1,007	1,059
High-school	-,182	,012	217,275	1	,000	,834	,814	,854
Special education	-,181	,087	4,332	1	,037	,835	,704	,990
Foremen school	-,081	,039	4,348	1	,037	,922	,855	,995
Post-high-school	-,066	,030	4,665	1	,031	,937	,883	,994
College	-,085	,084	1,018	1	,313	,918	,778	1,084
University education	0 <sup>b</sup>	.	.	0	.	.	.	.
Region								
North-Est	-,109	,011	98,128	1	,000	,897	,878	,917
West	,636	,012	2704,934	1	,000	1,888	1,843	1,934
North-West	,269	,011	601,525	1	,000	1,309	1,281	1,337
Central	,118	,012	102,473	1	,000	1,125	1,100	1,151
South-East	,440	,011	1514,833	1	,000	1,553	1,519	1,588
South-Muntenia	,207	,010	387,223	1	,000	1,229	1,204	1,255
Bucharest-Ilfov	,069	,016	17,858	1	,000	1,071	1,038	1,106
South-West Oltenia	0 <sup>b</sup>	.	.	0	.	.	.	.
Marital status								
Unknown	,064	,035	3,428	1	,064	1,066	,996	1,142
Unmarried	-,025	,034	,515	1	,473	,976	,912	1,044
Married	,169	,034	25,016	1	,000	1,184	1,108	1,266
Widowed	,086	,038	5,053	1	,025	1,090	1,011	1,174
Divorced	0 <sup>b</sup>	.	.	0	.	.	.	.
Urban or Rural Area of residence								
Rural	-,278	,006	2051,912	1	,000	,757	,748	,766
Urban	0 <sup>b</sup>	.	.	0	.	.	.	.
Unemployment allowance								
Without UI	2,091	,010	43348,078	1	,000	8,094	7,936	8,254
With UI	0 <sup>b</sup>	.	.	0	.	.	.	.
Health status								
Without disability	,900	,090	99,298	1	,000	2,460	2,061	2,937
With disability	0 <sup>b</sup>	.	.	0	.	.	.	.
Previous work experience								
Without experience	-,539	,010	3054,863	1	,000	,583	,572	,594
With experience	0 <sup>b</sup>	.	.	0	.	.	.	.
2 Intercept	-2,132	,053	1629,087	1	,000			
Women	-,184	,004	2359,667	1	,000	,832	,826	,838
Men	0 <sup>b</sup>	.	.	0	.	.	.	.
15-24 years	,337	,010	1206,078	1	,000	1,400	1,374	1,427
25-34 years	,505	,009	3279,541	1	,000	1,658	1,629	1,687
35-44 years	,471	,009	2979,234	1	,000	1,601	1,574	1,628
45-54 years	,430	,009	2424,961	1	,000	1,536	1,510	1,563
55-65 years	0 <sup>b</sup>	.	.	0	.	.	.	.

Unknown	-,389	,008	2237,089	1	,000	,678	,667	,689
Primary education or none	-1,967	,011	31943,080	1	,000	,140	,137	,143
Gymnasium	-,519	,007	4808,929	1	,000	,595	,586	,604
Apprenticeship complementary education	-,194	,011	336,562	1	,000	,823	,806	,841
Vocational school	-,012	,008	2,352	1	,125	,989	,974	1,003
High-school	-,150	,007	452,577	1	,000	,860	,849	,872
Special education	-,291	,050	33,707	1	,000	,748	,678	,825
Foremen school	-,037	,022	3,007	1	,083	,963	,924	1,005
Post-high-school	-,015	,017	,783	1	,376	,985	,953	1,018
College	-,098	,048	4,121	1	,042	,906	,824	,997
University education	0 <sup>b</sup>	.	.	0	.	.	.	.
Nord-Est	,478	,007	5055,587	1	,000	1,612	1,591	1,634
Vest	,491	,008	3443,298	1	,000	1,633	1,607	1,660
North-Est	,254	,007	1245,791	1	,000	1,289	1,271	1,308
West	,278	,007	1426,207	1	,000	1,321	1,302	1,340
North-West	,132	,008	282,979	1	,000	1,141	1,124	1,159
Central	,288	,007	1749,959	1	,000	1,334	1,316	1,352
South-East	,396	,010	1725,694	1	,000	1,486	1,458	1,514
South-Muntenia	0 <sup>b</sup>	.	.	0	.	.	.	.
Unknown	,342	,024	204,237	1	,000	1,408	1,343	1,475
Unmarried	,149	,024	39,336	1	,000	1,161	1,108	1,216
Married	,400	,023	294,517	1	,000	1,492	1,426	1,562
Widowed	,241	,026	87,411	1	,000	1,272	1,210	1,338
Divorced	0 <sup>b</sup>	.	.	0	.	.	.	.
Rural	-,531	,004	18128,905	1	,000	,588	,584	,593
Urban	0 <sup>b</sup>	.	.	0	.	.	.	.
Non-UI	1,440	,006	51600,458	1	,000	4,221	4,169	4,274
UI	0 <sup>b</sup>	.	.	0	.	.	.	.
Without disability	,395	,046	73,308	1	,000	1,485	1,356	1,625
With disability	0 <sup>b</sup>	.	.	0	.	.	.	.
Without previous work experience	-,492	,006	5825,386	1	,000	,611	,604	,619
With previous work experience	0 <sup>b</sup>	.	.	0	.	.	.	.
a. The reference category is: 3.								
b. This parameter is set to zero because it is redundant.								

#### 4. Conclusions

From the results presented in table 5 we can draw the conclusion that women are more likely to exit into inactivity or to be short-term employed at the end of their spells.

The individuals aged in between 15 and 29 years are most prone to exit in inactivity or to be short-term employed than other age groups. Individuals with an age in between 25 and 34 years old have the best chance for long-term employment and those with an age in between 35 and 44 years have the best chance of short-term employment.

Education plays an important role for increasing the probability of (re)employment of registered unemployed people in our country. For short-term employment the best chance goes to the vocational school graduates. For the long-term employment university graduates are in the better position on the labor market, followed by the vocational school graduates, foremen school and post-high-school graduates. Again it can be noticed the positive influence of an education focused more for developing practical skills, like the vocational schools, foremen schools, and post-high-schools.

Regarding the distribution by regions of the employment/reemployment probabilities, West region has the better position for both short and long-term of employment, followed by Bucharest-Ilfov for long-term employment and North-East region for short-term employment.

Married individuals have the best chance of (re)employment, for both short and long-term of employment. Normally, married men and married women make a greater effort to find a job and to exit from unemployment through employment than people without family responsibilities. It seems like a divorce has a negative impact on the employment probabilities of analyzed individuals, being most prone to exit in inactivity at the end of their spells.

Individuals living in rural areas are most prone to exit in inactivity at the end of their spell. An interesting finding is that the short-term employment chance is lower than long-term employment chance in the case of rural subjects. Taking account that, in general, young individuals are short-term employed, results that, as a consequence, young subjects from rural area having a lack of previous work experience are in disadvantage on the labor market from our country.

The frequency of the non – UI spells ended in both type of employment is much higher than the UI spells, and the probability of exit in employment is also much higher. The gap between non-UI spells ended in employment and UI spells ended in employment is higher for the short-term employment. I think the explanation is that a higher number of the analyzed spells belong to young subjects without unemployment allowance, which generally are employed for a period less than 12 months (probation period).

Disabled subjects are disadvantaged in terms of employment/reemployment probabilities, for both short and long term. They are most prone to go in inactivity at the end of their spells. The gap between individuals with a normal health condition and disabled individuals is lower in the case of long-term employment. This situation I think is negatively affecting the employment or reemployment probability of young disabled subjects, graduates of special education form, without previous work experience prior unemployment.

Individuals without previous work experience before entering in unemployment are most prone to exit to inactivity at the end of their spell. As I expected, the employment/reemployment chance for a period higher than 12 months is lower than the employment/reemployment chance for less than 12 months for individuals without having a previous employment experience prior entering in employment.

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## THE ANALYSIS OF THE ECONOMICAL DEVELOPMENT OF ROMANIA'S NORTH-WEST REGION

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**Abstract:** *This paper aims to present the concept of regional development applied to the North-West Region of Romania. After presenting the relevant literature overview regarding regional economic development, we analyse the region's main indicators and we try to identify the prospects of its future development. The research methodology is both analytical, while presenting the theoretical framework, and empirical, while studying the chosen indicators and their evolution. The obtained results show us that the economy of Romania's North-West region is mainly based on agriculture and manufacturing industry, where labor-intensive traditional sectors dominate, with low added value.*

**Key words:** Economical Development, Region, Gross Domestic Product

**JEL classification:** O 11, O 16

### 1. Introduction

The economic development is a sequential process, which presupposes continuous improvements of the production capacities of goods and services, together with adequate changes of the organization levels of the firm and the business environment, as well as the macroeconomic management and the governing quality. Human history shows the passing through different stages of economic development, countries being cataloged as having developed economy, medium level development or growing development, some of the later being called transition economies or emerging economies. Also, concepts related to the evolutionary typology of society's development have been taken into consideration or the quality of the surrounding environment (CNPa, 2006, p.3). Development is a phenomenon which occurs over a long period of time but economic growth is increase in GNP which can occur when we are able to achieve increase in number of resources or increase in technology or by the combination of both.

As a concept, economic development can be seen as a complex multi-dimensional concept involving improvements in human well-being, however defined critics point out that GDP is a narrow measure of economic welfare that does not take account of important non-economic aspects e.g. more leisure time, access to health and education, environment, freedom or social justice ([http://www.economics4development.com/economic\\_development.htm](http://www.economics4development.com/economic_development.htm)).

We shall try to present the concept of regional economic development, while in the end we shall present a statistical analysis of the economic development of the North West Region of Romania.

### 2. Regional development in the economic literature

Regional development is a new concept that aims at stimulating and diversifying economic activities, stimulate private sector investment, contribute to reducing unemployment and eventually lead to an improvement in living standards. In order to apply regional development policy eight development regions were created, comprising the whole Romania. Each region includes several counties. Development regions are not administrative-territorial units, not legal entities, but the result of a free will agreement between the county and local governments (MDRT, 2010, p.159).

The first perspectives on regional development came from pioneers in development economics: Hirschman (1958) and Myrdal (1957) suggested the cumulative causation and core-periphery models, which were elaborated upon by Kaldor (1960), Friedmann (1966, 1973), Perroux (1950), and Boudeville (1966) (Chakravorty, 2000, p. 369). Regional issues include a variety of events that reflects the persistence of disparities in development between different regions of a country (regional divergence trend). Disparities can

be assessed by using macroeconomic indicators namely, total GDP or GDP per capita, adapted to regional level. The deviation of regional indicators from the country average, as well as the differences regarding the indicators at an interregional scale, sums up – along the level of economic development of all regions – the scale of regional divergence (Cismaș, Csorba and Pitorac; 2011, p.9). For the same purpose are calculated the differences between income and the level of labor productivity, the structure of the work force, (Tsoukalis, 1993; Robson, 1987 ).

The most common indicator, GDP per capita is used mainly because of its dual meaning: a measure of volume results in economic activity and expression of income (wages, profits and rent) received by the participants in economic activity in a given region. GDP per capita convergence between the different regions of a country (regional convergence trend) is largely the result of different rates of economic growth from one region to another, unable to compensate asymmetries in the allocation of factors by stimulating transfer of technology, capital and labor to disadvantaged regions. In the presence of flagrant and chronic regional differences, the main concern of authorities is to adopt a long-term regional strategy aimed at creating, directing and allocating resources to eliminate these regional differences.

The chronic feature of the problems faced by regional development makes them easy to identify but involves the consumption of massive efforts and a longer period of time to be remedied. In these circumstances government intervention is necessary to alleviate regional disparities through a regional policy. Need for state intervention is supported by a number of analysts who plead for obvious need of two basic criteria of economic policy benefits: efficiency - because the concentration of certain economic activities, the production of certain goods, etc., mainly in certain regions would impede the efficient allocation of resources, decreasing the effects of global welfare; equity - as the need for equitable distribution between regions and social categories of welfare effects - is seen as an "act of solidarity" of prosperous regions with the poor ones (Molle, 2006, p 289).

Having appeared between '96-'97 in Romania, at the end of the Local Development programs, the notion of regional development seemed to may just a logical jump towards another Phare type of European program, a greater size, a regional size, not knowing that, in fact, it was not about a program, but a vital process for economical and social integration of Europe. Therefore, the regional development, especially through its aspects of theoretical and judicial laws, is considered to be a typically European challenge. Typical also because it represents a key element of extension policies, typical because the rich European states finances the poor ones, at the level of their underdeveloped levels, forcing the regions to think about the things that need to be done for these, and, even more so, to convince them to elaborate policies and development strategies, without which they risk to receive no support. Therefore, the regional development is a direct political, economical and social consequence of the evolution of European Development, underlining the continuous necessity for a theoretical preoccupation, as well as a perspective of economic policy for engaging the process at the level of macro-integration, the state level, to the real macro-integration level, the regional level (Bogoi, Dracea and Sichigea, 2006).

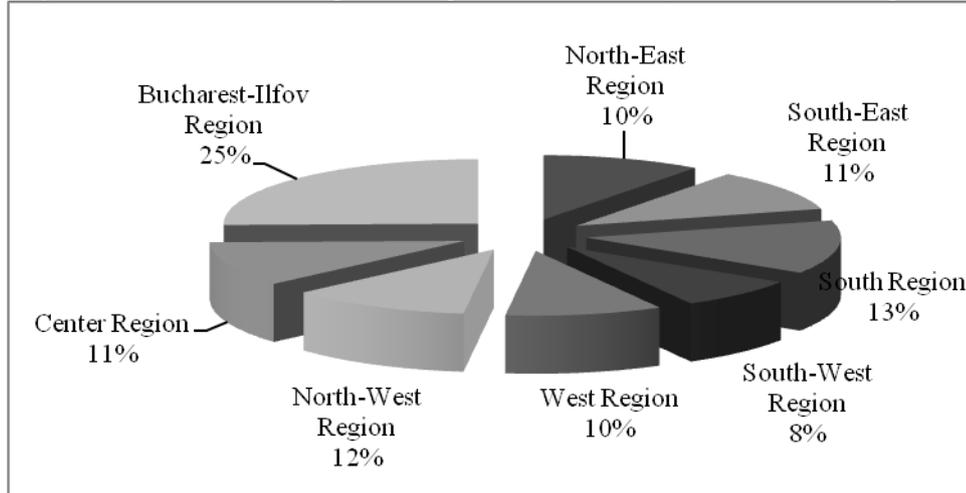
### **3. Analysis of economic development in the North-West Region**

Starting from this theoretical basis, we analyzed the possibilities and prospects of current and future economic development of North-West Region that can positively or negatively affect its economic development.

Gross domestic product (GDP) is the most accurate indicator characterizing the development of a region over a period of time.

To observe the North-West Region economic situation we considered as needed an analysis of GDP in the regions of Romania during 2011. We considered this period to be able to see the situation of development in the region in the period before the crisis, and also during the crisis.

**Figure 1: Romania's Development Regions GDP in 2011 (mil. Lei in current prices)**



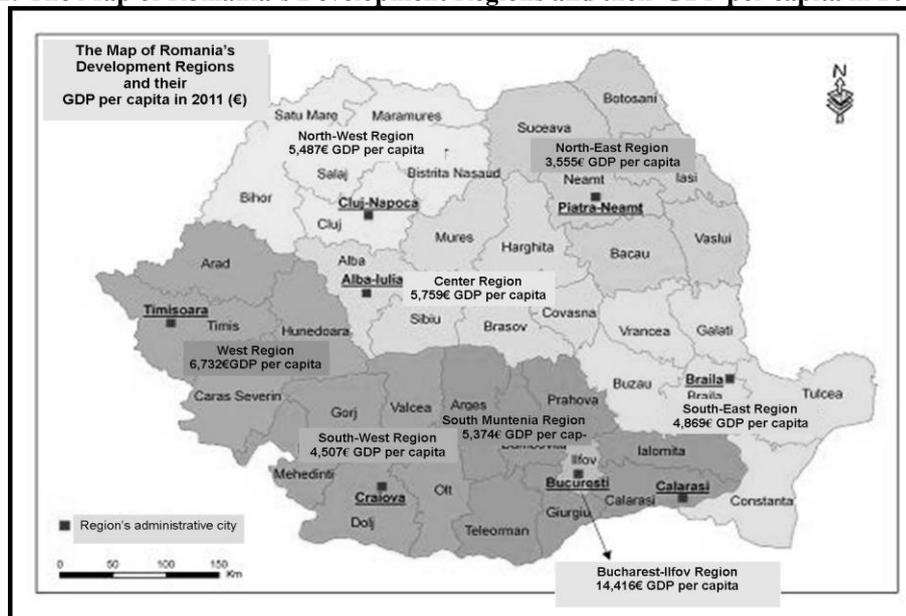
Source: Elaborated by the authors on the basis of National Commission of Forecasting data

The situation is more precise after analysing the gross domestic product per capita, as North-Western Region contributed to the formation of Romania GDP in 2011 with 12%, on the third place in the country, after Bucharest-Ilfov Region (25%) and South Muntenia (13%).

The North-West Region (Northern Transylvania) is, after Bucharest-Ilfov and Sud Muntenia region, the most economically attractive development region in Romania. This is due to the labour market and to the salaries, to the foreign investments, but also to the private business environment and to the market competition, as well as to the inputs of modern technologies (<http://www.nord-vest.ro/en/ABOUT-US-The-North-Westbr/-/RDA/NORTHERN-TRANSYLVANIA-REGION/Region-Overview.html>).

The Region's economy is in full development, with a dynamic economic growth in the last years especially in sectors such as civil engineering, automotive, textile industry and equipment industry. Almost all the industrial branches are represented in the area and there is an increasingly important number of major foreign enterprises, some of them located in the industrial sites in the region – Tetarom Cluj, Bors, Jibou, Satu-Mare.

**Figure 2: The Map of Romania's Development Regions and their GDP per capita in 2011 (Euro)**

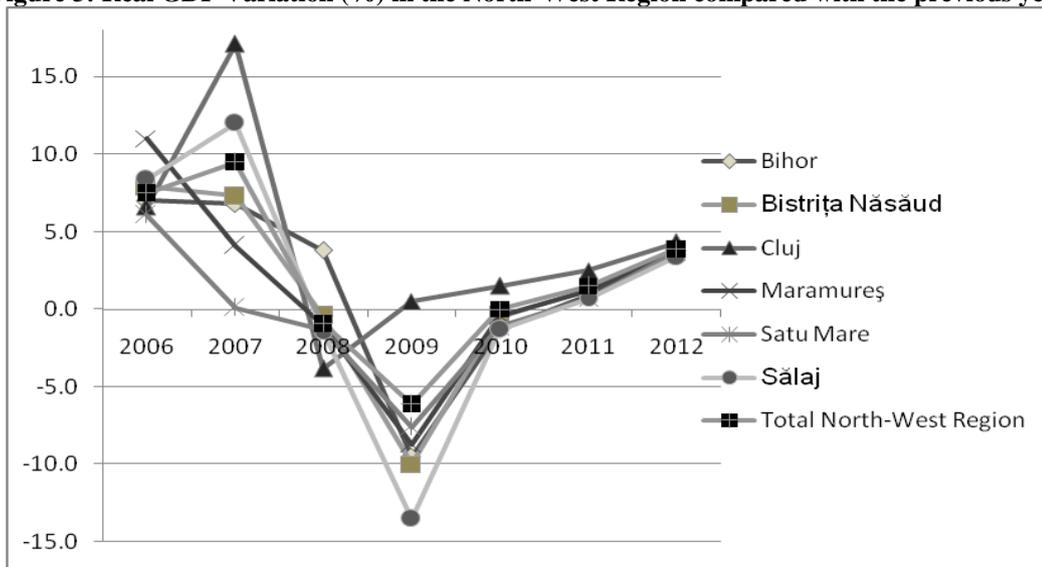


Source: Elaborated by the authors on the basis of National Commission of Forecasting data

In terms of GDP per capita, North-West Region Romania registered in the same year 2011 the value of 5,487 Euro, thus occupying the fourth position after Bucharest-Ilfov (14,416 Euro), West Region (6,732 Euro) and Center Region (5,759 Euro). According to the Romania's National Commission of Forecasting, the

North-West Region will maintain this position also in the years that follow with a GDP of 6,086 Euro per capita in 2012, 6,738 Euro per capita in 2013 and 7,449 Euro per capita in 2014.

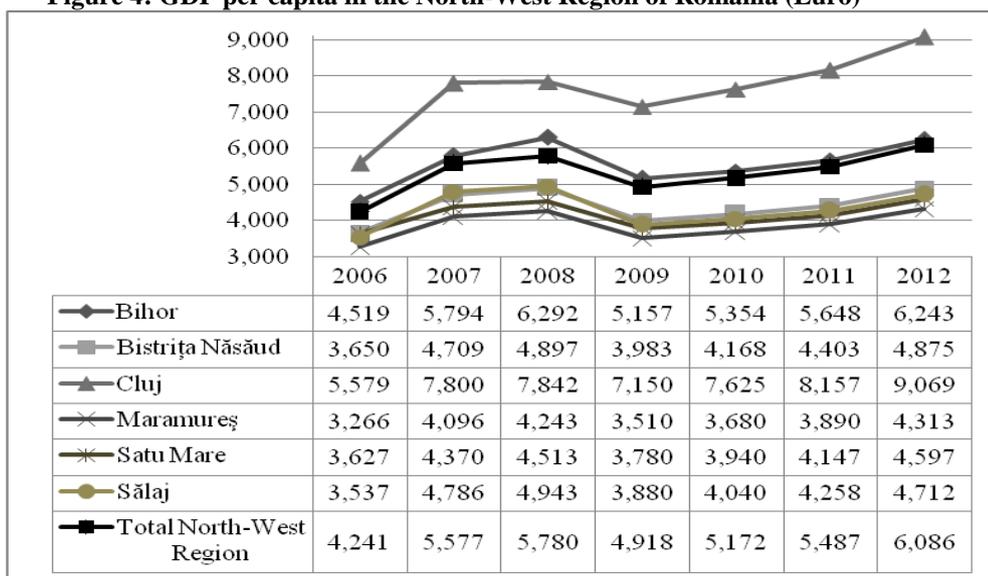
**Figure 3: Real GDP Variation (%) in the North-West Region compared with the previous year**



Source: Elaborated by the authors on the basis of National Commission of Forecasting data

Following the chart above we can notice that in the North-West Region the variation of real GDP had a decreasing trend during 2007-2009. In 2009 as to 2010, real GDP declined by 6.1 percentage points maximum, then began to increase slightly, so that in 2012 it increased by 3.9% over the previous year. The Romania’s National Commission of Forecasting data shows that this growing trend will be maintain, so that in 2013 as to 2012 the Region’s real GDP will increase with 4.5% followed by another increase of 4.6% in 2014 as to 2013.

**Figure 4: GDP per capita in the North-West Region of Romania (Euro)**

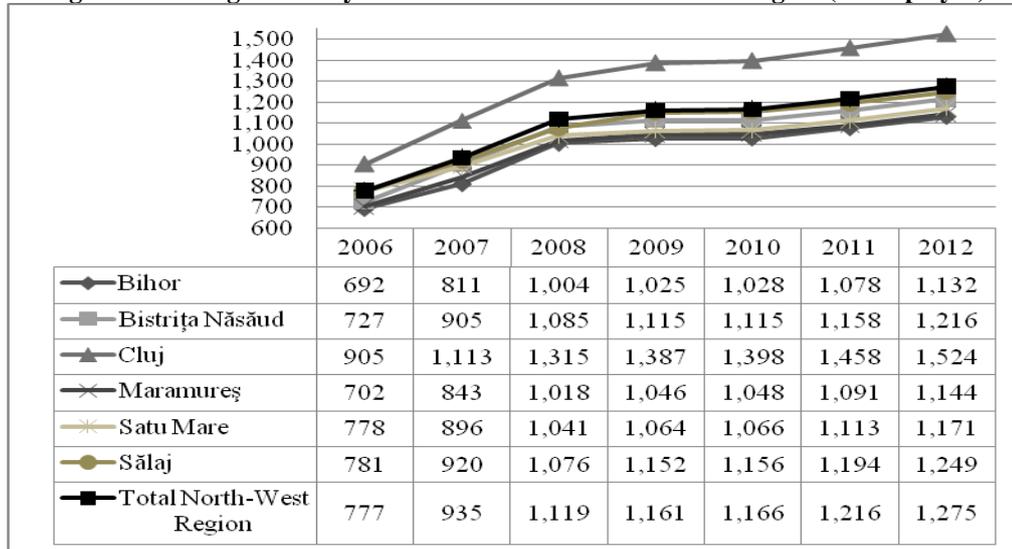


Source: Elaborated by the authors on the basis of National Commission of Forecasting data

Among the counties included in the region, Cluj has the biggest GDP, followed by Bihor, and the last is Maramures County. Thus we can see that within the region, there is obvious disparity of development measured by GDP per capita. While Cluj achieved a GDP per capita in 2011 of 9,069 Euro, Maramures is the least developed, registering a GDP per capita of only 4,313, meaning 2.1 times lower as that of Cluj County. These disparities will continue to exist in the following years, according to Romania’s National Commission of Forecasting.

Therefore we can say that in North-West Region there are several differences in the economic development of the six counties: the southern and western counties, namely Cluj, Bihor and Satu Mare are industrialized (food industry, light industry, wood, machinery construction) and economically more stable than the central and eastern regions (Bistrița-Nasaud, Maramures and Salaj – wood-furniture, nonferrous metals and gold-silver metals, light industry), where the evolution in recent years has led to loss of competitive ability of many branches. According to social and economic analyzes the poverty poles are in Maramures and Bistrița-Nasaud counties.

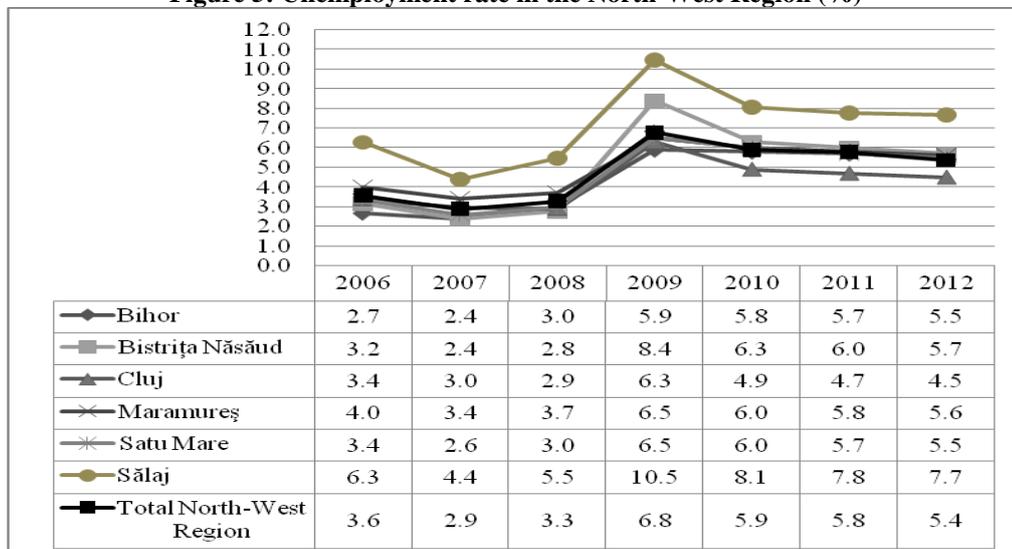
**Figure 4: Average Monthly Net Revenues in the North-West Region (lei/employee)**



Source: Elaborated by the authors on the basis of National Commission of Forecasting data

Following the above table we can observe that in 2011 the highest monthly average net Revenues was registered in Cluj, 1,458 lei / employee, with 242 lei / employee higher than average in the region. Although is the second county in terms of economic growth (GDP), Bihor Country recorded the lowest level of average net monthly revenues, 1,078 lei / employee in 2011. According to Romania’s National Commission of Forecasting data, Bihor will continue to have the lowest level of average net monthly revenues in the following years, with 1,132 lei/employee in 2012, 1,169 lei/employee in 2013 and 1,204 lei/employee in 2014.

**Figure 5: Unemployment rate in the North-West Region (%)**

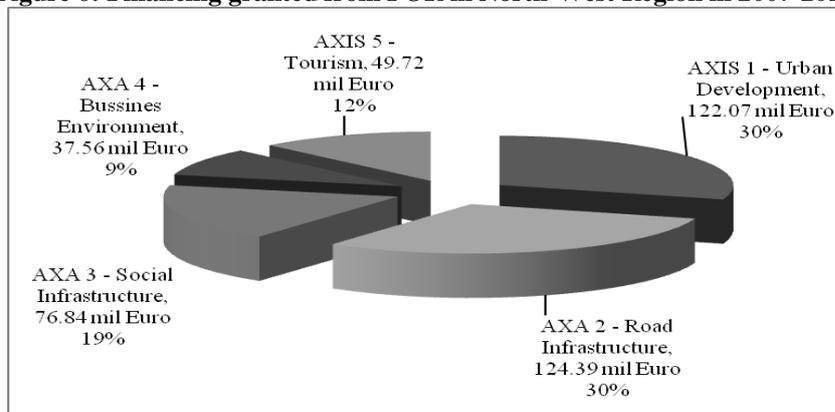


Source: Elaborated by the authors on the basis of National Commission of Forecasting data

Unemployment in the North-West Region has followed an upward trend until 2009, recording the highest level in the period, a value which is due to the global economic crisis that left its mark in the region, to a greater extent than the rest of Romania, and later, in 2010, unemployment had a downward trend. Economic decline due to massive restructuring in the industry sector, felt more in cities, determined the

remaining unemployed people to "migrate" to the rural areas, where land can ensure products for daily living of a family. In the same period a development of real estate sector is noted, due to people leaving their houses in the city, looking for others in rural areas. This explains the slight decline of unemployment rate in 2006-2008. Since 2009 we are witnessing an annual growth rate of unemployment, 2-3 times higher than that of 2008. The highest rate of unemployment was registered in Salaj, and the drastic increase took place in Bistrita Nasaud, where unemployment increased three times more in 2009 than in 2008, from 2.4% to 8.4%. The lowest unemployment rate in the North West Region is registered in Bihor county, mainly due to the proximity to Hungarian border and cross-border activities. The Region's unemployment rate is expected to slowly diminish in the following years to 5.1% in 2013 and 4.6% in 2014 according to the National Commission of Forecasting data.

**Figure 6: Financing granted from POR in North-West Region in 2007-2011**



Source: Elaborated by the authors on the basis of North-West Regional Development Agency's data

The main priorities and development measures of the regions, selected from the respective regional development strategies, integrated in the structure of priority objectives and appropriate measures included in the National Development Plan for 2007-2013 are the following:

- creating a favourable business environment to develop a diversified economy and increase the attractiveness of the region by: developing infrastructure to support private sector development of economic activities based on local resources, entrepreneurship and local initiative, fostering economic cooperation and technology transfer;
- Sustainable development of rural areas through: rehabilitation and development of physical infrastructure, harnessing local resources, development of services, rehabilitation and protection of the environment;
- development and efficient use of human resources through training and retraining the workforce, organizing special training courses for the unemployed and other disadvantaged population groups.

According to North--West Regional Development Agency data, the number of projects financed through the Regional Operational Programme in the North-West Region of Romania up to March 2012 was 315 of 522 submitted, totaling an amount of 410.58 million Euro.

Based on Figure 6, we can say that in the North West Region, most money were granted through Axis 1 Urban Development (to 50 projects) and Axis 2 Road Infrastructure (to 10 projects), both with a share of 30%. The reason for this is that most money was allocated to these two financing axes: 164.82 mil Euro to Axis 1- Urban Development and 103.87 mil Euro to Axis 2 Road Infrastructure. The lowest percentage is found in Axis 4 - Business Environment (to 178 projects), this one representing only 9% of the granted money.

Most funding requests were for Axis 3.1 Educational infrastructure with a load of 247.55% and Axis 2.1 Road infrastructure with a load of 207.80%, while for Axis 4.2 Industrial sites there were no financing applications at all.

The economy of North-West region (Northern Transylvania) is mainly based on agriculture and manufacturing industry, where labor-intensive traditional sectors dominate, with low added value. Cheap labor, mostly engaged in subcontracting activities, is still the main factor underpinning regional competitiveness; therefore regional production seems extremely vulnerable in a free and global competition. Low labor productivity, low quality of products and services and higher energy costs are the biggest weaknesses of the system. Enterprise sector is characterized by a relatively high number of businesses,

academia is well represented in the region, but technology transfer and research and development is reflected in reduced rates. (ADR North West)

Pessimistic forecasts on the RGDP development at the Region level can be found in a study entitled "The Impact of EU Enlargement on Cohesion", elaborated by DIW Berlin, Institute for Economic Research, which designed no less than eight scenarios for the evolution of RGDP for 1997-2030 period for all new Member States and candidate countries. These scenarios - developed starting from RGDP/place at level of year 1997 – seem now, in 2012, a little too optimistic; the convergence rate of 31.3% (as expected in most pessimistic scenarios) seem far away from the report of 22 % recorded in 2011. The more we should worry, then, that in the year 2030 at best, North-West region will be only at 62.6% of community average of RGDP / place (40.4% in the worst case scenario). The National Forecast Commission has determined for 2012 a growth rate of 3.8%, in 2013 a rate of 4.4% and in 2014 a rate of 4.5% (PRAO North West, p. 3).

We can also appreciate that the medium and long term, industry will find a favourable environment in Romania (either by extending existing investments or by attracting new investment), and services will be developed further at a rate higher than agriculture and construction industries. Number of employees will slightly increase in industry while in the service sector will stagnate and in the construction sector will fall (having in mind that total number of employees will remain fairly constant).

#### 4. Conclusions and discussions

Based on the above mentioned we can say that the economy of Romania's North-West region is mainly based on agriculture and manufacturing industry, where labor-intensive traditional sectors dominate, with low added value.

Therefore we can conclude that in North-West Region there are several differences in the economic development of the six counties: the southern and western counties, namely Cluj, Bihor and Satu Mare are industrialized and economically more stable than the central and eastern regions, namely Bistrita-Nasaud, Maramures and Salaj that are specialize on branch activity like wood-furniture, nonferrous metals and gold-silver metals, where the evolution in recent years has led to loss of competitive ability of many branches. According to social and economic analyzes the poverty poles are in Maramures and Bistrita- Nasaud counties. In terms of economic growth, Bihor recorded the lowest level of average net monthly revenues, 1,078 lei / employee in 2011, although is the second county in terms of economic growth (GDP).

We observed that the highest rate of unemployment was registered in Salaj, and the drastic increase took place in Bistrita Nasaud, where unemployment increased three times more in 2009 than in 2008, from 2.4% to 8.4%. The lowest unemployment rate in the North West Region is registered in Bihor county, mainly due to the proximity to Hungarian border and cross-border activities. Cheap labor, mostly engaged in subcontracting activities, is still the main factor underpinning regional competitiveness; therefore regional production seems extremely vulnerable in a free and global competition. Low labor productivity, low quality of products and services and higher energy costs are the biggest weaknesses of the system. Enterprise sector is characterized by a relatively high number of businesses, academia is well represented in the region, but technology transfer and research and development is reflected in reduced rates.

#### 5. Acknowledgements

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## THE LOW-COST AIRLINES' IMPACT ON THE BEHAVIOR OF THE PASSENGERS FROM NORTH-EASTERN ROMANIA

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**Abstract:** *In Romania, the low-cost airlines represent a relatively new branch in this industry. The purposes of the present paper are to identify the consumption behavior of the Romanian passengers from the north-Eastern part of the country, related to the type of the airline they prefer to use: low-cost or legacy carrier, to analyze the reasons of their choice and to determine the profile of the clients that travel more with low-cost operators and, respectively, with the legacy ones. To achieve these objectives, we have conducted a theoretical investigation of the specialized literature and an empirical research on the Romanian passengers.*

**Key words:** travelers' consumption behavior, Romanian low-cost carriers' market, service quality low-cost airlines, legacy carriers

**JEL classification:** D 03, D 12

### 1. Introduction

The deregulation of many European airlines' markets has stimulated the emergence of the low-cost carrier model, based on lower operational and managerial costs and lower prices, which represented a real challenge for the legacy airlines. In Romania, the low-cost airlines are a relatively new branch in this industry. Yet, this market is continuously developing due to the passengers' need for low-cost air travel. However, there are several studies which argue that not only price, but also the quality has a strong impact on the passengers when choosing a flight. For example, Chang and Yeh (2002) noticed that, although a low fare is the primary competitive weapon of an airline, another very important competitive advantage is the perceived quality of its services. This is why, according to Holtbrugge, Wilson and Berg (2006), many airlines aim to provide a high level of service quality in order to enhance customers' satisfaction and to increase the efficiency of the airlines' brands to replace the generic reputation of low-cost carriers as low fare's benefit. Most of the studies agreed that there are five dimensions of the perceived service quality in the airline industry (Bloemer, Ruyter, Wetzels, 1999; Cuning, Young, Lee, 2004; Park et al., 2004):

- Tangibles aspects, which are defined as the physical facilities of the aircraft: seating comfort, seat space and legroom, in-flight entertainment services (books, newspapers, movies, games, and magazines), appearance of the employees and meal services.
- Reliability can be described with the help of punctuality, efficiency of the check-in process and convenience and accuracy of reservations and ticketing.
- Responsiveness is related to the willingness to help passengers to solve the problems (flight cancellation and baggage loss), response to emergency situations, as well as prompt and accurate baggage delivery.
- Assurance is associated with the ability to inspire trust and confidence (knowledge to answer questions and ensure safe performance), as well as to show courtesy toward passengers.
- Empathy is the service dimension that focuses on individualized attention or care, such as providing the seat preferred by the passenger or meals through a pre-order system, or having a Frequent Flyer Program.

In our opinion, the perceived service quality of the low-cost carriers varies according to the passengers' needs. However, when a customer perceives service quality to be high, the customer's behavioral intentions are favorable. According to Zeithaml et al. (1996), there are three favorable behavioral dimensions: word-of-mouth communications (people sharing experiences regarding a service), purchase intentions and price sensitivity. When a customer is satisfied with the services or products of a company, he will become loyal to that company and will encourage other potential customers to do business with the company (Liu, Furrer, Sudharshan, 2001). Purchase intention refers to the willingness to purchase more in the future and it is determined by the customers' satisfaction. Hence, service quality leads to higher customer satisfaction and higher sales revenues for the company (Sim, Koh, Shetty, 2006). It is assumed that price sensitivity refers to a willingness to pay more for services or products. In the case of the airlines' services, when prices change,

the low-cost carriers' passengers are very sensitive to these fluctuations because price was the major driving force of the demands (Mason, Alamdari, 2007). The same idea can be found at O'Connell and Williams (2005), which consider that the low-cost carriers' passengers would switch to legacy airlines if these companies had cheaper fares.

Trying to determine what are the main factors that influence the passengers decision related to the type of carrier chosen (low-cost or legacy), a study conducted by Prousaloglou and Koppleman (1995) concluded that this selection is based on a combination of factors which includes: the airline's market presence, the schedule convenience, low fares, on time performances, reliability and the availability of frequent flyer programs.

The purposes of the present paper are to identify the consumption behavior of the Romanian passengers from the North-Eastern part of the country, related to the type of the airline they prefer to use: low-cost or legacy carrier, to analyze the reasons of their choice and to determine the profile of the clients that travel more with low-cost operators and, respectively, with the legacy ones. In order to reach up these objectives, we have structured the present paper in two main parts: an analysis of the secondary data offered by the specialized literature, referring at the Romanian low-cost carriers' market, was followed by a primary data collection through a survey conducted on the airlines' passengers from the North-Eastern Romania.

## 2. Overview on the Romanian Low-Cost Carriers' Market

In Romania, the low-cost operators have currently about 15% of the domestic air transport market, but this percentage is continually growing. Considering the life cycle model of the low-cost airlines from USA, designed by Francis et al. in 2006, which includes seven stages of evolution (innovation, proliferation, consolidation, second phase of new entrants, consolidation, market maturity and decline), we can estimate, based on the statistical data, that the market of the Romanian low-cost operators is only in the first stage of development - in the innovation phase.

The application in Romania of the "open skies" agreement allows any European airline to start flights not only to the country of origin, as it happened until January 2007, but also to any other destination in the European Union. The company can also create its air bases in a Romanian town and even operate domestic flights. So, it is easily to understand why at the beginning of 2007 there were only 7 low-cost airlines operating on the Romanian market (*Blue Air* - the only low-cost company at that moment with Romanian registered capital, the Hungarian *Wizz Air*, Slovaks from *Sky Europe*, Italian owned companies *My Air* and *Alpi Eagles*, *Germanwings* - the low-cost division of Lufthansa - and *Click Air* - the low-cost division of the Iberia Spanish company), which had about 8% of the total Romanian air traffic, and at the end of 2010 there were 11 companies (from those seven mentioned before, only *Blue Air*, *Wizz Air* and *Germanwings* survived on the Romanian market up to 2010, but some other 8 low-cost operators have entered: *EasyJet*, *Windjet*, *Vueling*, *Aer Lingus*, *FlyNiki*, *Baboo*, *Air Berlin* and *Ryanair*).

Nowadays, the biggest low-cost airline on the Romanian market and also in Central and Eastern Europe is *Wizz Air*, which, in 2010, has transported to and from Romania 2.1 million passengers of all the 4 million transported by all the low-cost companies operating on this market. We can notice that, in Romania, *Wizz Air* has now the largest market share - almost 53%, surpassing its main competitor, *Blue Air*. This airline is the first Romanian low-cost company, with 100% private equity. Nowadays, *Blue Air*'s network is centered on Bucharest as well as on Bacau, from where it operates niche routes. Other Romanian airports served by *Blue Air* are Constanta and Sibiu. *Blue Air* has rapidly expanded its services across Europe, especially in the Western part, meeting in this way the needs not only of the tourists but also of the business travelers. Currently, there are eight European countries, apart from Romania, served by *Blue Air*: Ireland, UK, Belgium, France, Germany, Italy, Spain and Portugal. *Blue Air* currently operates four Saab 340 aircrafts and eleven Boeings 737, with capacities between 126 and 189 seats, this type of airplanes being the most technically advanced of its class on the aircraft market. The difference between *Blue Air* and other low-cost operators consists in smart flying carrier unique positioning, concept which refers to: performance fleet and highly experienced pilots; specialized personnel at all the airports where it operates; various and exclusive routes, both in Romania and abroad; *Blue Air* agencies and over 2000 *Blue Air* partner agencies, in Romania and abroad; nonstop Call Centre; maximum cost efficiency and ticket purchasing simplicity: the earlier you buy, the more inexpensive you travel; modern aircrafts, checked regularly; flight safety and ground security and some special programs and services for individuals and companies.

On the Romanian air transport market there is also a company that acts like a low-cost carrier, considering the fact that it usually has low tariffs, but it is a legacy airline: *Carpatair*. Actually, when talking about low fares, it must be mentioned that, unlike the low-cost operators, *Carpatair* does not reduce the price

by cutting those costs related to the comfort and security of the passengers or of the staff. For example, the check-in service is free of charge, as well as the hand and hold luggage - if it does not surpass the maximum weight allowed for each type of class. Moreover, the company offers to all its clients (business or economic class), on domestic or international flights, on-board services for free: catering services, blankets or pillows, magazines etc. Moreover, this company has implemented from the very beginning the "hub & spoke" model, meaning the connection of the entire routes network to the hub, which is completely opposite to the point-to-point concept, used by low-cost airlines.

### 3. Overview on the Consumption Behavior of the Airlines' Passengers from North-Eastern Romania

#### 3.1. Methodology

In order to achieve the established objectives, we have conducted an exploratory research on sample of 367 passengers from the North-Eastern part of Romania, from urban areas, between June and August 2008. The survey was based on a questionnaire which included 21 opened and closed questions, five of them asking for socio-demographic and economic information, such as age, gender, civil status, level of educational attainment and income. The selection of the individuals was made in order to have a representative sample; the respondents were between 16 and 65 years old. Considering the fact that there were taken into account only the persons that have flown at least 2 times per year, during the last 5 years, and 8 persons gave incomplete answers, the final sample included only 281 individuals. The data were analyzed with the help of SPSS program.

#### 3.2. Survey findings

The purpose of a first analysis made on the airlines' passengers from North-Eastern part of Romania was to determine their preference for low-cost or legacy carriers, according to the age. Therefore, we divided the respondents in 5 age groups: 16-24 years old, 25-34 years old, 35-49 years old, 50-59 years old and 60-65 years old. The results show that, as expected, the low-cost carriers attract a large number of young people: 79% of those aged between 16 and 24 years old answered that they used the services offered by the low-cost airlines in 90% of their flights, 58% of the individuals aged between 25 and 34 years old said that, during the last 5 years, they have used the low-cost airlines in more than 75% of the cases. Yet, from those aged between 60 and 65 years old, 45% have used the services of the low-cost carriers in half of their flights made in the last 5 years. A large part of the persons with the age between 35 and 59 years old (88%) preferred the legacy airlines for their flights.

The correlation test Chi square shows that there is a strong positive relationship between the level of the incomes and the preference for a low-cost or legacy airline: 85% of the respondents with an average monthly income of less than 2000 RON used in more than 75% of their flights the low-cost operators, while 93% of those with a monthly salary over 5000 RON have flown in more than 90% of the cases with the legacy carriers. Moreover, it was noticed that 65% of those with tertiary education have traveled most of the times (over 75% of cases) with the legacy airlines, while 81% of those with secondary education have used in more than 60% of their flights the low-cost carriers' services. The gender and the marital status do not seem to have a strong impact on the passengers' decisions.

In order to clearly define the profile of the low-cost and legacy airlines' passengers, it was necessary to identify the purpose of their journeys. This is shown in the table 1, which reveals that a large part of the legacy carriers' passengers use these services for business purposes (64%), while the most of the low-cost airlines' travelers (67%) prefer these companies for non-business trips. Yet, a large percentage of those using the low-cost carriers (19%) considered these services especially for the travels related to their employment. In the case of the non-business low-cost carriers' travelers, we notice that most of them used these airlines for visiting relatives, for a weekend break or even for holiday. In these last two cases, most of the respondents argued that the money they saved from the transport serve for a more luxurious accommodation. Totalizing the number of those who use airlines' services for holidays or weekend breaks, we observe that the percentage is larger in the case of the low-cost carriers' travelers than in the legacy airlines: 28% compared to 17%. Yet, those who use airlines in order to get to the place they study prefer the legacy carriers.

**Table 1: Percentage of the passengers which preferred low-cost carriers or legacy airlines for business and non-business travels between 2003 and 2008**

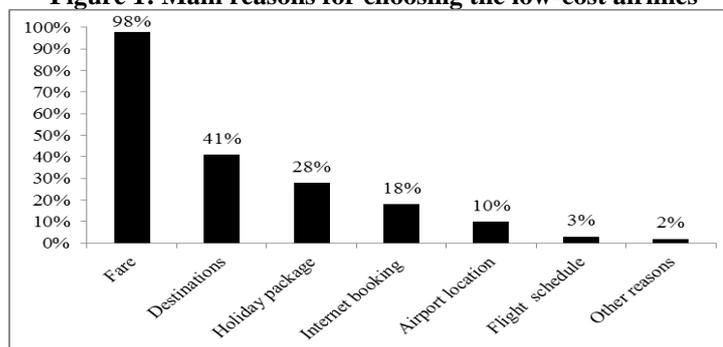
Purpose	Low-cost airlines	Legacy airlines
Business	33%	62%

<b>Meeting</b>	3%	17%
<b>Conference</b>	4%	15%
<b>Training</b>	2%	12%
<b>Trade fair</b>	3%	11%
<b>Employment</b>	19%	3%
<b>Other event</b>	2%	4%
<b>Non-business</b>	<b>67%</b>	<b>38%</b>
<b>Sports</b>	2%	1%
<b>Shopping</b>	4%	4%
<b>Weekend break</b>	14%	5%
<b>Holiday</b>	14%	12%
<b>Studying</b>	7%	10%
<b>Religious trips</b>	4%	2%
<b>Visiting relatives</b>	22%	4%
<b>Total</b>	<b>100%</b>	<b>100%</b>

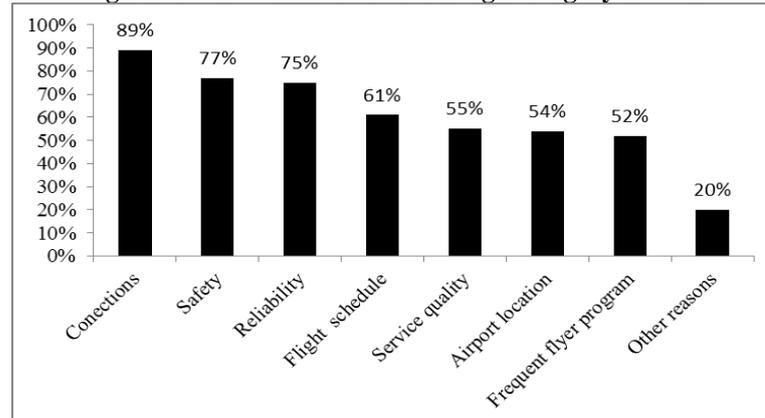
Another significant finding of this study is that business passengers usually tend to travel alone, especially when they go to their job or to a training program. For conferences, meetings and trade fairs they often travel in small groups, with at most 5 other colleagues. In the case of the leisure travelers, it was noticed that they prefer to be a part of a larger group (between 6 and 10 persons), especially when they go in religious trips, weekend breaks, holidays, for shopping or for a sport event. This is why we may assume that the low-cost airlines carry more Romanian passengers from the North-Eastern part of the country who travel as part of a group than do the legacy carriers.

Analyzing the reasons for choosing a low-cost airline or a legacy operator, the results were as expected. In the case of the low-cost carriers, passengers are attracted especially by the low-fare (98% of those who use these services mentioned this reason), followed, at a large distance by the availability of the destinations, holiday package offered by the company, the availability of booking a ticket through the internet and the location of the airport. The passengers choose a full service carrier for a variety of reasons, including service reliability and safety, service quality (comfort, on-board meals etc.), flight schedules, possibility of making connections, frequent flyer programs and other reasons (such as location of the airport, special offers etc.). All these reasons, mentioned by the travelers to be important in choosing a low-cost or legacy airline, can be found in figure no. 1 and 2.

**Figure 1: Main reasons for choosing the low-cost airlines**



As we can see from the two figures, the quality of the services offered by the legacy carriers is very important for the passengers using the services of these operators. However, even if many of the respondents (47%) consider that the quality of the legacy airlines' services is superior than the one offered by the low-cost carriers, 31% of people appreciate that, from some points of view, the low-cost operators are comparable to the legacy companies in terms of quality.

**Figure 2: Main reasons for choosing the legacy airlines**

Considering the fact that, in general, the respondents have better appreciated the quality of the services offered by the legacy airlines, it is not surprisingly why many low-cost carriers' passengers would switch over to the legacy operators if these last ones would reduce their fares. The results of the survey show that a 10% reduction in the tariffs of the legacy operators would determine 7% of the low-cost airlines' travelers to use the full service carriers. If these companies diminish their fares by 20%, than almost 18% of the low-cost airlines' passengers would switch to them and a 30% reduction would attract 25% of the low-cost carriers' travelers. Over 65% of these passengers would chose the legacy airlines if they reduce their prices with 50%. However, 31% of the low-cost airlines' clients would remain loyal to these operators, no matter what are the tariffs of the legacy carriers. This could be explained taking into consideration a combination of factors, such as package holidays, constant low fares, flight destinations, simplified websites etc.

The data show that not only the low-cost airlines' passengers would switch to the legacy carriers if the last ones reduce their prices, but also the clients of these companies are tempted to buy the low-cost carriers' services if the legacy transporters increase the fares. Therefore, a 10 to 20% increase in the legacy carriers' prices would persuade approximately 15% of the respondents to switch to the low-cost competitors. If the fares rise more than 40%, then 35% people would give up the services offered by the legacy carriers and would buy a ticket in a low-cost operator. There is also a percentage of the passengers (39%) who would remain loyal to the full services airlines, possibly due to the wide range of the facilities offered, among which could be mentioned the flights schedule, the connections, the primary airports used by these companies, the business class, the frequent flyer program etc.

#### 4. Conclusions

The information obtained from this survey show that the profile of the low-cost and legacy carriers' passengers from the North-Eastern part of Romania could be described in terms of age, education, level of incomes and purpose of their journey. So, we can notice that the low-cost airlines attract especially young persons, usually aged between 16 and 34 years old, which have finished gymnasium or high school, with an average monthly income less than 2000 RON, most of them travelling for non-business purposes, such as visiting relatives, weekend breaks, holidays, studies, religious trips, shopping or sports. Most of the people that use the legacy airlines' services are business travelers, which are going to meetings, conferences, training programs, trade fares or to their job. Usually, a large part of the legacy airlines' passengers earns over 2000 RON per month and has a tertiary education (or at least they have finished the high school). The average age for these travelers is between 35 and 59 years old.

The price represents the main reason for choosing a low-cost carrier, followed, at a large distance, by the availability of the destinations, holiday package offered by the company, the availability of booking a ticket through the internet and the location of the airport. The passengers selecting the services of the legacy carriers opt for them especially because of the reliability and safety, possibility of making connections and, last but not least, because of the additional facilities they provide, usually associated with the quality of the services. This explains why, if the legacy carriers reduce their fares, a significant number of the passengers would switch from the low-cost airlines. Yet, a slight increase in the tariffs of the full service operators will determine some clients to look for a ticket in a low-cost airline. This information could be very useful for the airlines because it provides an indication of the amount of fare flexibility that legacy carriers have and

identifies the point at which passengers would begin to switch to the low-cost operators. Yet, given the additional facilities that offer the legacy airlines, some passengers are clearly willing to pay more for these services.

The overall conclusion of the survey indicates that the ideal scenario for the analyzed passengers would be to have a combination of low fares (at the levels offered by the low-cost airlines) and some of the full service facilities offered by the legacy operators.

## 5. Acknowledgements

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**FISCAL SUSTAINABILITY AND WELFARE IN THE EUROPEAN SOCIAL MODEL**

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**Abstract:** *In the context of the European social model, the paper aims to assess the fiscal sustainability by measuring the gap between budgetary revenues and expenditures. Within this study, we have distinguished economic and social imbalances, triggered by "passive policies". In order to identify the distinctive to each area, countries were grouped according to their prevalent features and highlighting the common feature of each sub - model (SM). Therefore, the consequences are represented by a low education degree, leading to high unemployment rate. That would affect the sustainability of fiscal policy, with negative results on poverty and human development degree.*

**Key words:** fiscal sustainability, welfare, European sub – model

**JEL classification:** E 62, I 30, I 25

## **1. Introduction**

Tax policy is directly related to the political doctrine of the government that influences the taxation alternatives. According to the selected approach, the full set of tools and procedures for determining the level, structure and distribution system of tax incentives on the social product are decided on. This will ensure the achievement of political, economic and social objectives.

Prammer (2011) argues that taxation: serves to identify the surplus of resources necessary to ensure the funding of public spending, is a tool for income redistribution, leads to stabilize the economy, and influences resource allocation.

Moreover, Prammer uses the concept of "quality of taxation", in relation to tax policy architecture that can achieve the desired political and economic objectives (such distribution, allocation, stability, etc.). These objectives would be possible in the most efficient way: by minimizing inappropriate distortions, promoting economic growth and minimizing the cost of collecting revenues.

Compliance with the taxation principles (which are reflected in the tax policy) is intended to enhance welfare so that the levied taxes should lead to: fiscal equity, the reducing of income inequality and polarization by supporting the middle class, focusing on the education quality, providing health services and social benefits.

The main condition for improving the overall of the living standard is sustainable growth. This shows the importance of long-term perspective, related to the present activities' consequences on global development in future. The programs require global and regional cooperation and partnerships as well as bilateral and multilateral agreements between countries and groups of countries, leading to a long-term viable solution. In a broader context, sustainable development is a key objective for tax policy, and sustainable foundation of international relations between countries.

This scenario emphasises the importance of the effects of "quality of taxation" on GDP and economic sustainable growth. Therefore, Jing Xing (2011) shows that it is important to consider the levied taxes, the tax grouping and their share in the overall budgetary revenues. Thus, presently, the manner of tax systems optimization is an important issue on debate, equally interesting for economists and policy makers.

Under these circumstances, the tax rate has to meet, on the one hand, the government need to collect a maximum amount of revenue, and on the other hand the interest of taxpayers, i.e. to preserve the purchasing power and the propensity to consume, save and invest. As was mentioned above, a high tax rate does not necessarily mean higher budgetary revenues (or high output), given that tax payments depend on a number of determinants (tax base, proportionality, progressive or regressive effects, tax allowances, level of tax compliance).

Winner, Kenny, Hettich (2010) stress the tax distortions that should be minimized in order to increase budgetary revenues, to ensure social welfare, and to maintain a balanced tax burden, since the tax

burden generates effects on disposable income, consumer behavior and purchasing power. Owing to this causes, as long as disposable income is reduced, the incentive to work diminishes – that decrease production.

In the EU the tax burden evolution is strongly influenced by the impact of tax reforms, as well as the global crisis that began in 2007, a time period in which the tax burden reported a downward trend in the EU-27 countries. The economic and financial crisis, alongside with the taxation measures enacted by the member states, has begun to impact on fiscal revenues. In 2009, the total collected fiscal revenues, including social contribution, in the EU-27, dropped to 39.7% of GDP, by 0.8 percentage points compared to 2008, representing over 90 percentage points of the total fiscal revenues. The growth rate of the fiscal revenues, as well as the nominal GDP, in overall figures, slowed down in 2009, reporting a decrease in EU-27.

This behaviour of the tax burden curve was mainly determined by the negative effects of the international economic crisis and by the imminent decrease in demand, both on the internal and external market. In addition, the lack of tax allowances based on tax rate cuts, exemptions, and the increase of grants, have supported its decreasing trend whereas the applied measures were in most cases pro-cyclical. Consequently, the macroeconomic stabilization process was not completed and the credibility of tax policy remains to be determined. In this context, private sector savings rate remains low compared to regional standards, so that the tax policy must seek for the appropriate fiscal lever that will trigger to investments growth.

To encourage productive investments that would result in an increase of the GDP, the Government must reduce the tax burden and to provide tax allowances.

However, growth enhancing tax policy efficiency depends upon the degree of credibility of the announced measures. The more tax policies are perceived to be inconsistent, the less the decisions to stimulate the economy will achieve the desired goal. Consequently, it will induce instability in the economic system and reduce private consumption. The tax rate cuts will not generate automatically a significant increase in consumption, given that there is a state of pessimism in all countries and the access to bank loans is difficult. Therefore, fiscal multipliers tend to be rather below par and their value drops even more in times of deep economic recession. A reduction in taxes generates a release of income in the population, which may lead to increased consumption, with implications for aggregate demand and hence GDP growth.

## **2. Fiscal sustainability under the provisions of the Fiscal Compact Treaty**

The fiscal policy responses to the economic fluctuations should be counter - cyclical: budgetary surplus during growth and budgetary deficit in periods of recession. Often, though, fiscal policy is pro-cyclical – due to the fact that during of economic expansion the government expenditures increase more than the revenues. Consequently, excessive deficits will persist during recession since the elasticity of expenditures compared to GDP is higher than the income elasticity. An argument for limiting fiscal discretion by entering a rule-based framework is the need to coordinate fiscal policy with monetary.

In addition, discretionary fiscal policy measures "destroy monetary commitment". If policy objectives are different (e.g. Central Bank targets inflation, while the tax authority targets a higher level of potential GDP), competition between tax and monetary authorities leads to inflation and output levels for different optimal aggregate production.

A counter-cyclical fiscal policy supporting a reduction of the amplitude of the economic cycle fluctuations implies a relaxed behavior in times of recession and a more restrictive one in times of economic "boom". This is especially necessary if automatic stabilizers are too weak and insufficient to stabilize the economy, something particularly relevant in emerging economies facing high tax avoidance and black market labor and/or reduced unemployment benefits.

At European level, the fiscal policy implementation is provisioned in the "Treaty on stability, coordination and convergence in the Economic and Monetary Union" also called the "Fiscal Stability Treaty". The announced fiscal rules propose an automatic adjustment mechanism and penalties for countries which record economic shortfalls. The size of the automatic stabilizers is closely related to the tax system and governmental sector share in GDP. Therefore, the size of automatic stabilizers in Romania compared with all other European countries is significantly reduced, while the most effective automatic stabilizers are present in Denmark, Netherlands, Sweden and Finland, countries that apply progressive taxation.

The new fiscal compact discusses an essential point: the excessive deficit registered in the EU, mostly after the entry into crisis. The new rule (which limits the structural deficit to 0.5% of GDP) would prevent the practice of pro-cyclical fiscal policies and fiscal discipline imposed that for Romania would be a significant advantage. This statement is strongly supported by the fact that during 2005-2008, the structural

deficit increased unnecessarily, when GDP was above potential by applying pro-cyclical fiscal policy, thus negating the action of automatic stabilizers.

In Romania, public debt has increased significantly: in 2010, its share in GDP increased to 37.75% from the 30% recorded in late 2009, amid continuing economic contraction and a budget deficit of 6.5% of GDP. The dynamics of public debt also accelerated: in 2008-2011 the increasing was about 16.42% of GDP. Government debt is 94.03% of total debt, compared to 92.65% in 2009, while local public debt is 5.97%, down from 7.35% the previous year.

Most economists claim that Romania does not have difficulties in achieving the target imposed by the *Treaty*. However, we consider that the problem of public debt sustainability should be judged in terms of capacity for repayment of the borrowed loans. According to central bankers, in order to stabilize public debt over the next two years at 37% (the value in 2011) – sustainable level for the Romanian economy, a constant added value of at least 0.3% of GDP is required.

The disadvantage induced by the new fiscal rules is that the fiscal space that each country uses in order to stimulate the economy during recession will be reduced. Provisioning a very low structural deficit target reduces the possibilities of the government to adopt measures in order to encourage economic growth while leading to the reduction of the public debt long-term. Thus, by adopting new fiscal compact, the EU countries are moving towards handing over national sovereignty in favor of fiscal and budgetary balance. By contrast, the phenomenon of glocalization is found in more developed countries.

The Fiscal Compact brings both fiscal discipline and financial constraints – that could cause deflation. To prevent this possible effect, the Central Bank should interfere with a permissive monetary policy, which would allow commercial banks to grant a higher volume of loans in order to prevent monetary contraction. In conclusion, we believe that adoption of new rules in EU must be supported by identify the development lever leading to economic growth, which may differ from country to country.

### 3. Fiscal sustainability in the economic and social sub - models

In the context of the European social model, the paper aims to assess the fiscal sustainability by measuring the gap between budgetary revenues and expenditures. In order to identify the distinctive to each area, as accurately as possible, countries were grouped according to their prevalent features and highlighting the common feature of each sub - model (SM).

The welfare state reflects its applicability through the redistribution systems. According to Marinaș&Socol (2010), the strength of the welfare state is influenced by the shares of the budgetary revenues and expenditures in the GDP while its sustainability is given by the existence of a long-term budgetary equilibrium.

The literature concerning the welfare state describes three types of models, according to Espring-Anderson (Bargain&Spadaro, 2008). The liberal model which is focused on the individual needs, offering social benefits (UK and Ireland). Another one is the corporate model - refers to the degree of participation on the labour market the intervention of the government occurring only when the households have exhausted all means of self support (Germany, France, Belgium, Austria, Netherlands and Luxembourg). The last one is the social democratic model - taxpayers contribute supporting the welfare state while the high level of social services is provided to ensure the living standard (Norway, Denmark, Sweden, Finland and Iceland).

Besides the three models within the EU, other two models can be noticed: The southern model (Greece, Italy, Spain, Portugal, Malta and Cyprus) and the countries including Southern and Eastern European countries model, called “catching-up” model.

As figure 1 shows, the most redistributive SM is the Northern one since it had the ability to maintain the same share of revenues in the GDP in 2000 compared to 1995, but recorded a 10% decrease in the budget expenditures leading to a 2.27% average budget surplus of the GDP. Among the Northern economies, Finland and Sweden have promoted the greatest adjustments of the welfare state, the first one decreasing the budgetary expenditures by 13% of the GDP, and the second one by 12%. These changes followed the reforms which are specific to *flexicurity* and to the adjustment to an innovative economy, both factors generating the economic growth, the increase of the employment rate and the relative decrease in the dependence of economy and society on the state's intervention.

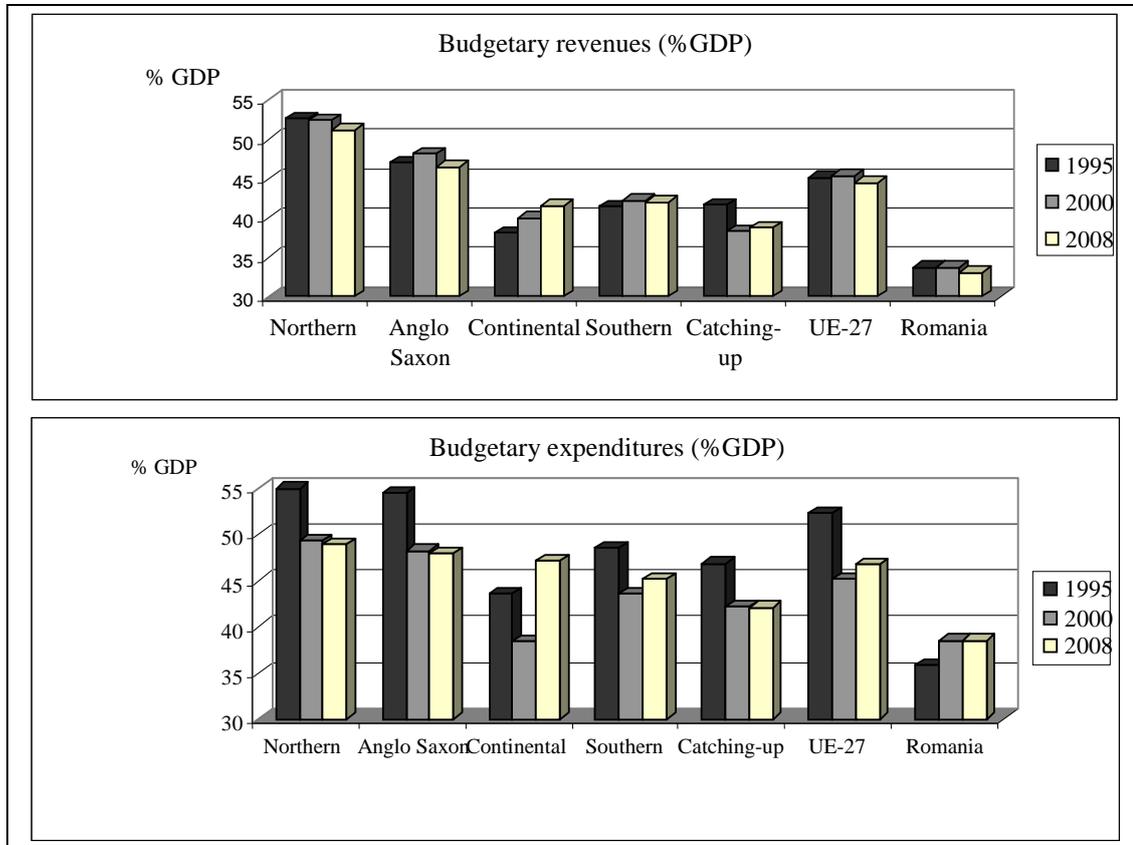
During 1995-2008, the Anglo-Saxon SM was the most affected, given that Great Britain and Ireland are economically attached to the USA. A significant fiscal gap occurred in 2008, when the financial crisis became visible requiring an increase of the budgetary expenditures by 4.35%, compared to 2007.

Comparatively, the overall revenues collected in Romania, during 1995-2008, are only half of the revenues collected in the Northern SM. Although the budgetary revenues had a flat trend, the budgetary

expenditures raised considerably in 2000, surpassing the total revenues, behavior that considerably differs from the Northern one.

The Northern model is generally considered a reference point when discussing the welfare state. A common finding in the comparison between EU member states is that the Northern countries better succeed than other countries to combine efficiency and growth, accompanied by a stress free evolution of the labor market, equitable income distribution and social cohesion.

**Figure 1: Budgetary revenues and expenditures in the European sub-models**



Source: Eurostat, 2009

The Northern SM, as benchmark, represents a challenge of the European social model. Northern countries are characterized by a high employment rate, social solidarity is an essential ingredient of Northern SM, the extension of maximum retirement age occurs simultaneously with the increase of life expectancy, and thus ensuring a high standard of living. These countries allocate a considerable volume of public expenditure in human capital investments, including long-term healthcare, education, research and development. The main lessons drawn through the experience of the Northern SM economies are:

- There is a strong correlation between high productivity and income differentiation;
- Active labor market policies support the employed and reduce long-term unemployment through the labor market division and offering various qualification programs;
- Labor market flexibility and social security are not conflicting objectives;
- Ongoing training, employees skills development;
- The integration of women on the labor market trigger economic growth;
- Increasing the employment rate is an effective way to relieve the pressure generated by demographic changing;

Increased allocations for R & D and innovation are sources of competitive advantage.

So, through social policy, the Government may interfere in the social processes architecture, in order to change it in the direction considered to be desirable by political actors.

Living standards and welfare are two concepts that are interrelated and mutually interfere. The concept of welfare implies a standard of living (living standards), normally at both individual and society as a

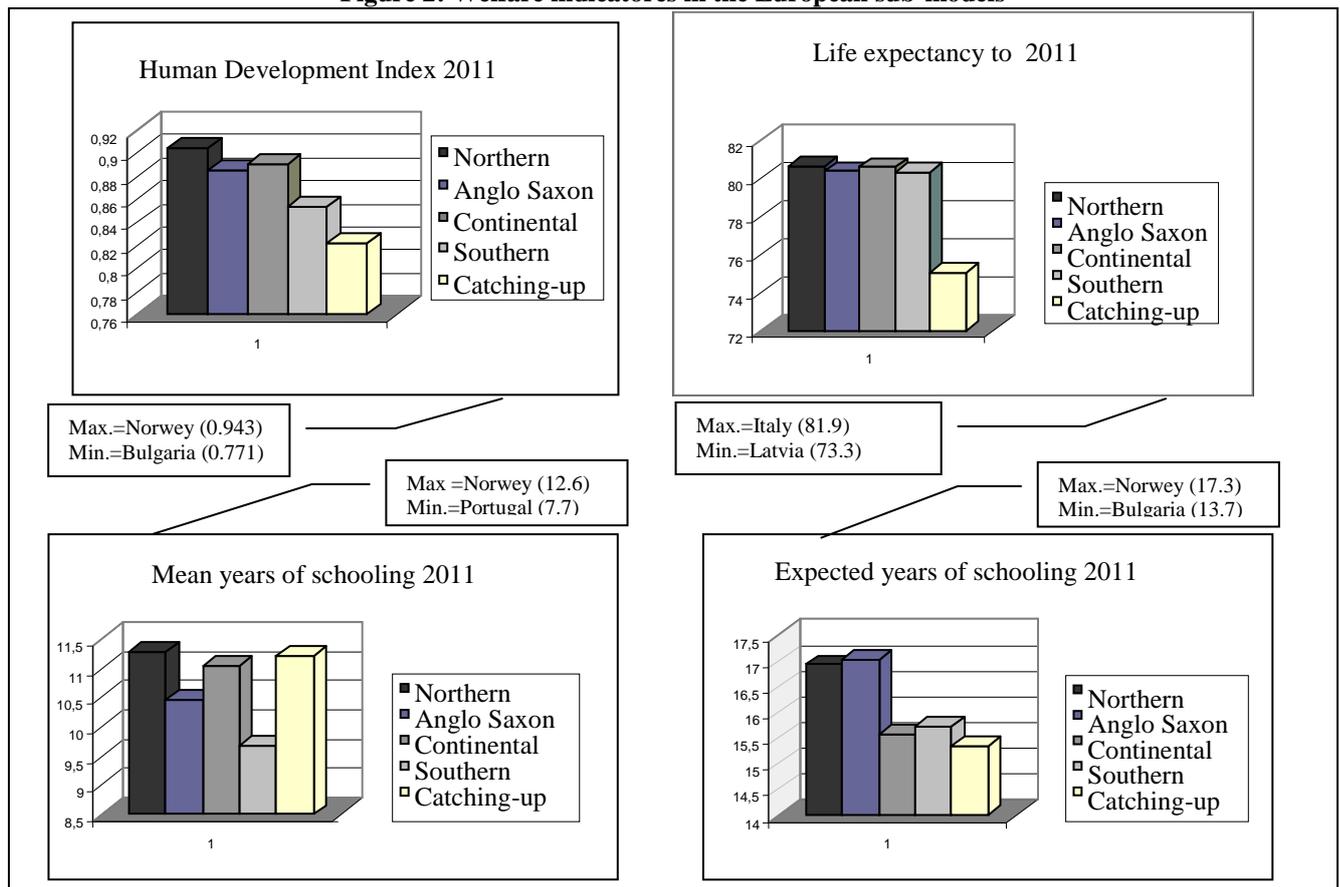
whole. Methods to measure welfare can be presented from the dual specificity of welfare, namely subjective and objective welfare.

Further, the authors assessed the level of welfare in the socio-economic sub-model (SM), in 2011. Thus, as shows Figure 2, we considered as indicators: HDI, life expectancy, mean years and expected years of schooling.

The HDI recorded different values from one MS to another. The Nordic MS showed the highest value (0.91), the maximum being recorded by Norway (0.943). On the other side is the Catching-up SM (0.81), whose minimum is reached in Bulgaria. Thus, Human Development Report for 2011 puts Norway in the first place, accompanied by Sweden, Iceland, Denmark and Finland ranked 10, 14, 16 respectively 22. This, once again, rewards quality and success of the Nordic welfare state. As a parallel, Romania ranks 50.

The Anglo-Saxon SM and the Continental SM recorded similar values, respectively 0.88 0.9, the Netherlands being the country that recorded the lowest values of persons at-risk-of-poverty, in 2010. The Southern MS (0.845) distances himself more than the 3 above SM. The main causes are the income inequality (which are the highest in the European Union), the high unemployment rate and the fragmentation of the social benefits.

**Figure 2: Welfare indicators in the European sub-models**



Source: Human Development Report 2011

If we discuss about the life expectancy in the European SMs, we may observe two trends, diametrically opposed. On the one hand, the Northern, Anglo-Saxon, Continental and Southern SMs - register similar values (approx. 80), Italy being the country with the highest life expectancy (81.9), in 2011. On the other hand, the Catching-up SM register the lowest value. The causative factors are life quality, education and access to quality healthcare. Nevertheless, Czech Republic (77.7) and Slovenia (79.3) are the countries that fell from the Eastern European SM average, comparing to Romania (74) and Latvia (73.3).

Also, the analysis reveals different distributions of the mean years of schooling. Also, we emphasize discrepancies between the mean years of schooling and the expected years of schooling. The most obvious discrepancy is observed for Anglo-Saxon SM: Expected years of schooling (17.4 years) is much higher than the mean years of schooling (11.3 years), in 2011.

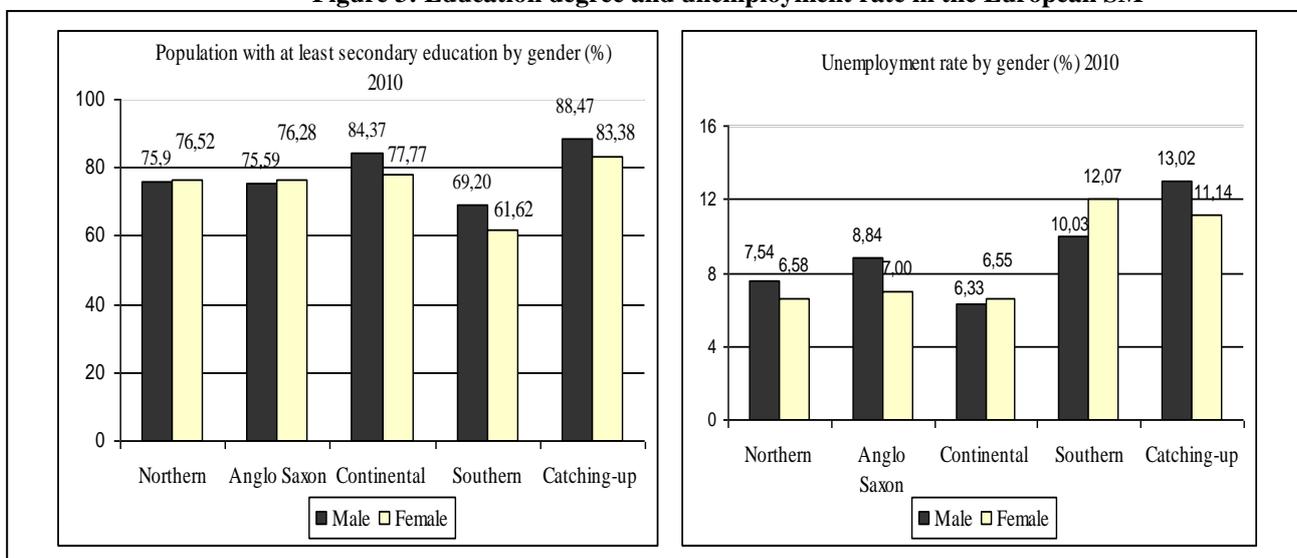
Based on the idea that education and ongoing training are the key factors of a sustainable development, the authors consider that the unemployment rate is an important indicator embedding both social and economic dimensions. Increased unemployment results in a loss of income for households, increasing the pressure on government social benefits and a reduction in tax revenue. From an economic perspective, unemployment may be viewed as unused labour capacity.

Qualifications acquired through education are still the best insurance against unemployment which clearly increases if the level of education is inadequate. This characteristic is noticeable in almost SM, in 2010 (Figure 4), specially in the Continental SM: as the population with at least secondary education degree (81.07) recorded the lowest unemployment rate (6.44), in 2010. The statement does not check in Catching-up SM, where although the level of education (85.93) is highest in the SMS, the unemployment rate (12.08) reached the highest values.

The overall unemployment rate in the EU-27 reached 9.6 % in 2010. The unemployment rate rose in EU-27, between 2009 and 2010, except Germany, Luxembourg, Malta and Austria. Countries as Belgium, France, Romania, Finland, Sweden also performed well, showing only moderate increases (below 0.5 %). While Estonia and Lithuania were among the countries with the highest increases. High increases were also recorded in Greece, Spain and Slovakia. Spain remained the country with the highest overall unemployment rate in 2010 reaching 20.1 %.

Also, long-term unemployment is one of the main concerns of policymakers. In total, 3.8 % of the labour force in the EU-27 in 2010 had been unemployed for more than one year; almost half of these, 1.8 % of the labour force, had been unemployed for more than two years.

**Figure 3: Education degree and unemployment rate in the European SM**



Source: Authors calculation, Human Development Report 2011 & Eurostat 2010

#### 4. The Romanian fiscal sustainability in the context of welfare

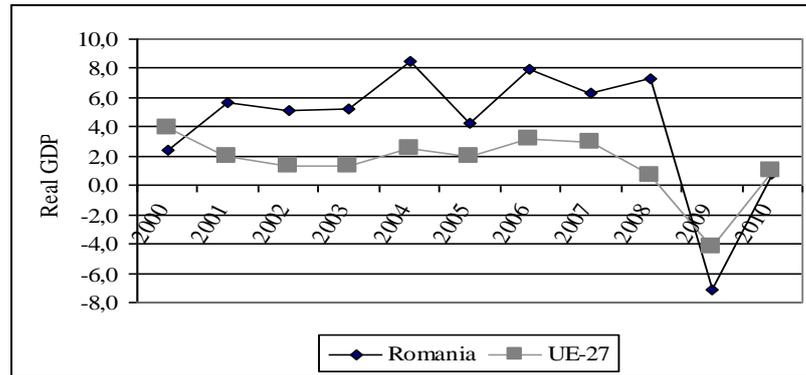
In Romania, high labor taxation (the labor cost), related to social contributions (between 32.65% and 37.65% in 2011), triggered several effects:

- reduces budgetary revenues: it is the taxpayers response to excessive taxation preferring a reduction payroll;
- increase of public spending given that unemployment involves translating the tax burden from taxpayers to the state by paying unemployment benefits. The unemployment rate reached the lowest value (4%) in 2008, amid economic growth, followed by an upward slope, reaching 6.3% (2009) and 7.58% (2010).

Prior to the crisis (2001-2008), the overall macroeconomic situation of the Romanian economy shows a considerable economic growth. During these years, the evolution of the GDP recorded a fluctuating growth trend, in real terms. The increase was based on volatile exogenous factors (FDI), which means that the transfer of productivity and potential growth on the domestic economy was low. This explains the fact that, after two years of recession, the economy did not recover. Only the first nine months of 2011, GDP increased in real terms by 2.7% over the same period in 2010. Also, the structural deficit reached a level of

8.9% of GDP, thus exhausting the option for a tax rate cuts in further. This economic situation implies: a prudent fiscal policy, maintaining the current account deficit and public debt within manageable limits, further enhance access to international capital markets, reduced budget deficit.

**Figure 4: Real GDP evolution in Romania 2000-2010**



Source: Eurostat, 2010

To reduce the budgetary deficit, the Government set up a package of measures provisioning a temporary reduction of the public servants wages (-25%) and of the social spending by -15%. Also, the final package of fiscal consolidation included the VAT increase by 5 percentage points (from 19% to 24%), introduced since July 2010. Through taxation reconsideration, the Government has tried to resolve the problem of fiscal sustainability. These were taken in the absence of alternative economic levers that could trigger economic growth.

Regarding the dependency ratio between taxpayers and the population that receive social benefits, its level is the worst in the EU and the demographic projections indicate a deterioration of the ratio. Therefore, in order to increase the sustainability of the pension system, a set of measures should be taken: increasing the number of taxpayers, raising the retirement age and applying other reforms.

In Romania, the employment rate followed a constant trend evolution. Compared to countries like Denmark (73.4%), Norway (75.3%), Iceland (the highest in EU-78.2%) Eurostat statistics for 2010, reports a 58.8% rate for Romania. Moreover, political and legal instability, and high levels of corruption (ranked top 50 in Transparency International Report 2011) added to the determinants of unemployment.

As compared to the Northern SM, which promotes “active policies” - based on training and education - Romania promotes “passive policies” - aimed at receiving social benefits. Thus, if social benefits (pensions, unemployment benefits) are discussed, it should be underlined that they may diminish the incentive to work. In the absence of active labor market policies, unemployment rate reached 7.10% in 2010. Not only low-skilled people, but also young people and women were the less sought after market categories.

Regarding the tradeoff between efficiency and equity, Romania is characterized by a high income inequality. Thus, according to an Eurostat study, Romania recorded the second highest rate of income distribution inequality (6.7), being exceeded only by Latvia (7.3), well above the EU-27 average (5.1.), in 2009. Under these circumstances, the authors argue that the main mechanism to reduce inequality and polarization income is the progressive taxation divided on brackets.

## 5. The welfare and the social policy sustainability

A well-established social policy can lead to economic progress. In order to increase household income policies aimed at creating jobs, promoting flexible forms of employment, increase adaptability of workers should be activated. As regards social protection, policies should be set as to prevent poverty by providing replacement income (pensions, unemployment benefits and allowances for temporary work) and income support to families with children and disabled.

These measures (identified as changes) are the desired side of the globalization. On the other side, the new Fiscal compact considers globalization a form of restriction on freedom of the political decisions. However, the new fiscal rules are not adjusted to the economies that will apply them. It does not take into account the cultural specificity of each country, which seems to be a defining element in the acquisition and adoption of regulations Europe as well as the objectives set at European level.

In addition to globalization, countries must face demographic changes - ageing - which increase the size of passive population (retirees), while there is a tendency to reduce the size of the active population

(employees). The result is a dramatic increase in the dependency ratio and a strong pressure on social spending and higher tax rates. The combination of an ageing population and big ambitions welfare services will put a strain on public finances, especially if globalization increases job mobility and labor. Thus, the sustainability of public systems care for elderly people is seriously questioned. (Andersen, 2007)

In these context, we must consider the role of social protection such as: promoting active employment work by creating jobs, social benefits conditioning (needs testing) for a defined period – in order to prevent the perverse effects of reducing the search of a job, providing education, leading to the formation of a strong civic culture, which can form the basis of "help yourself" type behavior and to improve skills/quality technical knowledge and intellectual performance of individuals (knowing that the individuals with poor training are most affected by unemployment).

Poverty and social protection concerns everyone today: the government and politicians, economic and social analysts, and the ordinary people eventually affected by the effects of this general phenomenon. Poverty is a phenomenon that tends ever more to establish a mechanism that produces economic and social exclusion. The problem of poverty is not only inequality between the base and top on a social scale (up/down), but the distance between those who belong to social group and those who are marginalized (in/out).

Favourable living standards depend on a wide range of determinants, which may be divided into those that are income-related and those that are not. The income distribution within a country provides a picture of inequalities: on the one hand, inequalities may create incentives for people to improve their situation by intensifying work, innovation or acquiring new skills, while on the other hand, crime, poverty and social exclusion are often seen as being linked to such income inequalities.

Atkinson & Marlier (2010), in a study made by the European Commission, reveals that in four Member States, namely Latvia (25.7%), Romania (22.4%), Bulgaria (21.8%) and Lithuania (20.6%), one fifth or more of the population was assessed to be at-risk-of-poverty. Among the EU Member States the lowest percentages of persons at-risk-of-poverty were observed in the Czech Republic (8.6%), Slovakia (11.0%), the Netherlands (11.1%) and Slovenia (11.3%); Iceland (10.2%) and Norway (11.7%) also reported relatively low shares of their respective populations at-risk-of-poverty.

Knowing the reasons that cause and sustain poverty is very important to take effective measures as to prevent and combat this phenomenon. The main reasons are:

- Existing economic imbalances that can lead to income polarization;
- Limited capacity of the economy to create new jobs for generating income;
- An inequitable system of income distribution and redistribution;
- Increased production of goods and services through their own effort (for self).

Also, we may consider some determinants reasons, such as: income, unemployment, training and education, health, housing and number of dependent children in the household, and not at least civic consciousness and environmental quality.

Presently, it is necessary to analyze the importance of social transfers in combating poverty and reducing income inequality. To highlight this effect we call the system of indicators of social inclusion. Even so, policies to reduce inequality and polarization go beyond income redistribution. It is necessary to promote policies aimed at increasing employment of older people (to improve the employment structure - especially the difficulties in finding a job), reducing employment in the informal economy- especially the black labor market - to increase participation in work. All of these are policies that can help lower low-income taxpayers.

In Romania, income distribution is marked by the relatively high level of inequality and polarization. First, inequality increased because most households have suffered loss of revenue generated by high inflation and economic recession, the compression or closure of important industrial units, the considerable loss of jobs and a dramatic decrease of the labor market. A part of the labor force in industry became unemployed, and another part have retired or became farmers, mainly subsistence farming, all of them with lower incomes than the lost earnings.

## 6. Conclusions

According to the existing gaps, the SM have recorded significant differences between the national redistribution systems. These differences have been supported by the gap between budgetary revenues and expenditures, the unemployment rate in direct correlation with education degree and favourable living standards (assessed by HDI and life expectancy).

The Northern SM, as benchmark, represents a challenge of the European social model, the Northern countries being characterized by a high employment rate and social solidarity. By contrast, we have the Catching-up SM, who's prevalent features is the unsustainable fiscal policy. This statement is supported by

the fact that during 2005-2008, the structural deficit increased unnecessarily, when GDP was above potential by applying pro-cyclical fiscal policy, thus negating the action of automatic stabilizers. Thus, The Fiscal Compact Treaty brings fiscal discipline by preventing the practice of pro-cyclical fiscal policies.

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## THE IMPACT OF CURRENT CRISIS ON FOREIGN DIRECT INVESTMENT. EVIDENCE FROM ROMANIA

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**Abstract:** *Few studies have investigated the relationship between the current global financial crisis and FDI flows. This paper aims to analyze such a relationship for Romania's case even if in Romania the impact of the financial crisis on the economy, although major, it had mainly manifested itself indirectly. In order to highlight this we use a regression model. We found that economic growth has a significant influence over the level of FDI, and moreover a positive influence. A very interesting result is that the financial crisis does not affect directly the level of FDI, but the link between financial crisis and GDP growth had a powerful influence on FDI.*

**Key words:** foreign direct investment, financial crisis, economic growth, regression model.

**JEL classification:** C 32, F 21, O 11

### 1. Introduction

Investments across countries are a powerful tool in promoting economic relationships between different parts of the world. Over the past two decades, the global foreign direct investments (FDI) flows had rapidly increased. The peak was recorded in 2007, when the value of FDI was 1,971 billion USD, about ten times more than the value recorded in 1990 (UNCTAD, 2011). Even if in the last four years the FDI flows decreased due to financial crisis, in 2010 the developing and transition economies absorbed, for the first time, more than half of the world's FDI inflows.

Due to the importance of FDI for the development of the countries and their economic relationship, there was a lot of debate in the literature on this topic, which was analyzed from several points of view. First of all, researchers studied FDI as a factor for financial globalization or financial openness (Lane and Milesi-Feretti, 2003). Moreover, a significant number of studies found similar results regarding the linkage between FDI and economic growth, through a comprehensive empirical analysis, using samples of countries from all around the world (using countries from around the world as samples). Alforo et al. (2000) pointed out the positive influence of FDI on economic growth, emphasizing the importance of local financial markets in this process.

Furthermore, these results are confirmed by a series of studies which analyzed countries from different parts of the world. For Asia, Zhang (2001) found that the positive effect of FDI in promoting economic performance is stronger in the coastal part of China than the inland area. Moreover, Choong et al. (2004) emphasized that, for Eastern Asian countries, it is very important the development level of the financial sector. This can be seen as a source of competitive advantage in attracting FDI by host countries and, in the end, in promoting economic growth, results that are valid also for Taiwan (Chang, 2006), Malaysia and Thailand (Chowdhury and Mavrotas, 2006). This positive linkage between FDI and economic growth was also found for 18 Latin American countries (Bengoa and Sanchez-Robles 2003), and it could be improved by several elements from the host country, namely: adequate human capital, economic stability or liberalized markets. The same relationship was found to be true for other 10 African countries (Esso, 2010). But the results stated above were not confirmed by the empirical analysis conducted by Carkovic and Levine (2005), through which it was pointed that the FDI do not exert an independent influence on economic performance and their influence depends by other determinants of economic growth.

A second area of interest is represented by finding all determinants that could influence the level of FDI of a country. In the economic literature are a few studies (Bloning, 2005; Faeth, 2009), that tried to

capture all the previous research on this topic. The first author was interested in presenting all the previous papers which studied the determinants of FDI at firm-level decisions and he stated that the majority of determinants are statistically fairly fragile, so there is still room for improvement and further analysis. A more comprehensive literature survey was done by Faeth (2009), who was able to incorporate in her paper a review of nine theoretical FDI models and she underlined the importance of all these determinants of FDI in the real economy. A very important remark made in her paper was that, any future research regarding the determinants of FDI should be based not only on a single theoretical model, but on several of these theoretical models that combine different factors such as market size and characteristics, cost factors, risk factors, policy variables etc.

These extensive reviews would not be possible, if other researchers had not previously analyzed the determinants of FDI for different countries or regions. Thereof, the empirical study conducted by Yang et al. (2000) revealed that the most important determinants in Australia's case are represented by interest rates, wage changes, financial openness and a proxy for industrial disputes. A more complex research was made by Moosa and Cardak (2006), who took into account 140 countries. Their study pointed out that the most important determinants of FDI are represented by GDP per capita, exports and telephone lines. Regarding European countries, Bevan and Estrin (2004) found that the main determinants are labor costs, market size and announcements about European Union accession proposals. Even if their paper conclusion is that the host country risk was not a significant determinant, Palacios and Griffin (2010) showed that the different types of country risk are important determinants for the level of FDI in six Latin American countries (Argentina, Brazil, Chile, Colombia, Mexico and Venezuela).

Taking into account all these considerations regarding FDI, our paper will analyze the relationship between the FDI flows and the financial crisis which started in 2008, emphasizing the case of Romania. Our study is only a first attempt on a more extensive project that aims to study, to analyze and to argue the macroeconomic and microeconomic effects of the global crisis on FDI, in Romania's case. Subsequently, this paper will be followed by a broader and more detailed analysis of the relationship between the global financial crisis and the FDI flows, using existing data and recent research in the field. Overall, the project aims to offer a fully documented response to the question: is it necessary a special treatment (promotion policy) for FDI in time of crisis?

The structure of the current paper is as follows: section 2 presents a short literature review on the relationship between FDI, growth and crisis. In section 3, we describe the methodology used, we show the data selection process and the characteristics of our sample and we report our results. Finally, we present our main conclusions.

## **2. Review of the literature on the relationship between FDI, growth and crisis**

The last area of interest from literature is represented by the relationship between FDI and 2008 financial crisis. The analysis of this link will be the central point of our paper. This is not the first financial crisis that caused a lot of debates. Researchers (Reinhart and Rogoff, 2008) identified and classified several financial crisis along the way, namely "The Big Five Crises": Spain (1977), Norway (1987), Finland (1991), Sweden (1991) and Japan (1992) and other small banking and financial crisis such as: Australia (1989), Canada (1983), Denmark (1987), France (1994), Germany (1977), Greece (1991), Iceland (1985), Italy (1990), New Zealand (1987), United Kingdom (1973, 1991, 1995) and United States (1984).

There is a comprehensive literature that analyzes the link between financial crisis and other area of interest like: monetary policy (Cecchetti, 2008), globalization (Altman, 2009), corporate governance (Johnson et al., 2000), health (Marmot and Bell, 2009) and national economy (Park et al. 2009).

Even if there are a lot of papers that analyze different crisis in time, there is a scarce research regarding the relationship between the recent global financial crisis and FDI. The interest of researchers, who approached this topic, was to measure the strength of financial crisis over the FDI level. More specifically, the empirical study conducted by Ucal et al. (2010) revealed that the financial crisis had a powerful influence on FDI. After recording an upturn in the year(s) before the crisis, the level of FDI decreased in the followings years. Of course, FDI can be seen as a growth's vector for host countries and it can play a very complex and important role in micro economic responses to the financial crisis. This aspect is supported by the empirical analysis conducted by Alfaro and Chen (2010), through which, it is emphasized the importance of FDI in economic growth, volatility and economic interdependence across the countries in order to minimize the negative aspects of financial crisis.

Moreover, researchers wondered if the last financial crisis had less or much strength on FDI than other past crisis. To answer this question, Poulsen and Hufbauer (2011) compared the current FDI recession

with the response in FDI to past crisis and they found that indeed, the financial crisis from 2008 was the biggest one. At the same time, the global level of this crisis had led to a greater change in FDI.

Due to fact that literature regarding the link between the current financial crisis and the FDI is still poor, we present several aspects on this topic, that were stated based on a detailed empirical analysis on the effects of Asian crisis (1997) on FDI, in order to create a complex picture of all possible effects.

The common point of all the studies is that they revealed the significant influence of the financial crisis on FDI. Going deeper, Cherry (2006) pointed that the crisis affected not only the level of FDI, but moreover the South Korean government's attitude towards FDI. If, in the period of time before Asian crisis, the public authority saw FDI as a less desirable option for financing, imposing a lot of restrictions and measurements, after the crisis, they understood the importance of FDI and the Korean government fundamentally changed its attitude towards FDI (by reforming the systems (system) and the structure for promoting the inward FDI).

Even in the recent years there was a high interest in the economic literature on the topics related to Asian crisis, all these studies emphasizing the post-crisis evolution of FDI. In this sense, the empirical study done by Park et al. (2009) stated that the fall of FDI level in six Asian host countries (Indonesia, South Korea, Malaysia, Philippines and Thailand) persisted more than a decade after the crisis. Going deeper into the problem, Moon et al. (2011) connected the FDI evolution after the crisis with the level recorded before the crisis. Their findings showed that countries with a higher level of FDI before the crisis will experience a milder recession and a more gradual recovery.

Due to the fact that after more than four years that the crisis started, there is a scarce research regarding the relationship between the current global financial crisis and FDI and there is still room for further analysis. Thus, with this paper, we aim to put another piece to the whole picture regarding this topic, by analyzing this link in Romania).

### 3. Methodology

#### 3.1. The model

The model used in this paper has as starting point the hypothesis of Growth-led FDI that relates with the Multinational Corporations theory. The background is represented by the Eclectic Paradigm or OLI (Ownership, Location and Internalization) described by Dunning (2000) and firstly discussed in 1977. According to the location sub-paradigm of countries, a MNC with some ownership advantages will choose to invest in countries with a location advantage, emphasizing the market size (usually proximate by GDP). The rationality behind this theory is that an increase in the market size of the host country will led to an increase in the level of FDI, due to a higher expected profitability.

In our paper, we will extend the model, because we want to capture the financial crisis effect on FDI, so the basic model will be given by Equation (1).

$$(1) FDI_t = \alpha_0 + \alpha_1 \cdot GROWTH_t + \alpha_2 \cdot CRISIS + \alpha_3 \cdot CRISIS \cdot GROWTH_t + \varepsilon_t$$

where  $FDI_t$  - the level of FDI for year  $t$  as percentages of GDP;  $GROWTH_t$  - the economic growth in year  $t$  (percentage change of GDP);  $CRISIS$  - is a dummy variable taking 1 for years 2009, 2010, 2011 and 0 otherwise;  $CRISIS \cdot GROWTH_t$  - represents the interaction between the economic growth and the financial crisis;  $\alpha_0, \alpha_1, \alpha_2, \alpha_3$  - the model's parameters and  $\varepsilon_t$  - error term. The econometric method that will be used to estimate the regression model is ordinary last square method (OLS).

Due to the fact that financial crisis is a phenomenon which (that) is hard to capture throughout a single variable, being characterized by a series of macroeconomic interactions, we include in the regression the cross product between  $CRISIS$  and  $GROWTH$ . These two variables interact in determining the value of FDI, because the partial effect of  $GROWTH$  depends on the value of the second variable -  $CRISIS$ .

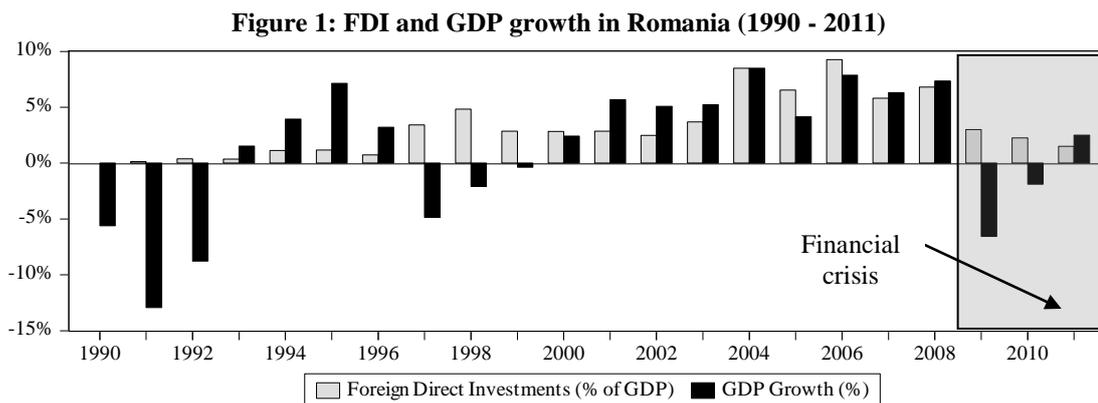
In the situation when both time series are integrated in the first order, we differentiate the Equation (1) and we obtain Equation (2):

$$(2) \Delta FDI_t = \beta_0 + \beta_1 \cdot \Delta GROWTH_t + \beta_2 \cdot CRISIS + \beta_3 \cdot CRISIS \cdot \Delta GROWTH_t + \varepsilon_t$$

We are interested in checking the robustness of our regression model, which is the ability of estimated economic model to remain valid even if we change the initial conditions. To achieve this objective, we follow the methodology used by Carkovic and Levine (2005) and we select two control variables represented by Openness trade and Average years of schooling. We estimate three different models in which we include step by step each variable and, in the end, both of them.

**3.2. Data and descriptive statistics**

Data for Romania is available for the period 1990 – 2010 from United Nations Conference on Trade and Development (UNCTAD) for FDI, GDP growth and imports as percentages of GDP (as a proxy for Openness trade). Data for the average year of schooling was taken from the data base provided by United Nations Development Programme. For the last year of our analysis, 2011, we estimate the GDP growth rate based on EUROSTAT data and the FDI as percentage of GDP based on information from Balance of Payments of National Bank of Romania. Officially, the financial crisis that started in September 2008, when Lehman Brothers filed for Chapter 11 bankruptcy protection, followed by other financial institutions (e.g. Merrill Lynch, American International Group). Romania has experienced the financial crisis more aggressively after the beginning of 2009. In 2009, the level of FDI decreased to 3% of GDP, compared to the level of 2008 of 6.8% of GDP. A worst situation was recorded by GDP growth that has fallen from 7.34% in 2008 to -6.58% in 2009. At the same time, the budget deficit in 2009 increased from 8.3% of GDP compared to 5.4% of GDP during the previous year (National Bank of Romania, 2009). The evolution of FDI and GDP growth can be clearly observed in Figure 1.



Source: based on data from UNCTAD, available at: <http://unctadstat.unctad.org/ReportFolders/reportFolders.aspx> [Accessed at March 12, 2012].

The descriptive statistics for FDI, GDP growth and crisis series are given in Table 1. At first glance, we see that none of the original series is normally distributed. One explanation for this is that these series capture the inflation’s effect.

**Table 1: Descriptive statistics**

Variable	Mean	Median	Max.	Min.	Std. Dev.	Skewness	Kurtosis
<b>Original series</b>							
FDI (%)	3.21	2.84	9.26	0	2.70	0.81	2.69
GDP growth (%)	1.26	2.85	8.49	-12.92	5.92	-0.81	2.72
CRISIS (dummy)	0.14	0	1	0	0.35	2.12	5.49
Openness trade	0.36	0.37	0.45	0.20	0.08	-0.55	2.05
Years of schooling	9.73	9.90	10.40	9.00	0.51	-0.21	1.74
<b>Deflated series</b>							
FDI (%)	-0.27	-0.24	0.03	-0.72	0.26	-0.54	1.84
GDP growth (%)	-0.28	-0.20	0.01	-0.74	0.26	-0.60	1.86
Openness trade	-0.03	0.01	0.39	-0.65	0.37	-0.49	1.76
<b>First level series</b>							
FDI (%)	0.03	0.01	0.34	-0.32	0.13	-0.02	5.37
GDP growth (%)	0.03	0.04	0.37	-0.37	0.14	-0.31	5.45
Openness trade	0.04	0.04	0.46	-0.44	0.17	-0.30	5.92

Source: authors’ calculation

Furthermore, we want the series to reflect only the reality related with each variable, so we will eliminate the effects of the inflation according to Fisher (Fisher, 1933), based on the following formula:

$$(3) Rr_t = \frac{1 + Rn_t}{1 + Ir_t} - 1,$$

where  $Rr_t$  – the real value (deflated in percentages) of financial indicator in year t;  $Rn_t$  – the nominal value of financial indicator (in percentages) on year t;  $Ir_t$  – inflation rate for the period between t-1 and t.

In order to capture through the regression model the characteristics of FDI and GDP growth (both being time series), we apply the Augmented Dickey Fuller (ADF) test to see if the time series are stationary. According to the results presented in Table 2, we can see that none of the two series are stationary, but in (at) the same time both are integrated in order one.

**Table 2: Stationarity Test Results**  
**Augmented Dickey Fuller Test<sup>a</sup>**

Variable	H <sub>0</sub> : I(1)	H <sub>0</sub> : I(2)
FDI (%)	-1.47	-5.16*
GDP growth (%)	-1.40	-5.02*
Openness trade	-1.65	-6.49*
Years of schooling	-3.83*	--

<sup>a</sup> -The 5 percent critical value for the Augmented Dickey Fuller statistic is -3.83

\* - Indicates significant at the 0.01 level

### 3.3. Results

The empirical analysis is split in two parts. First, after we deflated FDI and GDP growth, we conducted the Augmented Dickey Fuller Test and second, we estimated the regression model.

The first step was necessary to check whether the series are stationary in order to apply the appropriate regression model. Based on results from Table 2, we can see that both series are integrated in order one, so the model was estimated based on Equation (2). The results are summarized in Table 3.

**Table 3: FDI, Economic growth and Crisis**

Variable <sup>a</sup>	Basic model	Model 1	Model 2	Model 3
Constant	0.0016 (0.0042) <sup>b</sup>	-0.0001 (0.0040)	-0.0156 (0.0964)	0.0085 (0.0883)
GDP growth	0.9060*** (0.0280)	0.5206** (0.0280)	0.9060*** (0.0299)	0.5180** (0.1868)
Crisis	-0.0125 (0.0109)	-0.0080 (0.0102)	-0.0049 (0.0137)	-0.0074 (0.0125)
Crisis*GDP growth	-0.8704*** (0.1434)	-0.5506*** (0.1434)	-0.7676*** (0.1394)	-0.5492*** (0.1639)
Openness trade		0.3249** (0.1434)		0.3271* (0.1559)
Average years of schooling			0.0017 (0.0099)	-0.0009 (0.0091)
R-squared	0.9829	0.9868	0.9829	0.9868
R-squared (adjusted)	0.9799	0.9835	0.9786	0.9824

<sup>a</sup> – dependent variable is represented by foreign direct investments

<sup>b</sup> - (standard errors in parentheses)

\*, \*\*, \*\*\* - Indicates significant at the 0.1 level, 0.05 level and 0.01 level

Our findings suggest that economic growth has a significant influence over the level of FDI and, moreover, a positive one. These results are according to authors cited in section 2 of our paper (Ucal et al., Poulsen and Hufbauer, Alfaro and Chen etc.). All the empirical studies and even the theory support these findings, because according to the Eclectic Paradigm described by Dunning (2000), the expected profitability of a host country, denoted by the economic growth, has a major influence on the companies' decisions to invest in that country and, in the end, the total level of FDI of that country depends on it.

A very interesting result is that the dummy variable included in the model to capture the financial crisis effect does not have a significant value, even if the sign of this variable is negative, like we expected it to be. Furthermore, we can see that the interaction between the financial crisis and the economic growth has a negative effect on the FDI that is at the same time a significant one.

Our explanation of this result is that the financial crisis is a phenomenon which (that) is hard to capture through a single variable and it is characterized by a series of macroeconomic interactions. Thus, we consider that the crisis does not have a direct influence on FDI, but furthermore, the interaction between crisis and economic growth determines the value of FDI, because the partial effect of GDP growth depends on the magnitude of the financial crisis.

If we analyze the last three columns of Table 3, we can see that our regression model is valid even if we include other variables like openness trade and average year of schooling. In all the cases, our analyzed variables, economic growth and interaction between financial crisis and economic growth, maintain their sign and significance.

In order to check if our results are correct from a statistical point of view, we analyzed all hypotheses related to the residual term that are summarized in Table 4.

**Table 4: Residual diagnostic**

Checked hypothesis	Basic model	Model 1	Model 2	Model 3
<b>Autocorrelation (Q-stats (Ljung-Box statistics))</b>	2.1266 (0.1450) <sup>a</sup>	0.7132 (0.3980)	1.2240 (0.2690)	0.7305 (0.3930)
<b>Normality (Jarque-Bera)</b>	0.1255 (0.9391)	0.3600 (0.8352)	0.4151 (0.8125)	0.3966 (0.8201)
<b>Serial Correlation (Breusch-Godfrey LM test)</b>	1.0380 (0.3780)	1.3062 (0.3019)	0.5873 (0.5690)	1.3010 (0.3055)
<b>Heteroskedasticity (White Test)</b>	0.3363 (0.8830)	0.32835 (0.9589)	0.1875 (0.9879)	0.2236 (0.9898)

<sup>a</sup> - (p-value in parentheses)

We are able to see that the p-value for all the hypotheses tested is higher than 0.05, or even than 0.1, so we conclude that the error term is a “white noise”, because all the hypotheses are accomplished. Based on these results, we conclude that the regression model was able to capture all connections between studied variables.

#### 4. Conclusions

In this paper we have analyzed the relationship between the financial crisis and FDI in Romania. The results show that the financial crisis does not affect directly the level of FDI; moreover, the link between financial crisis and GDP growth has a powerful influence on FDI. The results seem to be logical, because financial crisis is a phenomenon that is hard to capture through a single variable, being characterized by a series of macroeconomic interactions. It is more appropriate to say that the interaction between these two variables affects the value of FDI, because the partial effect of economic growth depends on the value of the second variable.

The regression model might have some limitations due to the small size of the sample, only 22 annual observations for the period 1990 – 2011.

Further research can replicate our analysis on a sample of countries using panel data methodology, trying to find if there is some difference between different categories of countries (e.g. emerging countries vs. developed countries). These results will be very useful if there is a pattern for different categories of countries, regarding the main effect of the financial crisis and the interaction with economic growth over the FDI. These studies will be very important in supporting the regulatory environment of that specific country, in order to attract more FDI.

In order to attract investments, that are necessary for the real convergence with other EU economies, Romania should strive to further improve the business climate because according to the ease of doing business (World Bank, 2012, p. 6)., in 2012, Romania felt seven positions, on 72 place from 65 (out of 183 economies) in 2011.

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## THE ROLE OF THE TERTIARY SECTOR IN ROMANIAN DEVELOPMENT OF THE ECONOMY

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**Abstract.** *In a market economy infrastructure services acts as the vascular system that coordinates all economic activities. Therefore, the services are the coordination of economic activities in the system of market economy, there is a vast network of services conditioning reconstitution process itself and functioning of the market.*

**Key words:** services, tertiarization, expansion, productivity, outsourcing.

**JEL classification:** O 11

Increased interdependence relations between industry and the services requires the development of modern service sector in our country. More specifically, international experience shows that as raising the technological level of industries, particularly the application of computer technology and telecommunication, increase volume of services required activities before, during and after industrial processing itself. The sustained growth in demand for services used as inputs in industrial production, respectively, in the production of services largely explains the expansion of these intermediary services in developed countries over the past two decades.

In parallel with the integration of industry and services, reflected in increased content of modern production services, there is a process of convergence between the two sectors. There are many indications that companies in the manufacturing sector in developed countries increasingly used the new information technologies, with new organizational models, developing strategies to engage more users of their products in the product design process, reduce inventory and to close while production and consumption. However, these features are rather own companies than the industrial service. In turn, the service sector approaches in several respects from manufacturing. Since the early 1960 some analysts have pointed out the phenomenon of "industrialization of services", under which the service sector increases its productivity by applying the same mechanisms that led to increased labor productivity in manufacturing industries, namely, by: introducing new technologies (especially in the field of telecommunications and informatics), improving the production organization, economies of scale etc.

By its size, the dynamics and degree of its integration with other types of economic activities, the services sector exerts a considerable impact on national economy and the functioning of the services sector is crucial to boost and sustain economic growth, mainly because:

- is a prerequisite for achieving economic performance: manufacturers and exporters can not become competitive without access to banking systems, insurance, accounting, telecommunications and efficient transportation;
- is a prerequisite for economic development: access to competitive services helps exporters and producers worldwide Romanian better exploit their comparative advantages;
- increase the rhythm innovation, technology transfer and boost savings for consumers;
- contribute to fostering long-term investment.

Transition of national economies to macroeconomic structures predominantly service sector is one of the major structural changes in the global economy, which began a few decades ago, emphasizing the last three decades. This characterizes all countries, but was more pronounced in developed countries.

Developed countries are true service economy, their share of services sector both in GDP (gross domestic product) and the active work force of approximately two thirds and in the U.S.A. even more than 70%. This means that the service sector is the main creative source of value and the economic sector employing most of the active labor force in these countries.

In the field of international economic relations, the growing importance of services was reflected in the dynamic growth of international trade in services and that services sector recorded the highest growth rates of foreign direct investment flows.

Results of numerous specialized works produced internationally in the last two decades on the services converge to the conclusion that services play a strategic role in the contemporary economic growth and development.

Tertiarization modern economies occur not only by the relative expansion of the service sector itself but also of service activities within the industry and agriculture, in that the latter uses an increasing amount of services before, during and after completion of production (Ghibuțiu, 1996, p. 211). Under the impact of modern technological advances, and other factors, there is an increase in industrial production inputs of services in relation to physical labor and material inputs.

Determining the cause expansion of the service sector in developed countries was a concern for many economists, there are several economic and mathematical models that attempt to provide a explanation of this phenomenon and its determining factors.

A first attempt to synthesize these concerns (Gruescu, 2001, p. 67) identified four categories of determinants of the phenomenon of expansion of services.

- 1) One factor is **urbanization**. Urban development may lead to development of services for the operation and maintenance of urban centers. Urbanization also means an increased comfort, living standards and income. Engel's law applying to these realities, we can see immediately that urbanization will be followed by an increase in consumption of services. Many authors have put in touch with the phenomenon of industrialization, urbanization, arguing that they operate simultaneously only lead to expansion of services. But this idea is contradicted by the examples of Latin American countries. Mass population migration to cities has led to an increase in service sector urbanization without industrialization to be doubled.
- 2) A second factor of tertiarization is **low labor productivity** in other activities. This is one of the most widely used explanations of employment growth in services. She enjoys wide support among economists, even though the number who opposes increases dramatically. Thus, statistics show that a large number of countries relative productivity values higher than one of the services and labor productivity growth rates are relatively high. The explanation lies in expanding technical progress and service sectors, particularly through computer, electronics and modern technology in telecommunications. However, many activities remain highly personalized service and that service sector absorbs surplus labor often means that this sector is highly effective in achieving development goals related to employment.
- 3) A third factor is the expansion **factor endowment** services. Factor endowment determines that labor is cheaper in developing countries and thus and services because they are labor intensive (Bhagwati, 1987). This may be an element of attraction for international companies, and therefore an opportunity for their development. This approach has the advantage also explains the symmetrical other services related empirical regularity, namely that some services may be more expensive in poor countries than rich ones, a phenomenon explained by the high capital intensity of services.
- 4) A final cause of increased services to some **explanations** refer **uneconomic**. Among them stand out in particular **the role of the state**. In many developing countries the state's role is more substantial than the West in the run phase of industrialization. If the developed countries to increase mainly reflected the state's role in the implementation of welfare programs (in health care, education, etc.), In developing countries it mainly manifested in the form of a governmental institutions and appreciable complex milestones, which gave rise to a variety of occupations in services.

According to research Canadian Economic Council (M.I.C., 1996), the main determinant of tertiarization economy was the **increasing demand for services** used as inputs in production, design of a good or service to another.

Other factors identified by the study mentioned include:

1. **technological advances** that allowed increased use of capital (especially material information) in the tertiary sector allowing for increased productivity. Convergence of Informatics and communication techniques have led to a new IT sector;
2. **increasing complexity of tasks** – a consequence of technical progress that requires companies to specialization, this largely explains the spectacular development of business services and consulting and IT services outsourcing in particular;

3. **liberalization (trade) and trade development** – have created new opportunities for services firms, as non-traditional services and trade are hardly exportable, this increase is based on tertiary advanced services;
4. **increased demand for industrial services** – raising living standards increased the consumption of services in consumer budget, sectors that have benefited most are food, entertainment, recreation, personal services, participation of women at work significantly changed consumer habits;
5. **increased demand for public services** – businesses have realized the importance of protecting and investing in human capital.

Other work gives rise to another series of cases. The most often mentioned by most authors are (Ionciă M., Petrescu E., Popescu D., 2004, p. 47 – 49):

### **I. Increasing demands of consumers.**

As incomes rise, a smaller proportion will be paid expenses for basic needs, while the share of services increases.

Demographic and lifestyle changes have also contributed to the growth of individual services. Service activities that were conducted before the household are now in paid work. Women entered the workforce – with less time available and higher incomes, demand for services such as meals, laundry, babysitting increased.

### **II. Increased demand for business services and outsourcing.**

Some experts suggest that some growth factors are important in explaining business services:

- (a) emergence and development of new products and services that require specialized services and maintenance services;
- (b) changes in production processes of goods and services from innovation, resulting in an increase in specialized services;
- (c) financial environments, production and distribution more complex and requiring international integrated services - additional support;
- (d) legislative changes that increase the need for businesses to track and analyze changes;
- (e) proliferation of tasks related to internal management and administration of companies, especially multinational (S McLachlan, C. Clar, I. Monday, 2002).

*The reasons for outsourcing* include pressures for companies to focus on core competencies, reducing operating costs and savings from the use of specialized external expertise. Outsourcing can improve business performance through access to a wider base of knowledge, skills, and technologies.

### **III. Technological changes and their impact on relative productivity of the sector.**

Nature of many services leads them to be less susceptible to improvements in productivity because they are more difficult to automate, are harder hit by technical progress. In some cases reducing labor is not possible.

Evolution in the expansion of service activities in modern economies is demonstrated by the preponderance of services both in terms of contribution to GDP and employment, and held the place of international trade.

On the other hand, are quite important differences in the degree of tertiarization, even in developed countries, explained by the peculiarities of growth models adopted, differences in traditions and customs, including cultural or religious level of militarization of the economy, etc.

Increasing the share of services in domestic production activities in the value added and employment is one of the most obvious and important trends in recent decades, manifested particularly in the developed countries economies, OECD and the European space, where there is, however, some gaps caused by time trigger structural changes in national economies, which marked their shift to sustainable development services.

Existing data suggest that for most countries of South East European service sector growth is a consequence of the development of traditional services, such as wholesale and retail trade, transport and travel. However, in countries like Romania the share of activities included in "other business services", indicating the potential development of modern services.

Available data indicate that most of these economies, services growth reflects, in fact, traditional development services segments, such as wholesale and retail distribution, transport and tourism, which

contributes the most significant proportion of the GDP and attracting labor. However, in some countries such as Romania, Bulgaria and Croatia, important segments of business services is increasing, suggesting their propensity to develop modern service activities (Institutul European din România, p. 8).

In conclusion, the services become ever more a part of technical-economical networks and innovation. The continuing expansion of services sectors suggests that the growth potential of European economies will depend increasingly on the competitiveness of service sectors and their ability to innovate. Deregulation or, more precisely, re-regulation and open markets for international competition leads to the conclusion that the welfare of future Euro area economies and those in transition, newly admitted into the EU will depend crucially on productivity growth across sectors services.

After nearly half a century of serious neglect services in the context of the size of its economic development model, Romania was confronted with the reality of expansion of service activities, both externally and internally, which raised many challenges for the economic development and its integration into European and global economic structures. In the first issue, challenges arose from the scope and role of services in modern economies, respectively, in the global economy, and recognition by the international community has strategic implications of this phenomenon and the materialization of this recognition to agree on global and regional appropriate mechanisms for cooperation in services.

Regarding challenges flowing from the expansion of services internally, they are related to Romania's transition to modern economic structures, by developing a model with a more pronounced shift towards services.

With the abandonment of the old economic model and the mechanisms involved and to start the transition to market economy, the basic premises have been created to develop a modern services sector in our country. Romania could shorten the road to lead to the creation of a modern services sector, by promoting awareness and proactive policy development of the service sector, as part of a strategy for long-term economic development. Evolution of services is dependent on the development of national economy, particularly that of industry and agriculture productivity and income levels of society.

As the international experience, an important element in the strategy development of efficient service sector is the enhancement of human capital. This should be considered as raising labor training, and training a proactive mentality, favorable crystallization of a service economy, in both the policy makers, economic operators and the public.

In immediate prospect, relative endowment of factors available in Romania provides a potential basis for the development of categories and subcategories of services internationally competitive. Favorable geographical and geopolitical location, close to Western Europe, the Danube and Black Sea, with natural wealth endowment and a relatively cheap labor and relatively well qualified - are comparative advantages for transport (sea, river, road) and tourism.

### **Conclusions**

Romania could also specialize in providing services for end users, namely: health care services, Services of related education and training, services related to leisure services retirees. Comparative advantage in providing services to consumers derived from the following factors: close physical proximity to Western Europe and therefore Western consumers easy access to service providers in Romania, there is great demand from Western Europe for this type of service, the lower wages and cost of living compared with countries in the region.

Romania also may specialize in providing business services category, as have staff able to provide intensive input of knowledge and information in the field of business life such as software, data processing, industrial design services, services related to industry research and engineering services. Many business services require lower capital investment and modern communication networks enable these services to be marketable. At the same time there are many constraints in the way of expansion of Romanian exports of services, aimed among other things: underdeveloped telecommunications infrastructure, poor stock of computers, lack of global business contacts, lack of infrastructure necessary to connect to global networks of services, lack of know-how in the field of marketing and lack of appropriate skills in business management.

Strengthening the Romanian sector of services to generate outflows by developing patterns of specialization in those sectors and sub-services that Romania has comparative advantages, namely, that these advantages can be created in the future, may not be designed without a conscious and sustained approach to modernize the entire infrastructure of services as a precondition for creating efficient economy.

Structural adjustment of the Romanian economy to mutations in the pattern of international economic relations under increasing role of services and support the adjustment process through appropriate trade

policy in services is a sine qua non of effective integration of Romania into European Union structures contemporary global economy.

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## ECONOMIC EFFICIENCY OF BIOGAS PLANTS

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**Abstract:** *Choosing the industrial biogas production facility that will be executed after the investment is made on the basis of rigorous and scientific calculations. In essence, the economic efficiency of this investment should lead to the conclusion that the consumption of investment funds to obtain maximum results from economic to environmental problems end.*

**Keywords:** biogas, investment, economic efficiency, economic indicator

**JEL classification:** O 11

Biogas is the term used for mixed gas (methane, hydrogen, carbon dioxide, etc.) of biogenic origin that are generated by fermentation processes from different organic substances is by burning energy source (biogenic energy).

Biogas is a combustible gas mixture, which is formed by decomposition of organic matter in wet, oxygen-free. Basic component of biogas is methane.

Volta makes the first description of biogas in the late seventeenth century. Volta first drew methane from swamp gas.

Methane is the component that gives the energy value of biogas.

Pure methane is a combustible gas without color, smell or taste, lighter than air, burns with a blue flame and has a calorific value of 37 MJ / ml, slightly higher than diesel. Biogas than pure methane has a calorific value of 25 MJ / ml, because carbon dioxide is mixed.

Biomass is the most abundant renewable resource on the planet.

This includes absolutely all organic matter produced by metabolic processes of living organisms.

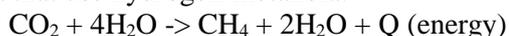
Biomass is the first form of energy used by man with the discovery of fire.

Embedded energy in biomass is released by various methods, which is the chemical process of combustion (chemical transformation in the presence of molecular oxygen, a process exergonic excellent).

Forms of biomass energy recovery:

- a) direct combustion heat generation;
- b) combustion pyrolysis, with generation of syngas (CO + H<sub>2</sub>);
- c) fermentation, the generation of biogas (CH<sub>4</sub>) or ethanol (CH<sub>3</sub>-CH<sub>2</sub>-OH) – if fermented sugar produced, biogas can be burned directly, and bioethanol mixed with gasoline, can be used in internal combustion engines;
- d) chemical transformation of biomass type by treatment with a vegetable oil and alcohol esters generation, for example methyl esters (biodiesel) and glycerol. The next step purified biodiesel in diesel engines can burn;
- e) enzymatic degradation of biomass to ethanol or biodiesel production. Cellulose can be degraded enzymatically to its monomers, carbohydrate derivatives, which can then be fermented to ethanol.

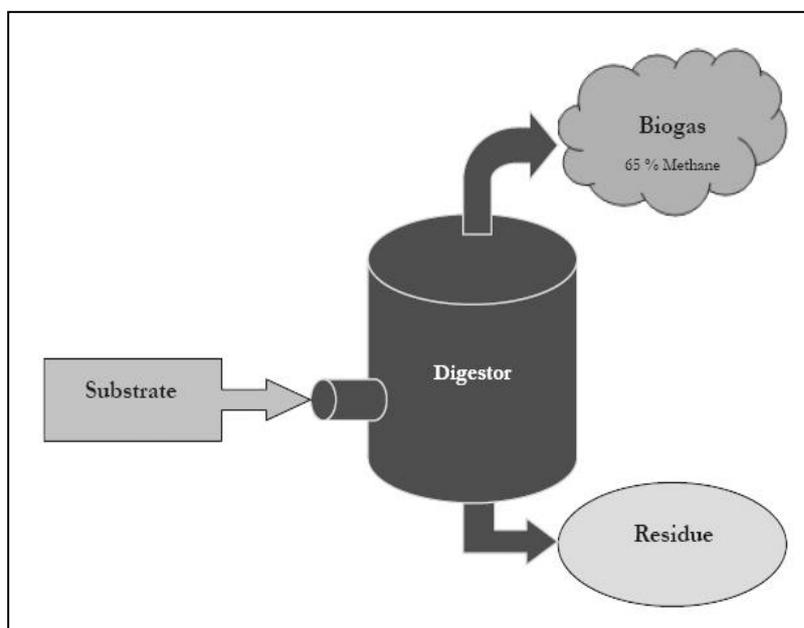
Anaerobic digestion and biogas production used, is a process conducted by wet decomposition of organic matter in controlled environmental conditions in the absence of molecular oxygen and light as a typical reaction in which methane is formed by reducing carbon dioxide and oxidation hydrogen gas by bacteria that use hydrogen-metanoia.



Energy removed from the process is small and is used to maintain the basic process, which has a higher yield at temperatures around 40° C, allowing winter carrying out the fermentation (Fig. 1) without heat in outside (does not require additional equipment).

The percentage of methane in the biogas varies from 50% to 80% depending on the type of organic matter digested and process conditions. Process to take place, require action different groups of microorganisms able to transform organic matter into intermediates, mainly acetic acid, carbon anhydride and hydrogen, used by microorganisms metanigene which conclude the process, producing methane.

**Figure 1: Simplified process of biogas**

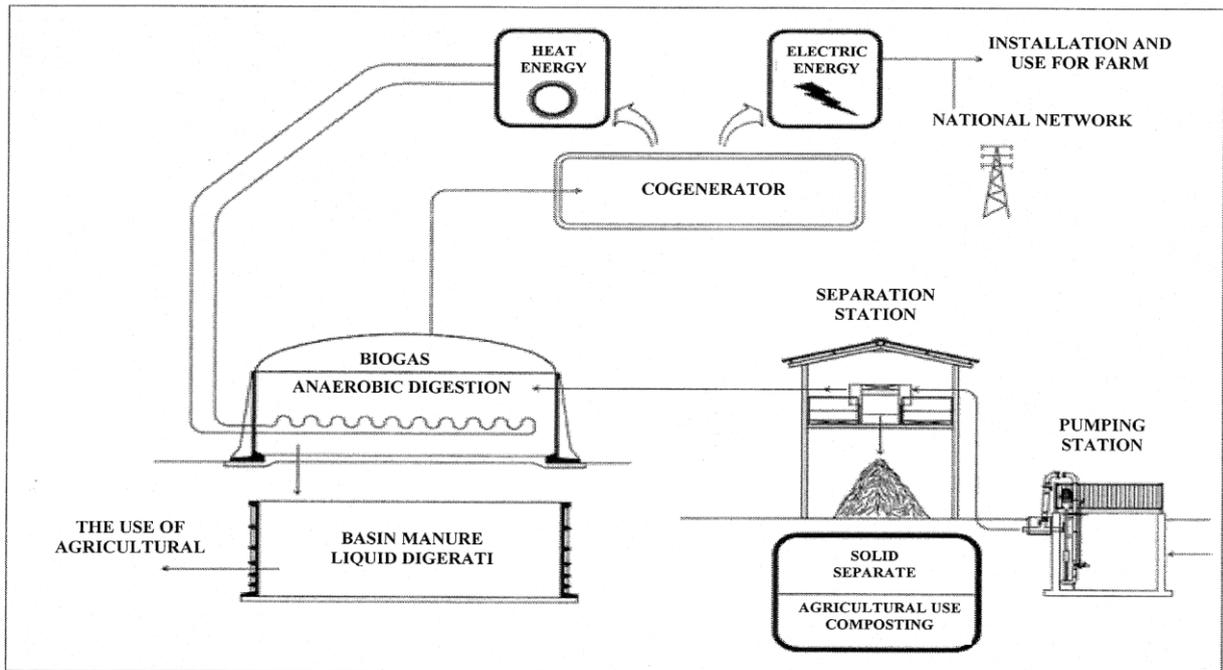


**Figure 2: Biogas plant**



Technological scheme of one of the three types of plant for industrial production of biogas can be used to treat livestock manure, sludge stabilization obtained in the flotation slurry agribusiness

Figure 2: Energy efficiency of biogas plants



Source: Rota Guido Italy

System	Fuel Installations Biogas	energy efficiency
Electricity generation	<b>1. Internal combustion engine</b> a. 200 kW, engine failure b. 10 MW, coupled with electric generator <b>2. Electricity production and use heat, that steam and hot water (from the combustion gases and engine cooling system)</b>	1. for <b>a. -25% and b. -38%</b>  2. <b>about 80 – 85%</b> (gas or steam turbines and boilers)
Fuel transport heavy or light vehicles	Technique - the biogas to eliminate carbon dioxide, hydrogen sulfide and water, and then compressed. (ditto with modified natural gas supply). The engine is modified constructive.	Economy 40 – 50%
Heat production	Equipment which uses propane or natural gas	Reported price increases of gaseous fuels
Cooling - Refrigeration	Dairy farms - milk cooling	Energy savings 15 – 30%
Space heating	Heating circuit for heating greenhouses	Carbon dioxide from burning biogas - contribute to the development of plant

Industrial production of biogas plant consists of:

- a) wastewater pumping station;
- b) gravitational settling;
- c) fattening of mud;
- d) sitting distribution of the sludge;
- e) anaerobic fermentation reactor equipped with a metal bell biogas.

SYNERGY CHANGE: 1 + 1 = 3

Biogas VEHICLES (1) + VEHICLES Biogas (1) = PROTECTION ENVIRONMENT (1)

- Waste Management;
- Clean Air;
- Clean water;
- Reduced consumption of fossil fuels;

## DOING BUSINESS (1)

- Demand - offer stable;
- Economy;
- New business profiles;
- New market;

## PROFILE PROGRESS (1)

- Demonstrate capability political leaders in environmental policy implementation;
- Improved quality of life;

Choosing the industrial biogas production facility which will be executed after the investment is made on the basis of rigorous and scientific calculations.

These calculations shall indicate the choice of those variables that have the greatest advantage, otherwise the investment will prove uneconomic.

In this idea, to achieve this investment objectives economic effort (manpower and employment last - material) lower than that proposed, is the realization of activities carried out effectively.

In essence, the economic efficiency of this investment should lead to the conclusion that the consumption of investment funds to obtain maximum results from economic to environmental problems end.

The helpful effects and costs resulting from that economic activity give general expression of economic efficiency.

In mathematical expression, the economic efficiency of such an investment is expressed as:

$$E_e = E_f / E_r \quad \text{maximum} - \text{that maximize the effects}$$

or

$$E_e = E_r / E_{ph} \quad \text{minimum} - \text{that minimization efforts}$$

where:  $E_f$  - economic effect;

$E_r$  - economic effort

Regarding investment, the number of project alternatives is limited, there is always a variant to be the best economic indicators, so there will be an optimal way, the most effective. In this case it is a relatively optimal.

In process optimization, energy efficiency is a specific purpose or maximizes results or minimizes effort and consumption of materials, labor and money.

An activity is said to be effective only when it exceeded the record losses and ends with an activity optimum.

The notion of optimum efficiency and are used in economic theory and practice and this is because the correlation between them there is a necessary interdependence ultimately not being able to confuse them, but neither can be considered separately from other.

Confusing the two concepts together is excluded by the very fact that the optimal steady state reflects what is in the economy, between the sides of interrelated social production, which actually results in a certain way of distribution of economic resources useful, in terms of labor saving social.

So, between the two concepts of optimal and efficient, there is a dependence indissoluble, that economic efficiency gains is real, concrete, and only when related to a certain structure of resources, the best possibilities for their use in size according to needs and economic optimum must undergo a particular purpose, resulted in an economic efficiency criterion.

In analyzing the economic efficiency of investments an important tool of investigation is the **economic indicator**.

Their role is to express the actual content of the various features of the economic phenomenon of investment activity, analyzed, ie the ratio of the sizes of these features, the correlation between them, their evolution over time, etc.

Economic indicators are designed to alert investors to the concrete conditions in which economic system works period, and their failure to take into account or ignoring information they supply can lead to inefficient operation of the system or even blocked.

Calculations and initial data processing, existing design documentation, obtain economic performance indicators.

Every economic indicator, expressing that is, refers to one or more features, which suggests that an economic phenomenon can be characterized by fewer or more indicators, according to its complexity, the aim pursued and not least of its properties.

In practice, to achieve an objective investment possibilities are real, and for each of these different means of achieving both the structure and volume, obviously with different results.

Any indicator of economic efficiency of investments will have clear contents and significance of economic, can be easily calculated and evaluated, and interpretation is given to be meaningful and meet investor or lender that finances project.

Any indicator of economic efficiency must be consistent with the objective of the project realization and can point out the advantages and disadvantages of project types each, to reflect and respond to investor's psychological traits, way of behavior in various conditions of uncertainty and risk .

When economic outcomes are equal project options, in the same production and environmental protection will evaluate the total investment costs initially and then the operation.

Classification of indicators of economic efficiency of investments:

1. Classification models expressed as:

a) mathematical model report form:

- economic effects reported to the appropriate efforts;
- economic efforts related to economic effects.

Such indicators are expressed as: efforts (costs) to obtain specific units of economic effects, effects (results) that are specific unit of the necessary costs involved for the project in the version given, rates of return and reverse their coefficients.

b) model the difference between income (revenues) and total costs (expenses) total, considered on time horizon equal to the length of making investments, plus the effective lifetime of capacity to be put into operation. Ratios obtained by using this model are the type of gain or net profit obtained by carrying out a specific project in mind.

c) model of investment and total cost of operation appropriate to the construction and operation of production facilities or services. With such indicators assessing capital commitment, consisting of initial investment costs and total operating costs.

d) structure model index, both for costs and for some economic effects. Such indicators are expressed as the share, specific weight or percentage.

2. Classification expressed in terms of capacity information, knowledge, evaluation of economic efficiency indicators of investment:

a) analytical indicators, which determine and analyze the details of the project, the costs and the different categories of resources;

b) synthetic indicators that are calculated on the sub;

c) complex indicators, whose determination is made on the whole investment project, viewed as a whole (system).

3. Classification expressed by way reflect or impact factor for the economy:

a) static indicators;

b) dynamic indicators, which are predominantly used in economic and financial analysis, taking into account the time factor action.

4. Classification expressed by way of substantiating the investment decision in:

a) physical indicators;

b) indicators of value.

*Natural indicators* characterize the main stages through which the investment objective to removal from office and groups: indicators of construction, operation indicators, productivity indicators, quality indicators, indicators of location (for example: location, lot size, building area, degree of occupancy, etc.), indicators of recovery of raw materials and the rules and norms of consumption, stocks of raw materials and semi-etc.

Best *value indicators* characterizing investment, they are used in the calculation of economic efficiency, for final decision and expressed: the amount of investment, production cost, profit, specific investment, investment recovery period, the coefficient of economic efficiency of investments, utilization of production capacity, compared to the value of fixed capital profit, turnover on the amount of fixed capital, quality standards related to production profile.

The investment (I) is a size for setting efficiency indicators derived. For investment amount to reflect costs incurred by the materialization fidelity objective case must include new investment objectives:

$$I = I_d + I_{col} + I_{con} + E_i + A_c + P_t - E_{pjf}$$

where:

$I_d$  is direct investment (buildings, machinery, land, design, etc.)

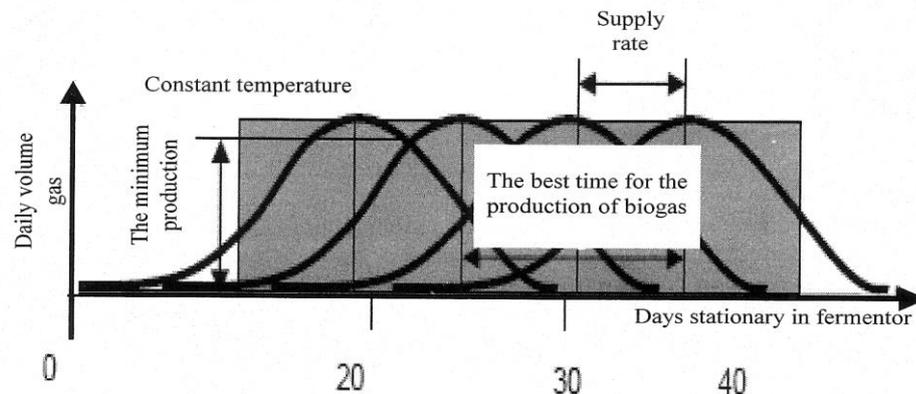
$I_{col}$	collateral investment (infrastructure);
$I_{con}$	related investment;
$E_i$	its economic effect of property investment funds during the execution of an investment objective;
$A_c$	action needs assets as the first feature;
$P_t$	loss of employment land: expropriation expenses, expenses for the release site (demolition, deforestation, water courses adjustments, etc.), expenses for land improvement in the use of the site for investment, relocation expenses objectives (for investment by is equal to zero), other expenses;
$E_{pif}$	epiphytic commissioning effect earlier modules (partial production capacity);

The achievement of the investment or investment objective of building period is characterized in that during this period of financial and material sources are important economic aside rare to produce anything up to commissioning of the objective.

Any operation earlier than planned or perform commissioning of production capacities in part, is a favorable investment project.

As a specific investment especially during the touch of design parameters is closely related to determining the rate of reaction according to the necessary minimum of biogas. In phase methanogenic bacteria acting methane, anaerobic, specialized in the production of methane, which characterizes the optimal period of biogas in the number of parking days in the fermented, as shown:

Figure 3



(Source: Bulletin AGIR - 1/2007)

### Conclusions

As stated above, during the recovery of investment and life cycle operating at a profit after recovery of uninvested funds and duration of decline, when expressed in output production cost is lower than the cost of production expressed could only be established by reference to actual operating conditions.

In this case, even the life of the target is an indicator still much publicized, both designer and investor, who wants to be as high as possible, whereas the effects of net profits will be higher, and increase the chances of further development, given the concrete conditions of exploitation technology that determines, after an operation, this time.

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**CONSIDERATIONS ON EUROPEAN UNION'S INTERNATIONAL COMPETITIVENESS**

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**Abstract:** *This article is dedicated to studying the EU27 relative level of competitiveness using a comparative analysis with its main competitors USA and Japan and also with China, the most emergent economy in the world. The first part of the article is dedicated to presenting the analysis and the methodology. In the second part of the paper we presented the results obtained. The competitiveness analysis is also graphically presented, based on the indexes published by the World Economic Forum in their annual reports. The conclusions are formulated on the basis of the comparative analysis and the evolution of the indexes used.*

**Key words:** international competitiveness, competitiveness comparative analysis, EU

**JEL classification:** F 23

## **1. Introduction**

Today, the competitiveness concept is referred to from a multi –level perspective: at international level, national level, industry level, company level, and the present research is conducted to analysing the regional dimension of competitiveness. The practical importance of this concept is revealed by the large number of international institutions that deal with researching the concept of competitiveness:

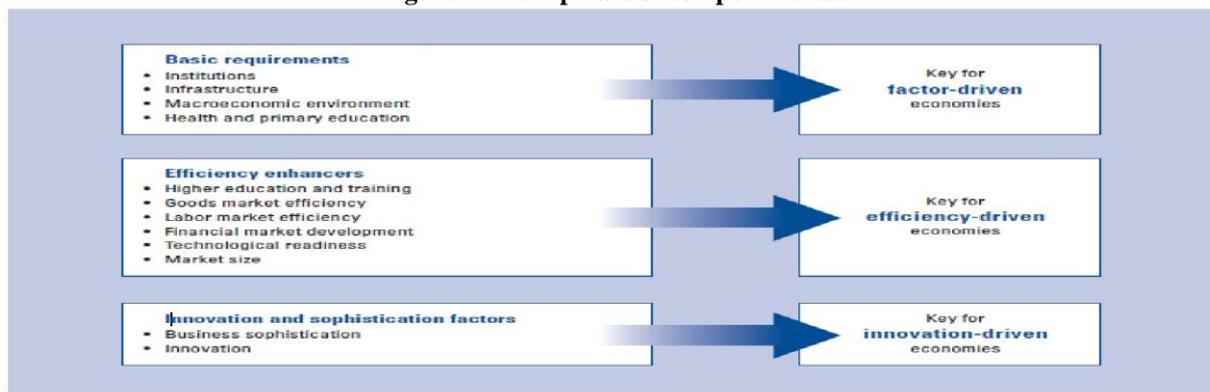
- International Institute for Management Development, World Competitiveness Yearbook;
- World Economic Forum, Global Competitiveness Report;
- World Bank, Doing Business, KAM;
- Organisation for Economic Co-operation and Development, New Economy Report;
- European Commission, European Competitiveness Report.

World Economic Forum (WEF) is a first class institution that deals with creating and analysing the policies and the economic outcomes at international level, publishing annual reports regarding the world economy status.

Since 2005, WEF developed its analyses regarding competitiveness on a group of political factors and the Global Competitiveness Index (GCI) [1]. This composite index was developed by Professor Xavier Sala – i – Martin and it's meant to quantify the national performances through including the complex aspects of the multidimensional phenomenon that it models [1]: the diversity and the large number of competitiveness factors and their evolution, the positive impact of some key factors (education and training) and the negative impact of some other factors.

The GCI evaluation starts from quantifying the determinant factors of competitiveness, that are grouped in 12 pillars [1], presented in Fig.1, where there are described the key directions of action for raising the competitiveness and separating the pillars on different directions.

Figure 1: WEF pillars of competitiveness



Source: WEF, The Global Competitiveness Report(GCR), 2010/2011

Every year, WEF publishes The Global Competitiveness Report (GCR), that presents the evaluation methodology of the Global Competitiveness Index and the results obtained for the countries that displayed the data needed for the calculations. The Global Competitiveness Report is a reference document at international level, with an increasing importance for the political and economic actors, that use it for identifying solutions for improving the national competitiveness.

Since 2005, the Global Competitiveness Report was developed under the aspect of it's context and under the accuracy of the input and output data [1, 2, 3, 4, 5].

This article is intended to study the UE27 level of competitiveness comparing it to the one of two other highly developed economies (USA and Japan) and to the one of the rising economy of China. The comparative analysis is based on the GCR index, determined according to the methodology described in the report [1,6], so the construction method is the following:

- The responses to the questions vary on a scale from 1 to 7;
- The variables used are standardized on a scale [0, 7] using the following linear formula  $6 * [(xi - xmin) / (xmax - xmin)] + 1$ , where:

$xi$  = the value of the competitiveness index for the country in question;

$xmax$  = the maximum value of the competitiveness index (for the country with the highest result);  $xmin$  = the minimum value of the index (for the country with the lowest result)

- $GCI (I) = \frac{1}{2} TI + \frac{1}{4} PII + \frac{1}{4} MEI$ ,
- $GCI (II) = \frac{1}{3} TI + \frac{1}{3} PII + \frac{1}{3} MEI$

where

- GCI = Growth Competitiveness Index for the countries from the first group (I) and the second

group (II)

- TI = technological index
- PII = public institutions index
- MEI = macro environment index

Each one of the three indexes cumulates in different proportions a series of specific sub-factors. For example,  $TI (I) = \frac{1}{2}$  innovation sub-index +  $\frac{1}{2}$  ITC sub-index (information technology and communication) and  $TI (II) = \frac{1}{8}$  innovation sub-index +  $\frac{3}{8}$  technology transfer sub-indexes +  $\frac{1}{2}$  ITC sub-index. We used the same method for the construction of the sub – indexes.

## 2. Results obtained

For the effectiveness of the comparative analysis based on the GCR indexes we used the information published in the last 5 GCR for the period: 2006/2007, 2007/2008, 2008/2009, 2009/2010, 2010/2011. The results of the calculations are presented in Table 1 for every country part of the analysis and at UE27 level in the mentioned period of time and for the different levels of calculation [7]:

- Global competitiveness index (GCI);
- The composite indexes based on the three categories of factors that influence the competitiveness (IAC);
- The index of competitiveness pillars (IPC).

**Table 1: Indexes for EU27, USA, Japan and China**

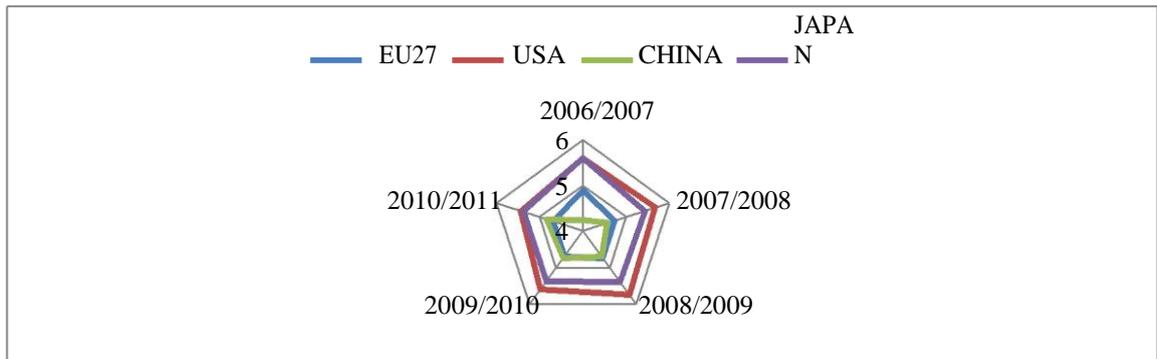
Year		2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	
Index level		[1]	[2]	[3]	[4]	[5]	
EU 27	GCI	4,89	4,74	4,74	4,69	4,69	
	IAC	1	5,24	5,18	5,20	5,09	5,20
		2	4,78	4,66	4,72	4,70	4,65
		3	4,53	4,41	4,38	4,34	4,30
	Pillars	1	5,73	4,95	4,76	4,68	4,63
		2	4,9	4,73	4,73	4,82	5,02
		3	4,74	5,18	5,24	4,87	4,51
		4	6,69	6,06	6,06	5,98	6,24
		5	5,08	4,97	4,96	4,94	5,08
		6	4,66	4,79	4,79	4,70	4,62
		7		4,43	4,51	4,46	4,54
		8		5,06	4,94	4,66	4,50
		9	4,64	4,49	4,76	4,95	4,88
10			4,21	4,34	4,38	4,21	
11	4,97	4,78	4,78	4,73	4,64		
12	4,08	4,04	3,98	3,96	3,96		
Year		2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	
Index level		[1]	[2]	[3]	[4]	[5]	
USA	GCI	5,61	5,67	5,74	5,59	5,43	
	IAC	1	5,41	5,41	5,50	5,23	5,21
		2	5,66	5,77	5,81	5,66	5,46
		3	5,75	5,68	5,80	5,71	5,53
	Pillars	1	4,84	4,76	4,93	4,81	4,67
		2	5,82	6,10	6,10	5,92	5,65
		3	4,37	4,78	4,99	4,31	4,39
		4	6,60	6,00	5,97	5,88	6,12
		5	5,82	5,68	5,67	5,57	5,64
		6	5,67	5,32	5,32	5,13	4,81
		7		5,71	5,79	5,76	5,63
		8		5,68	5,61	4,96	4,67
		9	5,49	5,43	5,57	5,61	5,10
10			6,83	6,91	6,93	6,93	
11	5,78	5,60	5,75	5,65	5,40		
12	5,72	5,77	5,84	5,77	5,65		

Year		2006/2007 [1]	2007/2008 [2]	2008/2009 [3]	2009/2010 [4]	2010/2011 [5]	
Index level							
<b>CHINA</b>	<b>GCI</b>	4,24	4,57	4,70	4,74	4,84	
	<b>IAC</b>	1	4,80	4,80	5,01	5,09	5,27
		2	3,66	4,26	4,41	4,56	4,63
		3	3,75	3,89	4,18	4,23	4,13
<b>Pillars</b>	1	3,51	3,71	4,18	4,39	4,37	
	2	3,54	3,97	4,22	4,31	4,44	
	3	5,72	6,03	5,95	5,93	6,11	
	4	6,44	5,49	5,71	5,72	6,16	
	5	3,68	3,77	4,05	4,09	4,24	
	6	4,22	4,26	4,48	4,47	4,40	
	7		4,40	4,49	4,74	4,70	
	8		3,35	3,64	4,05	4,28	
	9	3,07	3,00	3,19	3,38	3,44	
	10		6,80	6,58	6,63	6,71	
	11	4,05	4,18	4,50	4,54	4,34	
	12	3,44	3,60	3,87	3,93	3,92	
Year		2006/2007 [1]	2007/2008 [2]	2008/2009 [3]	2009/2010 [4]	2010/2011 [5]	
Index level							
<b>JAPAN</b>	<b>GCI</b>	5,60	5,43	5,38	5,37	5,37	
	<b>IAC</b>	1	5,53	5,41	5,36	5,27	5,35
		2	5,33	5,27	5,22	5,21	5,17
		3	6,02	5,70	5,65	5,70	5,72
	<b>Pillars</b>	1	4,97	5,06	4,99	4,90	5,08
		2	6,11	5,98	5,80	5,83	5,69
		3	4,05	4,45	4,53	4,22	4,12
		4	6,98	6,14	6,11	6,13	6,52
		5	5,54	5,21	5,08	5,06	5,28
		6	5,23	5,22	5,13	5,06	5,06
		7		5,11	5,09	5,10	5,08
		8		4,94	4,75	4,65	4,61
		9	5,21	5,06	5,11	5,23	4,87
		10		6,08	6,15	6,17	6,11
11		6,14	5,76	5,78	5,89	5,92	
12	5,90	5,64	5,52	5,51	5,52		

Source: Own calculations based on data available in The Global Competitiveness Report (2006/2007, 2007/2008, 2008/2009, 2009/2010, 2010/2011).

For presenting a visual comparison between EU27 and the other three countries analysed, we used the graphic presentation of the evolution of GCI (Fig. 2) for each of the states involved, in the above mentioned period of time [7].

**Figure 2: GCI evolution for the period analysed**

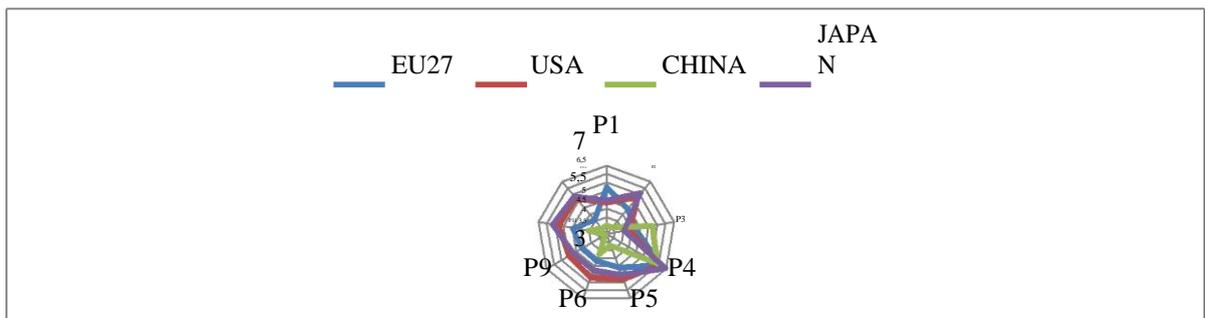


Source: Own calculations based on data available in The Global Competitiveness Report (2006/2007, 2007/2008, 2008/2009, 2009/2010, 2010/2011).

The discrepancy between EU27 and USA and Japan can be easily noted over the period of time analysed. Reported to China, it can be noted that over three periods of time (2006/2007, 2007/2008, 2008/2009), EU27 occupies a more favorable position, but over the last two periods EU27 loses its advance. From this point of view, we can say that the EU27 is facing a sensitive and not comfortable situation and we should monitor the Union's evolution and we should strongly analyse the IAC and IPC.

For a more complex analysis of EU27 level of competitiveness and also for identifying the affected sectors we will present the graphic comparisons (Figures 3, 4, 5, 6 and 7) between EU27 and USA, Japan and China, based on the IPC values that form the global index.

**Figure 3 : IPC values for 2006/2007**

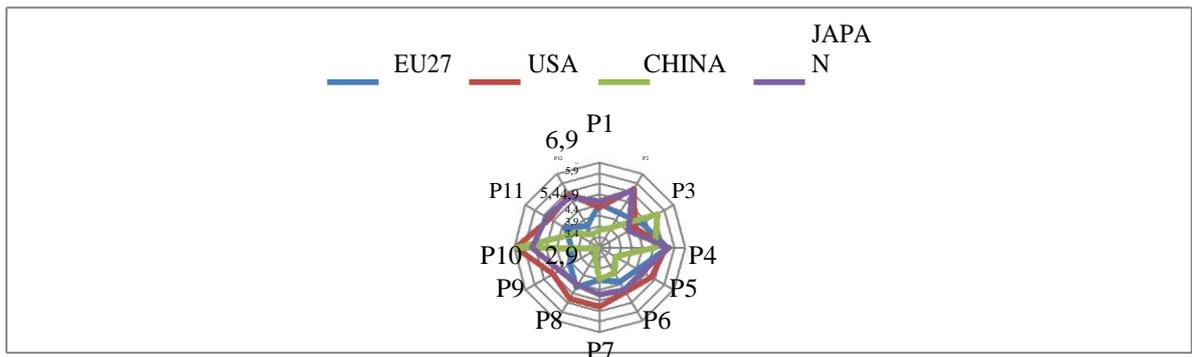


Source: own calculation based on the data available in The Global Competitiveness Report 2006/2007

Analysing Figure 3, we can draw the following conclusions:

- EU27 is ahead of the other three states analysed only regarding the first pillar;
- Reported to China, EU had a strong advance with respect to the pillars 1, 2, 5, 6, 9, 11, 12;
- A strong difference can be noted between USA and Japan on a side and the EU27 on the other side with respect to 9 pillars, except 1, 3 and 4, the two manifesting a strong advance compared with the EU27.
- China occupies the last position in the mentioned period of time with respect with the third pillar – macro environment stability and with reference to pillars 1, 2, 5, 6, 9, 11, 12 also.

**Figure 4 : IPC values for 2007/2008**

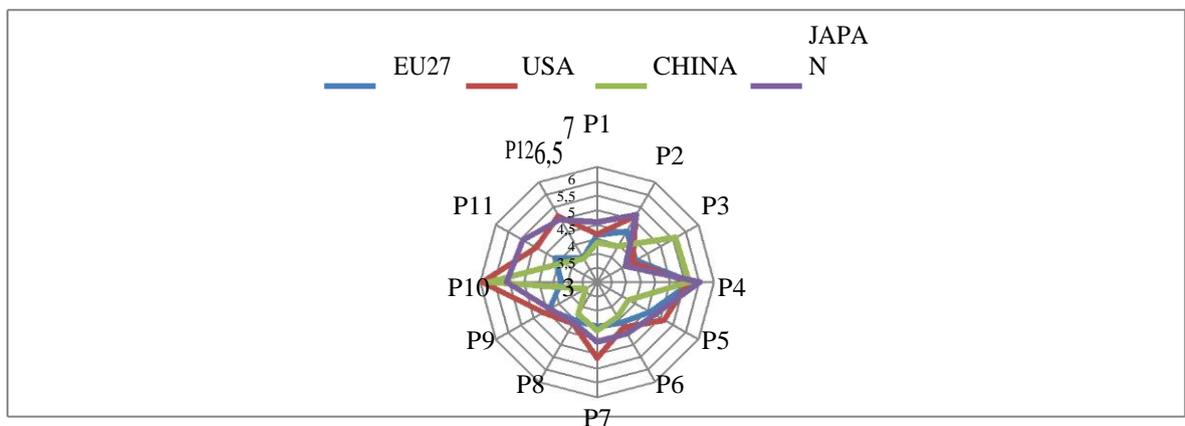


Source: own calculations based on the data available in The Global Competitiveness Report 2007/2008

The conclusions that can be drawn from Figure 4 are the following:

- In 2007/2008 period of time it can be noted that the EU27 no longer occupies the first position for any pillar in the competition with USA and Japan;
- Reported to China, EU27 is ahead with respect to ten pillars.
- A close up with USA and Japan can be noted;
- Moreover, with respect to pillar 10 – Market dimension, a strong difference can be noted.

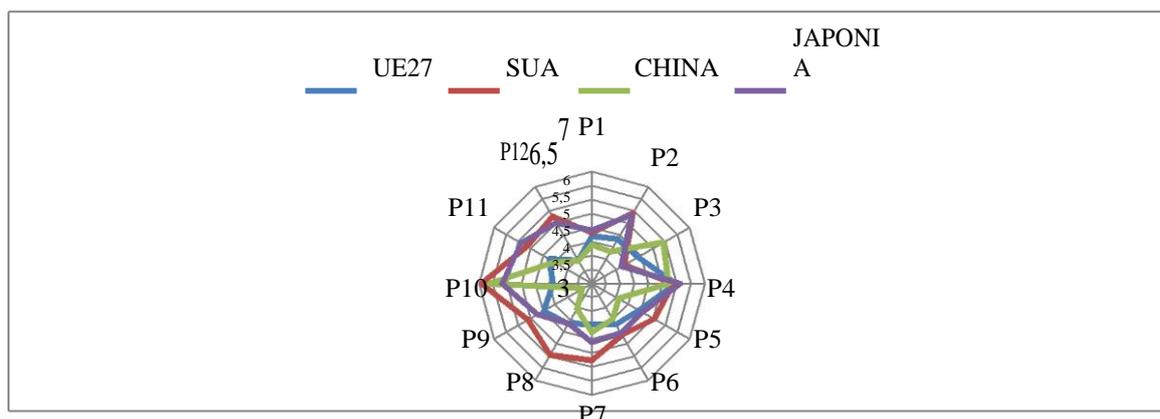
**Figura 5 : IPC values for 2008/2009**



Source: own calculations based on the data available in The Global Competitiveness Report 2008/2009

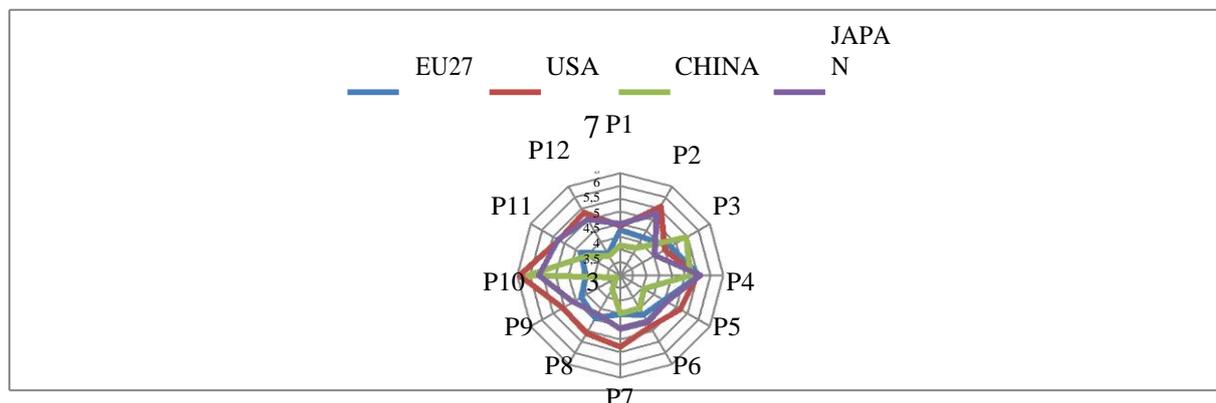
With reference to the IPC values for 2008/2009 presented in Figure 5, we can state the following :

- EU27 registered a regress compared to China, but it registered a progress compared to USA and Japan.
- EU27 maintained it's competitive advantage to China, with reference to most of the competitiveness pillars that form the GCI, except pillars 3, 7, 10.
- EU27 has a competitive advance to USA and Japan, only regarding pilla4 and regarding pillar 4 in comparison to USA.

**Figure 6 : IPC for 2009/2010**

Source: own calculations based on the data available in The Global Competitiveness Report 2009/2010

The IPC values for 2009/2010 period place EU27 on the same position with respect to its competitors as in 2008/2009 period, so no important difference could be noted.

**Figure 7 : IPC value for 2010/2011**

Source: own calculations based on the data available in The Global Competitiveness Report 2010/2011

Due to little improvement of the situation of the countries analyzed during the last three periods of time, we can draw the same conclusions:

- EU27 loses the first position every time in the last three periods, in favour of at least one of its competitors, with respect to all pillars;
- USA and Japan remain still on their positions, even if the pillars differ;
- Regarding level 3 – Macro environment stability, EU27 is ahead of Japan and USA;
- With respect to pillar 4 – Health and primary education, EU27 is ahead of China and USA;
- It can also be noted that during the period [3, 5] it can be seen a slight reduction of IPC;
- China registers a constant progress regarding most of the pillars analysed, in the conditions of IPC contraction;
- USA and Japan, even if they register several positive and negative oscillations, their IPC values are rather constant, the two countries maintain their level of competitiveness;
- Regarding the tendencies registered in the periods analysed, it can be noted that the number of competitors faced by the EU27 is raising, one of the strongest being China itself.

### 3. Conclusions

The conducted analysis with reference to EU27 level of competitiveness compared to its main competitors (USA, China and Japan), based on the three categories of indicators (GCI, IAC and IPC) evaluated in the conditions and with respect to GCR, in the period [2006/2007 – 2010/2011] leads us to the following conclusion: EU is starting to face certain problems in maintaining its

competitiveness compared to its main competitors.

Even though in some situations EU27 is ahead of USA and Japan (pillar 3) for the entire period of time, ahead of USA and China with respect to pillar 4 and also ahead of China with respect to pillars 1, 2, 5, 6, 8, 9, the EU27 general trend is decreasing.

The most worrying problem is the strong difference between EU27 and its main competitors USA and Japan, and also China's constant progress regarding its competitiveness.

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# POISONOUS ECONOMIC CONSEQUENCES FOR URBAN AREAS IN ROMANIA

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**Abstract:** *Living in an urban area today, supposed to accept beside benefits also a dose of pollution it is known that the incidence of many diseases in urban areas is at least double that of rural area. In addition to already existing population in the urban area, we can observe that cities continue to attract other people especially on economic grounds: better paid jobs in an ever-expanding industry and increasingly complex trading system, which to develop also needs labor. In this paper we study the extent of Romania's urban population is affected by economic activities.*

**Key words:** sustainable development, illness population, pollution

**JEL classification:** I 15, A 11, O 18, O 44

## 1. Introduction

Every city must fulfill six functions: residential, cultural, administrative and service, environmental communication, strategic recreation and aesthetic. To ensure these functions must be provided numerous materials and energy flows in both directions. For example, for each inhabitant, must be provided daily about 2 kg of food, 600 liters of water and 12 kg of fuel. From their use but not only, results different waste, both solid and liquid or gaseous from household activities, traffic, from production that needs to be removed to other media. Their direct and indirect action, in future will produce disturbances in ecosystems, changes, complex transformations. For several years, mankind takes problems for: reducing industrial pollution, new means of transport, energy savings, providing sanitation, recycling of materials, household and industrial waste. Recent international actions aimed at ensuring sustainable development on Earth, without hindering the progress of humanity.

## 2. Sections

We believe it is import to remember that air it's essential to life. This is the most important element human body needs. We can live more days without water and weeks without food, but we cannot leave more than a few minutes without air. The most important component of air is oxygen. Oxygen is a must for „burning” foods with the purpose of producing energy

a). The smog. In urban areas, are registered records of very high pollution mainly due to vehicles (which in those areas are in a high number) but also due to development of industries. This kind of pollution is called smog and is composed of mixture of carbon monoxide and organic compound resulting from incomplete combustion of fossil fuel such as coal and sulfur dioxide from impurities in the fuel. In contact with oxygen these organic and sulfur acids condense in the form of drop, intensifying the fog.

As first consequences of this phenomenon, quality of air started to drop mainly in big cities but not only, due to the fact that pollution has no boundaries. First, reduction of air quality was observed in Los Angeles around the 30's, when it was detected other type of smog, the photochemical one, caused by the vehicles and airplanes engines, that released into the atmosphere “unburned” hydrocarbon fuels.

b) Acid rains. Most of the pollutants are washed by rain, snow or fog (these pollutants are not always produced were they are washed, they could be brought even on different continents) and by this takes place the combination between pollutants and rain, and what results is a acid rain. This falls over lakes, forests, causing fish and animal death, death of entire ecosystem so also humans. Not just human health is affected but also goods created by them: for example the historical statues, building facades and paint on cars, etc. (the most affected are building facades in Rome, Athens and London, because of the wind blowing from highly industrialized areas).

c) Global warming. Another consequence of pollution is global warming which represent an increase of Earth temperature. This phenomenon started to appear on 20th century, when due to the intense use of fossil fuels, concentration of carbon dioxide in the atmosphere rises dramatically, phenomenon which continues to existed also in our days.

CO<sub>2</sub> emissions from energy are one of the most debated issues in the various conferences conducted on the subject. One of their goals was keeping global warming below 2 degrees Celsius (2 ° C) until 2035. Currently, respecting existing commitments signed by various countries, the amount of CO<sub>2</sub> released into the atmosphere worldwide is 13.7 billion tons, which exceeds the 60% level required to maintain a fixed global temperature increase below 2 ° C until 2035. This is exemplified in the graph below. (Climate & Electricity Annual. Data and Analyses, 2011)

d) Greenhouse gases. Mainly carbon dioxide and other gases are known as greenhouse gases because thin ozone layer serves to block solar radiation. Thus, air pollution affects the upper atmosphere, so-called stratospheric ozone, breaking down and creating a hole (eg the Antarctic is one that takes several weeks each year).

e) Dust. Strong Industrialization and continuous pursuit of economic growth has triggered frightening increasingly of ecological phenomena. For example, China's cities injected into the atmosphere a huge cloud of dust and oil moving up to 1700 km. above the Pacific Ocean.

f) Ozone and ultraviolet radiation. The ozone layer is particularly important for maintaining life on Earth because it absorbs ultraviolet radiation type B transmitted by the sun, thereby protecting biological organisms from the harmful effects thereof. A long-term exposure to ultraviolet radiation leads to suppression of the immune system of living organisms, disruption of the protein DNA and decreases the production of terrestrial and marine biomass.

Observations from ground and from satellites showed decreased density of the ozone layer with a drainage area that appears over Antarctica in September and October. This phenomenon became known as the "ozone hole".

Global observations and measurements show a steady decrease of ozone. Values of 1993 were 4.3% lower than the average of the 1980s and the trend remains negative. (Tricia Carmen, 2010)

Persistence of ozone-depleting substances in the atmosphere leads to the conclusion that the effects will be felt at least a decade from applying the halt and control measures for emissions of these substances

Now, climate change is not something unknown for new individuals. About 18,000 years ago, Earth began to experience several ice ages. For example, between 1430-1850 the earth experienced a little ice age, so keep in mind, that throughout history it has gone through several changes. These were the reasons behind the many theories that argue that climate change is a natural thing, a new change Earth is going through. However, the last century has brought a greater change than the one might result from natural causes. In a publication released in 1896, Swedish chemist Svante Arrhenius noted that "our mining resources vaporized into the air. Earth's climate is warming proportional to coal because it has a higher level of CO<sub>2</sub> in the atmosphere. ". (Mauro Graziani, Paolo Fornasiero, 2007)

The table below has made a comparison of carbon dioxide, methane, ozone layer the size of existing and pre-industrial level reached by these substances in 2008

**Table 1 : History in relation to current levels of atmospheric greenhouse gas**

	Before Industrial revolution	Actual level	Warming potential CO <sub>2</sub> = 1	Lifetime in the Atmosphere
<b>Carbon Dioxide (CO<sub>2</sub>)</b>	280 ppm	387 ppm	1	~ 100 years
<b>Metan (CH<sub>4</sub>)</b>	700 ppmi	1791 ppmi	25	12 years
<b>Azot oxide (N<sub>2</sub>O)</b>	270 ppmi	321 ppmi	300	114 years
<b>Ozon (O<sub>3</sub>)</b>	25 ppmi	31 ppmi	-	hundred days
Gases below are examples of greenhouse gases in trace amounts				
<b>CFC – 12</b>	Zero	539 ppt	10.900	100 years
<b>Halon 1211</b>	Zero	4,39 ppt	1890	16 years
<b>Sulfur hexafluoride (SF<sub>6</sub>)</b>	Zero	6,2 ppt	22.800	3200 years
Note: Parts per billion (ppmi) is a concentration one thousand times smaller than concentration per million (ppm). Parts per trillion (ppt) concentrations are a million times smaller than ppm.				

Source: Marquita K. Hill, *Understanding Environmental Pollution*, Third Edition, Cambridge University Press, 2010, pg. 188

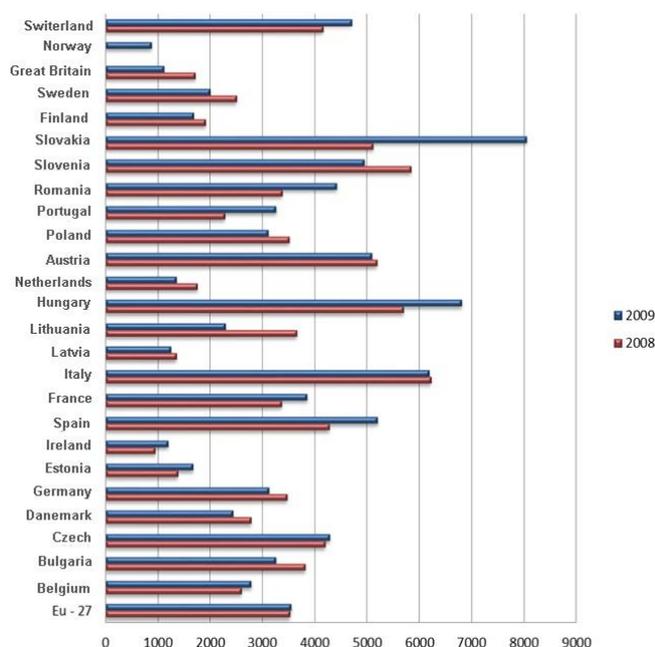
We can see that the carbon dioxide emitted into the atmosphere increased by nearly 73% in 2008 to pre-industrial period. In terms of methane from the atmosphere, in 2008 he recorded values 256%

higher than pre-industrial period.

A 1% decrease in stratospheric ozone concentration leads to an increase of 1% to 2% type B ultraviolet radiation reaching the earth's surface. Ultraviolet radiation is responsible for a variety of impacts on human health and environment. It is estimated a growth of \$ 7-8 billion per year, between 1998-2030, on medical and non-medical costs, caused by the impact of ultraviolet radiation on the health of the population. Impact effects are multiple and severe skin burns, chronic changes in epidermal structure likely carcinogen, impaired immune system and a number of chronic diseases of the eye. High levels of ultraviolet radiation will reduce the areas of culture and anticipates a significant reduction of phytoplankton in marine ecosystems, which would affect terrestrial and marine food sources. (Tricia Carmen, 2010)

We know that most people living in urban areas mainly because of migration to industrialized areas, which generated new jobs. As expected, the greatest degree of pollution could be found in urban areas. Next we will consider what level of urban pollution among European countries.

**Figure 1: Urban population exposure to air pollution by ozone in 2008 and 2009**



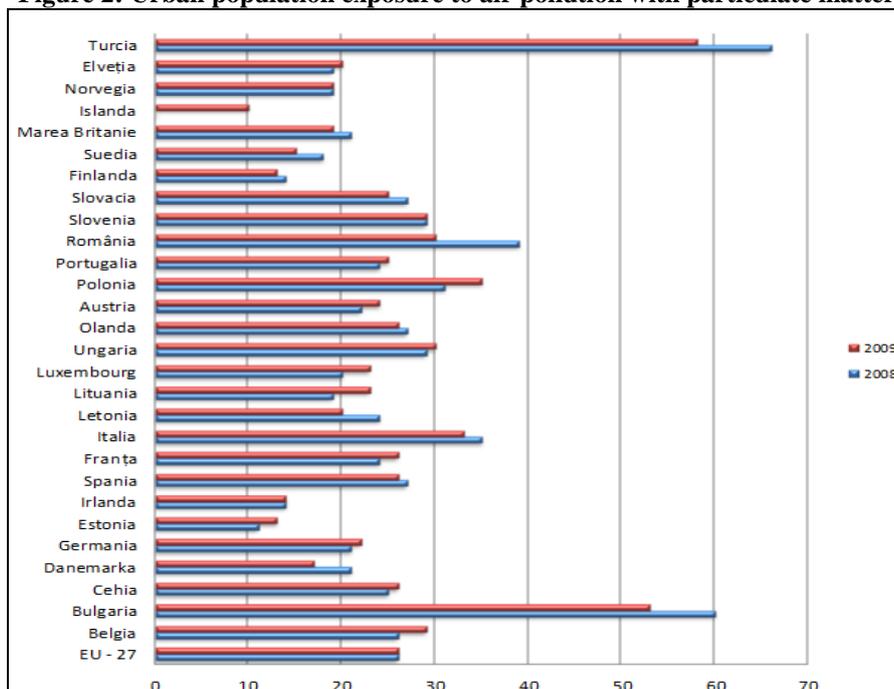
Source: <http://epp.eurostat.ec.europa.eu/tgm/graph.do?tab=graph&plugin=1&pcode=tsien100&language=en&toolbox=type>, acceset at 21.10.2011

The indicator shows the population weighted yearly sum of maximum daily 8-hour mean ozone concentrations above a threshold (70 microgram Ozone per m<sup>3</sup>) at the urban background stations in agglomerations. Ozone is a strong photochemical oxidant, which causes serious health problems and damage to the ecosystem, agricultural crops and materials. Human exposure to elevated ozone concentrations can give rise to inflammatory responses and decreases in lung function. In 1996, the Environment Council adopted Framework Directive 96/62/EC on ambient air quality assessment and management. The third Daughter Directive (2002/3/EC) relating to ozone was adopted on 12 February 2002 with a long-term objective of 120 microgram Ozone per m<sup>3</sup> as a maximum daily 8-hour mean within a calendar year. The annual reporting must follow the Commission Decision 2004/224/CE of 20 February 2004 laying down arrangements for the submission of information under Council Directive 96/62/EC in relation to limit values for certain pollutants in ambient air.

We can see that even though we expected that the most polluted cities to be in high industrialized countries, the reality has shown that it is not, at least in terms of ozone pollution. Of the countries surveyed, the highest level of urban pollution is in Slovakia, a country that is currently under development. Regarding the situation in Romania, the records show a higher level of urban pollution than industrialized countries such as Germany, France, England, Norway, etc.. In addition to air pollution by ozone we also can find the air pollution with suspended dust. Again, most polluted urban areas are in developing countries and not in those who developed an heavily industry

addicted on energy. Most polluted countries on powder suspension are Bulgaria and Turkey, Romania being, at least in 2008, on the top five European countries most polluting, because in 2009, due to the strong global economic crisis Romania reduces this level .

**Figure 2: Urban population exposure to air pollution with particulate matter**



Source: <http://epp.eurostat.ec.europa.eu/tgm/graph.do?tab=graph&plugin=1&pcode=tsien110&language=en&toolbox=type>

The indicator shows the population weighted annual mean concentration of particulate matter at urban background stations in agglomerations. Fine particulates (PM10), i.e. particulates whose diameter is less than 10 micrometers, can be carried deep into the lungs where they can cause inflammation and a worsening of the condition of people with heart and lung diseases. In 1996, the Environment Council adopted Framework Directive 96/62/EC on ambient air quality assessment and management. The first Daughter Directive (1999/30/EC) relating to limit values for PM10 and other pollutants in ambient air fixed an annual limit value of 40 microgram of PM10 per m3. Annual reporting must follow Commission Decision 2004/224/EC of 20 February 2004 laying down arrangements for the submission of information under Council Directive 96/62/EC in relation to limit values for certain pollutants in ambient air.

In the following we perform a comparative analysis between the numbers of illnesses that sickness rate in Bihor county to the capital

**Table 2: Comparative analysis between the numbers of illnesses and disease rate in Bihor County and Bucharest City**

	Bihor		Bucharest		Differences	
	2008	2009	2008	2009	Differences 2008	Differences 2009
Pneumonia morbidity	13797	14771	27143	26223	↑50,83% Buc	↑56,32% Buc
Bronchitis morbidity	33261	37332	37806	38460	↑12,03% Buc	↑2,94% Buc
Asthma morbidity J45, J46	254	279	840	930	↑69,77% Buc	↑70% Buc
Trachea tumors morbidity C33, C34	58	59	165	366	↑64,85% Buc	↑83,88% Buc

	Bihor		Bucharest		Differences	
	2008	2009	2008	2009	Differences 2008	Differences 2009

Malignant neoplasms of respiratory system morbidity C30, C39	74	76	14	26	↑81,04% Bh	↑65,79% Bh
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Source: Tabel made by the authors based on informations provided by the Department of Bihor Public Health, available on-line on [http://www.aspbihor.ro/Despre%20noi/Raport\\_activitate\\_D.S.P.%20Bihor%202010.pdf](http://www.aspbihor.ro/Despre%20noi/Raport_activitate_D.S.P.%20Bihor%202010.pdf) accessed on 16.06.2010 and department of Public Health Bucharest, on-line site <http://www.dspb.ro/informatiipublice/20110519-raport-activitate-2010.pdf> accessed on 16.06.2010.

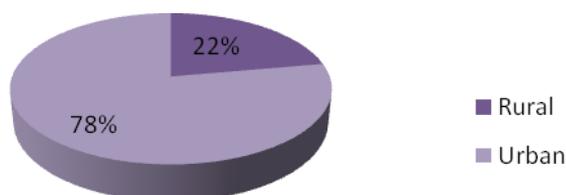
From the tables above is intended to highlight the number of children suffering from asthma. Thus, in 2009 in Bucharest, the number of patients increased from 840 to 930, representing an increase of 10.71% over the previous year. If Bihor county, the number of those affected by this disease was changing from 254 in 2008 to 279 in 2009, representing an increase of 10.06%. The difference between the two regions is relatively significant, almost one percentage point

Theories most frequently encountered in the literature are those that argue the economic progress is the one who maintain the increase in life expectancy. But, they do not claim this life expectancy does not coincide with the quality of life, welfare because reality shows ( talking about Romania) the number of people suffering from various diseases mainly caused by pollution is a growing and moreover, the increase ranging between 50% and 300%.

Asthma is one of the most common diseases, being considered a barometer on the level of pollution in the world. It is a chronic lung disease presenting with breathing difficulties due to airways inflammation. When irritated, the airways muscles walls are getting narrowed, causing a respiratory failure. During an asthma attack, airway cells secrete more mucus than normal, blocking them; they inflame causing the airways to swell and the muscles around them to contract. People with asthma exacerbations suffered the most during the night but not only, being limited to certain activities or causing them some deviation from the family routine.

We know that asthma is an incurable disease, but some drugs designed to control the disease, drugs such as steroids powder inhaler or tablets to help prevent or improve attacks.

**Figure 3: Comparative analysis of the number of people suffering from asthma in urban and rural areas in Bihor county**



Source : Graphic made by author based on information provided Peumofiziologie Hospital of Oradea Bihor county in 2011

Today is very hard to prevent pollution, especially if you live in an urban area but we can protect ourselves by avoiding certain activities that may increase the risk of disease. In Romania there are two million patients diagnosed with asthma and chronic bronchitis, and the count does not stop here, many cases remain undiagnosed.

In Bucharest, the dust particles in the air exceeds 40% limit established at European level. Bulgaria is the only EU country where the pollution of suspended particles is higher than in Romania. (Spectral Company, High quality air puffier)

In recent years, the particles in the atmosphere has increased to 55 micrograms per cubic meter, while the average in other European countries is 30 micrograms per cubic meter, and the limit imposed by European legislation is 40 micrograms per meter cube

### 3. Conclusions

We can see that it proves what the literature claims, namely that the impact on human health developed urban areas has a negative influence stronger than in less developed areas. According to the report of activity for 2010 Ministry of Health, only hospitalization of children with asthma, State spent an amount of 896,582.92 Ron in 2010. But this sum is the total expenditure which the Romanian state has with sick children, because it subsidizes treatment which increases government spending even further. (Activity Report for 2010, the Romanian Government, Ministry of Health) Consider as a first step to reduce pollution levels would be to encourage research, development and experimentation. As can be seen from the graphs shown, countries that have researched and implemented new production technologies to provide the necessary, if we refer only to supply our electricity and heat were able to reduce the amount of greenhouse gas significant (see Germany). I saw that over time, creating new rules and standards to ensure economic and social security of individuals and strongly believe that in future they will have an important role in development that will follow. All statistical reality today and make us believe that under the impact of market law, once the demand for sustainable products and services is a growing demand will not occur intarsia

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#### THE DIMENSIONS OF SUSTAINABLE TOURISM WITHIN THE URBAN ECONOMY. CASE STUDY: CÂMPINA CITY

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**Abstract:** *The contemporary society acknowledged that tourism is one of the most active domains from the economical sphere, showing a rising trend. In the same time, it is a well known fact that Romania has a great touristic potential. The development of tourism imposes different types of resources, financial as well as human, in order to achieve certain operations and improvements. Nevertheless, mutations of the development of tourism are determined by the current global conditions. Within an economy, tourism stimulates the development of other areas such as agriculture, transport, commerce, depicted through the hotel activity itself, appropriate feeding, souvenirs or handicrafts.*

**Key words:** sustainable development, sustainable tourism, Prahova Valley, Campina City

**JEL classification:** L 83

## 1. Introduction

From its very beginning, cultural tourism experienced a continuous ascension. At the end of the last century, World Tourism Organization predicted increases in what concerns cultural tourism and classic tourism in general (WTO *Tourism Market Trends*, 2002). Consequently, an association between urban tourism and cultural tourism became more viable as a result of historical attractions and monuments, most objectives being situated in towns (Richards, 1999).

Thus, the improvement in the standard of living and its direct effects on the economy are due to competitive investments headed towards cultural equipments and the necessary accommodation infrastructure of these urban areas. Above all, there are a lot of factors that make up the value of a town and, thus, the urban cultural centre: accessibility level (a nearby airport, train station, motorway), fiscal climate (what taxes are compulsory in that very place), human capital (the human resources needed in the tourism field) and, last but not least, stability (the seasonality of cultural events and their alternation during the whole year). These arguments frame the competitiveness of that city within the global economy (Van den Berg et al., 1995).

Of course, an organization of cultural resources from the urban centre is needed in relation to infrastructure. We can remind here hotels, several means of transport and commercial areas which seem to be of peculiar interest to tourists.

It should also be noted that for a touristic town its physical characteristics (layout, climate, connections to other resorts and the main tourist objectives) and its cultural heritage (museums, monuments, churches, including here all the events, exhibitions, institutions and infrastructure – art galleries, libraries, recreational facilities and art trade) are extremely important (De Brabander and Gijbsbrechts, 1992).

## 2. Câmpina – an old city, a potential resort in the near future

Alexandru Vlahuță, a Romanian writer, described Câmpina in “Picturesque Romania” as a very quiet town, lying at the bottom of the mountains, on an uncovered hill, rich in oil springs (Cratochvil, 1990).

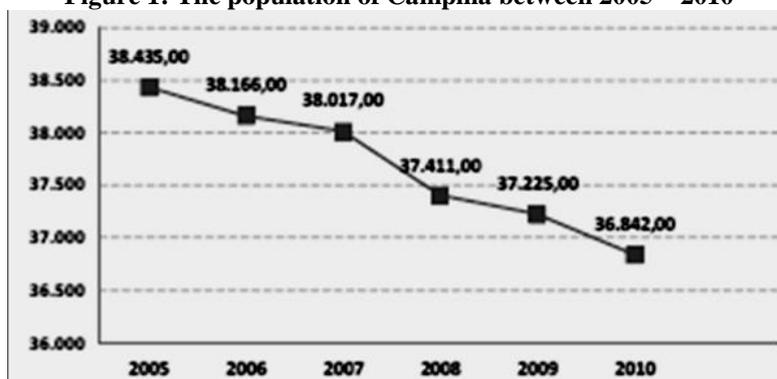
The first official description of Câmpina was in 1503 when it became a customs point towards Transylvania in 1593. The year of 1663 was the moment when Câmpina became a fair. The road in Prahova Valley was built for the first time by the Austrian troops in 1791. In 1864 Câmpina was declared a city and then, in 1890, the first scaffold oil in the country was constructed. “The new factory” was built in 1895, at that time being the largest from the entire Europe. Throughout the ages, the city held several records and received numerous appreciations in the oil field, including the first technical drilling school in the world, “The Griffins house” from 1904. The year 1994 marked a new ascent for Câmpina, receiving a higher rank, that one of municipality.

Taking into consideration its size, Câmpina is the second city from Prahova County, after Ploiești which is the residence city. According to statistics, at 1st of July 2010, the population of Câmpina was

estimated at approximately 36.842 people, thus representing 4.53% from the total population of Prahova County and 1.13% from the total population of the South-Muntenia Region.

Within its territory delimited by the law the administration and organization of the town is being exerted. A slight decrease of the population can be observed over the last years, the chart below highlighting this situation:

**Figure 1: The population of Câmpina between 2005 – 2010**

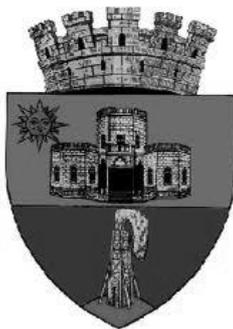


Source: INS; TEMPO Database; The local development strategy of Câmpina City

From an administrative point of view, the municipality of Câmpina is a distinct territorial unity, being composed of one single location – Câmpina. The city has a high level of accessibility, getting access to the E60 European Road (Bucharest-Ploiești-Brașov) and being situated at 92 km from Bucharest and 70 km from Brașov. In the same time, Câmpina is placed on the 300 main railway corridor – Bucharest – Brașov – Oradea, having thus a direct connection with Western Europe. The distance towards Henry Coandă International Airport, which is situated in Otopeni, is about 80 km.

The climate is recognized as being an extremely favourable one, the city being protected from the cold winds coming from the North-East and having a large number of sunny days per year. In addition, during winter, foehn winds can be experienced, and so, from December to January, temperatures become one of the highest in the country. The emblem of the city is of particular importance to the citizens, as can be seen in the picture below:

**Figure 2: The emblem of Câmpina City**



Source: Wikipedia, 2010

Some aspects need to be mentioned when referring to the emblem of the city and its meaning:

- The derrick oil from the bottom – the town is a pilot in the oil production;
- The stone castle from the middle – it represents the castle dedicated to Iulia Hașdeu by her father, the scientist and writer Bogdan Petriceicu Hașdeu.
- The sun from above – expressing the idea that it is the sunniest city in the country, according to several specialist opinions.

In 2010, the green areas of Câmpina recorded approximately 37 square meters per capita, pointing out a value that exceeds the national average and even the European regulations that state a compulsory area of 26 square meters per inhabitant. During 2005 and 2010, an increase was registered (from 15.35 square meters per inhabitant in 2005).

### 3. Tourism of Câmpina City

City's main tourism activity can be expressed through the promotion of several museums and cultural events. From afar, the Iulia Hașdeu Castle, the creation of Bogdan Petriceicu Hașdeu, is the one highlighted, the location being built in his daughter's memory (also called "The Magician Castle from Câmpina"). The castle, as well as Iulia's grave situated in Bellu Cemetery from Bucharest, was built following Iulia's instructions received during the spiritualism sessions organized by Bogdan Hașdeu, the father.

With a strong signification, The Nicolae Grigorescu Museum presents the house where the famous Romanian painter lived.

Following a Baroque style, the Catholic Church "Saint Anton from Padova" distinguishes itself from the other buildings, having more than 106 years old. Dating back from 1833, the Orthodox Church built by Saint Calinic is also an enjoyable place to visit.

"The House with griffins", currently the City Hall, was built between 1901 and 1902 and it was the first building to use electrical power in Câmpina. In 1904, it became the first drilling school in the world.

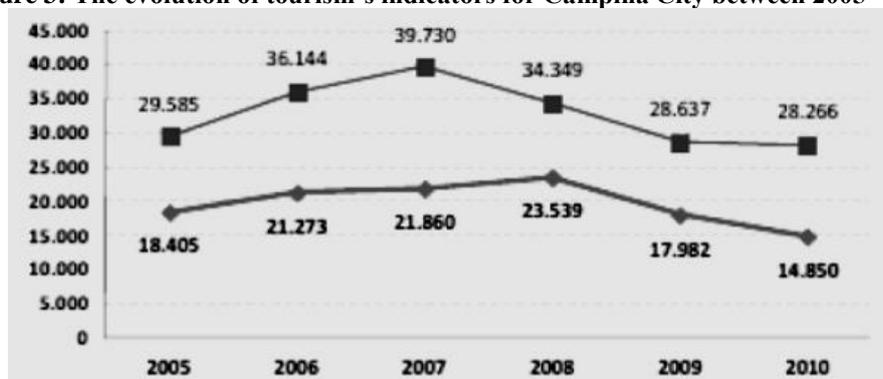
Benefitting from its position, at the bottom of the mountains, the city has an old tradition of being visited by important persons, which brought along the appellation of "the summer garden of Bucharest". Consequently, plenty of areas can be seen in Câmpina's surroundings. "The fountain of cherry trees", the forest called "Voila" and Șotrile village represent other destinations ready to receive their visitors.

Another route could refer to the Doftana Valley, less known in the past, even though Teșila was the second customs point towards Transylvania. Nowadays, the scenic area and the various fairs where traditional Romanian products can be bought (like cheese, honey, sausages etc) attract more and more tourists. Telega, another place near to Câmpina, is known for its benefits due to the salt baths that can be found here. Brebu community is placed as Câmpina, on an interhill platform. Here, tourists can visit the residence of Matei Basarab, a Romanian leader, and a lake too, situated next to a coniferous forest. This lake was formed after the gypsum and salt layers of Brebu platform dissolved.

Another beautiful building is the hermitage located in Poiana Câmpina, a site close to Câmpina, and which represents the foundation of Toma Cantacuzino, the grandson of Serban Cantacuzino, the lord of the Romanian Region in the past.

Other great trips can take into consideration the following itineraries: Vălenii de Munte – Cheia, continuing with Săcele (located in Brașov County), as well as with the route Prahova Valley – Breaza – Comarnic – Sinaia – Bușteni – Azuga – ending with the cities of Predeal and Brașov.

Figure 3: The evolution of tourism's indicators for Câmpina City between 2005 – 2010



-■- overnight stays in tourist accommodation structures

-◆- tourist arrivals in tourist accommodation structures

Source: INS; Tempo Database; The local development strategy of Câmpina City

At the moment, there are three touristic units in Câmpina: one hotel classified 1 star and which will be modernized in the near future, one hotel classified 2 stars and another one possessing 3 stars. In the same time, there are several pensions, classified 3 stars.

The evolution of some indexes (figure 3) such as tourist overnight stays and tourist arrivals in tourist accommodation structures showed a peak in 2007-2008, and then registered a decline, mainly due to the economic crisis. In 2010 only, 14,850 tourists have arrived, which means more than 4.7% of total number of tourist registered for the Prahova County. This includes cultural and week-end tourism, more

and more powerful in Câmpina in recent years, the average period of accommodation being approximately 1.9 days.

As leisure locations, Câmpina has two main parks: the first one located in the centre of the town, on Culturii Boulevard and which reproduces the atmosphere of the 30’s, and another one, called “The fountain with cherry trees”, situated at the outskirts of the city and being known as a leisure area both for citizens and tourist during the entire year.

Among the cultural events that take place in Câmpina and that can lead to an increase in the tourism activity, one can mention:

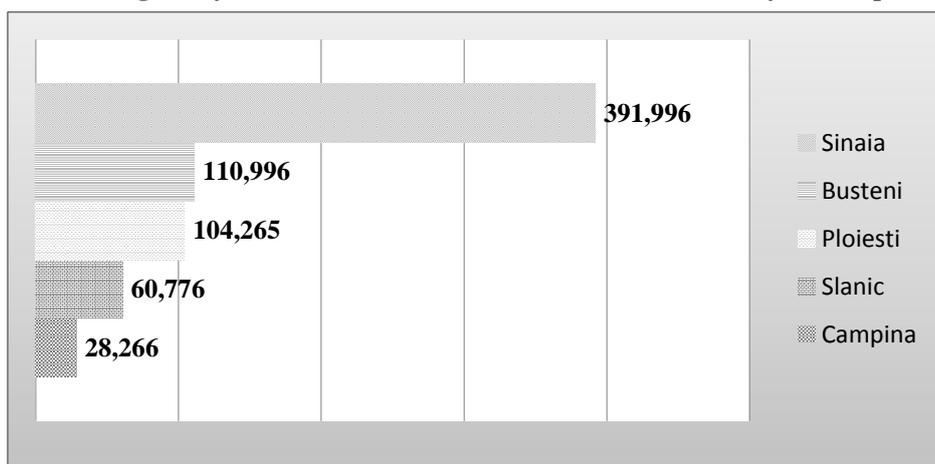
**Table 1: Câmpina’s main cultural events**

The Day of Câmpina City – 8th of January	The honey fair – people can buy honey products and participate in various shows - 21st - 22nd of February	“The fair of little craftsmen”	Mask and clothing galleries– 1st of June	“The Prahova dance show” – 27th and 28th of June	“Câmpina, my love” – an art camp – 1st of July until 14 th of July	The Holiday of the two Iulia (mother and daughter) - literature and musical sessions, art and painting exhibitions - 2nd of July	“The Autumn Festival” – a complex show, usually in the third week-end of the September	“APLER ceremonies” - literature communication sessions - 5th and 6th of November
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Source: The local development strategy of Câmpina City

In what concerns the overnight stays in the hotels of Prahova County, Câmpina ranks 5th from a total of 20 analyzed places. Due to the newly emerged fairs and cultural events, an increase in the number of tourists can be observed for the period 2011-2012.

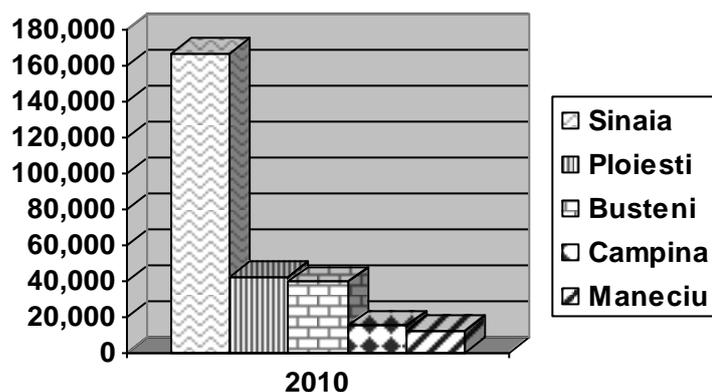
**Figure 4: Overnight stays in accommodation facilities in Prahova County – the top five places**



Source: The local development strategy of Câmpina City

When referring to tourist arrivals in accommodation facilities situated in the Prahova county, Câmpina occupies the fourth position, with 14,850 arrivals in 2010.

**Figure 5: Tourist arrivals in accommodation facilities in Prahova County in 2010**



Source: INS; Tempo Database; The local development strategy of Câmpina City

### 3.1. SWOT analysis of Câmpina's tourism

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>-strategically position of Câmpina, between Bucharest and the Carpathian Mountains.</li> <li>-a large number of trips that can be made within the surroundings;</li> <li>-a series of cultural events such as fairs, expositions, sport events;</li> <li>-a permanent swimming pool.</li> </ul>	<ul style="list-style-type: none"> <li>-strategically position of Câmpina, between Bucharest and the Carpathian Mountains.</li> <li>-a large number of trips that can be made within the surroundings;</li> <li>-a series of cultural events such as fairs, expositions, sport events;</li> <li>-a permanent swimming pool. -the lack of infrastructure in what concerns leisure activities and different types of sport;</li> <li>-the lack of modernization of tourist routes.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>-partnerships and different collaborations with neighbouring towns or villages, as well as with those which have sister cities;</li> <li>-application for the European funds in order to develop the touristic infrastructure (hotels, recreation bases, road signs and landmarks);</li> <li>-the possibility to participate in national and international fairs.</li> </ul>	<ul style="list-style-type: none"> <li>-partnerships and different collaborations with neighbouring towns or villages, as well as with those which have sister cities;</li> <li>-application for the European funds in order to develop the touristic infrastructure (hotels, recreation bases, road signs and landmarks);</li> <li>-the possibility to participate in national and international fairs.</li> <li>-the lack of caring for the existent tourist units or towards creating new ones;</li> <li>-the tendency of the residents to go abroad for holidays;</li> <li>-the lack of promoting Câmpina on behalf of tourism agencies.</li> </ul>

### 3.2. The development of Câmpina City during 2011-2017

At municipality level, Câmpina's authorities have elaborated a local development strategy, which is available for the period 2011-2017. Referring to the development of tourism, the cultural domain should be taken into consideration as well, being in direct agreement with tourism. Câmpina may become an important player in the field of tourism through the capitalization of the current touristic potential and the creation of various new leisure possibilities. This situation should be regarded from the point of view of the importance of tourism as a domain with a large contribution to the local budget and as a generating source of jobs.

Among the urgent measures that need to be taken by the authorities the following can be mentioned:

- building a National Tourist Information and Promotion Centre;
  - the “Discover Câmpina!” program;
  - rehabilitation of the central park situated on Culturii Boulevard and the one from “The fountain with cherry trees”;
  - the necessity of a brand for Câmpina;
- With regard to the cultural aspects, the following aspect should be taken into consideration:
- rehabilitation of the “Cultural House”;
  - the need of a museum of the city aimed at capitalizing the cultural patrimony.

#### 4. Conclusions

Câmpina has many strengths, deriving both from its location and climate, as well as from its current potential and historical monuments.

Its reputation in the oil field turned Câmpina into a real training centre, the main courses referring to oil extraction and its entire process, thus offering the city a new insight into the business tourism.

The tendency is to introduce Câmpina on the path of ascension as a tourist destination, the city being one where people can rest, recreate, the occasional tourism caused by different cultural and traditional events, as well as by practicing motor sports or horseback riding becoming more diversified in the last years.

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## LAND USE COLLAPSE - CAUSE OR EFFECT OF ECONOMIC CRISIS

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**Abstract:** *The paper analyzes the dynamics of land as the main part of real estate market in the context of economic crisis. In determining the role that real estate had in the appearance of economic crisis have been analyzed data covering the dynamics of land along with information concerning the value of land prices at EU level and the turnover value indices for real estate transactions. Therefore, we can say that the dynamics of land was strongly influenced by the high attractiveness of agricultural land prices and hence real estate market developments representing a important cause that created economic crisis.*

**Key words:** economic crisis, real estate market, fund land, agricultural land

**JEL classification:** G 01, Q 24, L 85

### 1. Introduction

Land fund, or generically called land, is a prerequisite for life and human activity, being the material basis of any production process. Viewed from an economic perspective, it is a natural gift, limited in size, unlimited as production capacity, unsubstituted inextricably linked with multiple characteristics (shape, area, position) and exerting multiple different functions (production, consumption, value-refuge, speculation). (Popescu, 2001)

Regarding then situation of agricultural land in Romania may be notice pronounced differences from the European Union, referring both to their sales prices on the land market and the prospect of using them in production.

Land transactions are components of the real estate market, being end point of the relationship between demand and supply of land based on specific needs, that by the transaction turns in value and satisfaction.

### 2. The influence of economic crisis on development land

#### 2.1 The determinant factors of land dynamics

Land fund is one of the most important natural resources of a country reason why its analysis of the evolution is a key issue. Basically, when talking about the land of Romania we include both the part for the building, where the effects of urbanization are highly visible, as well as the part for agriculture, which, by the role it has occupied a prominent place in society.

Land fund, according to Law 18/1991, "Land Law", published in Official monitoring No 37/20 February 1991, republished in Official Gazette No. 1/5 January 1998, is "land of any kind, regardless of destination, title on which are owned or public or private which include".

Land fund represents all land surfaces (including water always covered) in the limits of territorial administrative units (state, county, city, community). Is composed by several groups of land, depending on their destination: owning agricultural land, forest land holding, land permanently covered by water, other land (the land and special purpose).

The evolution of these categories was influenced mainly by factors such as:

- Economic development

Development of human society and therefore socio-economic diversification needs for the new period have caused deep changes in the dynamics of existing land surface. While in past centuries was

trying to limit the territorial expansion of the city by legislation, today expanding cities is imminent. Growing cities threatens to turn them in Mega-cities, that into spatial union of several very large cities. Today, urban areas have increased and existing ones expanded continually growing areas covering the ground.

- The phenomenon of urbanization

Urban land development involves changes in terms of shape, type of property or the most important of its use by specific planning tools, thus resulting in the development of new construction or modification of existing ones. Such the phenomenon of transition, with deep changes in the economy and society, the agricultural land is the primary target, that of which structure undergoes significant changes, both due to the reorganization of private properties and in terms of environmental issues.

As shown in Table no. 1 agricultural area showed slight decreases from year to year mainly due to surface transfer to other destinations such as the construction. The phenomenon of transition requires the inclusion of land in urban areas, and it is particularly both in areas with high agricultural productivity and disadvantaged ones. According to information published in Ziarul Financiar (July 8, 2011) in July 2011, Romania's agricultural area was about 14.7 million hectares, of which 9.4 million hectares of arable land (63.9%), 3.3 million ha pastures (22.4%), 1.5 million hectares grassland (10.2%), 218,000 hectares live (1.5%) and 206,000 hectares groves and tree (1.4%).

**Table 1: land area by use**

Way of using the land fund	1990	1995	2000	2005	2008	2009	2010
<b>Total</b>	23839	23839	23839	23839	23839	23839	23839
<b>Agricultural</b>	14769	14797	14857	14741	14702	14685	14636
Arable	9450	9337	9381	9420	9415	9423	9405
Pastures	3263	3392	3442	3364	3333	3314	3289
Meadows	1465	1498	1507	1515	1532	1528	1530
Vineyards and nurseries	277	292	272	224	214	215	213
Groves	313	278	255	218	207	205	199
<b>Total non-agricultural land</b>	:	:	8982	9098	9137	9154	9204
<b>Forests and other forest vegetation</b>	6685	6680	6457	6743	6729	6753	6758
<b>Occupied by water, ponds</b>	904	890	868	841	849	833	834
<b>Occupied with building</b>	:	:	633	657	692	703	728
<b>Ways of communication and railway lines</b>	:	:	388	391	390	390	389

Source: <https://statistici.insse.ro/shop/>, accessed on April 2012

- The division of agricultural area

Another issue that should be mentioned refers to process of division of agricultural area since 2005, when the total of 4,256,152 farms, 4,121,247 used an agricultural area of 13,906.7 hectares. According to [www.wikipedia.org](http://www.wikipedia.org) average of agricultural area of farms in Romania is 3.37 ha. Individual holdings, on average, 2.15 hectares, divided into 3.7 plots, while farms with legal operates on average 269 hectares, divided into about 9 parcels.

General Agricultural Census 2010 show that 31,000 farms with an average size less than 190 ha. with a total of over 7,000,000 hectares, 111,000 people work. On the other hand, more than 3.8 million holdings with average area of 3.45 ha, with a total of over 8.48 million hectares, with over 7 million people.

Number of farms in Romania decreased by 14% during 2003-2010, to 3.8 million while the European Union decline was 20%, to 12.05 million.

- Low productivity

From agricultural machines park, which is not only deficient in terms of performance, but lower than the number of equipment, through the absence targeted investments in existing holdings and ending with the need for consulting and education of farmers, we can lead to poor performance issues farm in Romania. To redress the situation are necessary material resources to optimize agricultural processes, be they technical or standards on food safety, hygiene, environmental, etc., imposed by Romania's status as an EU member.

## 2.2 The economic crisis in 2008 vs. economic crisis in the 2011

It is undeniable that between the economic crisis of 2008 and the property market is extremely strong connection. Based on consumption on credit, the population was accustomed to cheap

credit, therefore, fall mechanism caused a massive shock. Among the most "consumed" products through the above mentioned loans were real estate, especially agricultural land, because of the price system practiced.

Analyzing these events can say that the phenomenon could be seen at the micro level to macro level, namely the buyers used to pay by credit products to the entire global economy.

So talk about a recession based on lack of liquidity, which has consequences such as increased fees and taxes, lower wages or fewer employees, which led to a sharp decline in purchasing power, the level of development and therefore a strong real estate recession phenomenon.

After almost three years which have tried multiple methods of economic recovery in 2011 the economic crisis returns, but this time with other features. Started talking about a crisis of macroeconomic level to the microeconomic one, basically from the inability of states to stimulate economic growth coupled with the emergence of a state of general confidence in the entrepreneurs able to make investments.

Features outlined above we inducing a clear difference between the way of expression for the two crises that refers to the impact that those has on people. If the first one is based on drastically limiting consumption on credit, the second to limit consumption due to economic recovery measures and the lack of investment.

On the real estate the first crisis led to a sudden blocking of the market, and implicitly to stopping the project started, leading to inability to recover the investments in this area. At the same time were affected industries downstream or upstream of the real estate industry. The following years brought a substantial decrease in the prices of both land and buildings, which is why the 2011 crisis was not felt as intensely in the real estate industry.

### **3. The real estate market - an influential factor in the land dynamic**

#### **3.1 The evolution property in Romania**

As noted previously, real estate market is particularly important if we bring into question the notion of economic crisis. Generally speaking, real estate market, supply and demand namely, has as starting point the need for housing, shelter, industrial space, land to be used in agricultural production or economic characteristic expressed as a possible placement of funds through investment, generating a profit later.

Since 2003, once the mortgage loan, which was an additional funding mechanism to stimulate land acquisition by connecting the local market to international markets, while introducing new principles of global real estate market. Is when the market starts to gaining momentum agricultural land growing.

In 2004, takes shape the idea that the great opportunity to enrich is the "business land" due to simplicity has come to be regarded as a "money making machine" which brings gain for themselves. The idea is key to the events which occurred later, although at that time the theory that money will be placed wherever profit can create spectacular losses if the option was not accompanied by a serious prospect and a rational assessment of the potential target. Yet according to statistics, 2004 shows the highest coefficient of land market speculation and in terms of stock market highest market share. Also now is the time of war hypermarkets, business in 2003-2004 considered a "jewel of the Crown" in real estate.

The year 2005 is marked by real estate transactions in agricultural land, a business with a gain of 100%, given that in this year land prices increase by at least 80%. Is when the land sales market intersects with the business investment boom and the resulting phase in the land for warehousing and commercial construction. In the deposit market (still undefined national and absorbed in the general concept of industrial parks) prices paid for land doubled last year in exactly the most popular areas of development.

Object of speculation already, this segment develops galloping, but placement with gain interest through resale only, presents enough risk that any price increase has a maximum accepted idea of the ultimate investor angle. This will provide alternative solutions: other areas, further development and compare directly, so new agricultural land, future victims.

So is reached that 2006 is marked by the need for new land in which to raise factories or residential buildings. In late 2006 and early 2007, demand had grown larger.

From 2008 until now by installing the economic crisis, the demand situation changed in the sense of demand drop for land, which implicitly leads to a balance between rural and urban relations in terms of land.

This time should be valued by identifying land use models of that we have, by which to achieve a reduction in the gap created earlier, thus making the first steps towards economic and social development in terms of healthy environment.

### 3.2 Land Transactions - features

In terms of land transactions we can identify two categories of real estate market, the urban real estate market and rural real estate market, the difference between the two been given by the products that are transacted. The first one designed especially buildings with different purposes and in a very limited extent land. The second is that rural housing market, aimed in particular land real estate transactions, which are not intended future culture of agricultural products, financial investments but their removal from agricultural and transposition in the city.

It should be mentioned several features that favor, or the contrary, disfavoring the sale of land, such as:

- The fact that most land is subject to a high level of plot division, in some small farms, whose owners often have very advanced age. Because of these aspects, implementation efficient agricultural systems is almost impossible, both technically and in terms of existing mentality, the easiest option but to stay their alienation;
- Lack of competitiveness of farms and practicing subsistence agriculture made the profits earned from land use are often very small, which leads to the simplest version (and most effective short-term) and land alienation;
- High costs of real estate, respective the notary, land registry and registration, fees for real estate agencies, intermediaries and the additional (if applicable), with extremely complicated administrative procedures, leading to shortness of land transactions. The consequences are: incomplete registration, absence or lack of demarcation of land boundaries, owners unknown, unsettled inheritance claims from relatives, and incomplete information, which increases transaction costs and reduce the efficiency of the system.
- Limit access to credit through the fact that land are not often accepted as collateral for commercial banks, which some what limits the number of potential customers.

### 3.3 Prices of trading

Land in Romania are the main attraction because of extremely favorable price at which land transactions were made. Moreover, in markets characterized by great volatility and severe imbalances between supply and demand, such as and when the land market, the purchase decision is based, most often for economic reasons from further land value purchased.

The price of land in Romania has substantial differences from that of other EU countries. By comparing data between 2005 - 2009 (Table 2) can be seen that, except for Bulgaria, the land price is higher than in Romania.

If we analyze the situation in Netherlands compatible with a difference of 30 times, and in regard to Spain nearly 13 times. Also what we noticed is that relationships remain constant and then the emergence of economic crisis (2008), therefore leading to an increase in foreign investors interested in acquiring land at a very low price.

**Table 2: Market value of land in different EU countries 2005 - 2009**

Country	Land	Euro / ha (converted at current exchange rate)				
		2005	2006	2007	2008	2009
Bulgaria	Arable	864	1007	1202	1595	1519
Latvia	Agricultural	2183	3786	3552	1940	1015
Netherlands	Arable	30235	31267	34969	40916	47051
Country	Land	Euro / ha (converted at current exchange rate)				
		2005	2006	2007	2008	2009
Spain	Arable	11626	12467	13259	13126	12509
Sweden	Agricultural	3351	3706	3957	4181	3748
Romania	Agricultural	897	916	927	1972	1706

Source: European Union, Directorate-General for Agricultural and Rural Development, Agriculture in the European Union, in 2009, correlated with data on average prices of land, MARD intelligence, access on September 2011

These aspects have been exploited by those who have made the number of real estate to rise, evident by the data on turnover indices of market services outlined in Table No. 3

**Table 3: Turnover indices for market services (2000-2010)**

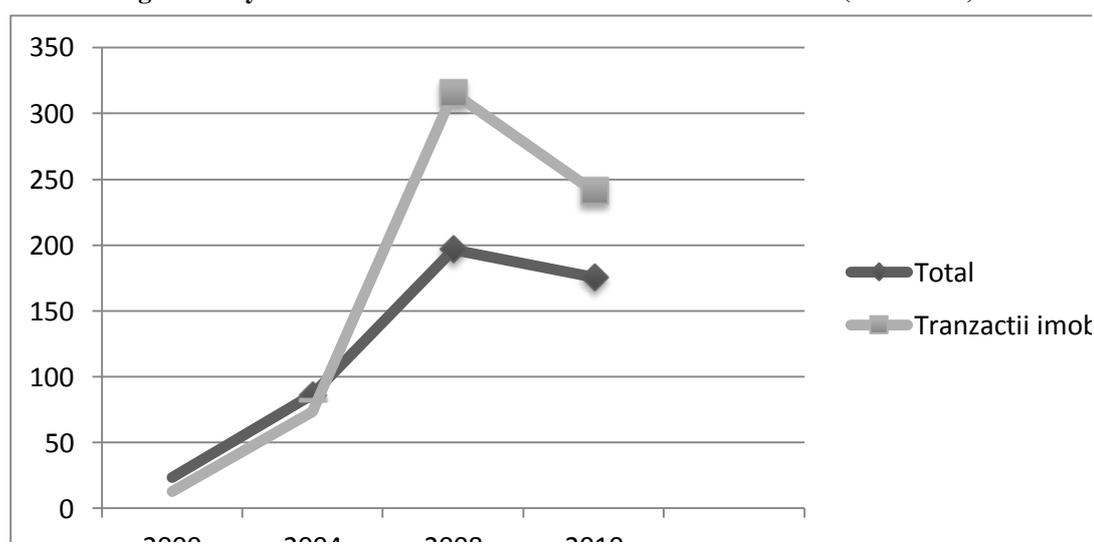
Year	-% -	
	Total	Real estate transactions
2000	23,17	12,93
2001	31,5	21,90
2002	42,95	31,10
2003	61,65	39,82
2004	86,25	73,43
2005	101,01	100,05
2006	123,96	101,38
2007	154,95	193,92
2008	196,5	315,74
2009	169,85	200,25
2010	175,45	241,1

Source: National Institute of Statistics, www.insse.ro, tempo series online, accessed November 2011, data processed with reference year 2005

Data analysis is ascertained that real estate market, since 2003 marked by the sales of land, has seen spectacular developments in the period 2000-2010, in terms of income through transactions. If we compare year 2003 and 2004, clearly shows an increase of 84.4%, which leads us to assume that the time to market land was one of the main developments in real estate process.

Following the evolution of the two indices in Figure. No. 1 the trend shows that both it is up to the year 2008. It also notes that real estate transactions, although they had turnover index from a baseline of approximately 50% lower than the total index, around the year 2004 approaches fail to value, manage to reach its peak in 2008, followed by their regression.

**Figure 1: Dynamic indices of turnover value to market services (2000-2010)**



Source: National Institute of Statistics, www.insse.ro, tempo series online, accessed November 2011, data processed with reference year 2005

From an economic perspective, this initial outline emphasizes, that the profitability of real estate transactions in general and particularly the land is an extremely profitable business, generating profits in a relatively short time. However be recognized that the price paid for these goods do not reflect their real value, so that we can say that the production of an economic crisis was imminent. Although since 2008

the economic crisis have been felt in all areas, on land transactions phenomenon is an entry on track, the owners and buyers can discuss in rational terms.

Finally, what is really important when is intended to purchase a land surface into its possibilities of use (which can grow or what to build) and the budget that we are willing to spend.

Unfortunately, in Romania market monitoring system for providing real estate and related services was carried out between January 2007 - December 2008, under various pilot, according to information obtained from the National Agency for Registering and Advertising. However, at national level statistics, real estate transactions are very difficult to obtain due to problems related to transparency of this market in Romania, its lack of stability, the low level of public trust in information and transactions, the speculative look quite pronounced especially on land and mortgage loan deficiencies.

## 5. Conclusions

Analyzing the evolution of the land market can say that land since 2005 represented a business that route which has grown rapidly in recent years, particularly through their use change the building, whose site is virtually the old crop corn, wheat, etc..

Obvious differences between price and value of the land generates a permanent imbalance in the housing market. An increasing demand for land will lead to an increase in its price. When the amount of land is limited by public authorities through land use regulations, or their direct participation in the market for public investments, land, which will change the use will therefore become more valuable.

Lack of profitability of agriculture coupled with the need for space for the process of urbanization and industrialization and low trading prices helped greatly in the decision to alienate the land, which resulted in their use change. More than that, these phenomena have led to a strong emphasis gaps between rural and urban areas.

Viewed in the short term, the proposed solutions seem devastating for "health" as a whole rural area, but the idea of developing agriculture through rational industrialization process is executed based on certain principles that guide, such as:

- choice of location of new targets areas so they become more attractive for investors;
- demarcation of industrial centers;
- improving the structure and infrastructure;
- agreement and support of public authorities.

Through these principles, industrial development aimed elements directly related to agriculture sectors such as:

- increased demand for agricultural products forming specific markets mechanisms;
- through endowment with efficient means to provide increased productivity;
- the creation of large farms designed to ensure the efficient operation of mechanical means;
- association in order to perform commercial employees to carry out works against soil erosion for example.

But all industrial development activities, typical for the urban environment, could not be materialized if rural area would not contribute with labor, whose dynamics is given by the growth of non-agricultural activities. In this context it can be considered a stimulus, representing a positive influence on rural areas, through agriculture in particular has on the whole process of industrialization.

So we can say that real estate market, specifically agricultural land was a major cause of economic crisis in 2008, whose consequences have brought profound global implications across the economy. Economic recovery attempts undertaken by 2011 failed to bring stabilize this field, as demonstrated through economic relapse recorded in the year 2011. This time, however, the situation the real estate market may be considered as a result and not a cause of "new" economic crisis.

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## THE PROBLEM OF ECONOMIC CONVERGENCE

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**Abstract:** *Real convergence represents an essential objective for Romania's integration into the EU. The filling of the gap between Romania and the EU at a quick pace is not possible only through market forces, that might cause divergence and polarisation. For this purpose special tools, like cohesion, are required. The paper deals with suitable models based on the regression method and convergence factors.*

**Key words:** real convergence; divergence; cohesion; convergence clubs; polarisation.

**JEL classification:** E 22, O 41, O 47

In the economic literature, especially in the matter of comparative economic growth as in the matter of economic integration and globalization, the concept of convergence (and his and its opposite, divergence) finds frequent use and occupies a central role in the description of the evolution of the different systems or economic entity, in relation to the best-performing entities or to those environments. Study of convergence is the description of how the various factors and mechanisms of economic, social and political act or contributes to the alleviation of disparities or gaps between these entities. Study of convergence is close to the levels of economic, social, monetary, financial and performance of countries/regions, ensuring the reduction of disparities on the level of development, monetary and financial stability in all countries, as well as professional or institutional structures and administrative mechanisms and of the different countries/regions.

From these definitions and analysis of literature you can detach the existence of three types of convergence of the three specific areas of applications.

- 1) Real convergence in the fields of development on the real economy using development indicators (performance time) studied economic entities (GDP or income on inhabitant). In this case, convergence points near or even tend to equalize the level of development;
- 2) The nominal convergence in the fields of monetary and financial stability to track levels of economic stability with rates of inflation, budget deficit, public borrowing rate, exchange rate trend;
- 3) Institutional Convergence and administrative and institutional convergence in the fields of compatibility, to unify the administrative structure and economic institutions of different countries to ensure their efficient operation and good communication between countries and regions in order to achieve common objectives.

In Romania, all three types of convergence set of particular interest in view, on the one hand, considerable gap that separates our country from EU countries in the level of real economic development (GDP on inhabitant and other indicators level), and on the other hand, imposes the requirement that EU integration and Economic and Monetary Union, which is to achieve compatibility and administrative structures and institutional mechanisms with the EU, Romanian and achieve economic and financial stability.

Otherwise, the long experience of countries shows that only economies with a higher level of development and have modern and efficient institutions and monetary and financial stability may be the key challenges of competition in all areas, especially in the opening of these savings.

They can stimulate the development of knowledge and new knowledge generated factors and their assimilation or absorption in the economy.

Almost all the great economists who have dealt with long-term economic development are considered in their analysis, real convergence problems. Many of them have treated this problem by default but when they analyzed the role of production factors - capital, labor, natural resources, technological progress, human capital - the long-term economic development. Also, by default they have dealt with real convergence when they referred, on the one hand, economic development, and on the other hand, the development of certain types of activities and / or complex industries economic and social impact (based industries and high technology environments, services, information technology and

communications), and the institutions and economic mechanisms (market structure, distribution of economic outcomes (rent, profit, wages, etc..) regarded as a form of economic stimulus). Study of the real convergence in explicit form and in a systematic development began with the neoclassical growth models, especially when upgrading to econometric applications of these models, and other growth models such as those advanced endogenous growth and conditional convergence. Also the problem of real convergence to the attention of applied research in the field of European integration and the attention of EU decision-making involved in managing and monitoring the integration process.

Also, in statistics were calculated and published comparable data on countries the indicators used to analyze growth of real convergence were invented and / or use various indicators to measure convergence or convergence of sides.

In economic literature, especially that relating to European integration, there are three ways to perceive the real convergence process, to understand and highlight the causes and trends of this process, namely:

- the first way is that real convergence as a natural process based solely on market forces in accordance with which the market is larger, more functional, less distorted by the convergence process is safer and faster;
- the second way denies real convergence of poor countries to rich ones, claiming increasing polarization of deepening differences and inequalities between center and periphery;
- the third way that it considers necessary to achieve real convergence in the competitive market, but by implementing economic policies to offset the negative effects of inequalities or differences, at least until mature economic systems until the systems reach the so-called for a self-critical mass of real convergence.

The first way to perceive real convergence exclusively by market forces pertains to the neoclassical growth theory. Considering that the economic outcome (GDP / capita) is the contribution of several factors of production (capital, labor, natural resources, technological progress) neoclassical model fundamental hypothesis that growth depends on the particular return on capital which generally tends to decrease. At a certain increase in capital, the results will be less than proportional increases. More specifically, at the same rate of saving (investment) marginal return of capital is decreasing so that poor countries with a small amount of capital per inhabitant growth rate of knowledge capital yields higher than rich countries have a per capita amount of capital considerably great. More rapid increase yields in poor countries than in developed countries ensures convergence of per capita income. Only forces competitive EU internal market, no economic policy, would ensure the real convergence of countries and regions in the EU. According to neoclassical theory, relevant in this respect are the following factors (mechanisms) of the European single market:

(1) product and process specialization of goods and services markets and to create revenue specialization intraindustrial comparative advantage for all participants as a means of exerting a positive pressure on productivity (including salaries) for busy export production, and the adjustment of industry structure that tend to raise their technological level;

(2) capital inflows, mostly in the form of foreign direct investment (FDI), which are an important channel for transfer of resources and know-how, marketing and organizational expertise, innovation, etc.. Frequently in poor regions of the EU countries and FDI inflows occur in the following situations:

- a) when there often are given sufficient infrastructure and good quality and transaction costs are low (usually their busiest areas);
- b) when local resources are abundant and cheap, their low cost can compensate additional transaction due to the scarce infrastructure;
- c) when it comes to horizontal investments based on economies of scale, they are interested in dispersing production and distribution units in different territories (countries and regions) so that those units to be close to prospective customers or consumers, in this case the economic development and endowment with factors such territories not a crucial or primary criterion.

(3) exerted greater competitive exposure enlarged single market that is subject to competitive goods, services and factors of EU firms. The competitive market exposure is cleaned inefficient activities to accommodate long-term viable and competitive activities and entities in the EU.

There is strong belief both in a number of economists and the international financial organs, that a functioning market and wider and deeper economic integration require strong mechanisms of convergence without having to determine economic policy and support real convergence. Implementation of such policies, in their opinion, would mean many other distortions in the market. It is evident that those

views and support are part of the common songs of the choir made up of followers of the neoclassical model undeclared, followers believe that market forces alone may trigger efficiently the mechanisms by which they can catch up with poor countries by achieving higher growth rates than developed countries.

Although the reasoning on the assumption of diminishing returns and perfect competition assumption is logically correct, facts contradict such opinions. On the one hand, poor countries lack the economic, scientific, technological and financial assistance needed to cope with competition, which explains to a large extent, the reverse trend, the widening the gap (divergence) between the poor countries rich, not the diminishing it. On the other hand, can not be ignored ubiquitous natural tendency of clustering or polarization at different levels (EU, national and regional) which can be a major obstacle to convergence.

In most cases neither the hypothesis of decreasing returns to capital and, by default, the real convergence of countries (regions) rich. It is impossible to explain the level of international development today taking as reference the initial differences in factor endowment (Thirlwall, 2001).

In most cases neither the hypothesis of decreasing returns to capital and, by default, the real convergence of countries (regions) rich. It is impossible to explain the level of international development today taking as reference the initial differences in factor endowment (Thirlwall, 2001).

With the concept of circular and cumulative economic processes, first used by Myrdal, may explain the increasing international difference in level of development similar to the initial conditions. The movement of capital, the migration of human capital and labor through trade of goods and services increased inequalities perpetuate and even international and regional in different countries regarding the development. By means of free trade without customs and non-customs barriers, less developed countries lack the human capital and technological capability are forced to specialize in production of goods, especially primary inelastic demand (low elasticity) in relation to price and income. What makes the inequality between countries is the tendency of polarization (agglomeration) interregional and international, especially in the economic and monetary integration. As there are no barriers between countries in the movement of goods, services and factors of production, some countries and regions form strong poles of attraction cause imbalances between countries with large differences in income per capita. Developed countries and regions and well endowed with factors become poles of attraction that absorb increasing amounts of capital and labor of good quality and the less developed countries.

Although the accession process are major efforts to economic and institutional reforms and attempts to achieve a stable balance in the development, however, in real life there is a natural tendency to universal validity, the polarization of the processes which have effect but widening differences in development level of countries and regions. Myrdal argues that, in the context of both economic and social forces generate tendencies toward imbalance and that the assumptions of economic theory which tend towards equilibrium situations are false (Myrdal, 1957; Thirlwall, 2001, Kornai, 1974).

If this were true, then how could explain international differences in living standards? Due to the lack of response to this question, Myrdal replaces the stable equilibrium hypothesis with what he calls the assumption of circular and cumulative or, in short, cause cumulative hypothesis. This hypothesis can explain why international and interregional differences in development level may persist and even deepen over time. Myrdal's hypothesis is based on a multiplier-accelerator mechanism that produces revenue growth at higher rates in the so-called countries and regions that is more developed, better equipped with modern infrastructure, scientific and technological ascendancy, with capital inflows physical and human scientific and technological inflows, the latter showing more and more attractive for capital and labor from less developed areas.

Trade in goods and services and the full freedom of movement of production factors between countries and regions with great differences in development level causes increasing polarization: on the one seems richer countries and regions where significant economic growth and a highly attractive for high quality inputs, and, on the other hand, countries and regions characterized by stagnation and economic decline a basic economic infrastructure left behind infrastructure, decreasing income and increasing tax base resulting in lower demand for goods and services.

In such conditions can not be economic convergence. Approaches and analyzes initiated by Myrdal, Prebisch, Seers, etc. have created an influential school of thought focused on the concept of difference which highlights the polarization and the divergence between center and periphery. The influence of this thinking to bear upon the following levels: 1) the practice, reflected in the European construction projects through the adoption of economic policy instruments, 2) the analytical one, strongly reflected in two directions: a) re- construction and interpretation of economic growth by returning to

economic and social realities (it concerns the development of endogenous models and econometric testing); b) new approaches to the geographic (regional) economy taking into account real processes such as regional disparities, development agglomerations or poles, role of infrastructure, transaction costs. When the Treaty of Rome - the first constitution for integration - put the first two economic objectives "harmonious development of economic activities" and "continuous and balanced expansion" to consider the divergence and the difference in income per capita between the backward and the advanced of the Common Market. To achieve real convergence between the two cases, the Treaty was based implicitly and exclusively on market mechanisms. Considering the shortcomings of market mechanisms for the recovery of the backwardness of poor countries and regions, have been adopted in the EU, progressively responsible line cohesion and solidarity to facilitate achieving real convergence in raising economic performance. Adopting the principle of cohesion was determined largely by the accession of the countries with large differences in income per capita than the EU average (Greece, Portugal and the countries of central and eastern European). Cohesion principle, applied by means of specific instruments (Structural Funds, Cohesion Fund), is widely used to diminish over time, income disparities between countries and regions by improving their performance. The most important step to adopt the principles of cohesion was made by introducing the Maastricht Treaty, explicitly, three economic objectives to convergence, namely:

- (1) harmonious and sustainable economic activities,
- (2) a high level of convergence of economic performance,
- (3) economic and social cohesion and solidarity among Member States. These objectives aim (by means of cohesion) real convergence of economic performance were included in the Treaty of Amsterdam, with some formal modifications. To implement the above principle, the Cohesion Fund was set up only for the cohesion countries (not for the regions) with a GDP per capita less than 90 percent of EU average. Also been established and used to reduce disparities between regions and countries, Structural Funds.

For regions the maximum of the Structural Funds grant is 75 percent of EU average, but their performance is to raise the backward regions.

Convergence approach positions neoclassical theory has some limitations and drawbacks conditions that call for new approach based on a model expressing real processes, ie a model that the growth is considered endogenous, ie be a result of economic system itself, not just a result of mechanical forces independent natural acting outside the system. So, the model allows consideration of economic policy. Rejecting the old hypothesis of decreasing returns to capital and other unverifiable constraints, new theory concentrates on types of models to take into account effects as externalities (spillovers) produced in the system by some significant assets – human capital.

The new theory of convergence is based on taking into account effects of the intangible factors (including those of economic policies). These effects, called externalities, overflows (spillovers) in the economy in a special way, that on other than the direct producers. Effects are much larger than the input necessary to their or their remuneration than the amount. Generally, the intangible factors (knowledge, skills or skills, information, innovation, Know-how, etc..) Are spilled over and embedded between tangible production. Such externalities may occur (can be produced) in the investment in physical capital (Arrow, 1962), investment in human capital (Lucas, 1988) or in both categories of investment (Romer, 1986). According to Romer, if externalities are strong, private marginal product of physical and human capital may remain permanently above the discount rate (Romer, 1986, Thirlwall, 2001). Growth can be supported by continuous accumulation (investment) that spillovers (Grossman, Helpman, 1994) associated with human capital formation (education and training or qualification) and R & D-innovation, which prevents lower return on capital or capital increase specific (capital-output ratio-COR). In the developed countries act that gives robust externalities by disseminating knowledge economy as the most diverse forms, able to increase productivity and return on capital, thus compensating the higher share capital decrease efficiency.

There are authors who do empirical research on convergence and divergence and developed using the modified neoclassical model. For example, Mankiw, Romer and Weil (1992) and Islam (1995) pointed out that economies with low initial income levels tend to grow faster than economies with high initial income after they have entered into the model, as control variables, the savings rate and population growth rates, and Barro, Salla-i-Martin, Blanchard and Hall (1991) have considered, in addition, capital mobility, labor migration. As a reaction to endogenous models also ignored studies and research conducted on them, was born and developed a literature of opposition, using alternative econometric

methods, argues that transverse growth model is inconsistent with convergence and the variety of mechanisms consistent with endogenous growth (Durlauf, 1995, 1996, Quah, 1996). Among the most important ideas learned in this area of research are particularly those relating to training, behavior and evolution of groups of so-called convergence (convergence-clubs).

He who first made reference to such a process was Baumol (1986). Later, the idea was taken up, developed theoretically and empirically studied by Quah, Bernard and Durlauf, Galor (1996), Mihăescu (2003) etc. For example, Quah observes that conventional theory (neoclassical) convergence and empirical research results inspired by the theory of convergence groups masks the presence of population polarization into rich and poor. Increasingly its place according to some economists that convergence is not and can not be a single process for all countries and regions, but a multicultural and multipolar. Placing real convergence hypothesis in a field of intense controversy, Galor (1996) show that empirical research, among others, focused their attention on the validity of new competing hypotheses including that of the groups on convergence (polarization, clusters, etc..). This hypothesis states that per capita incomes of countries that are similar in terms of their structural characteristics (preferences, technology, population growth rates, government policies, etc..) Converge together on the long term if their initial conditions are also similar. This hypothesis can be associated with that of conditional convergence because - as Galor points - both rooted in the neoclassical model by including the structure of the significant variables mentioned earlier, plus externalities, market imperfections, etc.

All these groups reinforce the convergence hypothesis viability as a competitor of the conditional convergence hypothesis. What is to distinguish the two competing hypothesis is that one (the conditional convergence hypothesis) convergence occurs independently of initial conditions and the other (groups of convergence hypothesis) convergence occurs if the initial conditions are similar. Aspects of real convergence reveals not only the complexity of the topic but important steps taken by economic research to clarify many issues in this field. She emphasizes, however, timeliness and scientific and practical interest for Romania on the possibilities to achieve convergence with EU countries. Analysis and knowledge of the three types of convergence opens new perspective to practical actions in the fields of economic reform, aqua-making process and community integration.

Also, put in a more clear formulation of the strategic objectives of growth and also highlights and assesses the contribution of the growth motor capable of providing real convergence. The three types of convergence are important for Romania. However, given the wide gap between Romania and the developed countries and the complexity of the problem as such, real convergence must be given special attention.

Real convergence is the focal point of economic growth and enables the researcher to set goals, resources and mechanisms that can lead to convergence and can give the signal for crossing peripheral countries in the group (poor) in the center (rich). Cohesion is the important factor that can ensure convergence between European Union countries. Latest empirical research validating the various convergence shows that there can not be an alignment of all countries with absolute convergence. What checks and confirmation of economic and social reality of countries and regions is seen in the convergence of group dynamics, the factors of influence acting in the economic system. In the circumstances, the factor that determines the dynamics in developed countries is represented by knowledge in its multiple forms. Knowledge factor determines the higher growth rates in developed countries to poor countries.

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## FROM GROWTH DELUSION TO DEGROWTH: THE DIAGNOSIS AND PROGNOSIS OF THE CONTEMPORARY CRISIS

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**Abstract:** *The paper sets out to investigate the cause, implications and solutions of the current multidimensional crisis. The research goals are to emphasize the hiatus between Gross Domestic Product growth and genuine development and to provide a diagnosis and a prognosis of contemporary global trends in the light of growth. Our research finds solid proof that the cause of the persistence of this crisis is the addiction to chrematistic growth and, accordingly, the solution stands on the liberation from the growth imperative and the advancement of degrowth for ecological sustainability and social equity.*

**Key words:** crisis, GDP paradox, degrowth

**JEL classification:** B 59, Y 20

*Questioning growth is deemed to be the act of lunatics, idealists and revolutionaries. But question it we must (Tim Jackson, *Prosperity without Growth*, 2009: 14)*

### 1. Introduction

In the past few decades there has been a clear worldwide obsession with economic growth. The recent downturn in the global economy is a stark reminder of the consequences of living beyond our means and the consequences of the financial recession pale in comparison to the looming ecological credit crunch (WWF, 2008) and with the social quandaries. Nonetheless, when reviewing both the scientific and popular literature on the delicate subject of the contemporary crisis, one can easily note the prevalence of the financial and economic approaches to the detriment of the other facets of the crisis: the social and the ecological. Consequently, even though the contemporary crisis is a multidimensional one and requires a holistic and interdisciplinary approach, the focus is on the financial condensation, the issues of resource depletion, the unsustainable tendencies of consumption, the mental pollution, the acute inequality, the risks of culture homogenization, etc., remaining at the margins of the discussions.

There is a wide agreement on the fact that the present-day crisis was fuelled by the chrematistic growth of the last decades sustained as main credo among economists and politicians. Authors refer frequently in the literature to the cyclical character of the crisis. This approach commonly leads to a passive attitude towards these turbulences in the natural course of the economy, seen as *sine qua non* realities in the history of economic development. Indeed, humanity was confronted with crises throughout the known history. However, if before the precapitalist period the crises were generated by the subproduction of utility values - thus by penury, specific to the market economies are the crises of goods supraproduction and capital supraaccumulation. In other words, if before the crises designated an insufficient production, and *too little* was available for human needs, the current crises are an expression of *too much*, of a development beyond human means and of an absurd growth.

The best rescue operation proposed by mainstream economists cannot lead but to a worse situation. For instance, Paul Krugman – the most quoted economist nowadays – thinks that the people responsible of governance policies worldwide have to do two things: to put credit in motion again and to stimulate spending (Krugman, 2009: 211). Even though this direction does not correspond at all to the notion of economy (the prudent and wise use of the material and monetary means), there is no other way out for orthodox economists. Thus, the problem is the excessive debt and the proposed solutions are the ones of increasing them.

Attempts to resolve the crisis through monetary measures and credits will be in vain because they fail in approaching the central problem of the modern capitalist system – its addiction to growth. Orthodox economic policies shape the modern world guiding it by a holy dogma: indefinite economic growth improves the living conditions of all people and represents the best way for eliminating poverty.

The reality looks quite different, but despite the broad realm of proof, growth continues to be the goal along which the market-economies are driven.

## 2. The growth delusion and the GDP paradox

Simon Kuznetz, the economist who formulated the GDP in the late '40s, warned on the fact that “the welfare of a nation can scarcely be inferred from a measurement of national income” (1934, quoted by Hall, 2010:151). Despite this warning and its denouncement as a flawed measure of economic welfare since the second half of the previous century, this indicator remains the basis for evaluation and comparisons of economic performances across countries. Among the critiques, the most pertinent ones came from the economists themselves, especially during the early '70s, when the *glorious years* were coming to an end. For instance, Nordhaus and Tobin provided us with the first corrected GDP measure (1972), Huetting developed a method for calculating a sustainable income (1974) and Easterlin showed that a society's economic development and its average level of happiness are not necessarily linked (Easterlin, 1974; Easterlin and Angelescu, 2009). The Romanian-born economist Georgescu-Roegen brought sharp criticisms to the GDP growth and was the first to advocate for degrowth in the '70s. Later on, his disciple - Herman Daly advocated for a steady state economy and together with Cobb developed the Index of Sustainable Economic Welfare (ISEW) – considered today the most ambitious alternative to GDP. Amartya Sen contributed in the late '90s to the development of the Human Development Index. Daniel Kahneman - the only laureate of the Nobel Prize in economics whose assumptions were based on empirical studies, proposed in the '90s that, once the basic needs of the population are met, economic policy should no longer be focused on boosting GDP but on raising the level of gross domestic happiness.

The core critiques point to the fact that GDP does not take into consideration the distribution of welfare, the black jobs and black market, the so-called *core economy*, the externalities of economic activities, the quality of the produced goods or the sustainability of growth. For instance, the GDP grows, suggesting a positive economic performance in each of the following situations: a country clear cuts all the forest reserves in one year, all the water resources in a country are polluted and the citizens have to buy bottled water or the increase in the number of smokers and citizens consuming alcohol and in cancer incidence. Leisure, inequality, mortality, crime and a pristine environment are just some of the major factors affecting living standards within a country that are incorporated imperfectly, if at all, in GDP (Jones and Klenow, 2010:2). In this sense, as Van den Bergh argued, “GDP is actually best interpreted as an estimate of the costs, not the benefits, of all market-related activities” (2009a:2). Scientists from many disciplines stressed on several occasions that economists must learn to subtract. And this is precisely what the economists Daly and Cobb did with their ISEW indicator: they applied corrections to the GDP not only by subtracting the costs of growth such as the air pollution caused by economic activity, but also by adding costs such as the unpaid household labour - cleaning or child-minding. ISEW confirmed the so-called *threshold hypothesis*, which says that beyond a threshold income level the costs of growth exceed its benefits. This hypothesis was acknowledged in 2006 by the chief economist of OECD who indicated that it cannot be rejected that a GDP growth per capita above an already high threshold can have a decreasing effect on wellbeing (Cassiers and Delain, 2006:2).

Beginning with the years 2000, new and varied initiatives for alternative indicators of wellbeing were developed building a more percussive discourse of GDP growth objectors. Following this increased discursive force, many important international institutions have approached the issue. While the United Nations Development Program has already developed in the '90s the Human Development Index promoted in opposition with the pro-growth dogmatism of International Monetary Fund and World Bank, it was only in 2007 with the high-level conference “Beyond GDP”, organized by the European Commission, European Parliament, Club of Rome, OECD and WWF, that the questioning of decoupling between growth and well-being was institutionalized. The objectives were to clarify which indices are most appropriate to measure progress, and how these can best be integrated into the decision-making process and taken up by public debate. The ongoing *Beyond GDP* initiative is about developing indicators that are as clear and appealing as GDP, but more inclusive of environmental and social aspects of progress, providing more comprehensive measures of prosperity and well-being in order to address global challenges of the 21<sup>st</sup> century such as climate change, poverty, resource depletion, health and quality of life.

In France, Nicolas Sarkozy named in 2008 a commission chaired by Joseph Stiglitz, advised by Amartya Sen and coordinated by Jean-Paul Fitoussi. The three economists had as an objective the critical questioning of growth indicators, judged as inappropriate for measuring progress. The report developed a

rich and worthwhile appraisal of the GDP critiques (most of them known for decades now) and promotes the prioritization of well-being indicators.

Van den Bergh was pointing out that the debate on growth versus wellbeing and environmental sustainability is “old and outdated, or at least partly a repetition of arguments” but he finds it “inevitable to educate new generations of economists and environmental scientists” (2009a:2). The scholar, who thinks that GDP per capita represents “the largest information failure in the world (perhaps joined by commercial advertising)” (Idem, 3), has introduced the notion of *GDP paradox* referring to the contradiction between the sharp criticism against the indicator and its persistent central role in economics, public policy, politics and society (Van den Bergh, 2009b).

The unbreakable conspiracy of ignorance of this information failure entailed by the GDP cannot be explained but through the logic of the systems it serves. Growth is an iron law of capitalism that requires a relentless increase in production and consumption even though this increase does not translate to an improvement of well-being. It is highly improbable to come up with an alternative indicator as long as the imperative of growth is not questioned and eliminated. But if “all the great economists, without a single exception, were motivated to study economics in order to improve the world” (Blaug 1997:7), the hope is precisely in directing the economic activities towards other goals than growth. In this sense Van den Bergh proposes to “be relaxed about growth” and explains that this would also have implications for how one would respond to the current financial-economic crisis: “crisis policy has two main direct aims: minimizing unemployment as this has tremendous implications for (un)happiness of individual people; and restoring confidence in the economy. GDP growth should not be the first or main aim. One should not assume that employment and confidence require a minimal level of growth (...). Too much attention on how GDP develops can result in negative spirals. Repeated messages in media and politics about disappointing GDP growth merely reinforce a negative confidence spiral. Striving for growth then acts as a barrier to searching a way out of crisis” (2009a:3). Thus governments would do better by being neutral to economic growth and focusing their attention on strategies and measures that are clearly aiming at social welfare and environmental sustainability.

### 3. The Diagnosis of the contemporary world: the growth delusion

The very definition of economics as *the science dealing with the allocation of scarce resources* reflects the greatest dilemmas faced by the global economy during the last decades: poverty eradication – a moral imperative –, and environmental sustainability – a practical necessity (Gheorghică and Fotea: 2009; New Economics Foundation, 2006). Apart from these ecological and social dilemmas, the diagnosis of the modern world identifies that the performance of economic growth is often feeble in providing individual satisfaction even in the affluent countries.

#### 3.1. Increased poverty and inequality

In the first place, the economists went wrong with *the allocation* of scarce resources by progressively deepening the discrepancies between rich and poor. After its major contribution to transcending the big depression of the '30s, Keynes stated that „there are social and psychological good reasons for the significant inequality of incomes and welfare, but not for such big disparities as encountered nowadays” (2009: 447). Since then the differences deepened, today registering the biggest values ever recorded in history. In a world with unprecedented levels of wealth, the fact that about half of the world population lives on less than 2 dollars a day, without a shelter, safe water resources and access to medicine cannot be described otherwise than as a moral outrage (New Economics Foundation, 2006). Polarization is on the rise everywhere. At a global level the ratio of income for the top 20 per cent of the population to the income of the bottom 20 per cent jumped from 30 to 1 in 1960 to 78 to 1 in 1994 (Castells, 1999). Within countries as well rising income inequality is the norm: more countries have a higher Gini coefficient now than in the 1980s. For each country where inequality has improved in the last 20–30 years, it has worsened in more than two (UNDP, 2010: 72).

In the beginning of the year 2008, before being awarded with the Nobel Prize in Economics in the same year, Paul Krugman said that “economic growth did not do a lot for most of Americans”, referring to the increased inequality that characterizes USA since the '70s. The economist transmitted the very same message in *The Conscience of a Liberal*: “the benefits of economic growth in America in the last thirty years only reached a reduced rich minority in such a measure that it is not clear if the typical family has benefited in any way from the productivity growth that it entailed. The amplified inequality that

transformed us in a nation with a much weakened middle class has a very corrosive effect on social relations and on politics” (Krugman, 2007: 274, 275).

Indeed, the negative effects of valuing more economic growth against equality are visible in all rich societies. Inequality causes shorter, less healthy and less happy lives, increases violence, obesity, addictions and criminality, it destroys social relationships between humans in different social classes and functions as an engine for consumerism and natural resource depletion (Wilkinson and Pickett, 2010; New Economics Foundation, 2009). Even when comparing groups of people with the same income, one will realize that the ones in inequitable societies are worse off than those in more equal ones. This is a consequence of the fact that people are affected rather by having *less* than by having *little* (Klein, 2006: 423). Thus, it would be right to agree that growth was especially the growth of inequalities and the exploitation of the majority by an increasingly rich minority and that one of the main patterns of the modern world is not the progress or the increase in well-being (applicable only to a small percentage of the global population), but a growing division where the rich become wealthier while for the poor it becomes more and more difficult to escape the vicious cycle of poverty.

### 3.2. Amplified pressure on the environment

Secondly, the collocation of *scarce resources* entails the finite pattern of the resources that every economic activity relies on, widely disregarded by mainstream economists.

One of the most striking realities nowadays is an increasingly stressed environment that is likely to lead to the collapse of our society if the economic patterns that characterize the ‘modern world’ are not reversed. As shown by the data from the Global Footprint Network, we already consume more than the carrying capacity of the life supporting systems. Considering the sustainable footprint at 2.3 global hectares, Romania already has a footprint of 2.9 global hectares, being an ecological debtor, meaning that we consume 0.6 more global hectares per capita than our bio capacity can stand (Global Footprint Network: 2010). The average footprint for the Western European countries is around 5 global hectares, meaning that if all world population had the life styles of our neighbours, we would need not one, but two planets in order to survive. The results are even more striking for United States of America, who have an ecological footprint of 9.4 global hectares and raise questions on the ethical dimension of such development. It is clear that, even if by a miracle, all the earth inhabitants, each of them with a personal vision of the American dream could enjoy the same life standards, the Earth natural systems necessary for a healthy human life would collapse long before this will be achieved.

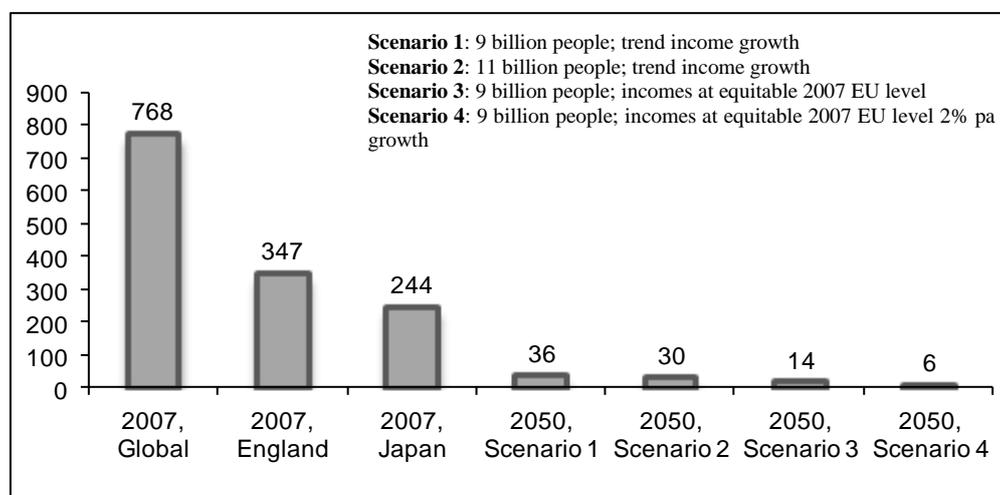
Kenneth Boulding popularly argued in a quotation that was to become the most popular one given by an economist with regard to economic growth that “anyone who believes exponential growth can go on forever on a finite planet is either a madman or an economist”. The first and the second laws of thermodynamics, the most thoroughly tested and validated laws of nature (Hall et al, 2001: 665), state explicitly that it is impossible to have a perpetual motion machine that performs work without the input of energy. This evidence that the imperative of growth promoted by neoclassical economists cannot be satisfied infinitely was emphasized by many renowned scientists, particularly by Nicholas Georgescu-Roegen in his magnum opus *The Entropy Law and the Economic Process* (1971). The Romanian scientist showed that the roots of economic penury lie not only on the limited amount of resources but as well on the irrevocable entropic degradation.

The mainstream economists from the neoclassical school of thought have always insisted on the power of technology, but the wishful thinking about dematerialised growth has proven elusive (Kallis et al, 2009: 17; Jackson, 2009; Polimeni and Iorgulescu-Polimeni, 2007). Stanley Jevons was the first economist that had insight on the so-called *rebound effect*: the technological progress that increases the efficiency of resource use tends to also increase the consumption rate of the respective resource. He described in his book *The Coal Question* (1866) that the technical improvements that increased the efficiency of coal use led to a decrease of the relative costs of its use and, consequently, to the use of this resource in many industries. Even though Jevon’s Paradox was confirmed in many recent studies (Van den Bergh, 2009a, 2009b; Polimeni and Iorgulescu-Polimeni, 2007), it remains unpopular in the academic circles.

Tim Jackson, in a book that was to become a reference in the post growth literature - *Prosperity without Growth*, conferred a whole chapter to the *myth of decoupling* between economic growth and energy use. A relevant example that the author gives is that of carbon emissions: the International Panel on Climate Change suggested in a recent report that achieving 450 ppm stabilization target means getting global carbon dioxide emissions down to below 4 billion tons per annum by 2050 or soon after, which

translates to a reduction by 4.9 per cent per year between now and 2050; the population and the income will go in the opposite direction, reaching 9 billion, respectively an average growth of 0.7 per cent each year (Jackson, 2009: 79). Figure 1 shows four growth scenarios for the year 2050. Jackson explains that, for instance, if we imagine that income everywhere are commensurate with a 2 per cent increase per year in the current European Union average income, by 2050 the carbon intensity should be 130 times higher than today in order to meet the stabilization target (Idem, 81).

**Figure 1: Carbon intensities now and required to meet the 450 ppm target**



Source: Jackson, 2009: 81

### 3.3. The breakdown of individual satisfaction

Politicians and economists have failed not only in the allocation of resources and in finding a sustainable way of managing their scarceness, but there is abundant proof pointing that the social and environmental pressure of the economic growth no longer benefits most of the individuals in affluent countries either.

The ideology of *growth for the sake of growth* has determined the trapping of the citizens of most countries in the treadmills of consumption and production, reducing them to simple production tools and/or consumption units. The fact that the glorious years after the big depression were paralleled by an increase in the rates of major depression in every age group worldwide (with the rates of suicide, unipolar or bipolar disorder and alcoholism climbing notably) might seem like a paradox. Several authors analyzed this trend that was already evident since the early '50s and criticized the failure of the GDP in including these hidden costs of economic growth (Cassiers and Thiry, 2009; Cassiers and Delain, 2006), but still the link between economic progress and social malaise is insufficiently approached and didn't penetrate enough the academic and political debates.

The imagery of progress and material prosperity creates a delusion of well-being and the increase of the life quality of western individuals becomes more and more illusory. Economic growth has engendered a vicious cycle in which people, trapped in the production and consumption treadmills are increasingly stressed and gradually need more drugs to keep them going in the treadmills. As well as the self-alienation, the breakdown of human interrelations and the detachment from nature lead to mental disorders.

The paradox of plenitude indicates that while anguish and suffering are usually generated by scarceness and deprivation, in the western world they are generated by plenitude. For the people in affluent countries the acquisition of new things is much handier than for the poor and, because they invest rather trivial efforts for acquisitive purposes, the satisfaction is worn-out. In other words, while people in rich societies have most of what they could possibly want, they are unsatisfied because nothing is difficult to obtain. And without satisfaction life is usually shallow and meaningless. As Lasn points out referring to what he calls the "burden of perverse plenitude", "we embrace the value of *More* to compensate for lives that seem, somehow, *Less*" (2000:11). Thus, gratitude for what one has has been replaced by a sharpening hunger of what he does not possess yet and "How much is enough?" has been replaced by "How much is possible?", leading to an ever insatiable satisfaction.

Another paradox is the one of “the making of needs”. The dialectic entailed by this paradox was emphasized by Latouche (2007: 79-81): not only the economic imagery literary invents the *rarity*, but poverty represents a condition of growth. By creating psychological tensions and frustrations the economic growth and development pretend to satisfy the fundamental needs of people. The pressure of necessity acts as an engine for the employment of people while the making of the indispensable mass demand is determined by the exacerbation of new needs. Thus, there is no growth without needs and without maintaining the population in misery – both the concrete, physiological one and the psychological one induced by the frustration of ever persistent “needs”.

Consumers can never get what they want. The paradox of choice explains it: because of the multitude of choices, it is impossible to have the certainty of making the right decision when buying something. People often become paralyzed, as it is hard to make a choice at all. *Affluenza* (from *affluence* and *influenza*) is a new term coined in the previous decade for designating a deliberately spread mental epidemic. Clive Hamilton and Richard Denniss' book, *Affluenza: When Too Much Is Never Enough*, poses the question, "If the economy has been doing so well, why are we not becoming happier?" The authors are arguing that affluenza causes over-consumption, "luxury fever", consumer debt, overwork, waste, and harm to the environment. These pressures lead to "psychological disorders, alienation and distress" (Hamilton and Deniss, 2005: 179), causing people to "self-medicate with mood-altering drugs and excessive alcohol consumption" (Idem, 180). The increase of conspicuous consumption is an answer to the existential void manifest in the lives of Western people. The spiritual traditional values are progressively lost and replaced by material values, consumption becoming a response to the meaninglessness of the modern life. This trend is perpetuated as consumers cannot find meaning in their acquisitions but the economic imagery guides them in this sense, trapping them in the full motion of the treadmill of consumption. As the consumers' interests moved progressively from needs to wants, conspicuous consumption became a means for acquiring a desired status by identifying oneself with certain products and brands. As argued by Hamilton (2010:572), “the inability of consumerism to allow true realisation of human potential manifests itself, to an ever-increasing degree, in restless dissatisfaction, chronic stress and private despair, feelings that give rise to a rash of psychological disorders - including anxiety, depression and substance abuse - and a range of compensatory behaviours including many forms of self-medication”.

#### 4. The prognosis – degrowth

The Romanian born economist Nicholas Georgescu-Roegen predicted that bioeconomy will be the language that will be spoken by all in the third millennium (Pohoată, 2006). His prophecy became true. Degrowth, on which the economist has insisted as the only option for a sustainable socio-economic development, has an increasing resonance starting with the years 2000 (Gheorghică, 2012: 71). Most of its advocates reclaim Georgescu-Roegen as the intellectual founder of the civic, academic and political degrowth movement.

Degrowth appears as a new emergent paradigm that holistically approaches the crisis, encapsulating its multidimensional aspects and criticizing the sustainable development paradigm because of its failure in interrogating the benefits of economic progress and in escaping the imperative of growth. The beginning of its success is due partly precisely to these failures of the twentieth century critiques in addressing the limits to growth. The degrowth narrative approaches crises not tackled by sustainable development such as: the loss of cultural diversity, the crisis of political representation, the crisis of meaning, the multidimensional movement of degrowth being successful in regenerating some debates that were stuck in the previous decades. It implies a synthesis of social purposes (a development that benefits all, that serves people and it is not served by people, qualitative and not quantitative) and of ecological aims (the sustainability of this development).

Economic degrowth does not appear as a new doctrine, a programme, an ideology or yet as another economic theory. Because of the dynamic and complexity of its forms of expression a comprehensive definition of degrowth is considered to be a difficult task. Nonetheless, from the reference literature we distinguish some major features of degrowth: it appears as a transition that entails the transformation of the global economic system with the obvious objective of reducing the ecological impact through reduction of production and consumption. This transition that goes far beyond decoupling is voluntary and participatory, the degrowth process being a democratic one. Degrowth also implies equity. Central to the movement is the quest for a high life standard where the quality-quantity dichotomy

is stressed. Escaping of the economy and the decolonization of the economic imagery represents the overarching theme of the movement.

Degrowth is not aimed for the sake of degrowth and therefore does not represent a finality *per se* but a means towards a better future, finality represented often within the degrowth discourses by a future in which the majority of people have the potentiality and the capability of enjoying a good life. Thus, one of the main characteristics of degrowth, if not its core one, is the quest for a high quality of life that moves the focus from *more* to *better*, addressing the dichotomy of *having* and *being*, and challenging the significant distinction between the qualitative and the quantitative assets in one's life. The emphasis on the joy of living or good life indicates that degrowth does not represent contraction, regression, recession or negative growth but a means towards *the enjoyment of life*. This notion is commonly attributed to Georgescu-Roegen who described it as the true product of the economic process, together with the natural resources. He indicated that "the material stock of natural resources is depleted (...) during the economic process", but it would be "utterly absurd to think that the economic process exists only for producing waste. The irrefutable conclusion is that the true product of that process is an immaterial flux, the enjoyment of life" (Georgescu-Roegen, 1971: 18). For achieving a genuine enjoyment of life, humans need to gain back their freedom from the imperative of growth and to regain the capacity of guiding the economy on their service. A democratic control of the economic activities is required so that they will serve humans and nature. Frugality, conviviality, simplicity are all central dimensions of degrowth individual or collective level. Voluntary simplicity - "the condition for an augmented joy of life" (Ridou, 2006:97) designates the liberation of humans from the non-essential activities that saturate modern life in the consumer and work-oriented culture directed counter to that which enriches and inspires us, for a living in accordance with humans' most important values.

The paradigmatic proposition of degrowth is that human progress without economic growth is possible as Schneider *et al* emphasised (2010:512). It can be argued though that, in fact, this progress is not only possible within degrowth, but it has a great potentiality for enhancing the quality of life, a view generally shared among the degrowth partisans. Latouche (2010, p.521) refers to it as a decrease of "well-having" in order to improve "well-being". The slogan *moins des biens, plus des liens* (fewer goods, more relationships) appears frequently in the degrowth literature (e.g. Ariès, 2010; Latouche and Harpagès, 2010; Latouche, 2010) pointing to the life improvement that can be generated by replacing the man-things relationships with the interhuman relationships, in the very same sense that Karl Polanyi indicated in *The Great Transformation* (2001). Therefore, degrowth aims at a new great transformation, a positive one, reflected by the dual conversion of the human position in relation with its natural and artificial environment, respectively a reconsideration of human relationships with nature and with the economy in order to enhance human life.

## 5. Conclusions

Both theoretically and empirically, the hiatus between growth and happiness and between GDP and life satisfaction are evident. The current obstinacy on economic growth cannot be pursued anymore because it does not improve the well-being of most of global population; on the contrary, it brings the menace of a collapse of human societies closer both because of the rising inequalities and because of the limits of the life supporting systems. For many decades the institutions that are governing the international relations together with the "big powers" of the world manifest relentlessly their interest in resolving worldwide poverty and ecological sustainability. If they want to be serious and responsible indeed, they should change their focus from the "growth at all costs" and "one size fits all" models by recognizing the limits to economic growth and by analysing the long term costs associated with it.

Beyond the debt expressed strictly in monetary terms, the debt generated by the global economic system is above all a moral one, towards humans and towards nature. In this sense illustrious scholars and philosophers point to the fact that the modern crisis is a cultural one, a crisis of meaning and of values. What we need in order to solve this multidimensional crisis is not more energy or any other resources, be they natural or financial, but a deep global mindset change, an escape from the economic imagery that has economy as its central (and only) value.

The contemporary multidimensional crisis (undoubtedly more pronounced on its socio-human dimension than on the financial and economic ones) offers an opportunity for the advancement of the degrowth paradigm that is increasingly gaining audience: it shows the limits of economics, it allows the exposure of the growth fetishism as root of the crisis and it generates alternative discourses. The debates

are carried mainly on the means versus ends question and on quality of life versus quantity of material output.

Degrowth cannot be enabled but through a spiritual conversion and several authors insist that the precondition for this conversion or renaissance is the decolonization of the economic imagery: for our sheer survival the economy has to be subordinated to the needs of people, and humans have to aim at their well-being rather than their well-having by satisfying their healthy needs rather than the pathological ones. Therefore, degrowth, through the refusal of productivism and consumerism will find its way in a spiritual renaissance. The advocates of degrowth base their assertions on the fact that all the world's greatest religions, illustrious philosophers or great thinkers promote and share the vision that man's destiny on earth is purely spiritual and moral, that the progress of our species lies entirely on justice and philosophy, that the human development is spiritual rather than material, not defined by material goods but by relational ones.

It is imperative to analyze the dichotomy between what we are and what we have and to understand the engine of the further progress of humanity: we are better off if we are more equal. Aside from this, we need now more than ever to replace the instrumental, exploitative relationship with nature with a fraternal one and to approach the natural environment not with vanity but with humbleness. If we were to imagine the realistic scenario of a future world where *business as usual* types of activities engendered by the imperative of growth will lead finally to a crisis that will make degrowth inescapable, the scenery will be one of fear and authority and not one in which the *enjoyment of life* prevails. But the degrowth partisans stress that we should adhere to degrowth voluntarily, before being constrained in doing so. Yet, as long as nature represents a tool for humans in the service for advancing economic growth, the hope for avoiding an ecological crisis is small. And the challenge of this crisis is not saving the earth but the human species survival, as there is solid evidence that the life supporting systems of earth might resist long after the conditions for human life are threatened.

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## METAPHORICAL REPRESENTATIONS OF THE SINGLE CURRENCY IN THE INTERNATIONAL PRESS

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**Abstract:** *The journalistic discourse on the euro crisis is centered around several important conceptual metaphors, their choice influencing the way the discussion is conducted in linguistic terms. The present paper analyses some of these metaphors- the euro is a patient, the euro is a sinking ship, the euro is a collapsing/ burning building- and discusses the ideological implications of their employment.*

**Key words:** conceptual metaphor, metaphoric representation, single currency, euro crisis.

**JEL classification:** A 12, Z 0

### 1. Theoretical considerations regarding metaphor

#### 1.1. Metaphor and cognition

In his *Poetics* Aristotle defines metaphor as “giving the thing a name that belongs to something else”. Thus, in the sentence “*Achilles is a lion*” certain attributes of the lion (such as courage, kingship or nobility, possibly devouring of weaker creatures) are transferred or “carried over” onto Achilles, while certain others are suppressed (for example Achilles does not have four legs). This theory of metaphor is based on a clear distinction between the literal and the non-literal, metaphor being limited exclusively to the realm of figurative language and viewed as merely ornamental, employed for stylistic effects rather than for conveying information about the world. An important consequence of such a view is that metaphor is excluded from the language of science, which is supposed to be clear, precise, concise, and not allowing for figures of speech.

A totally different view of metaphor was put forth by George Lakoff and Mark Johnson in their influential work *Metaphors We Live By* (1980). The central idea of this book is that metaphor is not a simple figurative device, an element of mere language, as it has often been presented in classical theories, but a central element in our conceptual system, determining and shaping the way we think, act and express our thoughts in language. The main tenet of their theory is expressed as follows:

*Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature.* (Lakoff and Johnson, 1980, p. 3).

Our entire conceptual system is pervaded by some deep-level metaphors which organize it by linking different semantic areas, thus helping us to understand the abstract in terms of the concrete, the unknown in terms of the familiar and to structure our everyday activity. The existence of these pervasive “*metaphors we live by*” can be inferred from the lexical realizations into which they surface. For example, the *Argument is War* metaphor transpires in the many war-related expressions which we use in order to talk about arguments: *to defend/attack a position, to win/lose an argument, to shoot down an argument, to use a strategy*, etc. Moreover, many of the things we do in arguing, the authors show, are partially structured by the concept of war; for example, we see the person we are arguing with as an opponent, we attack his positions and defend our own, we plan and use strategies. The *Ideas are Food* metaphor is embedded in several expressions containing words from the semantic field of food: *to swallow an idea, to digest an idea, palatable ideas*, etc. The range of metaphor is extended beyond that of the noun to which it was classically constrained, to that of verb and preposition. For example, in the sentence ‘I’ve *invested* a lot of time in her’ *invested* is an expression of the *time is money* metaphor while ‘They are *in* love’ is based on the metaphor of *love as a container*.

Metaphorical concepts such as these are so deeply rooted in our minds that they have the power to create new realities for us and influence our idea of what “absolute” truth is. Living by them has a feedback effect, as they are reinforced in this way and grow stronger in our conceptual system becoming what Lakoff and Johnson call “self-fulfilling prophecies”:

*Metaphors may create realities for us, especially social realities. A metaphor may thus be a guide for future action. Such actions will, of course fit the metaphor. This will, in turn, reinforce the power of the metaphor, to make experience coherent.* (Lakoff and Johnson, 1980, p. 156).

Thus, the authors explain, the Westernization of different cultures throughout the world, was partly determined by the introduction of the *time is money* metaphor into those cultures. In the light of such a conceptualization of time, leisure time can be viewed as foregone income and not as relaxation, while spending hours at the office becomes a profitable investment.

Since metaphors constrain and shape our mental models in this way, power is translated into the ability to impose one's metaphors upon those of the others. Once imposed, these metaphors will generate actions and guide convictions as to what is true or false, legitimate or not. Lakoff and Johnson show how the *Inflation is an Adversary* metaphor, besides having an explanatory power and helping us to understand a complex economic situation in simple terms, also shapes a way of acting towards it: declaring war, making a battle plan, setting targets, calling for sacrifices. All these look legitimate in the light of the metaphor, and even make it difficult for us to see the reality of the concept independent of its metaphorical realization. Metaphors used in order to conceptualize economic and political situations can, in this way, acquire an important role in planning foreign policy and in justifying the government's actions or hiding the consequences of these actions.

In an article written on the eve of the Gulf War, George Lakoff shows how the metaphors employed by president Bush in order to justify the USA's intervention in the conflict, made the violent and aggressive action of going to war and invading a foreign country, an act of heroic bravery and legitimate self-defense. The metaphor of the *state-as-a-person* allowed the attribution of some fairy tale roles to the actors involved in the conflict: the masculine villain - Iraq - who is attacking a weaker and vulnerable, therefore feminine victim - Kuwait (the violent entrance of the Iraque troops in the country is referred to as *rape*) and the hero that disinterestedly and bravely comes to the rescue of the victim, the USA. This metaphor made war at that time seem a legitimate and positive action to those who accepted it, although it also hid some other aspects of the intervention: the loss of human lives on both sides, the perpetuation of a cruel and discriminating regime practiced by the "victim" which fostered the exploitation and cruel treatment of women, the exoneration of the villain who, in the end, goes largely unpunished.

Metaphors help us to make sense of the world by revealing or highlighting some of its aspects, but they also impose some constraints on understanding, as they hide other aspects of reality. And since we live our lives on the basis of reasoning that is available to us via the metaphor, the result can be a sort of "*cognitive myopia*" which can lead to a harmful or dangerous view of the world, constraining the way we construct the reality and distorting this reality in order to make it fit the metaphor (Schon, 1993). Such "*generative metaphors*" as Schon calls them, tend to generate their own solutions, because the facts necessary for the finding of these solutions are not out there in the world, but already embedded in the metaphor. An important consequence of the partial character of understanding via metaphor is that various aspects of the same idea can be described by different and often contradictory metaphors. The example of the economy as an organism, a machine, a ship/the ocean, or a building, which are all ways of thinking about certain aspects of the economy in concrete terms, each of them offering different perspectives on the same reality, and providing differing frameworks for its understanding and interpretation, is an example in this respect. Henderson (1994) believes that the choice of the mechanistic view of the economy, for example, will suppress such dynamic aspects as individual and system growth, the youth, maturity and decay of economic life being reduced, he explains to 'exit' or 'entry' conditions. Various conflicting views of the economy and disagreements that appear between economists can thus be explained and solved in terms of conflicting constitutive metaphors.

Some metaphors are universal because they are grounded in the experience we have with our bodies, in certain aspects of human anatomy and psychology, or in the constant interaction we have with our physical and cultural environments. Thus, for example the metaphor *more is up*, illustrated in expressions such as *My income rose last year*, *The number of books printed every year keeps going up*, *He is underage*, has a strong experiential basis in the fact that if you add more of a substance or of physical objects to a container or pile, the level goes up. Similarly, the *happy is up/ sad is down* metaphor has a physical basis: drooping posture typically goes along with sadness and depression, erect posture has positive emotional connotations. Kovecses (2002) shows that the metaphor *anger is a hot fluid in a container* can be found at a generic level in very different languages such as English, Hungarian,

Japanese, Chinese, Zulu, Polish, Wolof and Tahitian, because anger is associated with some bodily changes that are universal (increase in temperature, blood pressure, pulse rate, skin color, etc).

However, other metaphors are grounded in our perceptual or cultural experience, and this can lead to a considerable amount of variance between languages, as the governing principles and the concepts in a given culture can be different from those in another. The metaphor *time is money* has a strong cultural basis because, as Lakoff and Johnson (1980) show, in a culture such as ours, there is a strong correlation between the amount of work done and the amount of time it takes to do it. And since it has become customary in the capitalist society to pay people by the hour, week, month or year, this metaphor emerges naturally and guides our behavior in society and our attitude towards time. We understand and experience time as a valuable commodity, as something that can be saved, spent, invested, budgeted, etc. But this metaphor is not universal and loses its validity in a non-capitalist culture or in such a sub-culture as, say, a monastery.

Other important characteristics of metaphorical concepts is their internal and external systematicity, metaphor mixing or blending, i.e. the fact that the same concept can be described simultaneously by several different metaphors and the cross-metaphorical coherence which appears when different metaphors for the same concept overlap. The following sentence is an example in this respect: “*So far* (an argument is a journey) *we have constructed* (an argument is a building) *the core* (an argument is a container) *of our argument*”.

## 1.2. Metaphor and economics

According to many writers in the field of economic discourse, the language of economics is derived from some basic metaphors that map different semantic areas at a conceptual level. Thus, starting with Adam Smith, whose metaphor of the “*invisible hand*” is “*one of the famous, and most infamous, in the history of economic thought*” (Henderson, 1994, p. 353) the discourse of economics is saturated with metaphors: the economy itself is seen either in terms of a living organism, a machine, a ship/the ocean or a building. Prices, inflation, demand, the GDP, unemployment and other indicators are represented as objects that move up and down, or as living entities with a will of their own. Money is most often a fluid circulating in a living organism, inflation is an adversary, labor is an object. The choice of metaphor will determine the way the discussion is conducted in linguistic terms. The following fragment from Klammer and Leonard offers a glimpse into the complexity and variety of economic metaphors:

*... when we say that <GNP is up>, we do not expect our audience to scan the horizon in search of ascending goods and services. Likewise, we do not watch for bloating price tags when it is asserted that <prices are inflated>. Do Alaskans have trouble keeping their <liquid assets> from being frozen? Bubbles, bears, bulls, bliss points, sunspots, cobwebs, and dirty floats all dot the economic landscape. Our most “rigorous” scientific expressions are unabashedly metaphorical. When speaking of <price mechanism>, <transmission mechanism>, <inflation>, <human capital>, <policy instrument>, <multiplier> and accelerator, we do not intend a literal identification with a machine. (Klammer and Leonard, 1994, p. 23)*

It has been shown how different evolutions in scientific thinking, such as Newtonian mechanics, thermodynamics, biology, mathematics and information technology have influenced economic thought, by supplying it with images that have become essential in the construction of the economic argument and in the generation of a distinctive discursive practice (Mirowski, 1994; Henderson, 1994). Henderson (1994) illustrates his discussion of metaphor with several textbook examples noticing, for example, the images derived from hydraulics and thermodynamics in the work of different writers (Edgeworth, Walras, Fisher)- *liquidity, floating exchange-rates, flotations, flows, circulation, leakages, injections, trickle-down effects* - or showing how the idea of money circulation and the metaphor of money as blood has been derived by analogy from William Harvey’s discovery of the circulation of blood.

Following Nietzsche, who maintains that the whole of literal language can be accounted for in terms of metaphors that have been forgotten but which continue to shape and constrain our experience, Henderson adopts the term “root metaphor” to describe such dead or rather “ossified” metaphors that have powerful cognitive implications. They rarely appear articulated as such at a linguistic level, being difficult to spell out or to be replaced by a literal paraphrase, their presence being inferred from the lexical traces they leave on the surface of the text. Thus, for example, the constitutive metaphor “*the economy is a machine*” is translated into expressions which are now part of the economic jargon, such as “*price mechanisms*”, “*equilibrium*”, “*elasticities*”, “*economic engine*”. The metaphor of the economy as an

organism explains the linguistic existence of “*infant*”, “*mature*”, “*ailing*” or “*healthy*” economies to name just a few.

## 2. Metaphorical representations of the euro in the international press

Starting from the theoretical considerations presented so far, the following section will analyse the way the euro currency is conceptualized in the international economic press, in the context of the ongoing economic and financial crisis. Based on examples taken from two main publications in the field, i.e The Economist and Financial Times, three main metaphors will be discussed: *the euro is a patient*, *the euro is a sinking ship*, *the euro is a collapsing/burning building*. These, as well as other lower level metaphors derived from them, will also be interpreted in terms of the ideological implications entailed by their use.

### 2.1. The euro is a patient

The biological metaphor of the economy has long constituted an important framework for the definition and interpretation of economic phenomena, being actually indispensable for the formulation of various theories in the history of economic thought. Henderson suggests that the viewing of the economy in organic terms, as a whole, “*can be used to imply the existence of a single entity that is separate and distinct from society.*” (Henderson, 1994, p. 351), something that has its own laws and governing principles, and does not allow much interference from the outside.

The metaphor of the euro as a patient is derived from this organic view of the economy in general. Just like the human body, the single currency can suffer from various “illnesses” that require a “cure”/ the intervention of a “doctor” or else may even result in “death”. This is an area where the language of economics borrows heavily from that of medicine, nouns such as the *recovery*, *crisis*, and adjectives like *ailing*, *healthy*, *weak* having been established as technical terms in the economic jargon. For example, Longman Business English Dictionary defines a *strong currency* as one whose value is high compared with other currencies, while a *weak currency* is one whose value is low compared with other currencies. The corresponding verb *weaken* is used in relation to currencies to refer to a fall in their value. The examples below illustrate this conceptual metaphor, and the way the journalistic prose resorts to terms having medical implications in order to discuss an economic reality.

1. The past two days have seen *the euro recover* a bit against most currencies. (FT, 18 Jan 2012)
2. ...this agreement is all about ensuring *the euro's healthy survival*. (FT, 5 March 2012)
3. a new European treaty to shore up *the ailing euro*. (FT, 9 December 2011)
4. Why is *the euro still so strong ...? Resilience of the euro* is startling and damaging. They thus need *a much weaker euro*.(FT, 6 April 2012)

Sometimes the press makes use of novel and more ornamental language generated by this euro-patient metaphor. Thus, some articles mention the single currency's *birth*, and several recent headlines in The Economist and the Financial Times refer to the euro's “illness”, its “medical chart”, its “doctors” and “cure”, its possible “relapse” following recovery and its “survival”. Such examples are presented below.

5. How to cure *the euro's ills* (FT, May 25)
6. *The single currency's medical chart* (The Economist, 3 August 2011)
7. As *the euro totters*, the world waits for the German chancellor to act. Will she?(The Economist, 26 November 2011)
8. Still *sickly*  
*The euro zone's illness* is returning. A *cure* requires more integration, but Germany isn't keen. (The Economist, 31 March 2012)
9. *Too long an illness*  
Some detect recovery in the euro zone. But if leaders make mistakes there may be a *relapse*. (The Economist, 25 February 2012).
10. They barely dare say it, but *the doctors* are strangely confident: after *a long illness*, *the euro may be recovering* (The Economist, 23 February 2012).

Charteris-Black (2000) explains that the conceptualization of the economy as a patient has important implications: the economy is viewed as a passive entity that can be influenced by the right decisions of the actor on the economic scene, the economist who is thus invested with the attributes of the

surgeon or doctor, and can be made responsible for the various problems that might appear in its functioning. He shows that the notion of a healthy economy is a strong normative metaphor, and the doctor-patient metaphor suggests the idea that the economists have the illusion that they have control over events.

*The economist presents himself as a type of therapist who is able to administer treatment and in this way constructs a view of reality in which he is presented as a source of authority and respect (Charteris-Black, 2000, p. 159)*

Narrowing down the area of analysis from the economy as a whole to the euro currency, we can argue that the notion of a sick euro entails the idea of the responsibility of the “doctors”/ European leaders and economists to intervene with the right cure in order to “save” the “patient” and ensure its survival. Such a conceptualization of the single currency is based on the idea that it represents a positive and necessary element in the EU economy, its design and survival receiving thus favourable connotations.

## 2.2. The euro is a victim

A metaphor that is strongly related to that of the patient but involves more human agency is that of the euro as a victim. From this perspective the single currency’s problems are not merely a result of endemic illness or of conditions outside human control, but of “foul play” from “villains” embodied by concrete institutions or people. A headline in *The Economist* of 28 November 2011 reads *Who killed the euro zone?* and the article starts as follows:

11. The ECB, perhaps worried that it may find itself *standing over the corpse of the euro zone with the bloody murder weapon still in hand*, is now reversing course. (...). Maybe *the single currency will survive*. (...). But just because *a victim lived dangerously* doesn’t exonerate *the fellow, or the central bank, that stuck in the knife*.

The discourse rooted in this conceptual framework makes use of terms derived from the field of war and heroic exploits, e.g. *rescue, save, defend, victory*.

12. Whenever the German Bundestag holds a vote on the latest *euro rescue*, two seemingly contradictory narratives emerge. A lopsided *victory* for the measure is virtually guaranteed.
13. In a sombre speech to the German Bundestag, she insisted that she was determined to *defend the euro*.(FT, 2 December 2011)

Such a metaphorical representation of the euro further reinforces the idea of a necessary and fundamentally good single currency, and its desirability in the EU economy. Furthermore, the victim metaphor incorporates an inherent accusation against various actors on the economic scene, e.g. the European Central Bank, while indirectly glorifying others, e.g. Germany and other euro supporters. Finally, even more than the patient metaphor, the victim metaphor could be used to justify unpopular political and economic decisions, such as austerity measures, without highlighting any of the hazards posed by the use of a single currency. From this perspective, the euro rescue is a commendable and “heroic” deed, and those who engage in it are the supporters of a right cause.

## 2.3. The euro is a mythological monster

Both the patient and the victim metaphors present the euro as a passive entity requiring human intervention. However, the personification of the euro can also turn it into an active participant on the economic scene that can influence other actors rather than being influenced by them. For example, the single currency may rise or fall as if having a will of its own in a network of forces that doesn’t need the interference of economists at all. Moreover, the euro is sometimes portrayed as a negative entity that is actively involved in different economic processes and phenomena, for example by directly affecting profits and growth, or by “infecting” healthy economies. The examples below illustrate this situation:

14. The more plausible diagnosis is that the “sick man of Europe”, Germany, *suffered from the euro* for a decade while the periphery was booming, and now the periphery is suffering (heavily) while Germany is doing relatively well.(*The Economist*, 25 November 2011)

15. The *ailing euro* and strong yen *took a bite out of Sony's recent quarterly profits*, forecasts have been slashed ... (9 Nov 2008)
16. Mr Dumas said *the euro*, far from providing economic benefits, *had hurt consumer spending and growth in the Netherlands*... (FT, 5 March 2012)

This demonization of the single currency is taken to an extreme when the euro is likened to a mythological monster that keeps the damned in hell, thus being seen as a source of eternal suffering and lamentation. Such a parallel suggests that the euro is the culprit which, through its three main problems, prevents the EU countries from getting out of the crisis:

17. In ancient Greek mythology, *a three-headed dog* guards the gates of hell and prevents the damned from leaving. It's not a bad metaphor for the present euro crisis, as Jay Shambaugh makes clear in a paper presented as part of the Brookings Papers on Economic Activity, entitled "The euro's three crises". *The single currency is saddled with not one but three serious problems*, he explains: a banking crisis, a debt crisis, and a growth crisis. (The Economist, 26 March 2012)

This metaphorical representation has important ideological implications, making the scenario of a euro breakup a legitimized act of self-defense and "liberation" rather than a morally and economically wrong action.

#### 2.4. The euro is a sinking ship

The metaphorical representation of the euro as a ship on the ocean has an important place in the journalistic prose analysed in this paper. The most frequently used words to describe the single currency within this acceptance are the verb *sink* and the corresponding adjective *sinking*, employed in a non-ornamental way as synonyms for *fall* and *falling*. Other conventionalized lexicalizations of the nautical metaphor are *buoyant*, *afloat* and *bailout*:

18. Other commentators also doubt how long *the euro can remain so buoyant*... (FT, 27 April 2011)
19. In short, the eurozone has the will and the wherewithal to *keep the euro experiment afloat*. (FT, 8 March 2011)
20. Scepticism about the ever-mounting cost of *euro bailouts* is rising within the coalition. (The Economist, 29 September 2011)

However, sometimes the euro-ship metaphor generates more figurative language, the "sinking" of the euro being meant in such cases as a way to describe its eventual demise. This unwanted scenario can result from the combination of two possible causes: a faulty design combined with an unskilled crew, and factors outside human control, such as unfavorable conditions and unforeseen circumstances. The ideological implications of such a metaphorical representation of the single currency are very clear: the safe "steering" of the euro in the current financial environment is the responsibility of the "captain" and of "his crew"/ the European Central Bank and the European leaders and economists. Nevertheless, if they fail and the euro "voyage" ends in a "shipwreck", then leaving the "ship" becomes a legitimized act of economic and political self-preservation and wisdom, an ultimate solution left when all the other options have been exhausted. The following examples illustrate such an ornamental use of language to speak about the fate of the union currency:

21. The *sinking euro*

The designers of the good ship euro wanted to create the greatest liner of the age. But as everybody now knows, it was fit only for fair-weather sailing, with an anarchic crew and no lifeboat. Its rules of economic seamanship were rudimentary, and were broken anyway. When it struck a reef two years ago, the water flooded one compartment after another.

.....

Mrs Merkel speaks often of the need to save the euro, but she acts as if there were no imminent danger. Germany has stayed dry. If other crew members are neck-deep in icy water, she thinks it serves them right; (The Economist, 26 September 2011)

22. ....and thus in the eyes of hardline Germany encouraging moral hazard – and averting a financial meltdown that could *sink the euro*.(FT, 2 September 2011)
23. Trashing the lifeboat  
Could Italy *sink the euro*? (The Economist, 3 September 2011)

While the metaphor of the euro as a sinking ship highlights some aspects of the euro crisis, it hides others, e.g. the presumably disastrous economic and financial consequences that would follow from such an event. In order to capture such facets of the crisis, another metaphor is proposed: that of the euro as a nuclear plant which is going to explode, with long-lasting effects upon the “health” of the socio-economic environment.

24. The euro: not the Titanic, but Chernobyl  
(...) the British government should think of the euro as the Chernobyl nuclear complex. They think it was badly designed, and thus was always a bad idea. They are very glad not to have it on British soil. But they also understand Britain's interest in helping to fix it. Or if that is impossible, undertaking heroic efforts to contain and limit the continent-wide fallout.( The Economist, 12 December 2011)

### 2.5. The euro is a vehicle out of order

Mechanical analogies constitute an important part of economic thought, providing the fundamental general level metaphor “*the economy is a machine*”. Because the nature of the analogy has changed as new machines became available in time, this metaphor was altered at a more specific level, which resulted in new vocabularies becoming available for the formulation of economic ideology (Henderson, 1994; Mirowski, 1994). Thus, from the clock mechanisms available in the 17<sup>th</sup> and 18<sup>th</sup> century, to the heat engines in the 19<sup>th</sup> century and computer technologies in the late 20<sup>th</sup> century, the choice of metaphor has influenced the way in which the analysis has developed in linguistic terms, the new vocabularies available sometimes surviving the physical model that generated them.

Mechanical representations of the single currency evoke thoughts of a broken vehicle, a derailed train or a nose-diving plane, and are lexicalized into words such as *to run, stabilize, fix or repair*. The use of these transitive verbs emphasizes the idea of human agency in the euro crisis, involving the same underlying assumptions that characterize the patient metaphor: the single currency is a passive entity, while the economist, invested now with the attributes of the engineer has the power and the authority to intervene in its functioning by taking the right decisions, and in this way becoming accountable for the fate of the “vehicle” as such, as well as for that of its passengers. The following examples offer a glimpse into this mechanical framework for the conceptualization of the euro:

25. It was a perfect *take-off* for what had seemed an unlikely invention. The euro became legal tender on January 1st 2002 in 12 European Union countries (now 16) and was soon *cruising* comfortably as a global currency.
26. Perhaps the latest effort of eurozone leaders will *stabilise* the euro. (FT, 27 October 2011)
27. How to *run the euro: Fixing Europe's single currency* (The Economist, 23 September 2010)

### 2.6. The euro is a collapsing/burning building

The conceptualization of the single currency as a building has the effect of its viewing as a organized whole, something with a structure, with entrances and exits, and whose “tenants” can, as a result, grant or refuse access to outsiders. The main ideological consequences of such a view are that such a structure is not given, but the result of collective effort, it requires constant maintenance and repairs or else may end up “in ruins”, and those in charge can be held responsible. Lexicalizations of this conceptual metaphor include the commonly used verbs *exit, enter, collapse, get into, stay in, leave* and their corresponding nouns, as well as verbs that describe the action of supporting a weak wall so as to prevent it from falling, e.g. *prop up, bolster, shore up*. Sometimes, reference is made to the euro’s *architects*.

28. A founding member of the EU, Italy *entered the single currency* ready to relinquish a degree of sovereignty(FT, 22 September 2011)
29. British Conservatives plan for *the collapse of the euro* (Sep 15th 2011)
30. This treaty is vital to Portugal *staying in the euro*.(FT, 13 April 2012)

31. The cost of a Greek disorderly default and *exit from the single currency* could rise to €1tn (FT, 6 March 2012)
32. The Lombard Street report backs up Mr Wilders' claim that it would cost the Netherlands less *to exit the euro* than it will to participate in eurozone rescue efforts.(FT, 5 March 2012)
33. ...that offers European voters the first chance to pass judgment on a treaty enforcing tighter budget discipline to try and *shore up the euro currency*. (FT, 29 February 2012)
34. ...chancellor, and Wolfgang Schäuble, finance minister, have both talked of the need to amend the fundamental EU laws *to bolster the euro*.(FT, 12 oct 2011)

The idea of a fragile structure that may fall is sometimes rendered through more figurative language, as in example 35 where the phrase *falling masonry* evokes thoughts of a collapsing building, or in example 36, where the image of people rushing for the exits can be associated with the idea of a falling or burning building. In both cases, leaving the endangered place looks like a legitimate decision.

35. *Beware of falling masonry*

The crisis in the euro area is turning into a panic and dragging the zone into recession. The risk that *the currency disintegrates* within weeks is alarmingly high.(The Economist, 26 November 2011)

36. Europe's debt crisis: *Rushing for the exits* (The Economist, 12 November 2011)

### 3. Conclusions and outlook

The metaphors used in the international press in order to conceptualize the single currency range from organic to mechanical ones. The most pervasive metaphoric representations of the euro include the sick patient, the sinking ship and the collapsing/burning building. All these representations present the euro as a passive entity while strongly emphasizing the necessity of human intervention in the form of wise decisions taken by those responsible. In this way, these metaphors bring to the forefront of public attention the idea of the responsibility that European leaders and economists have in the euro crisis.

The conceptualization of the euro currency as an actor on the economic scene, largely outside human control, is only peripheral and includes the metaphor of the euro as an illness and that of the euro as a mythological monster. It would be interesting to further investigate the extent to which particular metaphors can be associated with the position adopted by different EU countries regarding the fate of the single currency. For example, unsystematic observation of journalistic prose suggests the idea that the patient/victim metaphor can be associated more with Germany's discourse on the topic, thus suggesting a more active involvement and a stronger attachment to the euro, while the building metaphor seems to be associated with the British position.

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## A NEW STAGE OF THE WORLD FINANCIAL CRISIS. SOVEREIGN DEBT CRISIS

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**Abstract:** *The aim of the present paper is to emphasize the effects of the world financial crisis upon the European Union countries' economies and finances. From its beginning in 2007, the world financial crisis was felt in the countries of the European Union in less than a year and during the next two years, 2008 and 2009, it strongly impacted the economies and finances in these countries. The research goals reside in analyzing the implications of the new crisis wave which was felt again all throughout 2011 and its effects seem to go on over the next period, too. This time, the financial crisis is experienced within states in the form of sovereign debt crisis.*

**Key words:** sovereign debt crisis, financial crisis, government debt, budget deficit, Euro Zone.

**JEL classification:** E 4, E 5, E 32

### 1. Introduction

The world financial crisis commenced in 2007 and was felt in the European Union states in less than a year, whereas during the next two years, 2008 and 2009, it powerfully affected the economies and finances of these states which forced many economists to compare the phenomenon with the Great Depression between 1929 and 1933 or even to think of it as more serious than from the perspective of its effects.

After a slight recovery in 2010, despite economists' fears that the recession would start again (as in the famous phrase "W-shaped crisis"), late 2010 and especially the entire 2011 brought forth the re-emergence of the crisis and its aftermath seems to continue in the next future. Yet, this time the financial crisis does not develop among banks and other financial companies, as it did in 2007, 2008 and 2009, but among states in the form of sovereign debt crisis.

The reasons of this new wave of the crisis should be searched in:

- states' high leveraging level, as many of them have raised their government debts in the context of excessive liquidity, low interests and easy credit conditions;
- the increase in budget deficits during 2007, 2008 and 2009, which was due to numerous economy raising programmes applied in many countries during this period in order to diminish the crisis effects and stop consumption decrease, to governments' being unable to cut expenses according to the extent of cutting incomes, and last but not least, to government debts' taking up some of banking system losses;
- quite numerous governments' higher leveraging/gearing because of the recession or the already existing debt level in some countries. Higher gearing refers to the ratio level between government debt and GDP at which markets no longer agree to fund the states or they do, yet at costs which are soon rejected by investors who refuse the continuation of such funding. Moreover, the emergence of the recession has quickly made it possible to shift a state from relatively high gearing to even higher debts. Thus, for the first time in history, because of too high gearing, many European governments which benefit from AAA rating can no longer intervene by increasing their budget deficits in order to fight recession as the people expect, because financial markets do not validate their options. Therefore, the only choice of many indebted countries is adopting

austerity budgets which paradoxically have the same effects as the crisis does: losing jobs, budget allocations and ballots as far as politicians are concerned. Croitoru (2011)

It should be stated that there are opinions which lead to the idea that there is only one crisis, namely the one which began in 2007 (in short, the financial crisis associated to markets) which has been going on until now. Additionally, many economists state there are two crises, namely the 2007 financial crisis of capital markets and the 2010-2011 crisis of sovereign debts. One category of economists tend to believe the latter type of crisis (financial debts' crisis) is the result of the former, because of state interventions meant to counteract the financial crisis-related recession. According to these economists, what has led humankind to a crisis including the sovereign debts is the development of financial markets and thus they believe that improvement efforts should focus on regulating capital markets, they should not tend to be excessive.

Another category of economists believe that it would be right to speak about the financial and sovereign debt crises as two distinct ones. To them, the financial crisis and the crisis of sovereign debts are the independent outcomes of the parallel growth of the private and public sectors that started in the 80's. Thus, the strong securitization emerged in the financial sector after 2002 was a key factor to aggravate the financial crisis (along with abundant liquidity, low volatility, opinion conflicts of rating agencies, inadequate regulations or better said the lack of regulations). The logical explanation is that although a capital market crisis had been expected because of the inherently cyclic nature of business, a simultaneous crisis of sovereign debts would be a failure of public policies. At a certain time, economic progress creates the circumstances for aggregated demand to drop substantially and it is then that governments must be prepared to compensate that. As this is something already known, it is apparently hard to understand why public policies have emerged simultaneously, which have led to states' high leveraging and have decreased the number of instruments available to fight a potential recession. In their opinions, it seems impossible to understand how politicians have found the incentives to disobey Keynes' advice according to which a government should always stick to a position that could allow them to intervene when aggregated demand plummets and may cause recession. Croitoru (2011)

One of the main features of the sovereign debt crisis is the ample phenomenon of financial contagion which has become a widely debated issue in the fields of politics, research, market and academia. The contagion phenomenon can be defined as a context where the capital market instability of an institution or country is transferred to one or several markets, institutions or countries. The first trait of the contagion phenomenon is that instability spread is caused by an initial event. Its second trait is that instability transfer is somehow different from the perspective of its pace, power or application field. Although the spread of economic phenomena is expected in an interconnected financial system, contagion is different because it often reflects a failure/bankruptcy/market fall and an amplified instability movement.

A failure/bankruptcy/market fall which underlies contagion often involves external causes. Consequently, there is a difference between the private costs (costs of contagion's commencement) of the capital market's failure/downfall which are incurred by the market/institution/country hosting the phenomenon and the social costs incurred by connected and interconnected players (the other markets, institutions, countries that the former entity has connections with). Individual costs are usually lower than social costs.

In the typical case of the European sovereign debt crisis, a country with poor fiscal status because of not seriously applying the necessary fiscal enhancement measures can start contagion in the countries which it has economic relations with. In the European Union and especially in the Euro Zone, because interconnection is even stronger, the contagion effect may be sooner and have higher magnitude. In this previous situation, since the respective state has not applied fiscal improvement measures, it shall experience an increase in the interest rates of its government debts which shall lead to an increase in the country's economic growth. This is a "private cost".

But the lack of fiscal discipline can also lead to the volatility of other capital markets because it additionally lowers their expectations regarding fiscal enhancement efforts in other countries facing the same problems. Consequently, these latter countries begin to face increased interest rates of their government debts. The effects incurred by other countries as a result of contagion are "special costs". Special costs are equal to the total costs represented by higher interest rates that the governments in all the other countries must pay for their debts because of the origin country's fiscal irresponsibility.

Hence, the conclusion that the countries facing phenomena which can produce contagion risks must be limited in their actions or must "pay a price" proportional to other countries' estimated costs

about to be affected by contagion. This shall provide the former countries, those generating contagion, enough incentives to limit troubling phenomena.

## 2. The financial crisis persistence in world economy: sovereign debt crisis

As far as sovereign debt crisis is concerned, since instability is due to high leveraging, the policy options to prevent it could include fiscal norms and governance mechanisms meant to avoid the excessive deficits or high amounts of government debts. González-Páramo (2011)

During the first decade pursuant to the year 2000, the government debts of most countries which are now members in the European Union (EU) had significant increases (74%), and almost half (34%) occurred over the last three years, 2008, 2009 and 2010, the years of the financial crisis. Since the figures referring to the Euro Zone are a little lower (69%, respectively 31%) as compared to EU averages, it means that leveraging was somewhat ampler in the non-Euro EU states.

However, it should be noted that the government debts in the Euro Zone are 77% of the EU debt and a little more than 70% of the growth during the financial crisis years. In this circumstance, again, the Euro Zone countries seem to have coped with the financial crisis better than those outside the Zone.

The growth according to countries, as table 1 shows, indicates the following:

- Germany raised its leveraging by almost 837 billion Euros, of which 479 billion Euros during the crisis years; France and the United Kingdom had similar records, Italy increased its leveraging by almost 600 billion Euros, of which half during the crisis years, whereas lower leveraging increases still over 100 billion Euros occurred in Greece, Poland, Portugal, of which half during the crisis years;
- There are countries where higher leveraging almost exclusively ensues from the years of the financial crisis. It is about Belgium, Finland, Ireland, The Netherlands, Romania, Spain, with 280 billion Euros total increase of which 260 billion Euros during the crisis years, and also other countries with low shares of EU total debts (Latvia, Lithuania, Malta, Luxembourg, Slovenia);
- There are also something interesting such as in Denmark, Sweden and Bulgaria whose efforts to diminish their debts during the first decade are ruined by the crisis and they resort to debt increases in order to solve their domestic imbalances.

**Table 1: Total government debt**

*Billion Euros*

Area / Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	change 2010/1999		change 2010/2007	
													absolute	%	absolute	%
<b>EU (27 countries)</b>	5,645	5,697	5,849	6,006	6,257	6,608	6,952	7,200	7,315	7,791	8,779	9,813	4,167	74	2,498	34
<b>EU (25 countries)</b>	5,629	5,679	5,828	5,987	6,239	6,589	6,933	7,182	7,295	7,769	8,746	9,769	4,140	74	2,474	34
<b>Euro Zone (17 countries)</b>	4,618	4,694	4,828	4,984	5,219	5,467	5,719	5,872	5,989	6,481	7,126	7,819	3,201	69	1,830	31
<b>Euro Zone (16 countries)</b>	4,618	4,694	4,828	4,983	5,218	5,467	5,718	5,871	5,988	6,480	7,125	7,818	3,200	69	1,829	31
<b>Austria</b>	133	138	143	146	147	152	157	161	165	180	191	206	72	54	41	25
<b>Belgium</b>	271	272	277	278	272	274	279	280	282	309	326	341	69	26	59	21
<b>Bulgaria</b>	10	10	10	9	8	8	6	6	5	5	5	6	-4	-39	1	11
<b>Czech Republic</b>	9	12	18	22	24	28	31	34	38	41	49	57	47	500	18	47
<b>Cyprus</b>	5	6	7	7	8	9	9	9	9	8	10	11	5	97	1	14
<b>Denmark</b>	95	91	89	91	89	89	78	70	63	81	93	102	8	8	40	63
<b>Estonia</b>	0	0	0	0	0	0	1	1	1	1	1	1	1	175	0	62
<b>Finland</b>	56	58	59	60	65	68	66	66	63	63	75	87	31	56	24	38
<b>France</b>	804	826	852	911	1,003	1,077	1,145	1,150	1,212	1,319	1,493	1,591	787	98	380	31
<b>Germany</b>	1,225	1,232	1,243	1,295	1,384	1,455	1,526	1,575	1,582	1,649	1,768	2,062	837	68	479	30
<b>Greece</b>	122	141	152	159	168	183	195	224	239	263	300	329	207	169	90	38
<b>Ireland</b>	44	40	42	42	43	44	44	44	47	80	105	144	100	229	97	206
<b>Italy</b>	1,282	1,300	1,358	1,369	1,394	1,446	1,514	1,584	1,602	1,667	1,764	1,843	561	44	241	15
<b>Latvia</b>	1	1	1	1	1	2	2	2	2	4	7	8	7	787	6	320
<b>Lithuania</b>	2	3	3	3	3	4	4	4	5	5	8	10	8	322	6	116
<b>Luxembourg</b>	1	1	1	2	2	2	2	2	3	5	6	8	6	500	5	207
<b>Malta</b>	2	2	3	3	3	3	3	3	3	4	4	4	2	98	1	26
<b>The Netherlands</b>	236	225	227	235	248	258	266	256	259	348	347	370	134	57	111	43
<b>Poland</b>	63	71	84	85	84	103	120	132	147	145	167	195	132	209	48	33

Area / Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	change 2010/1999		change 2010/2007	
													absolute	%	absolute	%
Portugal	59	62	69	75	80	86	96	102	116	123	140	161	103	175	46	40
United Kingdom	653	642	634	619	631	697	778	859	852	825	1,093	1,353	701	107	502	59
Romania	7	8	11	11	10	12	12	13	15	17	28	37	31	473	23	153
Slovakia	10	11	12	12	13	15	13	15	16	19	22	27	17	183	11	65
Slovenia	5	5	6	7	7	7	8	8	8	8	12	14	9	179	6	72
Spain	362	374	378	383	382	389	392	390	381	436	564	642	280	77	260	68
Sweden	161	138	138	140	145	148	149	146	133	114	129	146	-14	-9	13	10
Hungary	27	28	32	41	42	50	54	62	66	73	76	78	51	186	12	19

Source: Data taken from Eurostat and processed thereafter.

Although the percentage increases of leveraging are not significant enough, table 2 shows that:

- During 1999-2010, in terms of total government debt, only two states experienced leveraging decreases, three had increases of less than 50%, eight states increased their leveraging by 50% to 100%, and fourteen had higher leveraging by more than 100%;
- If only the financial crisis years are to be taken into account, namely 2008, 2009 and 2010, it can be noticed that all the EU countries had increases in their government debts, among which five countries by more than 100%, six by 50% to 100%, and the remaining ones by less than 50%.

Table 2: Dynamics of total government debt (1999=100)

Area / Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
EU (27 countries)	100	101	104	106	111	117	123	128	130	138	156	174
EU (25 countries)	100	101	104	106	111	117	123	128	130	138	155	174
Euro Zone (17 countries)	100	102	105	108	113	118	124	127	130	140	154	169
Euro Zone (16 countries)	100	102	105	108	113	118	124	127	130	140	154	169
Austria	100	104	107	110	110	114	118	121	124	136	144	154
Belgium	100	100	102	102	100	101	103	103	104	114	120	126
Bulgaria	100	105	106	92	84	78	66	59	55	50	53	61
Czech Republic	100	122	194	234	252	295	324	366	408	436	516	600
Cyprus	100	109	121	134	149	165	175	174	172	155	182	197
Denmark	100	96	94	97	94	94	83	74	66	85	98	108
Estonia	100	91	96	128	141	140	147	170	170	212	285	275
Finland	100	104	106	107	116	121	117	118	113	113	134	156
France	100	103	106	113	125	134	142	143	151	164	186	198
Germany	100	101	101	106	113	119	125	129	129	135	144	168
Greece	100	115	124	130	137	150	160	183	196	215	245	269
Ireland	100	90	95	96	99	101	101	100	108	182	239	329
Italy	100	101	106	107	109	113	118	124	125	130	138	144
Latvia	100	112	145	140	154	176	178	189	211	497	749	887
Lithuania	100	117	128	136	141	142	155	174	195	203	315	422
Luxembourg	100	106	111	119	124	136	144	177	196	422	432	600
Malta	100	109	125	123	141	150	156	152	158	169	184	198
The Netherlands	100	95	96	100	105	109	113	108	110	147	147	157
Poland	100	112	132	134	133	163	189	209	233	228	263	309
Portugal	100	105	117	129	136	146	164	175	197	210	239	275
United Kingdom	100	98	97	95	97	107	119	132	131	126	168	207
Romania	100	115	167	165	158	180	190	193	226	263	428	573
Slovakia	100	113	122	121	132	152	140	154	171	195	234	283
Slovenia	100	111	123	136	141	151	156	167	162	166	253	279
Spain	100	103	105	106	106	108	108	108	105	120	156	177
Sweden	100	86	86	87	90	92	93	91	83	71	80	91
Hungary	100	101	119	148	153	183	196	227	241	265	276	286

Source: Data taken from Eurostat and processed thereafter.

One of the access rules into the Euro Zone envisages the share of total government debt in Gross Domestic Product which is an indicator that should not exceed 60% of GDP. As table 3 shows, the above rule is not even obeyed by the large states of this area.

In the overall Euro Zone, the rule has been broken ever since it was created and the states that have adopted the Euro currency have been granted certain exemptions in this respect, with a minimum indicator value of around 72%, higher than the value in the entire EU, which means that strong leveraging has its roots in the very Euro Zone. After a slight decrease until 2002-2003, the respective indicator rose again, yet not very much, and then, in 2006 and 2007 it dropped not because of lower leveraging, but GDP growth, as the years led to high indicator levels of up to 85.5.

**Table 3: Share of total government debt in Gross Domestic Product**

%

Area / Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	change 2010/1999	change 2010/2007
<b>EU (27 countries)</b>	65.7	61.9	61	60.4	61.9	62.3	62.8	61.5	59	62.5	74.7	80.1	14.4	21.1
<b>EU (25 countries)</b>	65.9	62.1	61.2	60.6	62.1	62.6	63.2	62	59.6	63.2	75.4	80.8	14.9	21.2
<b>Euro Zone (17 countries)</b>	71.6	69.2	68.1	67.9	69.1	69.5	70.1	68.5	66.3	70.1	79.8	85.3	13.7	19
<b>Euro Zone (16 countries)</b>	71.7	69.2	68.2	68	69.2	69.6	70.2	68.6	66.4	70.2	79.9	85.5	13.8	19.1
<b>Austria</b>	66.8	66.2	66.8	66.2	65.3	64.7	64.2	62.3	60.2	63.8	69.5	71.8	5	11.6
<b>Belgium</b>	113.6	107.8	106.5	103.4	98.4	94	92	88	84.1	89.3	95.9	96.2	-17.4	12.1
<b>Bulgaria</b>	77.6	72.5	66	52.4	44.4	37	27.5	21.6	17.2	13.7	14.6	16.3	-61.3	-0.9
<b>Czech Republic</b>	15.8	17.8	23.9	27.1	28.6	28.9	28.4	28.3	27.9	28.7	34.4	37.6	21.8	9.7
<b>Cyprus</b>	59.3	59.6	61.2	65.1	69.7	70.9	69.4	64.7	58.8	48.9	58.5	61.5	2.2	2.7
<b>Denmark</b>	58.1	52.4	49.6	49.5	47.2	45.1	37.8	32.1	27.5	34.5	41.8	43.7	-14.4	16.2
<b>Estonia</b>	6.5	5.1	4.8	5.7	5.6	5	4.6	4.4	3.7	4.5	7.2	6.7	0.2	3
<b>Finland</b>	45.7	43.8	42.5	41.5	44.5	44.4	41.7	39.6	35.2	33.9	43.3	48.3	2.6	13.1
<b>France</b>	58.9	57.3	56.9	58.8	62.9	64.9	66.4	63.7	64.2	68.2	79	82.3	23.4	18.1
<b>Germany</b>	61.3	60.2	59.1	60.7	64.4	66.3	68.6	68.1	65.2	66.7	74.4	83.2	21.9	18
<b>Greece</b>	94	103.4	103.7	101.7	97.4	98.6	100	106.1	107.4	113	129.3	144.9	50.9	37.5
<b>Ireland</b>	48	37.5	35.2	31.9	30.7	29.4	27.2	24.7	24.8	44.2	65.2	92.5	44.5	67.7
<b>Italy</b>	113	108.5	108.2	105.1	103.9	103.4	105.4	106.1	103.1	105.8	115.5	118.4	5.4	15.3
<b>Latvia</b>	12.5	12.4	14.1	13.6	14.7	15	12.5	10.7	9	19.8	36.7	44.7	32.2	35.7
<b>Lithuania</b>	22.7	23.6	23	22.2	21	19.3	18.3	17.9	16.8	15.5	29.4	38	15.3	21.2
<b>Luxembourg</b>	6.4	6.2	6.3	6.3	6.1	6.3	6.1	6.7	6.7	13.7	14.8	19.1	12.7	12.4
<b>Malta</b>	57.1	54.9	60.9	59.1	67.6	71.7	69.7	64.1	62.1	62.2	67.8	69	11.9	6.9
<b>The Netherlands</b>	61.1	53.8	50.7	50.5	52	52.4	51.8	47.4	45.3	58.5	60.8	62.9	1.8	17.6
<b>Poland</b>	39.6	36.8	37.6	42.2	47.1	45.7	47.1	47.7	45	47.1	50.9	54.9	15.3	9.9
<b>Portugal</b>	49.6	48.5	51.2	53.8	55.9	57.6	62.8	63.9	68.3	71.6	83	93.3	43.7	25
<b>United Kingdom</b>	43.7	41	37.7	37.5	39	40.9	42.5	43.4	44.4	54.8	69.6	79.9	36.2	35.5
<b>Romania</b>	21.7	22.5	25.7	24.9	21.5	18.7	15.8	12.4	12.8	13.4	23.6	31	9.3	18.2
<b>Slovakia</b>	47.8	50.3	48.9	43.4	42.4	41.5	34.2	30.5	29.6	27.8	35.5	41	-6.8	11.4
<b>Slovenia</b>	24.1	26.3	26.5	27.8	27.2	27.3	26.7	26.4	23.1	21.9	35.3	38.8	14.7	15.7
<b>Spain</b>	62.4	59.4	55.6	52.6	48.8	46.3	43.1	39.6	36.2	40.1	53.8	61	-1.4	24.8
<b>Sweden</b>	64.3	53.9	54.7	52.5	51.7	50.3	50.4	45	40.2	38.8	42.7	39.7	-24.6	-0.5
<b>Hungary</b>	60.8	56.1	52.7	55.9	58.6	59.5	61.7	65.9	67	72.9	79.7	81.3	20.5	14.3

Source: Data taken from Eurostat and processed thereafter.

In addition, it can be seen that although in early 2007, in the very beginning of the crisis, only nine countries had government debt shares exceeding 60%, in late 2010, their number reached fourteen. Moreover, it is obvious that both in 2007 and 2010, only Italy and Greece recorded government debts higher than their Gross Domestic Products, although in 2010 some other countries' values were close to 100%, namely Portugal, Ireland and Belgium.

Anyway, the financial crisis was a major budget effort to most countries in the EU and the Euro Zone as many of them raised their expenses by taking up the debts of some commercial banks, improving the financial aids for companies and people against the general background of lower budget incomes caused by the recession.

The main cause for government debts' powerful uprise after the year 2007 is the increase of budget deficits. Table 4 indicates that the EU absolute value of cumulated budget deficits rose eight times, from around 100 billion Euros to over 800 billion Euros. The upgoing was even stronger in the Euro Zone, it was from about 60 billion Euros to almost 600 billion Euros and all that took place in just three years, in 2008, 2009, 2010. Three states can claim to have annual deficits higher than 100 billion Euros: France, Germany and the United Kingdom, but they certainly hold important economic powers. If the GDP share of budget deficits is analyzed, the outcome is that indicator values of less than 1% reach more than 6%. In fact, in 2009 and 2010, only five states had deficits below 3%. The situation of Ireland should be taken into consideration which recorded a GDP share of 31% in 2010.

Table 4: Budget deficit

Region/Country	2007	2008	2009	2010	2007	2008	2009	2010
	Billion Euros				% of GDP			
<b>European Union (27 countries)</b>	-110.3	-302.4	-810.5	-805.0	-0.9	-2.4	-6.9	-6.6
<b>Euro Zone (17 countries)</b>	-62.0	-197.0	-571.5	-572.5	-0.7	-2.1	-6.4	-6.2
<b>Austria</b>	-2.4	-2.6	-11.3	-12.6	-0.9	-0.9	-4.1	-4.4
<b>Belgium</b>	-0.9	-4.3	-19.6	-14.4	-0.3	-1.3	-5.8	-4.1
<b>Bulgaria</b>	0.4	0.6	-1.5	-1.1	1.2	1.7	-4.3	-3.1
<b>Czech Republic</b>	-1.0	-3.4	-8.3	-7.2	-0.7	-2.2	-5.8	-4.8
<b>Cyprus</b>	0.6	0.2	-1.0	-0.9	3.5	0.9	-6.1	-5.3
<b>Denmark</b>	10.9	7.5	-6.0	-6.0	4.8	3.2	-2.7	-2.6
<b>Estonia</b>	0.4	-0.5	-0.3	0.0	2.4	-2.9	-2.0	0.2
<b>Finland</b>	9.5	8.0	-4.3	-4.6	5.3	4.3	-2.5	-2.5
<b>France</b>	-51.6	-64.3	-142.5	-136.5	-2.7	-3.3	-7.5	-7.1
<b>Germany</b>	5.8	-1.4	-76.3	-105.9	0.2	-0.1	-3.2	-4.3
<b>Greece</b>	-14.5	-22.8	-36.6	-24.1	-6.5	-9.8	-15.8	-10.6
<b>Ireland</b>	0.1	-13.2	-22.8	-48.8	0.1	-7.3	-14.2	-31.3
<b>Italy</b>	-25.3	-42.7	-83.0	-72.0	-1.6	-2.7	-5.4	-4.6
<b>Latvia</b>	-0.1	-1.0	-1.8	-1.5	-0.4	-4.2	-9.7	-8.3
<b>Lithuania</b>	-0.3	-1.1	-2.5	-1.9	-1.0	-3.3	-9.5	-7.0
<b>Luxembourg</b>	1.4	1.2	-0.3	-0.4	3.7	3.0	-0.9	-1.1
<b>Malta</b>	-0.1	-0.3	-0.2	-0.2	-2.4	-4.6	-3.7	-3.6
<b>The Netherlands</b>	1.0	3.1	-31.8	-30.0	0.2	0.5	-5.6	-5.1
<b>Poland</b>	-5.8	-13.4	-22.8	-27.8	-1.9	-3.7	-7.3	-7.8
<b>Portugal</b>	-5.3	-6.3	-17.1	-16.9	-3.1	-3.6	-10.1	-9.8
<b>United Kingdom</b>	-55.9	-90.3	-179.3	-175.1	-2.7	-5.0	-11.5	-10.3
<b>Romania</b>	-3.6	-7.9	-10.6	-8.5	-2.9	-5.7	-9.0	-6.9
<b>Slovakia</b>	-1.0	-1.3	-5.0	-5.1	-1.8	-2.1	-8.0	-7.7
<b>Slovenia</b>	0.0	-0.7	-2.1	-2.1	0.0	-1.9	-6.1	-5.8
<b>Spain</b>	20.3	-48.9	-117.1	-98.2	1.9	-4.5	-11.2	-9.3
<b>Sweden</b>	12.2	7.4	-1.9	0.8	3.6	2.2	-0.7	0.2
<b>Hungary</b>	-5.1	-3.9	-4.2	-4.1	-5.1	-3.7	-4.6	-4.2

Source: Data taken from Eurostat and processed thereafter.

The main reasons of large budget deficits are the growing expenses in most EU countries (table no.5). The decrease of public expenses in the EU countries was sporadic and low. The fear of the European banking system collapse and deeper recession made governments raise their expenses in an almost uncontrolled way. They actually did nothing but delay the consequences or, as some commentators call it, "get some additional time" with the hope that somebody will find a miraculous solution. On principle, when an individual's debt increases and there is a lack of adequate or sure incomes, one's rational behaviour is to reduce expenses.

As to the GDP share of public expenses, the average share of public expenses within the EU and the Euro Zone rose by around 5%, whereas in member states the increases were much more obvious: Finland – 7.9%, Denmark – 7.4%, Latvia – 8.5%, Slovenia 7.6% and the most important in Ireland by +30%.

Table 5: Budget expenses

Region/ Country	2007	2008	2009	2010	change	2007	2008	2009	2010	change
	Billion Euros					% of GDP				
<b>EU (27 countries)</b>	5,657.1	5,873.3	5,995.6	6,199.9	542.8	45.6	47.1	51.0	50.6	5.0
<b>Euro Zone (17 countries)</b>	4,162.0	4,356.5	4,570.0	4,665.9	503.9	46.1	47.1	51.1	50.9	4.8
<b>Austria</b>	133.2	139.5	145.4	150.3	17.1	48.6	49.3	52.9	52.5	3.9
<b>Belgium</b>	162.2	172.7	183.2	187.6	25.4	48.3	49.9	53.8	52.9	4.6
<b>Bulgaria</b>	12.2	13.6	14.2	13.7	1.5	39.8	38.3	40.7	38.1	-1.7
<b>Czech Republic</b>	54.1	63.5	63.5	65.9	11.7	41.0	41.1	44.9	44.1	3.1
<b>Cyprus</b>	11.2	7.2	7.8	8.0	-3.2	41.3	42.1	46.2	46.4	5.1
<b>Denmark</b>	115.6	121.1	129.8	136.2	20.6	50.8	51.9	58.4	58.2	7.4
<b>Estonia</b>	5.5	6.4	6.3	5.8	0.4	34.0	39.5	45.2	40.6	6.6
<b>Finland</b>	85.3	91.6	96.8	99.7	14.4	47.4	49.3	55.9	55.3	7.9
<b>France</b>	992.6	1,030.0	1,071.9	1,094.5	101.9	52.6	53.3	56.7	56.6	4.0
<b>Germany</b>	1,056.8	1,089.6	1,142.1	1,185.8	129.0	43.5	44.0	48.1	47.9	4.4
<b>Greece</b>	106.1	117.9	124.6	114.2	8.1	47.6	50.6	53.8	50.2	2.6
<b>Ireland</b>	69.5	77.0	78.5	104.2	34.7	36.6	42.8	48.9	66.8	30.2
<b>Italy</b>	740.3	765.6	788.0	782.3	42.0	47.6	48.6	51.6	50.3	2.7
<b>Latvia</b>	7.6	8.9	8.2	8.0	0.4	35.9	39.1	44.2	44.4	8.5
<b>Lithuania</b>	10.0	12.1	11.7	11.3	1.3	34.6	37.2	43.8	40.9	6.3
<b>Luxembourg</b>	13.6	14.6	16.1	17.1	3.5	36.3	37.1	43.0	42.5	6.2
<b>Malta</b>	5.4	2.6	2.5	2.6	-2.8	42.7	44.0	43.3	42.9	0.2
<b>The Netherlands</b>	258.8	274.8	294.4	301.2	42.4	45.3	46.2	51.5	51.2	5.9
<b>Poland</b>	131.2	156.9	138.2	160.7	29.5	42.2	43.2	44.5	45.4	3.2
<b>Portugal</b>	75.1	77.1	84.1	88.7	13.6	44.4	44.8	49.9	51.3	6.9
<b>United Kingdom</b>	902.0	861.7	804.1	857.5	-44.5	43.9	47.9	51.4	50.4	6.5
<b>Romania</b>	47.7	54.9	48.6	49.9	2.2	38.2	39.3	41.1	40.9	2.7
<b>Slovakia</b>	18.8	22.5	26.1	26.3	7.6	34.2	34.9	41.5	40.0	5.8
<b>Slovenia</b>	14.7	16.5	17.4	17.7	3.1	42.5	44.2	49.3	50.1	7.6
<b>Spain</b>	413.0	450.9	484.8	479.6	66.7	39.2	41.5	46.3	45.6	6.4
<b>Sweden</b>	172.2	172.2	160.4	182.9	10.7	51.0	51.7	55.0	52.7	1.7
<b>Hungary</b>	50.4	51.9	47.0	48.0	-2.3	50.6	49.2	51.4	49.5	-1.1

Source: Data taken from Eurostat and processed thereafter.

Unfortunately, the budget revenues of EU states grew too little to cover the increase in expenses (table no.6). In fact, the budget deficits all around the EU decreased by almost 150 billion Euros. In the Euro Zone, things were better with the decrease of public revenues of only 5 billion Euros. Yet, the situation of each country is much more complex. Thus, 13 of the 27 states decreased their public revenues. In terms of the GDP share, things are even worse, because many countries also had lower GDP levels during this period which makes the number of states that redistributed lower revenues by their budgets to be 18.

Table 6: Budget revenues

Region/ Country	2007	2008	2009	2010	change	2007	2008	2009	2010	change
	Billion Euros					% of GDP				
<b>EU (27 countries)</b>	5.544,3	5.570,7	5.186,5	5.396,5	-147,8	44,7	44,7	44,1	44,1	-0,6
<b>Euro Zone (17 countries)</b>	4.098,8	4.158,8	3.998,7	4.093,8	-5,0	45,4	45,0	44,7	44,6	-0,8
<b>Austria</b>	130,5	136,7	134,0	137,8	7,3	47,6	48,3	48,7	48,1	0,5
<b>Belgium</b>	161,1	168,2	163,3	172,8	11,7	48,0	48,6	48,0	48,8	0,8
<b>Bulgaria</b>	12,6	14,2	12,7	12,6	0,0	40,9	40,0	36,3	34,9	-6,0

Region/ Country	2007	2008	2009	2010	change	2007	2008	2009	2010	change
	Billion Euros					% of GDP				
Czech Republic	53,2	60,1	55,3	58,7	5,5	40,3	38,9	39,1	39,3	-1,0
Cyprus	12.2	7.4	6.8	7.1	-5.1	44.8	43.1	40.1	41.0	-3.8
Denmark	126.5	128.9	123.7	129.9	3.3	55.6	55.2	55.6	55.5	-0.1
Estonia	5.8	6.0	6.0	5.8	0.0	36.4	36.5	43.2	40.9	4.5
Finland	94.8	99.5	92.1	94.6	-0.3	52.7	53.6	53.2	52.5	-0.2
France	940.7	965.4	928.8	957.6	16.9	49.9	49.9	49.2	49.5	-0.4
Germany	1,062.3	1,088.2	1,066.0	1,079.8	17.5	43.7	44.0	44.9	43.6	-0.1
Greece	90.9	94.8	88.1	89.8	-1.2	40.8	40.7	38.0	39.5	-1.3
Ireland	69.7	63.8	55.7	55.3	-14.3	36.7	35.4	34.7	35.5	-1.2
Italy	7156	723.4	706.3	712.1	-3.5	46.0	45.9	46.3	45.8	-0.2
Latvia	7.5	8.0	6.4	6.5	-1.0	35.6	34.9	34.6	36.1	0.5
Lithuania	9.7	11.0	9.1	9.3	-0.3	33.6	33.9	34.3	33.8	0.2
Luxembourg	15.0	15.8	15.8	16.7	1.7	39.9	40.1	42.1	41.4	1.5
Malta	5.1	2.3	2.3	2.4	-2.7	40.3	39.4	39.6	39.3	-1.0
The Netherlands	259.8	277.7	262.7	271.8	12.1	45.4	46.7	46.0	46.2	0.8
Poland	125.4	143.5	115.4	132.9	7.6	40.3	39.5	37.2	37.5	-2.8
Portugal	69.7	70.7	67.0	71.8	2.1	41.1	41.1	39.7	41.6	0.5
United Kingdom	845.2	771.7	626.8	684.8	-160.3	41.1	42.9	40.1	40.3	-0.8
Romania	44.1	47.0	37.9	41.4	-2.7	35.3	33.6	32.1	34.0	-1.3
Slovakia	17.8	21.1	21.1	21.3	3.5	32.4	32.8	33.5	32.3	-0.1
Slovenia	14.7	15.8	15.3	15.7	1.0	42.4	42.4	43.2	44.3	1.9
Spain	433.2	402.1	367.7	381.4	-51.8	41.1	37.0	35.1	36.3	-4.8
Sweden	184.3	179.7	157.7	182.8	-1.5	54.5	53.9	54.1	52.7	-1.8
Hungary	45.3	48.1	42.9	43.9	-1.5	45.6	45.5	46.9	45.2	-0.4

Source: Data taken from Eurostat and processed thereafter.

It is worth mentioning that although interests in most EU countries including the Euro-attached ones were lessened, national budgets' interest-related expenses were maintained at the same level during the analyzed period or even rose (table no.7). In the EU, the countries spend for their interests, so, as a result of higher leveraging, they spend almost 3% of GDP. In the Euro Zone, as its interests are slightly lower than they are in the EU non-Euro states, and their leveraging trends are increasing, they spend more than the EU average. But, as already stated, these are average values, because each state has a different situation. Therefore, states such as Belgium, Greece, Ireland, Italy, Malta, Portugal, Hungary spend more than 3% for interest payment.

Table 7: Interest-related budget expenses

Region/Country	2007	2008	2009	2010	change	2007	2008	2009	2010	change
	Billion Euros					% of GDP				
Interest rate (Euros)	5.25	3	1.75	1.25	-4	-	-	-	-	-
EU (27 countries)	338.6	346.7	308.9	332.3	-6.2	2.7	2.8	2.6	2.7	0.0
Euro Zone (17 countries)	269.8	281.5	255.0	256.8	-13.0	3.0	3.0	2.9	2.8	-0.2
Austria	7.9	7.5	7.7	7.6	-0.3	2.9	2.7	2.8	2.6	-0.3
Belgium	13.0	13.3	12.6	12.3	-0.7	3.9	3.8	3.7	3.5	-0.4
Bulgaria	0.4	0.3	0.3	0.2	-0.1	1.2	0.9	0.8	0.6	-0.6
Czech Republic	1.4	1.6	1.8	2.0	0.6	1.1	1.0	1.3	1.4	0.3
Cyprus	0.8	0.5	0.4	0.4	-0.4	3.0	2.8	2.6	2.3	-0.7
Denmark	3.6	3.3	4.2	4.4	0.8	1.6	1.4	1.9	1.9	0.3
Estonia	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	-0.1
Finland	2.6	2.7	2.4	2.5	-0.2	1.5	1.5	1.4	1.4	-0.1
France	51.0	56.6	46.1	47.2	-3.8	2.7	2.9	2.4	2.4	-0.3
Germany	68.5	68.3	63.8	61.9	-6.6	2.8	2.8	2.7	2.5	-0.3
Greece	10.7	11.9	11.9	13.2	2.5	4.8	5.1	5.1	5.8	1.0
Ireland	1.9	2.4	3.2	4.8	2.9	1.0	1.3	2.0	3.1	2.1
Italy	76.9	80.7	69.2	68.4	-8.5	4.9	5.1	4.5	4.4	-0.5

Region/Country	2007	2008	2009	2010	change	2007	2008	2009	2010	change
	<i>Billion Euros</i>					<i>% of GDP</i>				
Latvia	0.1	0.1	0.3	0.3	0.2	0.3	0.6	1.5	1.4	1.1
Lithuania	0.2	0.2	0.3	0.5	0.3	0.7	0.7	1.3	1.8	1.1
Luxembourg	0.1	0.1	0.1	0.2	0.1	0.2	0.3	0.4	0.4	0.2
Malta	0.4	0.2	0.2	0.2	-0.2	3.3	3.2	3.1	3.0	-0.3
The Netherlands	12.6	13.2	12.4	11.3	-1.3	2.2	2.2	2.2	1.9	-0.3
Poland	7.2	8.1	8.2	9.5	2.3	2.3	2.2	2.6	2.7	0.4
Portugal	5.1	5.3	4.9	5.2	0.2	3.0	3.1	2.9	3.0	0.0
United Kingdom	45.6	40.8	29.4	49.1	3.4	2.2	2.3	1.9	2.9	0.7
Romania	0.9	1.0	1.8	1.9	1.0	0.7	0.7	1.5	1.6	0.9
Slovakia	0.8	0.8	0.9	0.9	0.1	1.4	1.2	1.4	1.3	-0.1
Slovenia	0.4	0.4	0.5	0.6	0.1	1.3	1.1	1.4	1.6	0.3
Spain	16.9	17.4	18.5	20.1	3.2	1.6	1.6	1.8	1.9	0.3
Sweden	5.9	5.5	3.4	3.7	-2.2	1.8	1.6	1.2	1.1	-0.7
Hungary	4.1	4.4	4.2	4.0	-0.1	4.1	4.1	4.6	4.2	0.1

Source: Data taken from Eurostat and processed thereafter.

It should be noticed that sovereign debt crisis is present not only in the EU member states, but also in most countries facing a high degree of leveraging. The crisis is more intense in the EU area because union policies do not include procedures to reduce its effects (that is, to delay its effects). For instance, the 2010 budget deficit in the United States of America was more than 10% of GDP, and the latest predictions of the International Monetary Fund suggest only a relatively mild decline of this deficit, to almost 8% of GDP in 2012. US debt reached around 95% of its GDP in 2010 and optimistic estimations show its value of around 105% of GDP in 2012. As far as Japan is concerned, its deficit rate rose to almost 9% of GDP in 2010 and after having increased in 2011, it is about to return to around 9% in 2012. González-Páramo (2011)

The reason why the US and Japan, although facing the crisis of sovereign debts, do not have the same troubles as the European Union countries do resides in the fact that they have monetary independence, that is, if their fiscal policies can no longer be used, they may resort to monetary policies, generally to currency issues in order to reimburse their debts. But in the EU – due to the juridical treaties and norms underlying it –, the applied policies involve the use of a single, totally independent monetary policy and highly decentralized fiscal policies. The governments of European countries and the decision-making factors of national fiscal policies have not been able to delay the occurrence of fiscal imbalances in the form of excessive deficits which affect the funding costs of all member states.

### 3. Conclusions

After the crisis, the major gaps underlying the fiscal and structural policies in numerous countries in the EU and Euro Zone, as well as the current governance framework's inability to prevent the emergence of such imbalances, have become very obvious. Furthermore, the high degree of economic and financial integration in the European Monetary Union has led to risks' rapid spread to other member states perceived by the market as being vulnerable. It especially happens by means of national banking systems and their exposure to the risk of sovereign credits.

Being aware of the need for the EU's financial reform, decision makers have agreed upon the following over the last months:

- a reform package of the European governance approved by the European Council, European Parliament and European Commission in September 2011 which enhances prevention and correction and sets the minimum requirements for national budget frameworks;
- setting additional measures to improve fiscal governance, especially to strongly monitor the countries in the procedures of excessive deficits and the implementation of balanced budget norms in all member states in the Euro Zone; these measures were decided upon at the European Summit of 26/27 October 2011;
- the conclusion of the Governance Agreement during the Summit of 9 December 2011 by seventeen Euro Zone states and six countries outside the monetary bloc (Romania, Bulgaria, Poland, Denmark, Latvia and Lithuania), which provides an intergovernmental treaty aiming at strong fiscal consolidation and integration in the European Union

(namely, a fiscal pact) and more intense coordination of economic policies in the fields of common concern. Concretely, the fiscal measures envisage (1) governments' general budgets to be balanced or have a surplus. This principle is believed to be obeyed if, as a rule, an annual structural deficit does not exceed 0.5% of nominal GDP; (2) the previous rule shall be included in the national juridical systems of member states at constitutional or equivalent level. The rule shall comprise a mechanism of automatic correction which operates in case of deviation; (3) the member states that are subject to a procedure applicable to excessive deficits submit an economic partnership programme to the Commission and the Council for approval, giving details of the necessary structural reforms meant to ensure the correction of excessive deficits in a sustainable and effective way. Implementing the programme and the annual budget plans related to it shall be monitored by the Commission and the Council; (4) setting a mechanism for member states' ex-ante reporting of their national plans referring to government debt issues; (5) the rules governing the procedure applicable to excessive deficits shall be enhanced for the member states in the Euro Zone, therefore as soon as the Commission finds that a member state has exceeded the 3% limit, there should be immediate consequences; (6) specifying the debt criterion related to a reference numerical value in order to decrease debts (rule 1/20) in the member states whose government debts exceed 60% of GDP should be made public in the new directions.

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## THE IMPACT OF THE ECONOMIC CRISIS ON THE GLOBAL INTEGRATION OF THE TRANSNATIONAL COMPANIES

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**Abstract:** *The global economic crisis of 2008 onwards affected the ability of companies to invest, this resulting from limited access to funding, but also from the inclination of economic agents towards investment as a result of the gloomy economic outlook.*

*Through this study we tried to illustrate the impact of the crisis on the ability of the transnational companies to invest, investment processes underlying the global integration. A transnational company becomes a global integrated company when it manages the investment flows outwards through outsourcing and off shoring processes. The whole analysis is accompanied by clear examples of cross-border mergers and acquisitions affected by the global crisis.*

**Key words:** economic crisis, global integrated company, transnational company, cross-border mergers and acquisitions, Greenfield projects.

**JEL classification:** F 20, F 21, F 23

According to United Nations Conference on Trade and Development study, „Assessing the impact of the current financial and economic crisis on global FDI flows”, from April 2009, made on the foreign direct investment flows under the impact of the global economic crisis, there have been identified three distribution channels of the crisis on foreign investment flows, which seem to be better said, determining causes for their reduction. These are: limited access to financing, the grim economic outlook and risk aversion of global economic agents.

**Limited access to finance.** It obviously affected negatively the transnational companies' activity. Financial factors have led to a considerable reduction of the transnational companies' activity, which consist in reducing the capacity to invest of these global agents, both internally and externally, based on narrowing of the crediting conditions and of the small profits obtained by transnational companies. These led to the reduction of the multinational companies' investments beyond national borders, as well as domestic ones.

During the period 2008-2009 the pre-financing has become much more expensive and less abundant, the spread of corporate bonds increased dramatically during the last months of 2008 and is currently very high. The bank loans decreased, accompanied by a deterioration in the external business environment caused that non-financial companies to invest less in foreign operations and to achieve a lower number of cross-border mergers and acquisitions, as well as Greenfield type projects than during 2004-2008.

For that reason, in the period 2008 – 2010 we witnessed the contracting of the large companies' activities, many of them giving up to the global integrated company status and going back to the status of a transnational company. From functions integrators or transferors the companies have decided, in the absence of the necessary financial resources, to restrict their activities.

Now, making an analysis of the period 2008 – 2010, we can see that 2009 represented the critical moment, when the recorded values were the lowest. If in 2007, the value of mergers and acquisitions was on 1,022 billion \$, the highest value recorded in history, the year 2009 meant a reduction of 76%, reaching the value of 249 billion \$. The same scenario applies in the case of Greenfield projects, from a value of 1.461 billion \$ in 2008, they recorded a discount to 806 billion \$ in 2010. It is evident that financing was a crucial negative that has spurred investment, whether we speak of funding derived from loans or of auto-finance.

**Bleak prospects.** There is a pessimistic assessment of the market prospects (particularly in countries with developed economies, countries which according to economists have passed and pass

through the worst recession of the post-war era). Within these developed economies, the companies tend to reduce their ability to auto-expand, both domestically and internationally. This trend comes from the decrease in production capacity of the companies. According to the statistics made by the IMF, the world production decreased in 2009, for the first time in 60 years. The total output in advanced economies recorded a fall from 0.8% in 2008 to 3.8% in 2009, while the developing countries have experienced an increase of production capacity, which is only 1.6%.

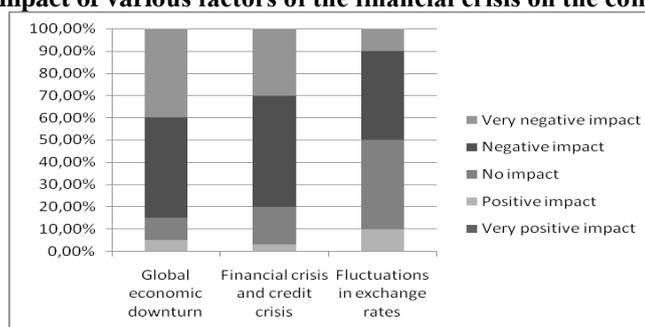
Until now the prospects remain bleak, from our point of view, because we observe that things at the level of foreign investment remain stagnant, the growth being insignificant. If in 2009, the value of mergers and acquisitions was 249 billion \$, in 2010 they reached a value of 338 billion\$, a minor increase mainly due to the primary sector (Asian countries that invest heavily in the exploitation of natural resources) and the food industry. For the first quarter of 2011, the estimated values are pretty good, namely 224 billion \$ but insufficient for a revival. The same perspectives we have and for the Greenfield type projects, which for the first quarter of 2011 were estimated 295 billion \$ and if we make a forecast for 2011 (the exact figures will be available from June 2012), we arrive at a figure that would not exceed the amount of this type of investment in 2009, namely 952 billion \$. In these circumstances, the year 2011 would be a year in which transnational companies were shown still vulnerable to the crisis, adopt protectionist strategies, but they are optimistic for the future.

**Risk aversion.** Companies' investment plans can also be quite low due to a high level of perceived risk and uncertainty. This prevents most companies to develop a capacity to adapt to an international business environment characterized by a high level of risk and uncertainty. In addition, the companies are, in this period, incapable of adapting to an unstable environment and are unable to develop international investment strategies in relation to the financial and economic conditions. (Joaia, R., Huidumac-Petrescu, 2010 "Dissemination Channels of World Economic Crisis on Foreign Direct Investment Flows"). While the investment recovering is a slow one, the global demand for private investment is increasing, as well as for public investments, that would save the world economy from a prolonged depression. With an excessively high level of public debt and with "irritable" capital markets, the Governments should take the deficits under control and the private investments to take the lead role in generating and supporting a sustained recovery. According to the latest World Investment Prospectus Survey the transnational companies have identified a number of risks in the international investment climate, as the financial instability and increasing protectionism at the national level, which could lead to a restraint of the investment expenses.

A large percentage of companies have implemented cost reduction programmes, so-called cost cutting (including transfers, layoffs, the postponement or cancellation of investment projects or, what is more serious, have withdrawn their investments through in sourcing, from a transferor of functions the transnational company resume to the parent company), which would represent gloomy scenarios in terms of business prospects for 2012.

According to data from UNCTAD, a large number of transnational companies were significantly affected by different aspects of the economic crisis in progress. Thus, approximately 86% of transnational companies have declared that the global economic downturn, the financial and credit crisis and the volatility of the exchange rate had a negative impact or even very negative on the prospects of expanding their investments (Figure 1).

**Figure 1: The impact of various factors of the financial crisis on the companies' investment plans**



Source: World Investment Prospect Survey 2009-2011 results on UNCTAD

In the period 2008 – 2010 was recorded a reduction of the disinvestments and of the restructuring operations. Thus, we witness a recent increase of the transfers, as well as of the restructuring operations. The companies make transfers and cost reductions in the production capacity – either by closing branches

or even whole factories, either through sale of assets to other companies – or restructure their external operations, thus reducing costs or enhancing the balance sheet situation at the company level, particularly by reducing the capital indebtedness.

The most affected investment types so far have been those in search of market projects, especially in developed countries. While the advanced economies recorded an increase in the negative experience in 2009, for this period the companies were unable to launch new projects which aimed at increasing the market orientation and the production capacities growth. This situation emphasizes particularly among developing economies. This is due to the reduction in the exports amount, as well as to the energy prices decrease.

The economic crisis impact on the countries' abilities to streamline their search for new projects is more difficult to assess, since these projects will suffer globally as a result of the transnational decline in auto-finance. On the other hand, many companies might be forced by the crisis to restructure their international business activities through cost reduction and increasing overall efficiency. This means above all the closure or reduction of obsolete activities or non-cost-competitive facilities (often located in advanced economies), but also the opening of facilities to reduce costs, especially in emerging economies.

Finally, the projects based on foreign direct investment could suffer, at least in the short term, as a result of the decline in world demand and therefore is accompanied by prices increasing, with negative effects especially on the resource-rich areas or areas in the developing world. It should be noted, however, that this setback in the quest for investment resources, after a period of euphoria, when the fast-growing worldwide demand triggered the imbalances in commodity markets, the prices increase has led the companies to the desire to launch several new projects.

The financial crisis involves new challenges for the foreign direct investment policies in the developing countries. The degree to which these challenges affect investments varies between individual countries or groups of countries. There is also investments protectionism and potential indirect and negative effects of the foreign direct investment packages on the state's business environment. Among the risks, the government policies are becoming much more geared toward attracting inward investment, implying negative consequences on the establishment of abroad investment and that affect the investment environment. Between attracting foreign direct investment and residents and non-residents investment should be a balance precisely in order to maintain a competitive investment environment.

One of the most important concerns of the developing countries is how to retain the existing investments within the country's territory and how to attract new foreign direct investments in times of global recession. The economic stimulus programmes may represent an incentive for foreign investments, but many developing countries don't have the financial resources to compete with promotional investment packages of the developed countries. More often, the competition based on incentives for investment determines decreases of the social and the environment standards, which would be detrimental to sustainable development. The crisis also provides an opportunity to develop and implement policies that will have as its main purpose the creation of a stability of the financial system and stimulate economic growth. Many economists make great emphasis on the need to adopt a management over a medium period of time, a restrictive management based on regular monitoring of banks in particular, of the commercial activities involving speculation and hedging, as well as of other financial institutions. This requires coordination at international level, in order to rebuild a multilateral financial system, to foster stability and fairness of a global financial system, to promote transparency, to create and guarantee funds that will help countries, but especially of corporations to develop with the goal of sound management of their debt.

And yet the economic crisis can help and determine the developing countries to improve their economic investment environment. Much more important than fast solutions are structural and institutional reforms aimed at the long-term on the competitiveness of the host countries. The agencies that promote investment could play a decisive role in fostering and encouragement of policies whose purpose is to implement new investment programs. In conclusion, for a better management of the crisis, it is very important that the economic policy makers to be able to maintain a favourable climate for investments, as well as for business and refrain from excessively protectionist tendencies.

The decline of the companies' inclination to invest abroad can take various forms, such as disinvestments and restructurings and varies depending on the investment method namely mergers and acquisitions projects, respectively Greenfield-type projects. With the year 2008 there is an increase of disinvestments and restructuring operations. In Table 1 are examples of cross-border mergers and

acquisitions and also privatization programs that have been canceled, stopped or delayed due to the global economic crisis.

**Table 1 – Examples of cross-border mergers and acquisitions postponed due to the global economic crisis**

Acquiring company	Acquired or target company	Value	The industry
Samsung Electronics (Coreea)	SanDisk (USA)	5,9 billion \$	Electronic
Xstrata (UK, Elveția)	Lonmin (USA)	10 billion \$	Extractive industry
AT&T, Vodafone	Huawei mobile handset business (China)	2 billion \$	Electronic

Source: World Investment Report 2009: Transnational Corporations, Agricultural Production and Development

The effects of the economic crisis are strongly felt by transnational companies, numerous investment being affected. Thus, at the end of the period 2008-2010, there were the following processes of disinvestments and delayed investment processes, the information being extracted from UNCTAD reports 2009, 2010 and 2011 and from various newspapers and other media information. The information has been structured by sector, for better illustration.

#### **Mining industry**

- The transnational Company BHP Billiton of Australia announced in late 2008 to reduce the workforce by 6%, which meant the disposal of 6,000 workers;
- The Anglo American Company of the United Kingdom – reduced its capital expansion by more than half in 2009, to 4.5 billion \$;
- The transnational Company Rio Tinto, deeply affected by the economic crisis, especially by the goods demand collapse, with debts of more than 39 billion \$ sold in 2009 15 billion \$ in assets to the Chinese company, Chinalco, but also assets from South America (a project based on minerals in Brazil and one on potassium in Argentina);

#### **Oil processing industry**

- The British company British Petroleum announced in October 2008 the reducing of the jobs number with about 5,000 dismissal that took place during the year 2009, particularly in developed countries;
- The American transnational Company Conocophillips adopted in 2009 a cost cutting plan based on layoffs in order to overcome this critical period;
- The Norwegian company Statoil interrupted the exploitation of oil and natural gas with 13% in 2009, as a result of the fall in oil prices and merged in 2008 with another oil company, Norsk Hydro of Norway;
- The strategic management of the company Repsol of Spain managed to save in 2008 about 10% of the total budget, namely 1.5 billion \$;

#### **Iron industry**

- The German company Thyssen Krupp, amid overall demand has adopted to reduce the number of employees with 3,000 and delayed to start an investment project based on steel production in Alabama;
- The ArcelorMittal company from Luxembourg after a very beneficial year 2007, decided to partially close the steel factory of Gandrange, France;

#### **Building materials industry**

- The French Company Lafarge, the largest cement producer in the world, sold assets in 2008, with the aim of reducing debt, predicted for the period 2009-2012 the completion of only 60% of the total investment projects, according to the plans. In addition it sold producing units from Italy to the local group Sacci;
- The company Cemex of Mexico decreased its debts with 700 million \$ by selling assets in Austria, Australia, Canary Islands;
- The Company Holcim from Switzerland resorted to layoffs in a number of 3,300 jobs and closed production units especially in the USA;

#### **Chemical industry**

- The company Bayer in Germany was very affected by the economic crisis, and in order not to make layoffs tried to renegotiate the agreements;
- The German company BASF closed in early 2009 about 80 productive units globally, with the ability to stop definitively the production in New Jersey, and South Korea, that has not been done so far;
- The American Dow Chemical Company cancelled a 12 billion \$ investment project in Kuwait;

#### **Machine-building industry**

- The U.S. Company General Motors has postponed the launch of new models of vehicles;
- Renault (France) and Daimler (Germany) have laid-off 6,000, respectively 3,000 employees;
- The Swedish Company Saab has made available over 750 employees in 2009;
- Companies Fiat (Italy) and Honda (Japan) have laid-off employees and have closed factories due to the low profits generated;

#### **Electronics industry**

- Hewlett-Packard (USA) has made available since February 2009 approximately 3,300 employees only in the United Kingdom;
- IBM made a value chain reorganization through the implementation of new processes, greatly developing the outsourcing sector, in order to reduce costs;
- United Technologies during 2008 – 2010 has reduced its number of employees by approximately 8.5%, a number of 8,000 employees remained without a job;
- Panasonic Company laid-off employees 15,000 jobs globally and closed 27 factories amid the worsening economic situation;
- NEC Electronics laid-off employees during the period 2008-2011, approximately 20,000 people both nationally and internationally;
- Philips Electronics was obliged to resort to the dismissal of approximately 6,000 employees in order to be able to reduce its debts;
- Japanese Company Sony has closed the production factory from Ichinomiya, one of the most important of its factories due to recession;

#### **The financial services industry**

- Citigroup, abandoned its Japanese brokerage units, Nikko Cordial and Redcard in order to save more than 5 billion \$;
- Several Western banks such as Bank of America, Royal Bank of Scotland, withdrew a large proportion of shareholding in Chinese banks;
- Goldman Sachs Groups sold their share of 4.9% out of Industrial and Commercial Bank of China;

We are witnessing the rise of China, India, Brazil and other emerging countries, which remain the preferred destinations of the foreign direct investments. Even if the period 2008 – 2010 was extremely difficult for all economies, the transnational companies of the developing countries were of the opinion that this economic crisis has offered and continues to offer the opportunity to purchase assets at very good prices; the transnational investor companies have the opportunity to strengthen their positions at international level.

Below are presented investment projects carried out in emerging countries being also in transition. Thus:

- Lafarge Company, cement producer, has during this period massive sales cement in the Middle East and has opened a new factory in Saudi Arabia and another factory in Abu Dhabi;
- CRH purchased 26% of the capital of cement companies in China, and namely Yatai Cement;
- Marubei Company has built a refinery worth 8.6 billion \$ in north-eastern Brazil, specifically in the Maranhao State, with a daily production of 600,000 oil barrels;
- In auto industry, Nissan-Renault has become partners with the Hinduja group to develop activities in India, with the aim of achieving the ultra cheap car. Volkswagen has rethought its investment plans in China, investing in 2010 3,1 billion \$. Fiat Italy and OJSC Sollers have signed an agreement to expand in Russia, where the demand remains strong despite the slowdown in the automotive industry in Europe and the USA;
- In the pharmaceutical industry, Sanofi-Aventis acquired a generic producer, Medley, for 670 million \$;

- In electronics industry, Siemens signed a partnership with three Russian companies (Gazprom, Petromed and Rao) on the turbines used in the processing stations.

The transboundary operations on the indicator are a measure of the overall integration of transnational companies. Transnational companies with successful investment strategies have chosen as important in the period 2008 – 2010 to limit their investments and to confine to maintain intact the tasks in the value chain, in order to save more financial resources. Therefore, Intel, Samsung, Dell and other global integrated companies have chosen as for this critical period not to extend their activities as it was planned, unless it is absolutely necessary. Here, we can give the example of the company Intel, which in 2010 has opened a new assembly and testing of the products factory in Viet Nam, as it was necessary and essential for sales in South Asia. From the point of view of the company's strategic management, this step could not be postponed, and the investment was made. Contrary, Samsung, a South Korean, who managed to remove the tag “still a Korean”, has decided to postpone the opening of a production Assembly and testing of the products factory in China for the year 2012 or 2013.

It should be noticed the evolution of the developing countries, particularly at the external stock the level of foreign direct investments. As regards to the internal stock, the value of the study once again highlights its attractiveness and the position of those countries as investment host countries or major recipients. It is worth noting the foreign direct investments external stock, because since the 2000's these emerging countries have managed to grow as foreign investors, globally reinforcing their position, along with the great investors of the world in industrialized countries.

The foreign direct investments stock of the developed countries is an important one, the safety offered by the investments from the developed countries being considerable, these countries succeeding through a competitive business environment to retain their investors on the national territory. The transition countries have managed over 10 years to evolve by multiplying the investment stocks heavily, their evolution being remarkable, along with the emerging countries.

### Conclusions

The economic recession registered this period is either acute, most transnational companies, operating in various sectors of the economy, being affected. In order to be able to overcome this difficult period they have had to make use of some strategies based either on disinvestments or on massive layoffs. These two strategies for minimising the costs are most prevalent during this period. Note that the economic agents are optimistic for the future, but very protective with the value chain, the investments being very cautious.

The current crisis is different in nature and magnitude as compared with those in the past 20 years, from at least three points of view. First, the financial crisis originated in developed countries, has had a massive impact on the world economy as a whole, affecting all sectors of the economy, but also the investment flows, which is illustrated by this time during the paper, due to the existence of massive globalisation channels or amid economic globalization.

Secondly, this crisis did not result as an incident of a usual business cycle, but on the contrary has a much deeper nature, namely it highlights the structural weaknesses and deficiencies in the regulation of the global financial system, such as the lack of transparency and lack of control of the mechanisms and the inability to preview on customer excessive behaviours focused on short-term profitability.

Thirdly, in our view, this crisis could reflect changes at the level of economic power between the developed economies considerably affected by the crisis, including the entrances and exits of foreign direct investment, and the emerging economies, whose position in the global economy becomes more and more powerful.

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## ECONOMIC CRISIS, SOCIO-ECONOMIC INEQUALITIES AND HEALTH OUTCOMES

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**Abstract:** This paper aims at analysing the relationship between economic crisis, socio-economic inequalities and health outcomes. In order to identify the factors associated with life expectancy at birth, as health outcome, and to analyse the crisis effects we performed several comparative and statistical analyses for 2007 (before the crisis) and 2010 (during the crisis) data registered for 30 European countries. Two main factors associated with life expectancy at birth are identified namely, the share of health expenditure in GDP and the percentage of people at-risk-of-poverty or social exclusion in total population. These findings point out the importance of investment in healthcare and in improving economic status.

**Key words:** life expectancy, health inequalities, health expenditure, income distribution, poverty.

**JEL classification:** H 51, I 11, I 14, I 15, O 15

### 1. Introduction

Health outcomes and poverty tend to worsen during a crisis. The present economic downturn is characterised by a rise in unemployment and poverty at the level of European countries. The average health expenditure tends to fall, but not consistently. In order to counterbalance the crisis effects on people, several governments have protected health spending or even increased it, while others have responded to the crisis by cutting the budget allocated to health.

Several on the impact of the present economic crisis on health outcomes in general or in different contexts are presented in literature. For exemplification, we mention here Ebner (2010), Kentikelenis et al. (2011) and Sargent-Cox et al. (2011).

This paper aims at analysing the relationship between economic crisis, socio-economic inequalities and health outcomes in European countries.

Drawing on the existing literature, we use *Life expectancy at birth* as health outcome and six influencing variables related to health expenditure (*Health expenditure per capita* and *Health expenditure as share of GDP*), socio-economic environment (*Unemployment* and *People at-risk-of-poverty or social exclusion*) and income inequality (*Gini coefficient* and *S80/S20 income quintile share ratio*).

Identifying and correlating the different factors that influence life expectancy in different contexts has been subject to numerous empirical studies.

For example, Lin et al. (2012) identify economy, literacy, undernourishment and political regime as main determinants of life expectancy. Lei et al. (2009) identify floor space available per rural resident and GDP per capita are positively correlated with life expectancy, while the rural population proportion and illiteracy rate are negatively correlated with life expectancy in Beijing. Yavari & Mehrnoosh (2006) show that there is a positive strong correlation between life expectancy and per capita income, health expenditures, literacy rate and daily calorie intake and a negative strong correlation between life expectancy and number of people per doctor. Crepez & Crepez (2004) demonstrate that low levels of income inequality are connected with shorter life expectancy and, additionally, that the life expectancy is driven by factors like perceived political control, the generosity of the welfare state, life-styles, GDP per capita and the poverty rate.

These are only a few examples of the many studies existing in the field. Despite the heterogeneity of data or methods or contexts there is a consensus in all studies dealing with the issue of socio-economic determinants of life expectancy in particular and health outcomes, in general pointing out the importance of sustained investment in healthcare and socio-economic status.

In order to identify the factors associated with life expectancy at birth, as health outcome, and to analyse the crisis effects we performed several comparative and statistical analyses for data registered at the level of 2007 (before the crisis) and 2010 (during the crisis). Using regression, correlation and principal components analyses, this paper identifies two main factors associated with life expectancy at

birth namely, the share of health expenditure in GDP and the percentage of people at-risk-of-poverty or social exclusion in total population. Also, the performed analyses show large discrepancies among European countries in the analyzed variables.

## 2. Data and methods

We use *Life expectancy at birth* as dependent variable (health outcome) and six independent variables related to health expenditure (*Health expenditure per capita* and *Health expenditure as share of GDP*), socio-economic environment (*Unemployment* and *People at-risk-of-poverty or social exclusion*) and income inequality (*Gini coefficient* and *S80/S20 income quintile share ratio*). Data were obtained from World Bank and Eurostat databases.

Data are recorded at country level for 30 European countries (all 27 EU members, candidate countries – Croatia and Iceland, and Norway from the category of other European countries, included in sample by the criteria of data availability), for 2007 and 2010.

Table 1 describes the variables collected for the 30 European countries included in our study.

**Table 1: Description of the variables**

Variable	Type	Definition (from Data Source)	Source
<b>Life expectancy at birth, total (years)</b>	Dependent variable (Outcome)	It indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life.	World Bank, World Development Indicators (WDI)
<b>Unemployment (% of total labour force)</b>	Independent variable	It refers to the share of the labour force that is without work but available for and seeking employment.	World Bank, WDI
<b>Health expenditure per capita (current US\$)</b>	Independent variable	Total health expenditure per capita is the sum of public and private health expenditures as a ratio of total population.	World Bank, WDI
<b>Health expenditure (% GDP)</b>	Independent variable	The percentage of GDP allocated to health.	World Bank, WDI
<b>People at-risk-of-poverty or social exclusion (% of total population)</b>	Independent variable	The indicator sums up the number of persons who are at risk of poverty, severely materially deprived or living in households with very low work intensity.	Eurostat
<b>Gini coefficient</b>	Independent variable	The Gini coefficient is defined as the relationship of cumulative shares of the population arranged according to the level of equivalised disposable income, to the cumulative share of the equivalised total disposable income received by them. It ranges between 0% (if perfect equality – each person receives the same income) and 100% (if perfect inequality - the entire national income were in the hands of only one person).	Eurostat
<b>S80/S20 income quintile share ratio</b>	Independent variable	Measures the inequality of income distribution. It is calculated as the ratio of total income received by the 20 % of the population with the highest income (the top quintile) to that received by the 20 % of the population with the lowest income (the bottom quintile).	Eurostat

We use comparative analysis of data in order to visualize the evolution of the selected variables between 2007 and 2010 for the considered countries.

We then apply regression and correlation analysis in order to identify those factors which have a strong influence on Life expectancy at birth. The identification of the significant correlations is made using Pearson correlation coefficient. We then estimate the multiple regression model equation describing the relationship between the dependent variable Life expectancy at birth and the independent factors previously selected.

An overview of the direction and intensity of the links between the variables included in the analysis but also of the relationships between the statistical units in the sample is obtained using PCA method. Each analysis is applied for both years.

### 3. Results

#### 3.1. Comparative analysis of variables

The values registered for Life expectancy at birth point out striking differences between analyzed countries (Figure 1). For 2007 we note a 10 years in life expectancy between Latvia and Lithuania with 71 years on one side and France, Iceland, Italy, Spain, Sweden, United Kingdom with 81 years of life expectancy on the other. Life expectancy was also very low, of 73 years in Romania, Estonia and Hungary. For most of the analysed countries, life expectancy has registered an ascending trend (of 1 or two years) reaching in 2010 a minimum of 73 years (in Latvia, Lithuania and Romania) and a maximum of 82 years (in Italy and Spain). In other countries life expectancy remained at the same level between 2007 and 2010 and only in United Kingdom it decreased with 1 year, reaching to 80 years in 2010. We can also notice that there is significant difference between the Western and the Eastern parts of Europe, the Baltic countries and Central and Eastern Europe displaying lower life expectancy than Western European countries. At the same time we can say that, in general, life expectancy has not been negatively influenced by the present crisis. Inequalities across countries are older than the crisis.

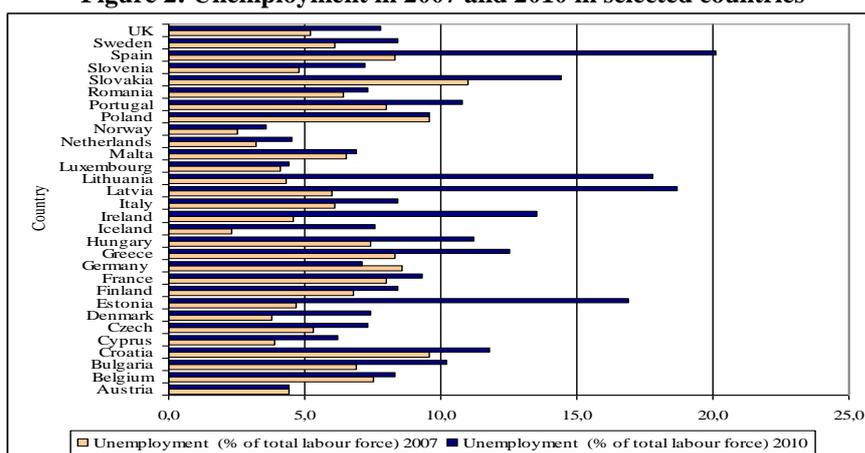
Figure 1: Life expectancy at birth in 2007 and 2010 in selected countries



Source: Author's presentation based on data from World Bank, World Development Indicators, <http://data.worldbank.org/indicator/SP.DYN.LE00.IN>

The economic crisis is, however, responsible for the significant rise in unemployment. Several countries experienced dramatic increases in the level of this indicator (Figure 2). The most affected were Spain (20,1% in 2010 as compared to 8,3% in 2007) and the Baltic states. In Estonia unemployment rose from 4,7% in 2007 to 16,9% in 2010, in Latvia the rate varied between 6% to 18,7% and in Lithuania the unemployment grew from 4,3% in 2007 to 17,8% in 2010. Austria and Poland display the same unemployment rate in 2007 and 2010, of 4,4% and respectively, 9,6%. Only Germany registers a decreasing unemployment from 8,6% in 2007 to 7,1% in 2010. All other analysed countries experienced increasing unemployment during the crisis.

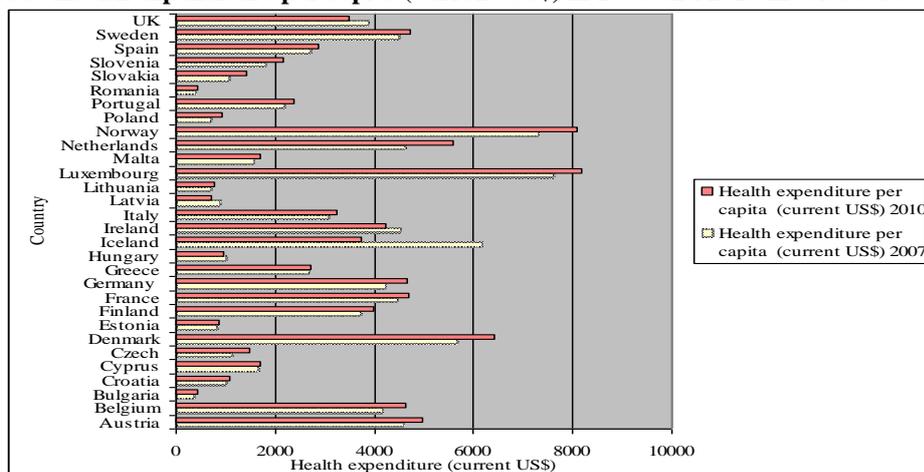
**Figure 2: Unemployment in 2007 and 2010 in selected countries**



Source: Author's presentation based on data from World Bank, *World Development Indicators*, <http://data.worldbank.org/indicator/SH.XPD.PCAP>

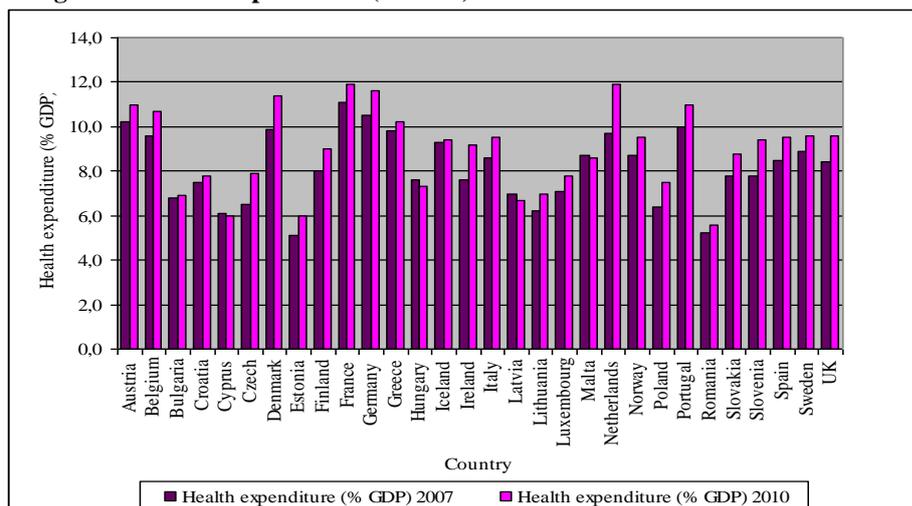
Figure 3 provides a comparison of Health expenditure per capita (current US\$) across countries in 2007 and 2008. We can notice that the total health expenditure decreased only in few countries namely, Hungary, Iceland, Ireland, Latvia and United Kingdom. All the others made efforts to increase it during the crisis, even if slightly. The country with the highest level of health expenditure per capita is Luxembourg in 2007 (7625US\$) and also in 2010 (8181US\$). The countries spending least on health were Bulgaria in 2007, with 375US\$ per capita and Romania in 2010, with 428US\$ per capita.

**Figure 3: Health expenditure per capita (current US\$) in 2007 and 2010 in selected countries**



Source: Author's presentation based on data from World Bank, *World Development Indicators*, <http://data.worldbank.org/indicator/SH.XPD.PCAP>

Total Health expenditure as share of GDP is presented in Figure 4. Most of the analysed countries show an increase in the percentage of GDP allocated to health in 2010 as compared to 2007. The exceptions are Cyprus, Hungary, Latvia and Malta.

**Figure 4: Health expenditure (%GDP) in 2007 and 2010 in selected countries**

Source: Author's presentation based on data from World Bank, *World Development Indicators*, <http://data.worldbank.org/indicator/SH.XPD.TOTL.ZS>

The analysis of the trends in income inequality shows large variation across the analyzed countries. The trend in S80/20 income quintile share ratio points out significant difference across countries. For example, quintile share ratio shows that, in 2007, people with incomes in the top quintile had incomes around 3,5 times higher than those of people in the bottom quintile in Czech Republic, Slovenia, Slovakia, Sweden and Norway and around 6 times higher in Greece, Latvia, and Portugal. Romania and Bulgaria were, by far, the most polarized societies with a quintile share ratio of 7,8 and, respectively, 7,0. In 2010 ratios ranged from 3,4 in Hungary and Norway to 6,0 in Romania, 6,9 in Spain and Latvia and 7,3 in Lithuania.

The national Gini coefficients of income inequality, which take into consideration the full distribution of income, show variations between countries at each year level, and also variations at country level between 2007 and 2010. For example, in 2007 the Gini coefficient was the lowest in Slovenia (23,2%) and the highest in Romania (37,8%). In 2010, the coefficients varied between 23,6% in Norway and 36,9% in Lithuania. When analysing the dynamics for each country we noticed that for some countries income inequality constantly rose over the analysed period (for example in Spain, France, Lithuania, Finland), while for most of them it fluctuated from one year to another. Only few countries register constantly decreasing values for the Gini coefficients namely, Hungary, Netherlands, Poland, Portugal, and Romania.

The comparative analysis of the proportion of the population at the risk of poverty or social exclusion shows at one extreme the countries with the highest rate were Bulgaria (60,7%), Romania (45,9%), Latvia (35,8%) and Poland (34,4%), in 2007 and Bulgaria (41,6%), Romania (41,4%), Latvia (38,1%) and Lithuania (33,4%), in 2010. At the other extreme the countries with lower share of the population at risk of poverty or social exclusion were Iceland (13%) and Sweden (13,9%), in 2007 and Iceland (13,7%), Czech Republic (14,4%) and Norway (14,9 %) in 2010. The analysis of trends points out similar situations as for the indicators presented above. The risk of poverty decreased significantly in the most affected countries (Bulgaria and Romania), constantly but with lower rates decreased in Germany, Poland and Finland, constantly increased in Ireland and Malta and fluctuated in the other analysed countries.

### 3.2. Statistical analysis of the relations between socio-economic factors and Life expectancy

#### 3.2.1. Correlation analysis

Table 2 presents, for each analyzed correlation the estimated value of Pearson correlation coefficient ( $r$ ) and Sig probability associated to the computed value of Student statistic, for 2007 and respectively, 2010.

**Table 2: The correlation coefficient between Life expectancy at birth and independent variables**

No.	Variable	2007		2010	
		r	sig	r	sig
1.	Unemployment	-0.210	0.265	-0.449*	0.013
2.	Health expenditure per capita (current US\$)	0.732**	0.000	0.706**	0.000
3.	Health expenditure (% GDP)	0.677**	0.000	0.716**	0.000
4.	People at-risk-of-poverty or social exclusion	-0.643**	0.000	-0.697**	0.000
5.	Gini coefficient	-0.423*	0.000	-0.355	0.054
6.	S80/S20 income quintile share ratio	-0.477**	0.008	-0.394*	0.031

Note: \*\*. Correlations are significant at the 0.01 level (2-tailed)

\*. Correlation is significant at the 0.05 level (2-tailed).

At the level of 2007, with a risk of 1%, we accept the existence of a positive relationship between *Life expectancy at birth* and *Health expenditure per capita*, *Health expenditure (%GDP)* and a negative relationship between *Life expectancy at birth* and *People at-risk-of-poverty or social exclusion*, *Gini coefficient* (the risk in this case is of 5%) and *S80/S20 income quintile share ratio*. The value of the correlation coefficient between *Life expectancy* and *Unemployment* is not statistically significant, meaning that the two variables display no significant relationship.

At the level of 2010, there can be noticed that, with a risk of 1%, we accept a positive relationship between *Life expectancy at birth* and *Health expenditure per capita*, *Health expenditure (%GDP)* and a negative relationship between *Life expectancy at birth* and *People at-risk-of-poverty or social exclusion*. There can also be noticed a negative correlation between the dependent variable *Life expectancy at birth* and the influencing factors *Unemployment* and *S80/S20 income quintile share ratio* the result being accepted with a risk of 5%. We cannot accept a significant relationship between *Life expectancy at birth* and *Gini coefficient* (Sig=0.054).

### 3.2.2. Regression model

We estimate the multiple linear regression equation between the dependent variable *Life expectancy at birth* and the independent variables which, according to the above results, are significantly correlated with it.

Testing the absence of multicollinearity and using the Backward method we have kept as independent variables only *Health expenditure (%GDP)* and *People at-risk-of-poverty or social exclusion*.

The multiple regression equations which significantly explain the variation of the dependent variable *Life expectancy at birth*, in 2007 respectively, 2010, take the form:

$$\tilde{y}_i = b_0 + b_1 x_{1i} + b_2 x_{2i} = 72.948 + 0.99 x_{1i} - 0.137 x_{2i} \quad (\text{for 2007})$$

(3.079)
(0.292)
(0.046)  
(0.000)
(0.002)
(0.006)

$$\tilde{y}_i = b_0 + b_1 x_{1i} + b_2 x_{2i} = 75.371 + 0.761 x_{1i} - 0.16 x_{2i} \quad (\text{for 2010})$$

(2.967)
(0.229)
(0.053)  
(0.000)
(0.003)
(0.006)

where:

$\tilde{y}_i$  - the estimated value of the dependent variable Y, *Life expectancy at birth*;

$x_{1i}$  - the  $i$  value of the independent variable  $X_1$ , *Health expenditure (% GDP)* ;

$x_{2i}$  - the  $i$  value of the independent variable  $X_2$ , *People at-risk-of-poverty or social exclusion*.

At the level of 2007, the positive value of the regression coefficient  $b_1$ ,  $b_1 = 0.99$ , shows that the variable *Health expenditure (%GDP)* has a positive influence on *Life expectancy at birth*; and the negative value of the regression coefficient  $b_2$ ,  $b_2 = -0.137$ , points out a negative relationship between *Life expectancy at birth* and *People at-risk-of-poverty or social exclusion*.

The estimated value of the coefficient of determination ( $R^2 = 0,594$ ) is statistically significant (Sig=0.000), showing that the variation of the dependent variable *Life expectancy at birth* is 59,4% explained by the simultaneous variation of the two independent variables, *Health expenditure (%GDP)* and *People at-risk-of-poverty or social exclusion*.

At the level of 2010, the same as for 2007, the positive value of the regression coefficient  $b_1$ ,  $b_1 = 0.761$ , shows that the variable *Health expenditure (%GDP)* has a positive influence on *Life expectancy at birth*; and the negative value of the regression coefficient  $b_2$ ,  $b_2 = -0.16$ , points out a negative relationship between *Life expectancy at birth* and *People at-risk-of-poverty or social exclusion*.

The estimated value of the coefficient of determination ( $R^2 = 0,635$ ) is also statistically significant (Sig=0.000), meaning that the variation of the dependent variable *Life expectancy at birth* is 63.5% explained by the simultaneous variation of the two independent variables, *Health expenditure (% GDP)* and *People at-risk-of-poverty or social exclusion*.

### 3.2.3. Principal Components Analysis

The results obtained with SPSS (Table 3) show a significant value associated to Bartlett's test of sphericity, with  $\chi^2$  statistic, Sig = 0.000 is smaller than 0.05 (conventional value), which means the null hypothesis of variables' uncorrelation is rejected, and the considered variables are adequate for a PCA. Thus, accepting a risk of 5%, we can say that there is a significant statistical relationship between the statistical variables. The values of the indicator MSA of KMO (KMO=0.689 for 2007, respectively KMO=0.775 for 2010), higher than 0.5, show that the solution obtained with PCA can be accepted.

**Table 3: Values of KMO test and  $\chi^2$  statistic, in 2007 and 2010**

2007			2010		
KMO and Bartlett's Test			KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.689	Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.775
Bartlett's Test of Sphericity	Approx. Chi-Square	171.474	Bartlett's Test of Sphericity	Approx. Chi-Square	182.695
	df	21		df	21
	Sig.	.000		Sig.	.000

Factorial solution indicates that the second factorial axis explains the most significant differences among statistical units, respectively 74,3% (in 2007) and 81,9% (in 2010). Table 4 presents variables coordinates in the two factorial axes.

**Table 4: Variables coordinates in the two first factorial axes, in 2007 and 2010**

	2007		2010	
	Component Matrix <sup>a</sup>		Component Matrix <sup>a</sup>	
	Component		Component	
	1	2	1	2
Unemployment (% of total labour force)	.358	.621	.749	.266
Health expenditure per capita (current US\$)	-.817	.100	-.795	.351
Health expenditure (% GDP)	-.650	.669	-.680	.575
People at-risk-of-poverty or social exclusion (% of total population)	.886	.121	.902	.016
Gini coefficient	.808	.294	.817	.515
S80/S20 income quintile share ratio	.856	.291	.844	.500
Life expectancy at birth (years)	-.802	.373	-.767	.504

Extraction Method: Principal Component Analysis.

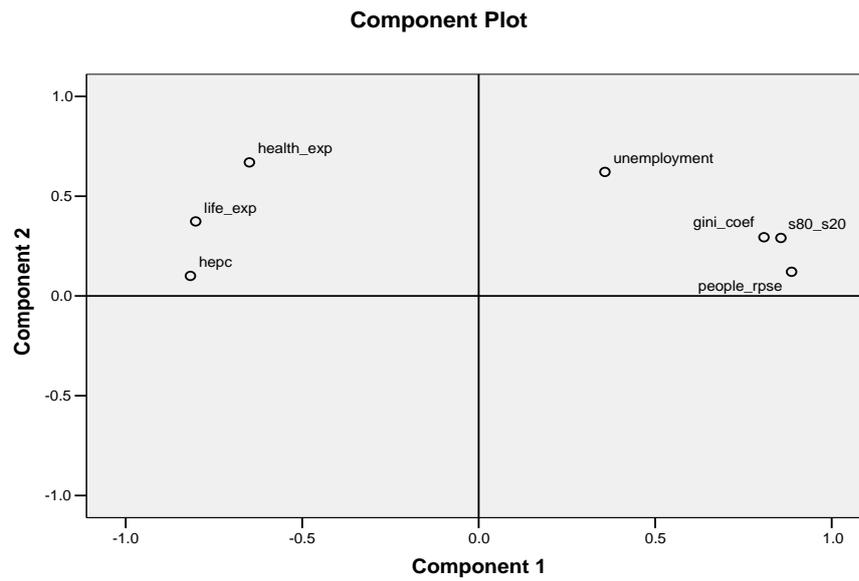
a. 2 components extracted.

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

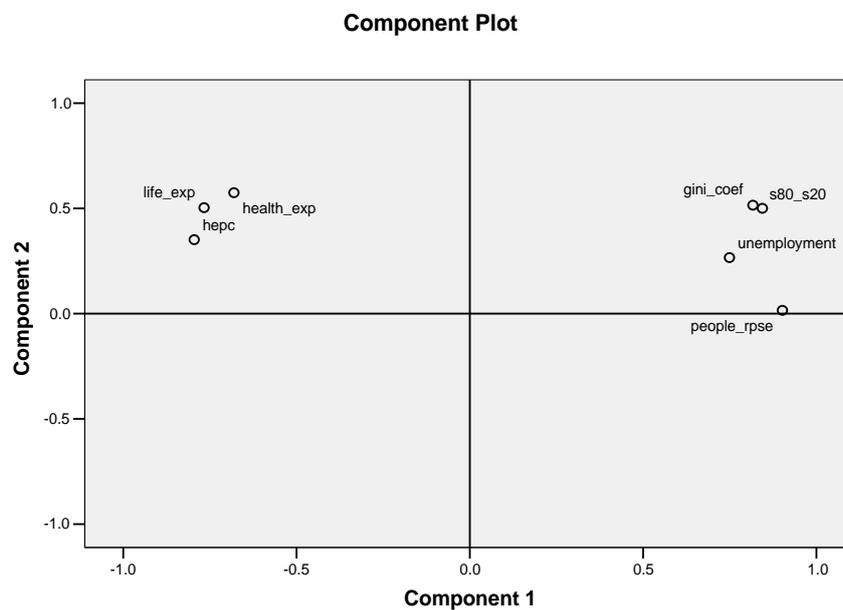
Variables' grouping on the first factorial axis and the graphical representation in Figures 5 and 6 below show that between *Life expectancy at birth*, *Health expenditure per capita* and *Health expenditure (%GDP)*, on one side, and *People at-risk-of-poverty or social exclusion*, *Gini coefficient*, *S80/S20 income quintile share ratio*, on the other, there is a negative relationship. Among the variables within each group there is a positive relationship.

**Figure 5: Variables' positioning in the two factorial axes in 2007**



Source: Output obtained in SPSS with PCA

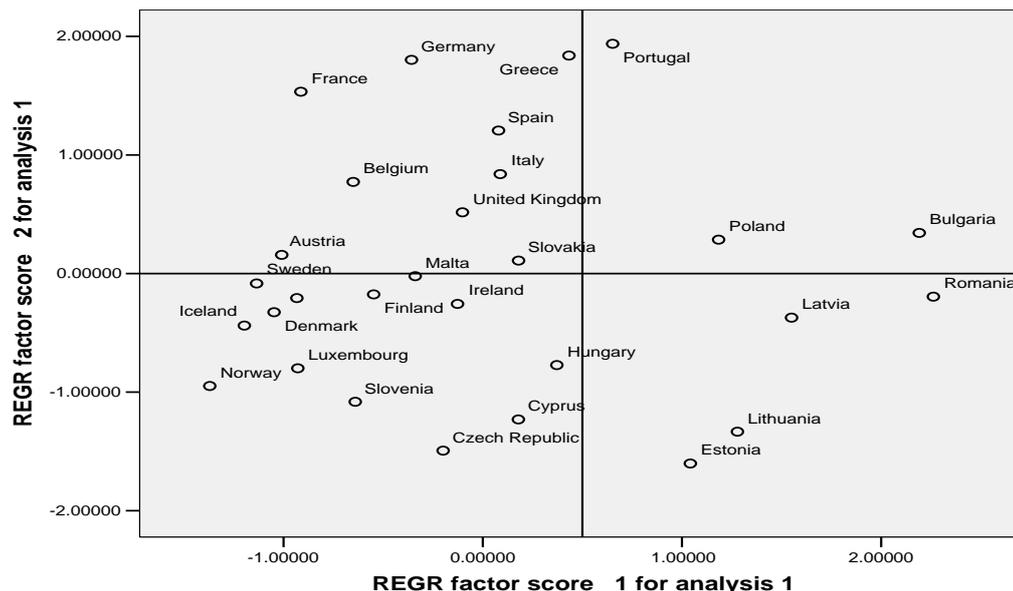
**Figure 6: Variables' positioning in the two factorial axes in 2010**



Source: Output obtained in SPSS with PCA

Figure 7 presents countries' positioning in the two factorial axes in 2007. We can notice that the most significant differences, from the perspective of considered variables, are among *Norway, Iceland, Sweden, Denmark, Austria, Luxembourg, Netherlands* and *France* on one side, and *Romania, Bulgaria, Latvia*, on the other.

**Figure 7: Countries' position in the two factorial axes in 2007**

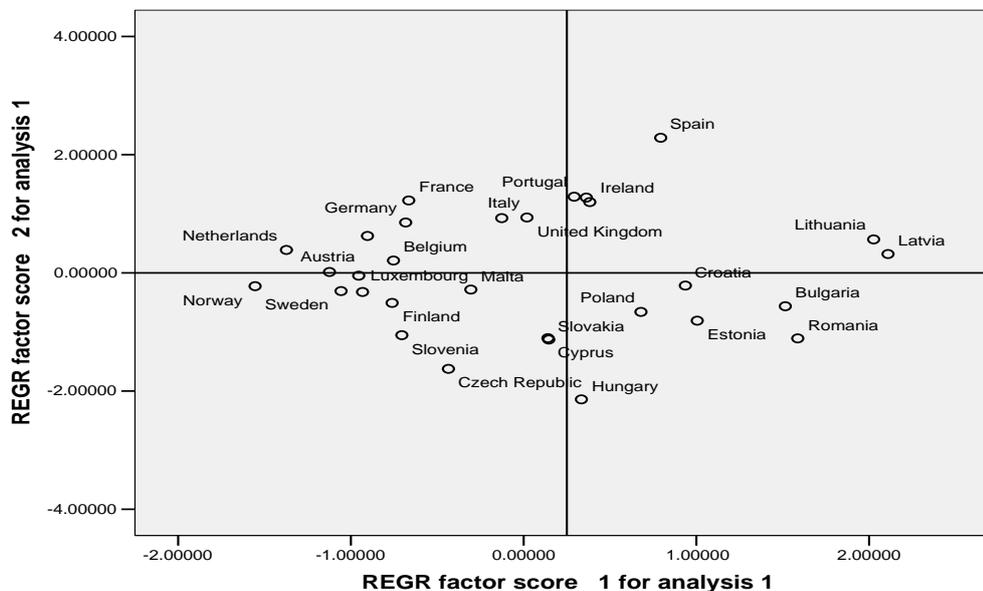


Source: Output obtained in SPSS

Overlapping of the graphical representation of countries on the factorial map (Figure 7) and variables map obtained with PCA for 2007 (Figure 5 above) permits us to identify several characteristics of the variables in the analysed countries. Countries like *Norway, Iceland, Sweden, Denmark, Austria, Luxembourg, Netherlands, and Denmark* register high values for *Life expectancy at birth, Health expenditure per capita* and *Health expenditure (%GDP)*, as opposing to *Romania, Bulgaria* and *Latvia*. These ones register high values for *People at-risk-of-poverty or social exclusion, Gini coefficient, S80/S20 income quintile share ratio*.

When performing the same analysis for 2010, we discover a similar situation. Figure 8 displays the countries' factorial map in 2010. there can be noticed that the largest difference register between *Norway, Sweden, Denmark, Austria, Luxembourg, Netherlands*, on one side, and *Romania, Bulgaria, Latvia, Lithuania*, on the other.

**Figure 8: Countries' position in the two factorial axes in 2010**



Source: Output obtained in SPSS

Overlapping of the graphical representation of countries on the factorial map (Figure 8) and variables map obtained with PCA for 2010 (Figure 6 above) permits us to identify several characteristics of the variables in the analysed countries. Countries like *Norway, Sweden, Denmark, Austria, Luxembourg, Netherlands*,

*Luxembourg and Netherlands* register high values for *Life expectancy at birth*, *Health expenditure per capita* and *Health expenditure (%GDP)*, as opposing to *Romania, Bulgaria, Latvia, Lithuania*. These ones register high values for *People at-risk-of-poverty or social exclusion*, *Gini coefficient* and *S80/S20 income quintile share ratio*.

#### 4. Discussions and conclusions

This paper aimed at analysing the relationship between economic crisis, socio-economic inequalities and health outcomes, measured by life expectancy at birth in 30 European countries. In order to identify the factors associated with life expectancy and to analyse the crisis effects we performed several statistical analyses both for data registered at the level of 2007 (before the crisis) and 2010 (during the crisis).

The performed comparative analysis allows us to observe the large differences among European countries both in *Life expectancy at birth*, as health outcome and in its related factors considered in this paper namely, *Unemployment*, *Health expenditure per capita*, *Health expenditure (%GDP)*, *People at-risk-of-poverty or social exclusion*, *Gini coefficient*, and *S80/S20 income quintile share ratio*.

For the data registered in 2007, the correlation analysis points out the existence of a positive relationship between *Life expectancy at birth* and *Health expenditure per capita*, *Health expenditure (%GDP)* and a negative relationship between *Life expectancy at birth* and *People at-risk-of-poverty or social exclusion*, *Gini coefficient*, and *S80/S20 income quintile share ratio*. There is no significant between *Life expectancy* and *Unemployment*. At the level of 2010, there can be noticed the same positive relationship between *Life expectancy at birth* and *Health expenditure per capita*, *Health expenditure (%GDP)* and the negative relationship between *Life expectancy at birth* and *People at-risk-of-poverty or social exclusion*. Also, *Life expectancy at birth* becomes negatively correlated with *Unemployment* and *S80/S20 income quintile share ratio* and displays no correlation with *Gini coefficient*. Also, there is a stronger relationship between *Life expectancy at birth* and the variables *People at-risk-of-poverty or social exclusion* and *Health expenditure (%GDP)* at the level of 2010. The fact that *Unemployment* becomes correlated with *Life expectancy at birth* in 2010 (negative correlation) could be explained by the fact that it increases in times of crisis and its dimension starts to affect people' health.

Regression results revealed that, for both sets of data (2007 and 2010), there are two factors significantly associated with Life expectancy: *Health expenditure (%GDP)* and *People at-risk-of-poverty or social exclusion*. *Health expenditure (%GDP)* has a positive influence on *Life expectancy at birth* while between *Life expectancy at birth* and *People at-risk-of-poverty or social exclusion* there is a negative relationship. However, differences can be noticed when discussing the regression coefficients. In 2007, keeping the variation of the variable *People at-risk-of-poverty or social exclusion* constant, *Life expectancy at birth* increases, in average, with one year, when *Health expenditure (%GDP)* increases with 1%. *Life expectancy at birth* decreases, in average, with one year, when the variable *People at-risk-of-poverty or social exclusion* increases with 7,3%. In 2010, for the variable Life expectancy to increase, in average, with one year, *Health expenditure (%GDP)* should increase with 1,3% (keeping the variation of the variable *People at-risk-of-poverty or social exclusion* constant). Also, an increase of only 6,25% in the variable *People at-risk-of-poverty or social exclusion* determines *Life expectancy at birth* to decrease, in average, with one year (when not taking into consideration the influence of *Health expenditure (%GDP)*).

The PCA allowed us to group the European countries in relation with the selected variables. Both in 2007 and 2010, countries such as *Norway, Iceland, Sweden, Denmark, Austria, Luxembourg, Netherlands*, and *Denmark* register high values for *Life expectancy at birth*, *Health expenditure per capita* and *Health expenditure (%GDP)*, as opposing to *Romania, Bulgaria* and *Latvia*. These ones register high values for *People at-risk-of-poverty or social exclusion*, *Gini coefficient*, *S80/S20 income quintile share ratio*.

Unfortunately, *Romania*, besides displaying the lowest Life expectancy at birth among EU countries, also register unfavourable situation for its associated factors. In 2010, the share of health expenditure in GDP (which positively influences life expectancy at birth) was in *Romania* of 5,6%, the lowest among analysed countries and the percentage of people at-risk-of-poverty or social exclusion in total population (which negatively influences life expectancy at birth), was among the highest. These findings point out the importance of investment in healthcare and in improving economic status and are consistent with results in previous published research in this field.

## 5. Acknowledgements

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## THE SAVING - CONSUMPTION DILEMMA

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**Abstract:** *The question standing at the base of this paper is whether an economy in recession needs more consumption or more saving. We decided to analyze the two possible answers to this question because the public opinion balance seems to incline, mainly, to the former option. We believe that saving offers resources, creates future demand and is consistent with economic growth while stimulating consumption will only boost current demand, limiting the resources and the possibility of a sustainable future growth.*

**Key words:** saving, economic growth, consumption, GDP

**JEL classification:** E 01, E 21, E 22

### 1. Introduction

We have an economy of consumption and this is not for a long time a wonder or a possibility but a certainty. However, governments, media and public opinion talk about the need to boost consumption in order to get out of recession. Things seem to be clear and solutions obvious. We have to spend more to stimulate production, investment, create new jobs, etc. It perceives, however, a certain contradiction - we have a consumption economy (self-criticism) that needs more consumption. The normative side of economics identifies with the positive one. We ask ourselves, naturally, the question - if the national economy came here because of excessive consumption, over its resources, how can we believe in the positive effects of stimulating the same consumption?

Recessions are the most favorable periods for the boom of populist messages about the need to stimulate consumption. Politicians take advantage of every opportunity to issue concerns about reduced consumption, promising measures to encourage it. Is not remembering anything of the reasons why consumption contracted. There is confusion, in fact, between causes and effects. Recession is not determined by limited consumption, but rather, the low consumption is caused by recession. Thus, stimulating consumption cannot guarantee the end of recession. Excessive consumption, encouraged by easy access to (consumer) credit caused a reduction in resources, and in the absence of savings, has called into question the possibility of supporting future consumption. If in the period prior the economic crisis the emphasis was put mainly on consumption, we consider natural and necessary to encourage savings during recession, in order to support a part of the risky investments initiated during previous expansion and to ensure the future consumption. Savings do not generate a consumption reducing, but its reorientation, from consumer goods to the capital goods. As recession affects especially the capital goods industries, by stimulating savings they could break the deadlock. Saving provides resources, creates future demand and is consistent with economic growth. Consumption will only stimulate current demand. This antagonism between consumption and saving is rooted in two different ways of understanding the economy and acting, short-or long-term. Encouraging consumption is consistent with the remark "in the long run we are all dead", while saving is based on the need to ensure long-term welfare.

### 2. Consumption and Saving in Macroeconomic Indicators

The fact that public opinion is more favorable to consumption than saving in recession comes, according to Mark Skousen (2010a), from an incomplete understanding of the economic indicators. To support this idea, Skousen present the items composing GDP and GO, warning about overbidding the role of consumption.

According to the method for calculating the Gross Domestic Product (GDP), consumer spending represents the most important weight of the total value of final goods and services created within a year inside a country. The known formula for calculating GDP is:

$GDP = C + I + G + H$  where

C – Private consumption spending

I – Private investment

G – Governmental consumption spending and investment

$$H = X (\text{Exports}) - E (\text{Imports}).$$

In this relationship, private consumption expenditures represent, for all developed countries, the most important weight in the GDP. Thus, the U.S. economy situation for 2008 is as follows (Skousen, 2010): GDP (14.280 billions USD) = C (10.058 billions USD) + I (2.004 billions USD) + G (2.883 billions USD) + H (- 665 billions USD). It is easily seen from this relationship that the most important weight in the U.S. GDP is owned by consumption spending, reason why many consider obvious the assumption that GDP growth requires increasing the consumption spending.

It is omitted, however, that GDP does not reflect the totality of economic activities. Starting from the very definition of GDP (gross market value of the *final* economic goods produced within a country in a certain period, usually a year by local and foreign operators), the information provided by this indicator refer only to final production, excluding intermediate products or activities from the initial stages of production. The reason why the use of GDP is preferred as the primary indicator of economic activity in a country is because there are avoided the multiple entries. The accounting for all expenditures from the production process would imply that in the pizza sauce cost we should include both tomato sauce and tomatoes costs. GDP records only the final product, the pizza sauce, while the Gross Output is considering all the production processes in all stages of production.

Each final good accounted by GDP has behind an own structure of production, consisting of many intermediate stages of production. Before a good is available for final consumption, it follows a certain number, often impressive, of stages of production. It is sufficient to think about the intermediate stages of production of an ordinary pencil (Read, 2008) in order to get an overview of the millions of productive activities in an economy. The whole economic activities and expenses related to these are expressed using Global Product or Gross Output. This indicator includes the production in each stage of production, being, obviously, much higher than GDP. In the U.S., the Gross Output for 2008 was 26.561 billions USD (BEA, 2012). But, if consumption rises to 70% from GDP, in the composition of GO it is only 38%, the largest weight (over 50%) belonging to investments.

The nominal GDP of Romania (INSSE, 2011) was 522.561,1 millions RON in 2010, of which the final consumption (public and private) was 80.3%, i.e. 419.854,1 millions RON. Investment (gross capital formation) totaled 129.761,9 millions, representing 24.83% from GDP, the trade deficit reaching 5.17%.

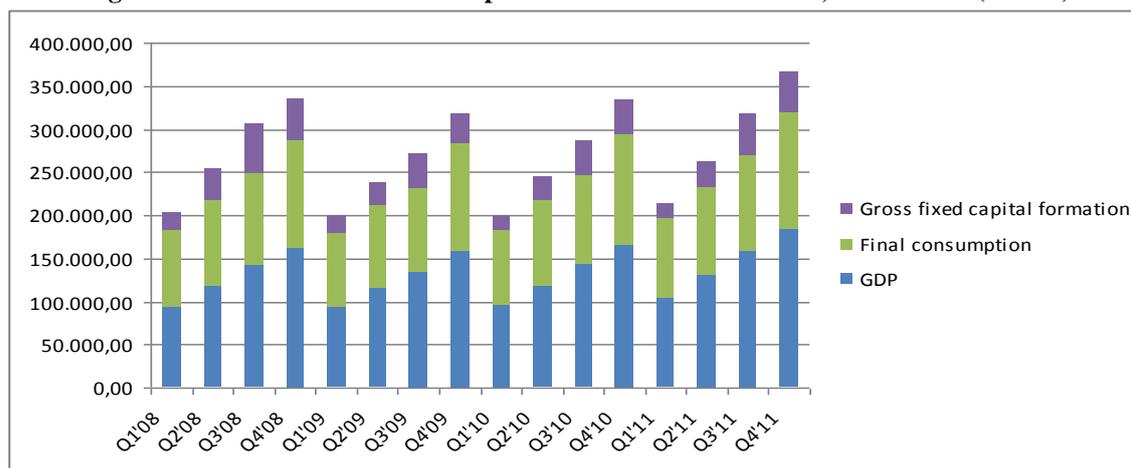
The calculation method used by the National Institute of Statistics is the expenditures one,  $GDP = CF + FBC + E - I$  where: CF is the actual final consumption, FBC is the gross capital formation, E and I represent the exports and imports of goods and services. National Institute of Statistics of Romania does not provide information about the total production, however, by including intermediate results we expect to achieve, in this case also, a lower share of consumption in the Gross Output. What we want to emphasize here is that consumption do not represent the main component of all economic indicator, but especially of GDP.

### 3. Savings and Economic growth

We consider unfounded the argument that the important share of consumption in GDP requires to stimulate demand in order to achieve economic growth. In fact, saving serving as the basis for investment is the one that stimulates economic growth. Moreover, in the second case, we can talk about a sustainable, healthy, long-term growth. It should not be forgotten that the major difference between the developed and the less developed countries is based on the capitalization of the first. Even if we can not omit the role of chance in innovation, in most of his part, progress was based on capital accumulation, on resources, achieved by saving.

The positive relationship between saving and economic growth is emphasized in a survey of the Federal Bank of St. Louis (Thornton, 2009) which concludes that "a higher saving rate in the current quarter is associated with faster (not slower) economic growth in the current and next few quarters". This is possible because, through saving, interest rate falls, which promotes investment in new productive activities, R&D and introducing new products to the market. Even if the current consumption falls, the investment spending of entrepreneurs can make the economy moving.

Investment means creating jobs, generating additional demand on the market, both current and forthcoming. Investment guarantees the introduction of better models of production, boosting productivity and enabling producers to provide superior goods at lower prices to their consumers. Through investment takes place, in fact, an improvement in the living conditions of consumers, an increase in their purchasing power.

**Figure 1: Romania - Final Consumption and Investment in GDP, 2008 – 2011 (mil. lei)**

Source: own representation using INSSE data

We can see, in the above figure, the share of investment in the Romania GDP. Greater investment is consistent with greater economic results, but this is not enough when investment are made largely from outside. Low domestic savings contribute to increased external dependency, investments being supported through foreign capital inflows. The high volatility of international capital flows have a destabilizing effect on the economy and represent an important vulnerable point in the condition of a global financial crisis outbreak. Moreover, Romania was among the most dependent countries on foreign capital flows, reason for which it felt stronger the economic crisis started in 2008.

#### 4. Saving in Romania

In the centralized planning period, the Romanian economy was characterized by high rates of saving. This was a constant of the Eastern Europe economies, both because of the consumer goods scarcity and of the voluntary saving process of population in order to obtain durable goods (Dumitru, 2011). After 1990, saving in Romania was extremely low due to a difficult transition to the market economy, a high rate of inflation and high unemployment. Beginning with 2002, Romania started a “consumption over income” race, reason why we can not talk anymore about saving, but debts. At this situation have contributed to a great extent the general climate of optimism, increasing revenues, attractiveness and easy to access a bank credit, to cover virtually every need, more or less urgent. The high degree of indebtedness of Romanians at the outbreak of economic crisis in 2008 raised the first serious questions about the uncertain future. Population managed to exhaust not only their current resources, but also their future ones. Increased uncertainty, reduced incomes and existing debts to the banks causes a change in behavior. Romanians begin to be more concerned about their future, so that the savings rate becomes positive and growing, although modestly.

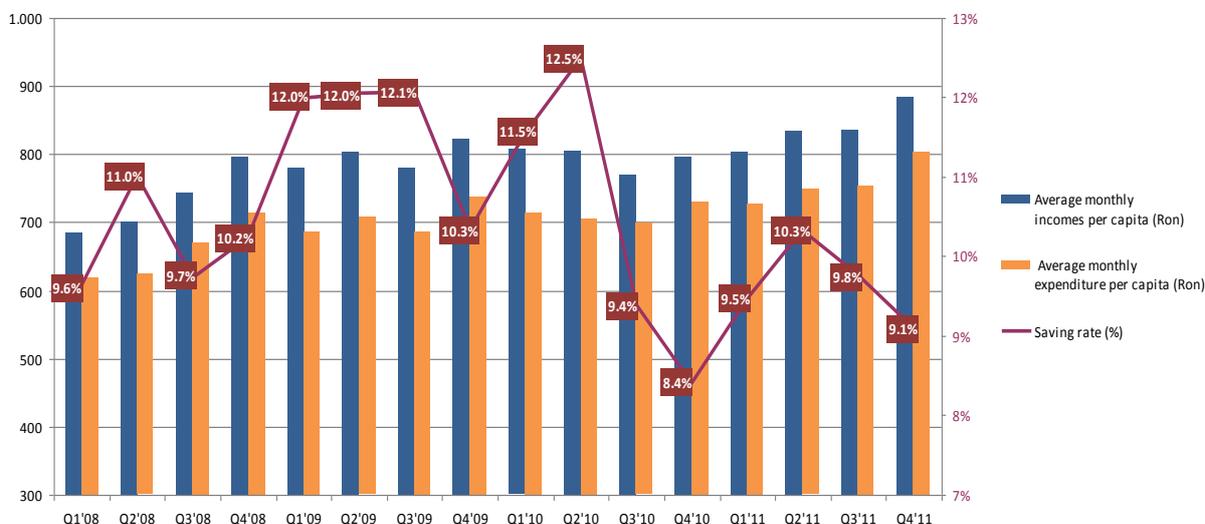
Increased domestic savings of the population seems to worry the government officials, given that their recipe for success takes into account only national consumption. The National Bank of Romania has cut, at the end of March 2012, the monetary policy interest rate to the historical level of 5.25%, in order to stimulate consumption and economic recovery. On a free market, an interest rate cuts were possible only if savings would be increased. Saving in Romania is, however, far from supporting this trend. According to the study conducted by the Dutch company TNS NIPO (2012), who analyzed the attitude towards saving of the citizens from 19 countries, 74% of the Romanian claims that they save less than before. A third of the Romanian can access in case of emergency, within a week, up to 100 Euro, while 14% have spending above their incomes, accumulating debts. According to that study, 46% of Romanian believes that their financial position has deteriorated, prices advancing faster than incomes. In case of the persistence of inflation, a reduced preference for saving is obvious. We speak, in this case, about the existence of a vicious circle. Inflation is due, largely, to insufficient saving, discouraging further saving because of a lack of confidence of individuals in the currency value stability.

ING Consumer Resourcefulness study (2011) reveals that only 7% of Romanians monthly income is saved. A third of the Romanians have a life insurance, compared to the world average of 54% and 36% have a savings account, a figure that places Romania at half the global average. But consumption is much better positioned, over 63% of Romanians possessing a credit card. Between the

causes of low saving in Romania, Alexandru Pătrăuți (2012) identifies the inflation rate (among the highest in Europe), the tax imposed by authorities on interest earnings, the low interest rate on term deposits and the policies to encourage consumption.

Domestic saving in Romania during 2008-2011, calculated on the basis of the difference between the average monthly total revenue and average monthly total expenditure per person is around 10%, as can be seen from the figure below.

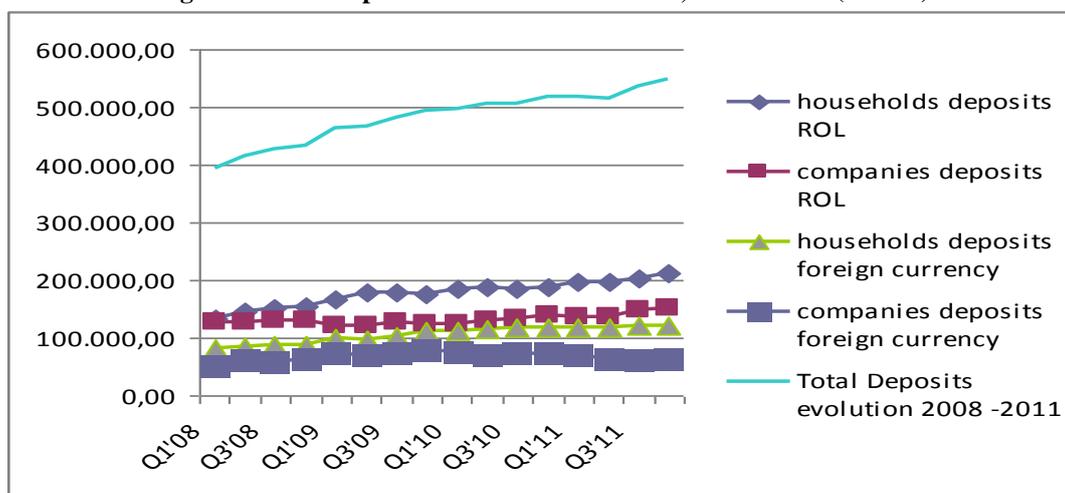
Figure 2: Private Saving rate in Romania, 2008 – 2011 (mil. lei)



Source: own representation using INSSE data

A measure of saving growth is the evolution of bank deposits, although some relatively much of the population (mainly in rural area) prefers to hold currency. Despite the increasing bank deposits in recent years, the saving in Romania is not long term oriented. Short-term deposits are preferred to the detriment of those over several years. Deponents are looking for fast gains, reason why they prefer to transfer the amounts of savings between different banks to benefit from changes in interest rates offered. Moreover, the maximum period of a savings product offered by a private bank in Romania, as bank deposit, reached, in 2012, 7 years.

Figure 3: Bank deposits evolution in Romania, 2008 – 2011 (mil. lei)



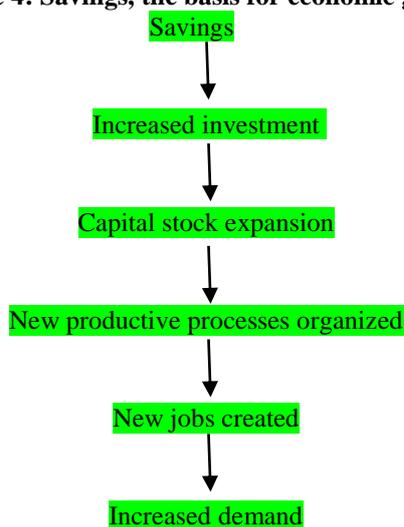
Source: own representation using monthly monetary indicators provided by National Bank of Romania

For companies, the modest growth of bank deposits is, by far, canceled by the high value of the credits contracted from banks.

5. There's no „paradox of saving”

Economic recovery can not be sustained only through governmental policies that encourage consumption. We say, rather, that consumption is the passive side of economic growth, it responding to the supply made by the entrepreneurs. The entrepreneurs are the driving force in an economy, being the ones who invest and stimulate the productive activities and innovation. But the investment basis is no other than saving. Considering that the domestic saving is insufficient and there is necessary to draw external resources, an increased risk occurs, related to capital volatility on international financial markets. Dependence on external capital flows and volatility impose the need for increasing national savings. The increasing of saving for the Romanian economy represent an act of normality, given the high degree of indebtedness and the pessimistic perspectives on income growth. Anyway, as can be seen from the figure nr. 2, we cannot speak yet of a trend in the domestic saving in Romanian, the rate of saving being oscillatory. More savings represent additional resources that will be the basis of the future growth. Healthy economic growth relies on the following recipe:

**Figure 4: Savings, the basis for economic growth**



Source: own representation

Saving does not eliminate consumption, but only postponed it. Saving is, actually, another mode of consumption, oriented to the future, to the accumulation of capital and higher satisfaction of consumer needs. Thus, the paradox of thrift argument is not sustained; reducing current consumption is not the cause for contracting production and jeopardizing future consumption. On the contrary, consuming the entire income can not be a condition for economic growth. The mathematical model of investment multiplier can not be supported by reality. If the propensity to consume would be 100% and the propensity to savings will tend to 0, it would result, according to the formula ( $k = 1/1-c$ , or  $k = 1/s$ ) a multiplier that would tend to infinity. In other words, the full use of resources could ensure a multiplication of national income, which is nonsense.

## 6. Conclusions

Despite all the authorities' measures to stimulate consumption, the increase of saving rate during recession makes us believe that the reaction of population is a normal one, adapted to the signals transmitted by the market. Sustainable economic growth, unlike the boom type expansion, is based on the existence of a stock of capital available for investment. Capital accumulation is not possible, however, in the absence of savings. Reducing current consumption allows the support for future demand for new products resulting from current investments. In this way, saving ensure the resources for future growth being, in fact, the expression of a postponed consumption. The current consumption stimulation only prolong the recession, maintaining the malinvestments of the previous boom. Artificial maintenance of demand for goods resulted from the expansion of the previous boom malinvestments delays the correction made by the market. Without authorities' intervention, the population would naturally follow the signals provided by market - would save more in order to stimulate economic recovery.

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## THE ECONOMIC CRISIS' EFFECT ON GLOBAL FOREIGN DIRECT INVESTMENTS

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**Abstract:** *The global recession affected all the economic sectors throughout the world. Consequently, one of the most important sources of economic growth, Foreign Direct Investments (FDI) was severely affected by the economic turmoil and yesterday's winners are today's losers. This means, the developed countries lost their edge in receiving FDI flows in favor of the developing or least developed countries. So, it becomes natural to analyze this unprecedented phenomenon in order to better understand how world economies work.*

**Key words:** FDI, inflows, outflows, global crisis

**JEL classification:** F 21, F 23, F 35, F 36

### 1. General overview on FDI.

There is a variety of definitions concerning the Foreign Direct Investment. But, the most used and commonly accepted was launched by the International Monetary Fund in their "Balance of Payments Manual" which "... refers to an investment made to acquire lasting or long-term interest in enterprises operating outside of the economy of the investor." In order to take part in the decision making process the buyer must acquire at least 10% of the company's stocks.

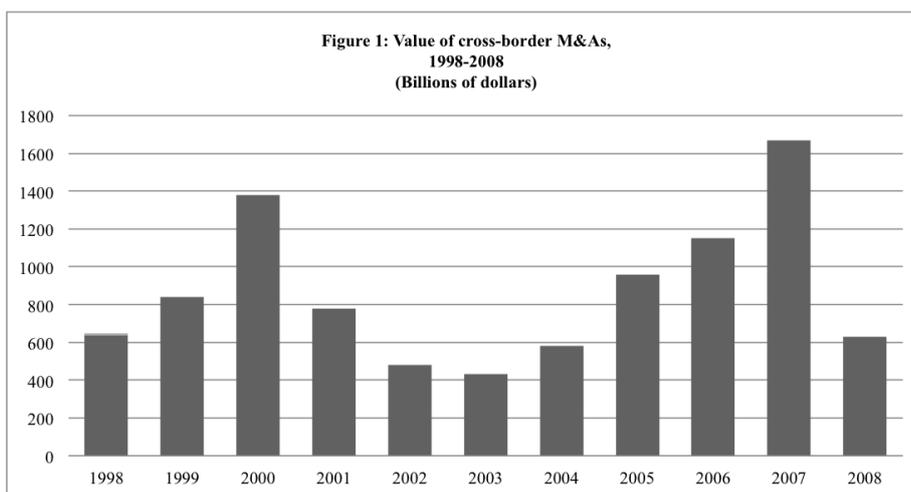
This investor can take the form of a foreign person, a company or a group of companies, who wants to control or influence significantly an economic entity. Moreover, FDI is a totally different form of world investment, compared to the Portfolio Investment which is a speculative type and the capital owner will not be interested in managing or taking part in the managerial activity of that firm.

Benefits come to both parties involved in FDI. For the foreign enterprise, there are smaller production costs, access to new resources and entering a new market (may be a regional or global one). For the receiving economy, FDI mean access to a large amount of capital (that will allow them to implement the economic development plans), new technologies and new management systems and values.

### 2. Short analysis on FDI flows (2007-2011).

In 2008, The United Nations Conference for Trade and Development (UNCTAD) issued their annual World Investment Report and said that 2007 was a great year, FDI flows reached a historical value of \$1,833 billion, surpassing the historical peak from the year 2000. That meant a 30% increase compared to 2006. Although the financial crisis began to show its ugly face in the second half of 2007 that was not enough to change the FDI trend. But, this development in FDI flows was based on the economic growth in all the three economic groupings (developed countries, developing countries and the transition economies of South-East Europe and the Commonwealth of Independent States – CIS). This economic growth translated into large profits for the Trans National Corporations who reinvested their profits, contributing to the increase in FDI flows.

Cross border M&As represented another source of FDI flow increase which meant a 21% growth (\$1,637billion) in 2007. This increase was sustained by the economic growth throughout the world and good profit margins for the TNCs who became more opened to expanding their activity through foreign companies. The best example is the acquisition of the ABN AMRO Holding NV by RFS Holdings BV. RFS was made out of Royal Bank of Scotland Group Plc, Fortis BV and Banco Santander Central S.A. This was considered the deal of the year and the biggest in the banking history.



Source: UNCTAD, cross-border M&A database ([www.unctad.org/fdistatistics](http://www.unctad.org/fdistatistics))

Although the financial crisis erupted in the second half of 2007 it had not affected the economic growth for that year, as we showed earlier. But in 2008 the crisis' effects on M&As were severe.

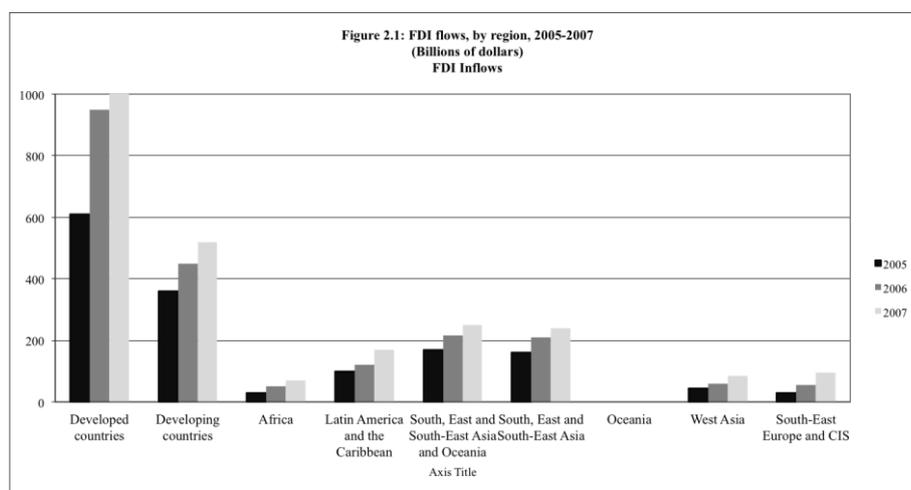
If we analyze the FDI flows from a geographically and economically point of view, we will find out that the developed countries the inflows rose again for the fourth consecutive year, reaching a 33% increase than in 2006, which means \$1,248 billion and the best results were recorded in France, United Kingdom and Netherlands. The biggest FDI receiving country, United States of America, maintained its place and, in the same time, EU managed to attract almost two thirds of total FDI inflows of this group.

The inflows developed even more than the outflows with a 56% increase, due to the effervescent activity of the TNCs.

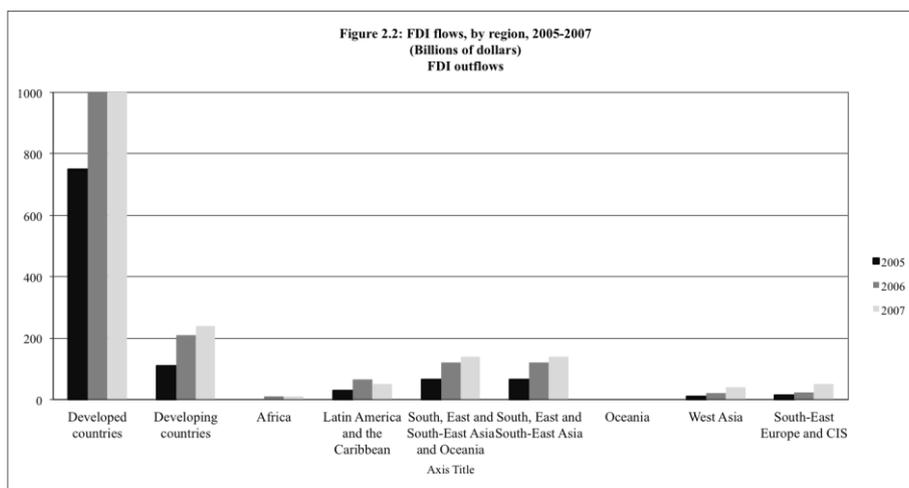
There was good news for the developing countries also. Their inflows increased by 21% (that translates to \$500 billion) along with the least developed countries that scored a 4% increase.

The group marked a good result in the outflows category also, with an accent on West Asia, that became an important source of FDI flows, mainly by the countries of Gulf Cooperation Council.

In South-East Europe, in 2007, the inflows grew, by 50% for the seventh consecutive year. The outflows doubled their value reaching \$51 billion.



Source: UNCTAD, cross-border M&A database ([www.unctad.org/fdistatistics](http://www.unctad.org/fdistatistics))



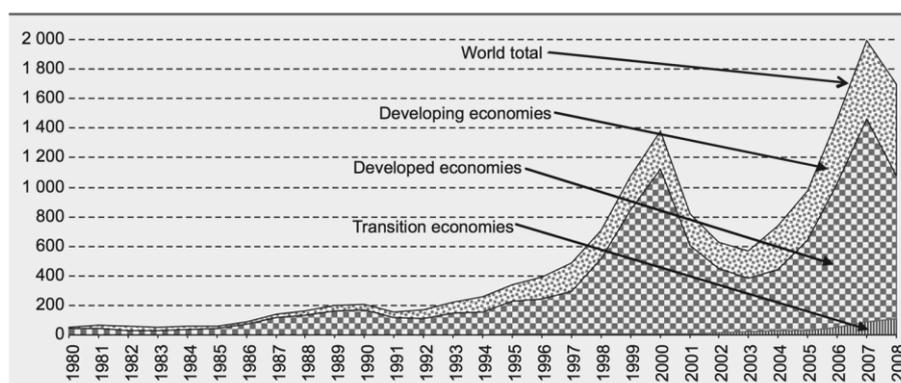
Source: UNCTAD, cross-border M&A database ([www.unctad.org/fdistatistics](http://www.unctad.org/fdistatistics))

In 2008 and the first semester of 2009, the financial crisis hit hard the global capital markets. As a consequence, the foreign investors took their capital from the developed countries to the developing countries, which meant an average increase of 43%. But this trend was not maintained in 2009, as the global crisis' effects began to be present in all the world economies. This decrease was the result of smaller profits for TNCs and thus less activity in the cross-border M&As.

The developed countries lost 29% of their FDI inflows, while South-East Europe and the Commonwealth of Independent States increased their inflows by 17%, respectively 26%. But their happiness was short-lived, as towards the end of 2008 and 2009, the crisis' effects will be present in these economies, as well.

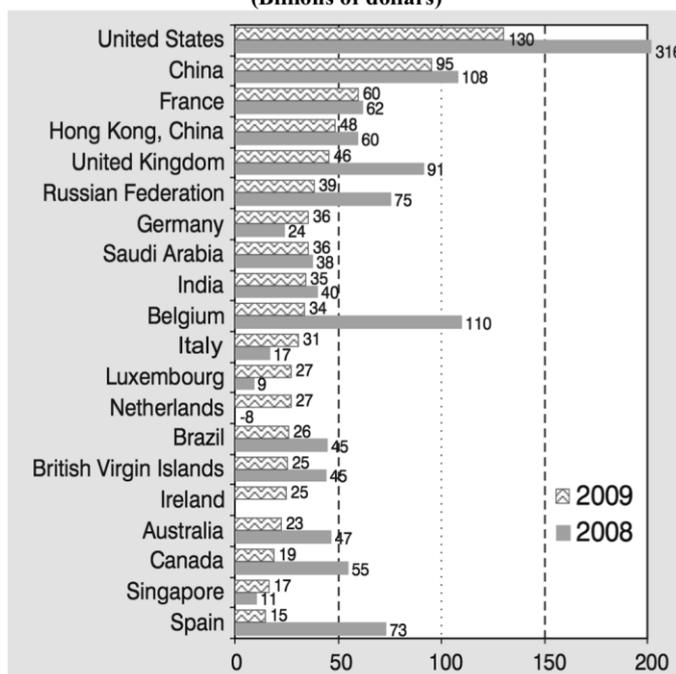
The FDI outflows from the developed countries had the same fate, as the inflows, decreasing by 17% and continued going down due to the fall of Lehman Brothers (one of the largest American financial institutions). It was predicted that in the first half of 2009, the FDI inflows in the developed countries dropped 30-50%, compared with 2008.

Figure 3: FDI inflows, global and by groups of economies, 1980-2008 (Billions of dollars)



Source: UNCTAD FDI/TNC database ([www.unctad.org/fdistatistics](http://www.unctad.org/fdistatistics)) and UNCTAD Secretariat estimates

**Figure 4: Global FDI inflows, top 20 host economies, 2008-2009  
(Billions of dollars)**



Source: UNCTAD, based on annex table 1 and the FDI/TNC database (<http://www.unctad.org/fdistatistics>)

For 2009, the FDI inflows, fell down in all the global economies as a result of weakened economies and smaller capital amounts for investments. So, the developed countries witnessed 44% shrinkage of FDI inflows as well as a low level of cross-border M&As.

The developing countries and transition economies had an ill-fated 2009 also. As they were not affected by the crisis in 2008, the next year brought them a 24% decrease in FDI inflows. They had a greater success attracting more Greenfield investments than developed countries in two years (2008 and 2009).

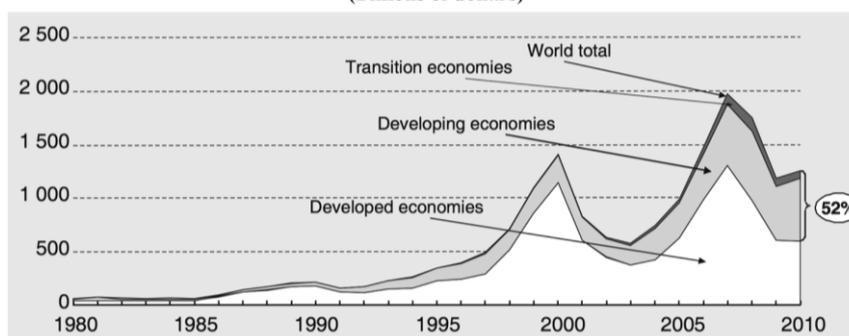
So, 2009 brought a shift into the global ranking of FDI receiving countries, meaning that three developing countries and transitional economies were among the first six FDI recipients and another surprise that came from China, which was the second world recipient of FDI after United States.

In the developed countries, the FDI outflows followed the same trend, decreasing by 43%, for the second year. United States lost their advantage due to large investments in EU and the biggest loss in Europe was recorded in United Kingdom with 89% drop.

The developing countries had a 23% reduction over the previous year, which was better than the developed countries. So, that meant that they were the biggest source of FDI, with outflows that surpassed their inflows.

For 2010 the global FDI inflows had a small increase over 2009. But the developed countries recorded another year of decrease, as well as transition economies. But the developing countries had sustainable growth that allowed them and the transitional to receive 52% of global FDI inflows. The 12% increase was based on a relative fast economic recovery, a strong cross-border M&As, that doubled their value.

Figure 5: FDI inflows, global and by groups of economies, 1980-2010  
(Billions of dollars)



Source: UNCTAD, based on annex table I.1 and the FDI/TNC database ([www.unctad.org/fdistatistics](http://www.unctad.org/fdistatistics))

This power shift can be seen in the ranking of the largest FDI receiving countries where half of the first 20 were developing and transition economies.

In 2010, the South-East European and the Commonwealth of Independent States had a 4% reduction in FDI inflows, after recording a 41% drop in 2009.

The FDI outflows from the developing and transition countries prevailed in 2010, having a 21% increase and 29% share in the global FDI outflows.

The developed countries had a very shy recovery of their outflows a differed from one region to another. For example, Europe had a 9.6% increase, while United States scored a 16% increase.

### 3. Implications in FDI flows' evolution.

As we showed earlier, through the FDI flows' analysis, the developed countries began to lose their advantages in receiving and making FDI. One can say that the global crisis rearranged the global ranking, putting the winners of the world economy in an unprecedented position: the loser position.

The global crisis was less aggressive in these countries and that made a faster recovery possible. In the same time, there was a time lag between the developed countries and the developing and transitional economies regarding the moment of entering the economic decline. Experts considered that it was the result of a less globalized economy and the economic depression affected these states in a spillover effect.

Table 1: FDI flows by region, 2008-2010  
(Billions of dollars and per cent)

Region	FDI Inflows			FDI Outflows		
	2008	2009	2010	2008	2009	2010
<b>World</b>	1744	1185	1244	1911	1171	1323
<b>Developed economies</b>	965	603	602	1541	851	935
<b>Developing economies</b>	658	511	574	309	271	328
<b>Africa</b>	73	60	55	10	6	7
<b>Latin America and the Caribbean</b>	207	141	159	81	46	76
<b>West Asia</b>	92	66	58	40	26	13
<b>South, East, South-East Asia</b>	284	242	300	178	193	232
<b>South-East Europe and CIS</b>	121	72	68	60	49	61
<i>Memorandum: percentage share in world FDI flows</i>						
<b>Developed countries</b>	55,3	50,9	48,4	80,7	72,7	70,7
<b>Developing economies</b>	37,7	43,1	46,1	16,2	23,1	24,8
<b>Africa</b>	4,2	5,1	4,4	0,5	0,5	0,5
<b>Latin America and the Caribbean</b>	11,9	11,9	12,8	4,2	3,9	5,8
<b>West Asia</b>	5,2	5,6	4,7	2,1	2,2	1,0
<b>South, East, South-East Asia</b>	16,3	20,4	24,1	9,3	16,5	17,5
<b>South-East Europe and CIS</b>	6,9	6,0	5,5	3,2	4,2	4,6

Source: UNCTAD

In the first years of the crisis, TNCs began to invest abroad, mainly in the developing and transitional countries, as they became attractive due to different financial measures for foreign investors taken by the governments and a more stable economic environment, as the crisis was absent. According to UNCTAD, the corporations began to be attracted by manufacturing, farming service outsourcing franchising and licensing. Of course, this change went on to the sectorial patterns. Services were very

affected by the crisis, as well as the financial industry. The biggest volume of FDI flows was recorded in the manufacturing business.

Concerning the FDI outflows, the developing and transitional countries are more important, due to a healthy increase of 29% in 2011, after marking a 21% the year before and six developing and transitional countries were in 2010, among the top 20 investors.

The crisis brought up a new topic that is highly debated: State-owned TNCs. The main concern regards the fair competition on that market, governance and transparency as well as their openness towards investors. In 2010 there were approximately 650 State-owned TNCs with more than 8500 foreign affiliates, which meant 19 out of 100 of the world largest TNCs. The level of control held by governments in these TNCs can vary from full control to lightly-influenced. World-wide, 44% of State-owned TNCs have the Government as their majority owner and in 42% the Government has a stake of less than 50%.

Geographically, 56% of these types of TNCs are located in the developing and transitional countries. The developed countries have the rest of the share of State-owned TNCs and the largest amount is located in Europe.

The most active State-owned Corporations are in financial services or in other capital-intensive economic sectors. This type of TNC is very common in the service sector, having a 70% share, out of which the largest share is in finance.

The financial crisis that we are experiencing today is one of the reasons for this state of fact. In order to maintain some financial institutions, the governments had to inject capital, so these institutions became State-owned. In other cases the capital was owned by banks and different funds. In any case, this type of investment is called a bail-out.

Some financial institutions were so badly affected by the financial crisis, that the amount of capital needed to recover was so big it could be considered a FDI. In some cases, when the state was involved the investment came along with a restructuring process.

As in the case of the State-owned Corporations, there is a debate about these bail-out plans, whether the implication of governments in the financial system will not affect its reform and the competition. This state of fact drew the European Commission's attention. Commissioners had thought that the bailout measures would give the European banks a competitive advantage against other financial institutions and the buyouts of different small banks will not result in a dominant position for the relevant market. But as the crisis started to diminish, the governments began to reduce their influence in the financial institutions. Nevertheless, the European Commission took action and told some governments to reduce their influence on the financial market. For example, in United Kingdom, when the government invested £37 billion in two banks (Lloyds Banking Group and the Royal Bank of Scotland), the Commission asked them to sell at least 600 branches from Lloyds Group and reduce their market share and 318 of its branches from RBS.

**Table 2: Selected cases of government bail-out of international banks, 2008-2010**

Bank	Government	Bail-out 2008-2010	Implications in FDI flows
Hypo Group Alpe Adria	Austria	€450 million	67% stake worth €3 billion held by Bayerische Landesbank (Germany) written off when nationalized in 2009.
Dexia	Belgium France Luxembourg	€3 billion €3 billion €376 million	20% stake in Credit du Nord (France) sold for €645 million in 2009. 70% stake in Dexia Crediop (Italy) and 85.5% stake in Dexia Banka Slovensko (Slovakia) to be divested by October 2012; 60% stake in Dexia Sabadell (Spain) by December 2013.
Fortis	Belgium/ Luxembourg Netherlands	€9.4 billion/ €2.5 billion €16.8 billion	Sold to BNP Paribas (France) in 2009 Amlin (United Kingdom) acquiring Fortis Corporate Insurance from the Government of the Netherlands for €350 million in 2009.
KBC Group	Belgium	€7 billion	Investment banking unit, KBC Peel Hunt (United Kingdom), global convertible bonds and Asian equity derivatives businesses, and its reverse mortgage activities in the United States all divested.
Commerzbank	Germany	€18.2 billion	Its Swiss affiliates Dresdner Bank (Switzerland) and Commerzbank (Switzerland) divested in 2009. The following assets divested in 2010: Privatinvest Bank (Austria), Dresdner VPV (Netherlands), Dresdner Van Moer Courtens (Netherlands), and the Belgian affiliate of Commerzbank International (Luxembourg), Commerzbank International Trust Singapore, its United Kingdom affiliates, Channel Islands Holdings and Kleinwort Benson Private Bank, Allianz Dresdner Bauspar AG (ADB) (Austria), Dresdner Bank Monaco. Its affiliate in Germany Montrada GmbH, a card payments processing company, sold to a Dutch firm in 2010.
IKB Deutsche	Germany	€3.1 billion	Bailed out through State-owned development bank, KfW. Its 90.8%

<b>Industriebank</b>			stake sold to the United States private equity fund Lone Star for \$150 million in 2008.
<b>Allied Irish Bank</b>	Ireland	€9.2 billion	22.4% stake in M&T Bank (United States) sold through public offering (agreed in October 2010). Bank Zachodni WBK (Poland) sold to Banco Santander (Spain) for €4 billion (purchase completed in March 2011).
<b>Bank of Ireland</b>	Ireland	€5.5 billion	50% stake in Paul Capital Investments (United States), a private equity fund, and its United States-based foreign currency business sold in 2011.
<b>ING</b>	Netherlands	€10 billion	Swiss private banking unit sold to Julius Baer (Switzerland) for \$505 million; 51% equity stakes in ING Australia and ING New Zealand sold to the ANZ Bank (Australia) for €1.1 billion; and Asian Private Banking business sold for \$1 billion in 2010. Most of its real estate investment management business around the world sold for \$1.1 billion in 2011.
<b>Lloyds TSB/HBOS</b>	United Kingdom	£17 billion	632 branches in the United Kingdom put up for sale in 2011 as agreed with the European Commission. Bank of Western Australia sold for \$1.4 billion in 2008.
<b>RBS</b>	United Kingdom	£20 billion	318 branches sold to Santander (Spain) in 2010. RBS WorldPay sold for £2 billion.
<b>Bank of America</b>	United States	\$45 billion	Its stake in a Chinese affiliate reduced in 2009 and stake in Mexican affiliate disposed in 2010.
<b>Citigroup</b>	United States	\$25 billion	Nikko Cordial Securities (Japan) sold for \$5.8 billion and Nikko Asset Management (Japan) for \$1.2 billion in 2009. Citi Cards Canada sold for \$1 billion in 2009.

Source: UNCTAD

#### 4. Romania's place in relation with the Global FDI flows (2005-2010).

Although Romania is a developing country, it did not follow the worldwide trend in FDI flows.

FDI inflows, 2005-2010 (Billions of dollars)						
	2005	2006	2007	2008	2009	2010
<b>EU</b>	496	581	850	487	346	304
<b>USA</b>	104	237	215	306	152	228
<b>JAPAN</b>	2,8	-	22,5	24,4	11,9	-
<b>World</b>	<b>982</b>	<b>1461</b>	<b>1970</b>	<b>1744</b>	<b>1185</b>	<b>1243</b>
<b>% EU+USA+Japan</b>	<i>61,38</i>	<i>56,00</i>	<i>55,20</i>	<i>46,87</i>	<i>43,02</i>	<i>42,80</i>
<b>ROMANIA</b>	6,5	11,4	9,9	13,9	4,8	3,6
<b>%</b>	<i>0,66</i>	<i>0,78</i>	<i>0,50</i>	<i>0,80</i>	<i>0,40</i>	<i>0,29</i>

Source: Calculations based on UNCTAD data and statistics

<b>FDI outflows, 2005-2010 (Billions of dollars)</b>						
	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
<b>EU</b>	606	609	1199	906	370	407
<b>USA</b>	15	224	393	308	282	328
<b>JAPAN</b>	45,8	50,2	73,5	128	74,7	56,3
<b>World</b>	<b>882</b>	<b>1405</b>	<b>2174</b>	<b>1910</b>	<b>1170</b>	<b>1323</b>
<b>% EU+USA+Japan</b>	<i>75,60</i>	<i>68,63</i>	<i>76,60</i>	<i>70,26</i>	<i>62,11</i>	<i>59,81</i>
<b>ROMANIA</b>	-	0,4	0,3	0,3	-	0,2
<b>%</b>	-	<i>0,03</i>	<i>0,01</i>	<i>0,01</i>	-	<i>0,01</i>

Source: Calculations based on UNCTAD data and statistics

The inflows in Romania, compared with the rest of the global economies, are very low, scoring a 0.8% in 2008 which meant €9,5 billion. This result was possible due to the fact that Romania had been a EU Member State since 2007 and the economic crisis hadn't affected the economy yet. But in 2009 the situation changed dramatically, FDI inflows dropping to a staggering €3,5 billion, meaning a 63% reduction.

If we talk about outflows, Romania's situation is even worse. The best year for Romanian investments was 2006 when, the country had 0,03% out of the world FDI outflows. The rest of the period, Romania scored even lower: 0,01% out of the world outflows, except 2005 and 2009, when there was no outflow recorded.

## 5. Conclusions

FDI is the best global engine for economic development. This theory was put to the test during the recent financial crisis, which meant important changes: the developing countries began to gain importance in a globalized economy, mainly because their development potential and their ability to quickly adapt to changes; the developed countries began to lose ground in the economic confrontation with the developing and transitional economies.

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## VENTURE INVESTMENT IN ROMANIAN IT SECTOR BEFORE AND DURING THE GLOBAL CRISIS

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**Abstract:** *IT companies are among the typical clients of venture capital investors, which provide their financing in the early stages of the growth cycle. Although in Romania the IT sector is quite dynamic and has continuous need for funding, venture investment is relatively under-developed, and this situation was worsened by the global economic crisis. This paper examines the evolution of venture capital and angel investment in Romania's IT companies before and during the crisis, analyzing the key factors behind the delay in this area.*

**Key words:** venture capital, angel investors, information technologies, software, internet

**JEL classification:** M 13, G 24

### 1. Introduction

The Information Technology sector is known to be one of the most sought after areas by venture investors. Small, innovative and rapidly growing software and Internet firms that create business value through the application of emerging technologies, closely match the profile sought by venture capital companies. Without benefitting from venture capital financing in the early stages of growth, the existence of most large international IT companies today is implausible. During the last months, we witnessed the huge market capitalization and the suite of successful IPOs of Internet companies such as LinkedIn, Groupon, Zynga and, lately, Facebook, which were able to grow through angel investments initially, followed by venture capital funding

International trends aren't well reflected in the evolution of venture investment in Romania. The software and Internet IT sectors have known impressive growths in the last decade and they maintain their potential for growth in the current climate of crisis. However, the venture capital market remained at an unexpected low level compared to developed markets, and in the present global economic crisis and difficult market conditions, their recovery is delayed.

Although venture investments in developed economies received extended coverage in academic and business literature, specific aspects of Romania and other East-European countries were less covered.

This paper analyses the evolution of venture investing in Romania's IT sector before and during the crisis, with the purpose to identify the main factors responsible for the insufficient development of this field. The research covers equally the supply side (angel investors and venture capital providers) and the demand side (IT entrepreneurs and companies), highlighting behaviours, errors and misjudgements specific to the Romanian market.

### 2. Venture capital evolution in Romania

Recent history shows strong oscillations in the world market of venture capital, which exploded in the dot com era, rising rapidly and then falling off dramatically after the stock market crash. It has grown again over the past decade, with a dip in investing activity during the recent financial crisis, and a new revival last year.

Given the success of the Silicon Valley, Boston and other entrepreneurial areas, the US venture investment market is used as a reference point for other countries. After the record high venture investment in the US in 2000 (\$100 bln), it has known new growth in 2006 - 2008 but at a much lesser level (\$30 bln) followed by the dive of 2009 (to \$18 bln), and a new start to growth in 2010 (OECD, 2011). Less developed, the European venture investment market followed a similar cycle (EVCA, 2009), with growth in 2006-2008 (17 bln euro) and contraction in 2009 (8,5 bln euro)

The United States is remarkable by the percentage of venture capital in the GDP (0,9-1%), but are surpassed in this regard by countries such as Israel or Sweden.

IT&C sectors absorbed 30% of the total venture investment in the United States, and 35% in Europe. On the other hand, more than half of venture investment has been used for seed, start-up and other early stage financing (EVCA, 2011).

Venture capital investments in Romania have followed a similar cycle, but the data indicates a serious fall behind developed countries (table 1). In the maximum year of 2008 the total venture investments reached 42,7 mln euros (0,031% of GDP) and in 2009 it fell to 4,2 mln euro (0,004% of GDP).

**Table 1: Venture capital investment in Romania**

	2007	2008	2009	2010
<b>Total VC, euro mln</b>	33,8	42,7	4,2	12,0
<b>in seed &amp; start-up, euro mln</b>		5,6	4,2	1,9
<b>Number of beneficiary SMEs</b>	17	33	24	17
<b>Total VC, % of GDP</b>	0,027	0,031	0,004	0,010

Source: EVCA (European Private Equity and Venture Capital Association), Eurostat

The venture capital market's developmental stage is well illustrated by the share in GDP, 2-3 times lower than the European average (table 2). It's also significant the fact that seed investment and start-up companies represented only 13% in 2008 and 16% in 2010, again smaller than the European average of 40-50%. The very small number of companies which benefited from venture financing should be noted: 34 in the high year 2008 and only 17 in 2010.

There are no statistics regarding investments directed to the IT sector, but our estimate is that they did not exceed 15% of the total, which is below other markets.

Venture capital was almost nonexistent in the Romanian IT sector in the years immediately after 2000, when software companies that were rapidly developing were chronically undercapitalized. However, from that period date two particular venture investments in IT, which had completely different results: 1) start-up funding of Advantage Software Factory in 2000, followed by two years of operating losses and 2) the first investment in TotalSoft software company in 2001, which proved to be a complete success.

**Table 2: Venture capital investment in European countries, % of GDP**

Country	2007	2008	2009	2010
<b>Romania</b>	0,027	0,031	0,004	0,010
<b>Euro zone</b>	0,060	0,067	0,038	0,035
<b>United Kingdom</b>	0,072	0,082	0,049	0,042
<b>Sweden</b>	0,117	0,115	0,071	0,067
<b>Germany</b>	0,034	0,045	0,027	0,028
<b>Finland</b>	0,075	0,065	0,053	0,055
<b>Ireland</b>	0,045	0,086	0,050	0,028

Source: EVCA (European Private Equity and Venture Capital Association), Eurostat

In the middle of the last decade, close to Romania's E.U. accession, overall economic growth and expansion of the IT market made Romania's IT sector more attractive. In the period of 2005-2008 there were set a large number of private equity funds, most of them with foreign capital, which initiated venture investments in Romanian IT companies. In the first half of 2008 Romania was the most important market in Central and Eastern Europe private equity investment map, according to SEEPEA (South-East Europe Private Equity Association) statistics. During that period there were registered the largest number of deals and the largest volume of venture capital funding in IT.

The contraction of 2009 (ten-fold reduction, from 42,7 to 4,2 bln euros) of the total venture investment was much stronger in Romania than in the United States or Western Europe, and the IT sector hadn't registered any notable transaction. The funds entered a state of expectation, waiting for lower asset values, and for the clarification of the economic context, part of the money being stuck in investments with deferred exits. At the same time, investors' attention has turned on early stage financing, and angel investor entities became more active.

### 3. Venture capital funds

Venture capital is, by definition, a sub-category of private equity investment aimed at the earlier phases in companies' life. Most private equity funds established in Romania were oriented towards growth and late stage investment. Many of these focused on the IT sector but their investment strategy excluded IT start-ups from the eligible list. Such funds pursued high value investments (over 10 mil euro) in market leading companies, with large turnover and a proven track record of profitability.

Some funds were self-defined as venture capital, and some can be included in this category by having similar characteristics (Romanian - American Enterprise Fund-RAEF, Oresa Ventures, Gemisa Investments, and BASF Venture Capital). Their thresholds started at below 500.000 or even below 100.000 euro, and targeted start-ups or very young companies, but none of these funds invested in IT

The list of venture capital investors which funded IT companies is relatively short and includes:

- *Romanian Post Privatization Fund* – one of the first funds established in Romania. It has participated in the investment in ASF.

- *Trans Balkan Romania Fund* – launched in 2001 by SEAF and USAID to finance SMEs (fully exited now). It performed the initial investment in TotalSoft.

- *Global Growth Fund* – created by the Greek investment company Global Finance dedicated to financing young companies starting from 500.00 euro. Is stakeholder in several IT companies such as TotalSoft (80% in 2005), Gecad Technologies and GoldenDeals.ro.

- *AIG Global Emerging Markets Fund* – managed by the European regional fund AIG NEF. Is a shareholder of UTI Group (2005, 30%) and the telecom operator Digital Cable Systems (2007, 40%). AIG funded prior investments in the telecom sector (Astral Telecom, Orange Romania).

- *Enterprise Investors* – the oldest private equity and venture capital company in CEE. Invested in the software company Siveco (2005) through Polish Enterprise Fund VI and in the HR software and outsourcing company Smartree (2010) through Enterprise Venture Fund I.

- *Cisco Growth Fund III* - launched in 2007 by 3TS in partnership with Cisco Systems. It invested in minority shares in the software companies Gecad Techology/Axigen and Avangate, as well as in the online publisher InternetCorp.

- *Intel Capital* – entered the Romanian market relatively late (2005). Owns 10% of the software company Siveco and had negotiated unsuccessfully for a minority position in the online payments company ePayment of Gecad group in 2006.

During a decade, the 7 funds listed above invested an amount less than 45 mil. Euro in software and Internet companies. In most cases, the beneficiaries weren't start-ups but rather companies in the growth/expansion stage.

#### 4. Angel investors and seed investment

The first angel investment initiatives in Romania appeared in the beginning of the last decade, as a natural response to the lack of funding for new IT companies in a phase of life not covered by venture capital. However, until recent, the results of these initiatives were rather weak, angel investment history being marked by repeated failures.

- *The NEST incubator* – established in 2001 by Advantage Software Factory with help from a consortium of Romanian and foreign investors. NEST was planned as an incubator combined with seed venture financing of up to 250.000 USD for start-ups. The project failed without a single successful financing.

- *Start IT* – a financing project started by IT entrepreneur Radu Georgescu (president of Gecad group, acting as a business angel) in 2003. The initiative was abandoned after four years, during which no business proposal was financed.

- *Bucharest Business Angels* – an association started in 2006 by successful business people, Romanian and foreign, with the purpose to finance start-ups. After a year of operation, the association had no financing in its portfolio, due to the inadequate quality of the projects submitted.

- *Bizangels* – angel investors organization started in 2006, built around the Bizangels.ro website, which facilitates the contact and communication between investors and entrepreneurs. The areas covered were software, e-commerce, services and distribution, with financing between 5.000 and 100.000 euro. Over 200 investors had registered on the website. Over the course of a year, they funded only four businesses, accusing the small number of proposals received.

- *Swiss Venture* – a group of Swiss venture investors which opened offices in Sibiu and Bucharest in 2009 with the purpose of financing IT projects. Unhappy with the quality of the proposals received, they decided to start their own projects.

- *Seedmoney* –seed investment fund launched in 2008 for online projects, with typical investments of 10.000 - 50.000 euro for a maximum of 20% from the project. The fund currently has a portfolio of eight financed projects, among which: *Squeeqly* - a social shopping solution, *Revvnation* - a free online multiplayer game and *Brainient* - an interactive advertising platform.

- *VentureConnect* – a foundation created to support IT and on-line entrepreneurs looking for financing. The foundation periodically organizes events which bring together a number of pre-screened entrepreneurs (or entrepreneurial teams) with potential investors. This year GECAD Group, in collaboration with VentureConnect, launched a new funding opportunity for software, web and e-commerce startup-ups.

It may be noted that, in recent years, Romanian angel investors aligned to international practices (OECD, 2011) and work better particularly within networks, syndicates or groups which offer an increased awareness about angel investing and can respond to the demand for syndicated deals to fill the market gap between individual angel investment and venture capital.

One must also mention the many networking events targeting potential entrepreneurs: The Bucharest Hub Club, the business accelerator reunions for online start-ups organized by Seedmoney, the VentureConnect sessions or the Net Start-up and Launch48 competitions.

An active community of professionals and freelancers formed around these events, mostly young people with international experience and entrepreneurial background in open software, mobile devices, e-commerce and services, internet marketing and interactive media.

## 5. IT companies financed through venture capital

The number of Romanian IT companies that benefitted from venture capital investment is very low (less than 10 companies), and the distribution of these deals over time is uneven, with a peak in 2005-2007, and a rebound in 2009-2010. Instead, in recent years, angel investments in software and Internet companies grew. The successful Romanian companies that received venture funding include:

*Total Soft* (2001, 2005, growth stage). The software company, which had a presence on the market since 1994, was subject to two investment deals. The first investment was made in 2001 by SEAF through TBRF- Trans Balkan Romania Fund amounting to 0,6 million dollars (shares and convertible debt). Funding was directed towards equipment and the working capital needed to develop a quality, yet affordable ERP product, destined primarily for the local market. The Charisma software suite was released a year later, in 2002, and has been successful on the market, and the firm's turnover increased four times in the following 4 years. TBRF left the company in 2005, registering a record 62% return rate. The investment proved to be a success because it met all the necessary conditions: a viable project, dynamic and dedicated management, well sized funding and good execution.

The second investment in Totalsoft came in 2005 when the greek fund Global Finance took over 80% of the company for 10 million dollars. As majority shareholder Global Finance was involved moderately in the companies' management, focusing on marketing concepts and strategy. In the years to follow, TotalSoft registered remarkable growth in turnover: from 5 million euro in 2004 to 26 million in 2011.

*Siveco* (2005, expansion). Siveco is the largest Romanian software company in terms of turnover. Investors' interest for the company arose mainly due to its portfolio of products and projects, its expertise and perspective for growth from the position of market leader. The investment of 12 million dollars was made in 2005 by Intel Capital and Polish Enterprise Fund V (administered by Enterprise Investors) by existing shares purchase and capital increase. The two funds thus became minority shareholders owning 32,5% of the shares. After the investment, Siveco strengthened its position in the market, and won new large government and private projects in Romania and other emerging economies. Its turnover has seen remarkable growth, from 21 million euro in 2004 to 67 million in 2011, and the number of employees increased from 340 to 1200.

*UTI Grup* (2005, expansion). UTI Grup is one of the leading producers of security systems, information technology and communications. The investment was made in 2005 by AIG Global Emerging Markets Fund, managed by AIG NEF which had several other investments in Romania's telecom sector in its portfolio. The fund took over 30% of the shares for 20 million dollars, the purpose of the investment being the development and the accelerated internationalization of the group. In the following years, UTI companies won major contracts in the governmental and private areas, and increased their revenue further.

*BitDefender* (2007, expansion). BitDefender (detached from Softwin) is known for the international success of their antivirus software. Florin Talpes, founder of the company, has long avoided foreign investment, relying exclusively on self-financing from the companies' own cash-flow. Only in 2007 he accepted an investment of 4,75 million euro for 7% of the shares. This can be considered an angel investment, being made by a group of Romanian and foreign private investors, including the managers of RAEF and BAF funds. The investment was used to extend the company's global presence.

*Gecad* (2007, 2011, start-up – growth). After selling RAV antivirus in 2003 to Microsoft, Radu Georgescu used the money to finance ambitious projects in the development of new software technologies. Gecad group companies were created to sustain these projects: ePayment (a pioneer of credit card payments over the Internet in Romania), Axigen (electronic messaging solution), Avantgate (eCommerce solution for software and SaaS companies), Phoenix (cloud storage technology). Venture capital funding was necessary to ensure the development of these projects as well as international expansion.

In 2007 a consortium formed of Global Finance, 3TS Cisco Growth Fund III and individual investors paid 2 million euro for 11,7% of Gecad Technologies. In 2011 3TS Capital Partners brought another 4 million euro for a minority stake in Avantgate. Due to this new investment, Avantgate named a former Oracle manager as CEO and relocated their headquarters in Silicon Valley. On the other hand, last year began negotiations for selling the Phoenix S3 project. Transactions involving Gecad companies are typical examples of venture investment in innovative technological projects, with high growth potential. In parallel, Radu Georgescu is involved with business angel activities.

*Brainient* (2009, 2012, seed, start-up) Brainient is a video advertisement technology platform created by the young entrepreneur Emil Gal. Initially, the project was selected in the Seedcamp competition of 2009, and shortly thereafter obtained an 800.000 dollar financing. In January 2012, a new round of financing of 1,8 million dollars was announced, led by Credo Ventures, attended by several foreign investors. Brainient is a good example of a Romanian online project with global footprint, successively passing through the typical stages of financing for a start-up, and Emil Gal is emblematic for the new generation of IT entrepreneurs

## 6. Key factors inhibiting venture investment in Romania

The contraction of venture investment in Romania during the crisis period is relatively easy to explain. The dramatic reduction of the available capital for financing economic activities has affected all countries and economic sectors. In Romania, the phenomenon was compounded by a sharp drop in investor confidence due to the macroeconomic situation, and to the uncertainty regarding the ability to handle and overcome the crisis. Opinion surveys of 2009 and the first half of 2010 confirmed an extremely low confidence index in the Romanian economy.

On the other hand, the weak development of venture investment in Romania was manifested throughout the whole decade, including during the economic boom period.

Previous research shows that the attractiveness for venture investment at country level is due to such factors as: entrepreneurial culture, contextual economic general, depth of the capital market, taxation, regulatory environment, investor protection and corporate governance (Groch, 2010). A series of conditions specific to the IT sector can be added.

The analysis made in previous sections allows us to highlight the most important factors affecting the development of venture investment in the Romanian IT companies:

- **Insufficient match between supply and demand** - As noted above, the majority of private equity and venture capital funding targeted market leaders and set high barriers for candidate selection. In this way, many smaller IT companies (under 10 mil. dollars) but with strong growths and promising perspective for development did not have access to funding. On the other hand, angel investor entities targeted incipient projects and start-ups in the very early stages. Between angel investment and private equity investment remained an uncovered gap of supply.

- **Competition from strategic investment** - During the growth period, the IT sector attracted a large number of foreign strategic investors and, within a few years, more than 40 software and services companies were acquired and became subsidiaries of multinationals[. This has considerably limited the number of companies available for venture investment. In present, 75% of the Top 100 software companies are owned partially or entirely by foreign capital.

- **Management and entrepreneurial culture** - Although entrepreneurial culture has grown considerably, Romania is still deficient in this regard. The lack of entrepreneurship and the inability to produce convincing business plans are given as the cause for the limited number of proposals and projects

financed by angel investors. Add to this the reluctance of some companies from receiving new investors in the ownership structure, and the fear of some entrepreneurs that their ideas will be stolen in the evaluation process.

The lack of experienced management is another cause for the rejection of projects. One of the selection criteria for venture financing is the quality of the management team who have to implement the proposed project.

- **Underdeveloped capital market** - Listing on the stock exchange is one of the favourite ways of exit for venture investors and many investments in technology sectors are hoping a successful IPO. In Romania, Bucharest Stock Exchange remains poorly capitalized and less attractive to investors. After bankruptcy of Flamingo, no IT company is listed on the BVB and the economic downturn in recent years has stopped IPO plans of many other IT companies.

- **Poor entrepreneurial and innovation ecosystem** - Development of venture capital financing implies the existence of a complex ecosystem that fosters innovations and entrepreneurship and encompasses: universities, R&D organizations, incubators and accelerators, entrepreneurship centres, service providers, banks and financial institutions, public markets, regional development agencies, etc. The consolidation of the well known entrepreneurial hubs in the US and in Europe was possible due to the accumulation in the same geographical area of all these components. In Romania, although there were some IT clusters that formed naturally, ecosystems are still poorly developed in terms of many of the above listed components.

- **Public policies** - Many countries apply targeted measures destined to encourage and sustain venture capital and angel investment (OECD, 2011):

- tax incentives for ventures investments
- co-investment funds matching public funds with those of private investors
- financial support for venture capital and angel associations and networks
- programs to encourage the demand-side (entrepreneurial culture and ecosystem)

In Romania, although in the last decade there has been much talk about such measures, none has materialized so far. As a result, Romania ranks near the bottom in Europe (24th place out of 27) in the latest benchmarking study of KPMG and EVCA (KPMG, 2009) comparing fiscal and legal environments for venture capital and private equity

## 7. Venture investment vs strategic acquisitions

Venture investors typically prefer minority stakes, have reduced involvement in the management of companies, and pursue growth in company value such that they can make a profitable exit. This leads to important differences from strategic acquisitions we reviewed in Jalba (2011).

The management of Romanian software and services companies that were acquired by multinationals faced great difficulties in adapting to the style of corporate management. For venture investment, the quality of the management team constitutes an essential evaluation criterion, but then Romanian managers received larger freedom, with the condition to meet certain targets.

Venture investors are not only financial partners; they follow the company's evolution and use their experience to build the management team, and their industry contacts and credibility to promote the company's products, services and interests more broadly.

The analysis of the evolution of the situation of Romanian companies that were strategically acquired shows that most have evolved without spectacular growths and that in some cases, after integration into corporate structures, creativity and innovation were lost.

In contrast, all of the companies analyzed that were financed through venture capital have shown strong growth in terms of revenue and financial performance. This indicates some advantages for the venture investment approach, which preserves and stimulates creativity and innovation, more specific to entrepreneurship.

## 8. Conclusions

The low level of venture investments in Romanian IT companies is not due only to the financial blockage during the global crisis. The weak development of this area could be noticed as well in the period prior to the crisis, when the much needed capital was abundant.

One of the causes is the orientation of venture capital towards large companies, which were in a later stage of growth, leaving small companies - in earlier stages of life but with a high potential for

growth, underfunded. On the other hand, the top of the software sector was targeted by a significant wave of strategic acquisitions that have limited the number of valuable companies available for venture capital funding.

Other factors that have negatively affected venture investment in the IT sector are: insufficient management and entrepreneurial culture, poor entrepreneurial ecosystem, weak development of local stockmarket, insufficient international footprint of local companies and absence of public policies encouraging venture and angel financing.

Our analysis indicates as well a surge in angel investments over the last three years. Angel investor's organizations have already many promising financing projects, mostly in the online area, and stimulated the apparition of an active community of software and Internet entrepreneurs.

Compared with the strategic acquisitions in the software and services sector, the beneficiaries of venture capital and angel investing had known a better financial evolution, as well as a more visible development of their innovative character.

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## FAIRTRADE INSTRUMENTS FOR DETERMINING MINIMUM ACCEPTABLE PAYMENT AND COST OF SUSTAINABLE PRODUCTION

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**Abstract:** *The article targets smallholders in agriculture and industry and presents software models for determining fair payments and costs of sustainable production in order to reduce poverty and optimize the production cycle. This is motivated by the fact that the April 2012 World Bank Report on Partnership Programs states that Romania has the highest incidence of rural poverty (over 70 percent), in spite of having the highest proportion of rural population (45 percent) in the EU.*

**Key words:** Fairtrade, minimum prices for sustaining production, COSP, fair wages

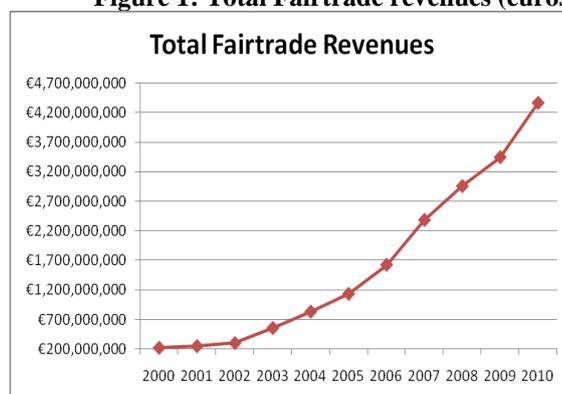
**JEL classification:** C 81, L 86, Q 01, Q 12, Q 56

### 1. Introduction

Fairtrade is a complex trading partnership which seeks greater equity in international trade by creating closer relationships between the consumers and the producers from the geopolitical North and South. From its shy beginnings as an alternative means of selling craftwork in charity shops, Fairtrade products have become highly accessible to the consumers in Europe and the United States.

While sales remain fairly low in global terms, the growth of the Fairtrade market has been phenomenal: in 2008, global Fairtrade sales reached 2.9 billion euros, growing at a rate of 22% per annum. In 2009, this percentage reached 37% and by 2010 4.36 billion euros were spent on Fairtrade products. The Fairtrade market occupies between 0.5-5% of all sales in Europe and the United States. By 2010, over 1.5 million disadvantaged producers were directly benefiting from Fairtrade, while an additional 5 million were enjoying the fruits of infrastructure and development projects financed through the Fairtrade system.

**Figure 1: Total Fairtrade revenues (euros).**



Source: [www.fairtrade.net](http://www.fairtrade.net), annual reports.

The Fair Trade movement shares a view of the world in which justice and sustainable development are the centrepiece of trade practices and structures (Costache, 2012), so that each person can ensure for himself a decent living through work and can fully develop his whole human potential. In order to make these possible, Fairtrade has incorporated a dynamic series of products, standards and

certification systems, new actors, new political and organizing alliances and more and more complex governmental arrangements. There are several raw materials that have the FAIRTRADE logo: coffee, tea, chocolate, honey, bananas, sugar and rice.

Trade is the major factor in economic growth, but at the same time it can generate massive inequalities. The Fair Trade movement is a key solution to these problems. It gives consumers the possibility of using their purchase power in order to shift the balance, ever so slightly, in favor of developing countries. Fair Trade is the answer to the failures of traditional trade in providing a sustainable livelihood and real development opportunities to those living in the LDCs (Least Developed Countries); this is better underlined by the 2 billion people living under \$2 per day, while working in dire conditions.

Poverty and the problems it generates (high child mortality, low life expectancy, high criminality, alcohol and drug abuse, prostitution and massive STDs occurrences) limits personal choices, while the market pressures drives the population towards marginalization and social exclusion. This makes them vulnerable to exploitation, whether we take into account farmers or artisans organized in productive family units, or individuals employed in larger establishments. Thus, the objectives of Fair Trade initiatives are expressed through a diverse array of practical activities and programs, seeking to best answer the specific needs of the local context in which the targeted persons live and work.

## 2. Fairtrade

“Fair trade is a trading partnership, based on dialogue, transparency and respect, that seeks greater equity in international trade. It contributes to sustainable development by offering better trading conditions to, and securing the rights of, marginalized producers and workers – especially in the South.” Thus, the organizations which promote this type of trade have actively been engaged in supporting the producers, in informing the population and in managing companies in order to bring about change in the international trade legislation.

Fair Trade organizations have a clear commitment to Fair Trade as the principal core of their mission. They, backed by consumers, are engaged actively in supporting producers, awareness raising and in campaigning for changes in the rules and practice of conventional international trade. They can be recognised by the WFTO logo.

Fair Trade is more than just trading: it proves that greater justice in world trade is possible. It highlights the need for change in the rules and practice of conventional trade and shows how a successful business can also put people first.”

Though it started as a social movement generated by the market, Fair Trade today is a global movement. Over a million small-scale producers and workers are organized in as many as 3,000 grassroots organizations and their umbrella structures in over 50 countries in the South. Their products are sold in thousands of World-shops or Fair Trade shops, supermarkets and many other sales points in the North and, increasingly, in sales outlets in the Southern hemisphere.

Many voices claim that the Fair Trade movement is at an important crossroads (Raynolds and Murray, 2007). The question of which direction will the Fair Trade movement take has generated an impressive series of debates related to the market ability of creating social equity. The movement is engaged in debates with political decision-makers in the European institutions and international fora on making international trade fairer. On top of that, Fair Trade has made mainstream business more aware of its social and environmental responsibility.

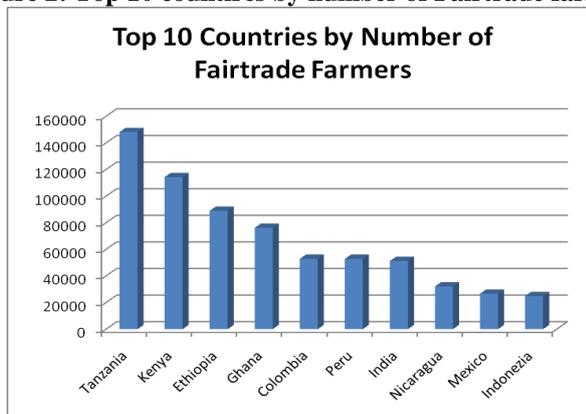
The growth of Fair Trade (or alternative trade as it was called in the early days) from the late 60s onwards has been associated primarily with development trade. It grew as a response to poverty and sometimes disaster in the South and focused on the marketing of craft products. Its founders were often the large development and sometimes religious agencies in European countries. These NGOs, working with their counterparts in countries in the South, assisted to establish Southern Fair Trade Organizations that organize producers and production, provide social services to producers, and export to the North. Alongside the development trade there was also a branch of solidarity trade. Organizations were set up to import goods from progressive countries in the South that were both politically and economically marginalised.

Fair Trade became necessary because the value of global international trade transactions has trippled in the last twenty years, while its benefits are not equitably shared. The liberalization of trade, supported by the WTO (World Trade Organization) makes it extremely hard for small producers to compete in the world market. Free trade aims at improving competition, but when strong economies can

profit from impressive subsidies and protection denied to less developed countries, this competition is over all unfair.

The principles of Fairtrade are very simple: the farmers receive for their products fair prices, a function of international market prices. Thus responsible business can be conducted, while those living and working in developing countries can have food security and a decent standard of living in the long run. Consumer of Fairtrade products receive in return tasty products of good quality. These products are exported in a direct and controlled manner by the developing countries mostly to the developed ones, bearing the FAIRTRADE certification that guarantees its origins. Consumers that decide to purchase Fairtrade products are socially responsible, contributing personally and actively to a more equitable world.

**Figure 2: Top 10 countries by number of Fairtrade farmers**



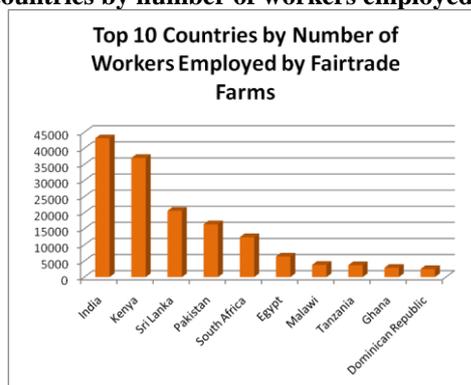
Source: [www.fairtrade.net](http://www.fairtrade.net), annual reports.

Fairtrade revolves around efficient cooperation which is guaranteed to have a positive effect on all those that are involved in it. These participants are the following:

- The farmers and their families, since through Fairtrade they can ensure their very existence and plan their future. The farmers' cooperatives receive in return a premium for social and ecological development, which they use in order to get access to potable water, basic medicine and education etc. Most of the times only through the Fairtrade system was the leap towards ecological farming made possible.
- The workers on the plantations, because Fairtrade makes it possible for them to enjoy decent standards of work and living, a relationship with their employers lawfully regulated by work contracts which include minimum wages, legal work standards, labor protection in order to avoid poisoning with dangerous chemicals used in agriculture, the banishment of labor exploitation and providing a minimum access to medicine, all of which are not the norm in developing countries of the South.
- The consumers, which can thus enjoy qualitative goods produced by natural cultivation. Fairtrade guarantees the origin and controls the exports of FAIRTRADE goods, which come from very limited territorial structures. These products are permanently cared for, this being the main reason for their high quality. Consumers, apart from having access to the good quality products, also act responsibly when choosing a Fairtrade product over another, non-Fairtrade one. If only ten consumers from developed countries opted for FAIRTRADE coffee, a whole family from the South could achieve food security and thus survive.
- Nature, because FAIRTRADE products are traditionally cultivated, respecting the principles of sustainable development: by mixing cultures with other plants for personal use, by planting trees that offer shade, by reducing the use of chemical substances in agriculture, through the use of natural fertilizers and reducing soil erosion. In addition, residues are avoided or ecologically treated. The rain forest and natural water supplies are thus protected. All these efforts have positive effects on our ecosystems, being of great importance to those of us living in the developed world.

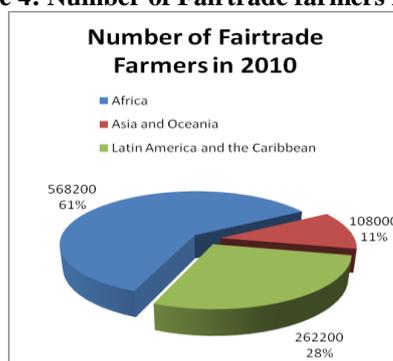
- The children living in the southern hemisphere, because child labor exploitation is illegal, while their families' revenues benefit from the Fairtrade system. A certain part of the FAIRTRADE premiums is used for the construction of new schools for these very children.

**Figure 3: Top 10 countries by number of workers employed by Fairtrade farms**



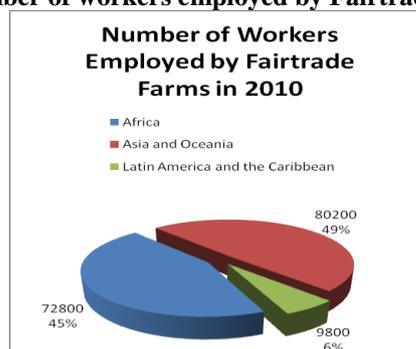
Source: www.fairtrade.net, annual reports.

**Figure 4: Number of Fairtrade farmers in 2010**



Source: www.fairtrade.net, annual reports.

**Figure 5: Number of workers employed by Fairtrade farms in 2010**



Source: www.fairtrade.net, annual reports.

### 3. Proposal of Fairtrade tools

Smallholder farmers in Romania have produced for a long time based on intuition more than knowledge. Costs associated with the activity were more than often misrepresented, which led to losses instead of profit. Less than optimal production factors result in low average yields, at half of those from EU-27 (Bank, 2012).

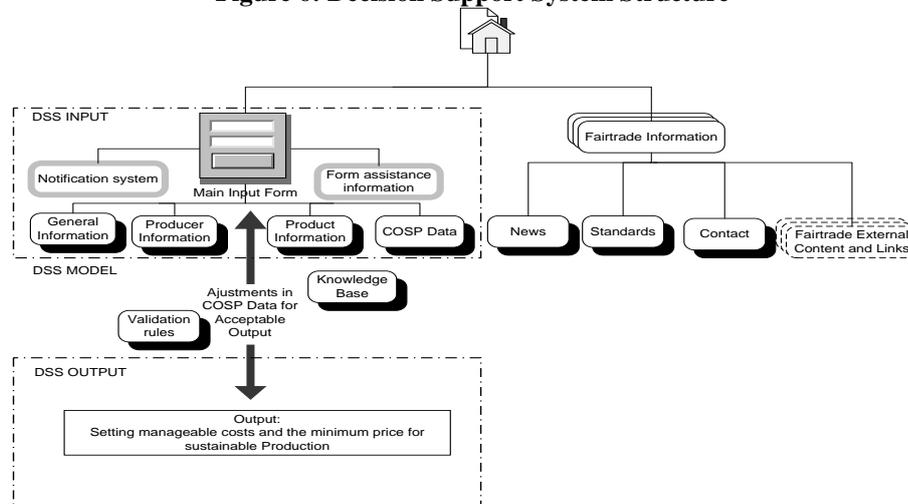
To this extent, the authors propose models for calculation of minimum price for sustainable production and minimum acceptable payment.

### 3.1. Cost of Sustaining Production

The DSS Model contains processing and validation rules that allow the user to form a decision on the account of results received from the application. The resulted price must at least break-even and cover the costs generated over the entire production chain.

The authors propose multi-tier client-server architecture, designed with user-friendly interface, for personnel with low experience in IT. Content is both dynamic and static, integrated as stated in (Căruțașu, 2011) and (Căruțașu, 2009), using for client-side HTML, CSS and JavaScript, standard web technologies with good functionality and compatibility among most of the browsers and their versions.

Figure 6: Decision Support System Structure



The DSS system offers assistance over the entire process by contextual help so as to increase the chances of receiving good input data. In addition, it provides technological transfer through the Fairtrade Information module. The calculation of the Cost of Sustainable Production (COSP) is divided into four sections: General Information, Producer Information, Product Information and COSP data. The definition and general structure of a DSS can be found in (Antonopoulo, Karetso, *et al.*, 2010) and (Perini and Susi, 2004).

General Information, with the interface depicted in Fig.7, requires as input the date of form completion, the agricultural period reported and the production cycle in years. The last field determines if crops are perennial, for which costs are prolonged over two or more years. The cost of production needs to be reported for the entire cycle as irregular cash flow can occur if harvesting may begin some years after plantation.

Figure 7: DSS Interface – General Information

Both Date and Agricultural Period possess Date Picker objects implemented with jQuery UI:

```
<script>
    $(function() {
        $(".datepicker").datepicker();
    //attach a datepicker object to all tags with a datepicker class and launch the constructor
    });
</script>
```

```
<div class="inputField">
<p>Date: <input type="text" id="data-gi[]" class="datepicker"></p>
</div>
</script>
```

The Producer and Product Information sections collect data that may be used as index for grouping and sorting. All information is stored in a database for the application to be able to report on producers, products owned or harvested by a certain producer, their COSP, identify trends to generate forecasts and so on.

COSP Data is collected from various stages of production related to:

- a. Establishment (initial investment) – totals the initial investment and operations for land preparation, planting and production expenses plus the costs of facilities and investments.
- b. Field operations - is based on a variety of expenses such as labour, irrigation water, seeds or plants to fuel and oil, machinery and the cost of land. In addition, depreciation, insurance, repairs, taxes and interest charges are also included.
- c. Harvest and post-harvest – it is formed out of hand harvest and field packing, also sorting, sizing and grading. If mechanical machines are engaged in the activity, then fuel, repairs, maintenance and insurance should be included in costs.
- d. Transformation and/or processing – adds up costs for processing the harvest to become a product suitable for selling and consumption.
- e. Product preparation and/or packaging – retrieves and sums up costs for sanitizing, classifying, selecting, preparing and packaging the product for dispatching to the consumer.
- f. Central structure (umbrella organization) activities – totals costs for services delivered by an organization that provides a certificate and imposes best practices and quality standards.
- g. Export costs –related expenses to transport, insurance, taxes (e.g. terminal fees, handling costs, storage costs etc.)

The interface for COSP Data for the first five stages splits costs in three categories: “Labor”, “Inputs and Services”, “Capital and investment”. Every subsection contains an” Add” button to allow insertion of new fields, changes taking place only client-side. Every new field can be eliminated by pressing „Remove”.

**Figure 8: DSS Interface – Common Elements**

<b>I.1 Labor</b>		<b>Cost per hectare</b>	<b>Cost per metric ton</b>
<input type="text"/>	<b>Add</b>	<input type="text" value="value"/>	<input type="text" value="value"/>
<b>I.2. Inputs and Services</b>		<b>Cost per hectare</b>	<b>Cost per metric ton</b>
<input type="text"/>	<b>Add</b>	<input type="text" value="value"/>	<input type="text" value="value"/>
<b>I.3. Capital and investment</b>		<b>Cost per hectare</b>	<b>Cost per metric ton</b>
<input type="text"/>	<b>Add</b>	<input type="text" value="value"/>	<input type="text" value="value"/>

The formula for returning labor costs per activity is (Man-Days\*8hours)\*local wage rate. For regularly hired labor, the indicator is set to salary/man-days. Also, the total cost for Capital and investment is complex, being formed from: property taxes, insurance, office expenses, investment repairs (building and machinery), annual depreciation, investments (in buildings, machinery or land) and investment in field tools. In evaluating investments with a higher precision the cost of opportunity should be also computed.

Business margin is a relative value cost and it is considered to be a percentage of the final price that includes the risk and responsibilities related to the activities of the producer.

In order to determine the Taxes, terminal and commission fees, one has to take into account the additional costs in the export process, such as: ad valorem tax, specific merchandise tax, custom surcharge and export taxes.

The model has to be general enough to cope with situations when some activities may not take place at the producer's level. In this respect, all fields in the COSP Data section are optional, and if not applicable, the field should be left empty or completed with a zero.

Next, the fields for Central Structure costs and Exports are presented.

**Figure 9: DSS Interface – Central Structure and Export Costs**  
VI. Central Structure costs (costs of umbrella organization)

I.1 Labor	Cost per hectare	Cost per metric ton
<input type="text"/>	<input type="text" value="value"/>	<input type="text" value="value"/>
<input type="button" value="Add"/>		
I.2. Inputs and Services	Cost per hectare	Cost per metric ton
<input type="text"/>	<input type="text" value="value"/>	<input type="text" value="value"/>
<input type="button" value="Add"/>		
I.3. Capital and investment	Cost per hectare	Cost per metric ton
<input type="text"/>	<input type="text" value="value"/>	<input type="text" value="value"/>
<input type="button" value="Add"/>		
I.4. Certification costs	Cost per hectare	Cost per metric ton
<input type="text"/>	<input type="text" value="value"/>	<input type="text" value="value"/>
<input type="button" value="Add"/>		
I.5. Business Margin	Cost per hectare	Cost per metric ton
<input type="text"/>	<input type="text" value="value"/>	<input type="text" value="value"/>
<input type="button" value="Add"/>		
VII. Exports		
I.1 Transport	Cost per hectare	Cost per metric ton
<input type="text"/>	<input type="text" value="value"/>	<input type="text" value="value"/>
<input type="button" value="Add"/>		
I.2. Insurance	Cost per hectare	Cost per metric ton
<input type="text"/>	<input type="text" value="value"/>	<input type="text" value="value"/>
<input type="button" value="Add"/>		
I.3. Taxes, terminal fees and commissions	Cost per hectare	Cost per metric ton
<input type="text"/>	<input type="text" value="value"/>	<input type="text" value="value"/>
<input type="button" value="Add"/>		
I.4. Other costs	Cost per hectare	Cost per metric ton
<input type="text"/>	<input type="text" value="value"/>	<input type="text" value="value"/>
<input type="button" value="Add"/>		

A couple of results are assumed to be displayed in real-time. For example, at the end of every section, the application must create totals and display amortization values per hectare and per metric ton. In this way, the producer is assisted in making the fair decision regarding the minimum price. When the submit button is pressed, all inputted values are processed and a recommendation for minimum price for sustainable production appears in a report. The user must be able to return at any time to the input phase in the DSS system without losing the values he inserted, thus enabling him to create a What-If analysis, to obtain the optimal result for his business. Such a model can be integrated in a virtual business incubator, on a structure described in (Joița, 2010).

The model assists the smallholders in their businesses by providing scientific knowledge and arguments for decision-making processes regarding the starting point for price negotiations between producer and purchaser. Moreover, the result of the analysis represents the level that ensures covering the cost of production and allows producers partial pre-payment of the contract securing the much needed cash flow for smallholder farmers.

### 3.2. Fair-payment Calculator

The goal of the Fair-payment calculator is to invigorate the quantitative standards for the fair trade principle of paying in consonance with local context. The application is web-based and can assist smallholders decide fair payment for an employed service, by creating a standardized methodology for

calculation. As stated in (Andersson, Svensson and Yang, 2010), (Hart, Ma, 2010) and (Sachiko, Isamu, 2012), the same service or product can be acquired with different prices, some of the factors being the geographical location, purchasing power parity, national and international taxes etc. The product or service can be accessed from a national or international provider. The input interface is presented in the following figure.

**Figure 10: Fair Payment - Input Interface Model**

Some of the input elements require a reset, according to previous selected options. For example, selecting an option for Country changes the options for the select tag responsible for displaying currency; selection of a different scope for payment, other than “Per Piece”, will hide time spent by the Contractor from the interface, to eliminate redundancy. In addition, the fields regarding materials appear only if the Contractor paid for materials. These changes in interface require the use of a dynamic language and an asynchronous technology for data transfer. In the make of the prototype, AJAX technology was utilized.

On submitting the information, server-side scripts save the data to database and make the calculations. The resulted indicators are sent to the presentation tier, client-side, where they are displayed in a form, in the browser webpage, as shown in the Fig.11 .

**Figure 11: Fair Payment - Results Interface Model**

Compare the Contractor's Daily Payment to the Indicators Currency: Romania New Lei

Payment Indicator	RON (Per Day)	Difference (RON)	Raise Payment (Per Piece)	Reduce Time (Per Piece)
<b>Minimum Wage(National)</b>	31.52	↓ 16.52 (52.40%) below	330.4	N/A
<b>International Poverty Line</b>	6.62	↑ 8.38 (127%) above	N/A	N/A
<b>Non-Poverty Wage</b>	62.72	↓ 47.72(76%) below	954.4	N/A
<b>\$4 a day poverty line</b>	13.25	↑ 1.75 (13%) above	N/A	N/A

Contractor's daily payment is 15.00 (RON) Per Day (assuming a 40 hour week) View as monthly payment

In the output form, payment is displayed per day or per month and it is automatically compared to poverty indicators, national and international: Minimum Fair Payment, International Poverty Line, Non-Poverty Wage and \$4 a day poverty line. The field of Differences shows the discrepancy between indicator’s value and payment value while Raise Payment and Reduce Time show the measure that need to be taken to meet the minimum requirements for a fair payment.

In the current case, the Contractor received a payment of 1300 RON for 160 hours of work for office furniture. He also paid for Materials 1000 RON. The result is 15 RON per day, by assuming a 40 hour week. This represents 52.4% below the Minimum Wage and 47.72% below Non-Poverty Wage. The measure indicated by the application is to Raise Payment by a minimum of 330.4 RON.

To obtain a clearer view of the model and the results, indicator values are described in a greater depth:

a. Minimum Wage (National) – the rates for each country are assumed from International Labour Organization database (ILO, 2012), for unskilled workers. Some countries have more than one value, a

lowest and a highest minimum wage rate. Where this applies, the values will be recorded as rural and urban (urban contractors are set to earn the highest minimum wage, as cost of living in cities is higher).

b. International Poverty Line – is an indicator set by the World Bank. It represents a minimum level of income to afford minimal standards of food, clothing, health and shelter. It is calculated as a sum of all costs for essential resources consumed by an average human adult in a year. Its current value is 1 dollar a day at 2005 prices, 1.25 dollars as the average line for the poorest 15 countries, or 2.50 dollars a day as a median for all countries, except the poorest 15. The model will use a value of 2 international dollars (purchasing power parity) a day, as recommended in (Alam, Murthi, *et al.*, 2005) and (Bank, 2010). The PPP conversion factor for each country can be obtained from (Nations, 2011).

c. Non-poverty wage – it is a comparable nationwide wage that reflects the country's economic development in order to allow a full-time worker to raise a family out of poverty (Sweatfree, 2012). The value is obtained by adjusting with the factor of purchasing power parity the hourly wage indicated in poverty guidelines of U.S. Department of Health and Human Services. For example, to determine the hourly non-poverty wage for Romania, the formula is (U.S. guideline wage/2080) \* non-poverty hourly wage)\*[(Romanian GDP per capita)/(U.S. GDP per capita)]= $\$9.18 * 0.257 = \$2.36 = 7.84$  lei/hour. The value 2080 represents the number of hours worked in a year, 40 hours/week in 52 weeks. The prototype uses information from (Census, 2012), (Fund, 2012) and (Oanda, 2012). Alternatively, a list can be found at (Non Poverty Wage Table, 2008).

d. The last indicator “\$4 a day poverty line” stands for the minimum value recommended in (Alam, Murthi, *et al.*, 2005) and it is close to the poverty line for developed countries.

#### 4. Conclusions

These results offer a better understanding of the labour market, both at national and international levels and allow the user to give a fair payment for one's effort. Future development will include a Knowledge Management System to store feedback and calculations. These will be used to raise the quality of the results. More so, tools for building a community will be implemented.

#### 5. Acknowledgement

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**ROMANIAN HUMAN CAPITAL OVERVIEW DURING THE CURRENT ECONOMIC CRISIS**

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**Abstract**

*The main objective of this paper is to conduct an overview upon the use of human capital in Romania and to analyze its forms of erosions during the current crisis period. The study will be based on the Governments policies and its effective use on the labor market. Also, this work will indicate the measures that Romanian state can take in order to avoid loss of human capital and to prevent its damage, and will provide the measures that will stimulate the use of human capital in Romania.*

**Key words:** human capital, labor market, unemployment, migration, efficiency

**JEL classification:** J 24, E 24

**1. Introduction**

The development strategies of the human capital at the state level have a focus on human capital resources according to the strategic and operational needs of the national economy and on ensuring efficient use of these resources. These elements contribute in formulating strategies for economic development, establishing future human capital requirements by identifying the ways to use the top of the capital, where human capital available will support the implementation of the economic development plans. There are also restrictive limits in the use of human capital, such as: shortage of qualified staff, difficulties in recruiting the labor force, low labor productivity, insufficient flexibility and adaptability or the climate that discourages the cooperation and the personal commitment. For these state restrictive limits, in the case of Romania, must be conceived a plan which will have as a result sustained policies conducive to a developed and efficient use of human capital. The demand for a strategic objective and the efficient use of human capital is absolutely necessary because a static and unused human capital for a long period of time will lead to its erosion, to its partial or total loss of skills / competencies that could have been used, which, because of economic and political changes (restructuring of the activity fields), will no longer find the utility on the labor market, that does not produce income.

At the European level, in the process of economic integration, are obvious concerns noted for human resources in general and particularly for human capital, especially after 80 's when the European Union Member States have proposed to obtain a high level of employment, productivity and social cohesion. The actuality and the need to develop policies and development strategies and effective use of human capital is also present in the strategy EUROPA 2020 which was launched two years ago and has the following objectives: smart growth based on developing a knowledge-based economy, sustainable growth based on promoting economies more efficient in use of resources, greener and more competitive; inclusive growth which is based on an economy with high labor employment, ensuring social and territorial cohesion. Thus, the main objective of this paper is to conduct a study on human capital development policies and effective use of its mechanism as a source of economic progress for Romania, from the perspective of economic integration and increased competitiveness of the workforce in Romania.

Several assumptions are to be left for the issue of economic integration and use of human capital in Romania:

- International competitiveness for highly skilled workforce in the context of free movement of persons may cause higher external migration trend of highly skilled workers;
- Declining population trend and general health, characterized by the indices of the least favorable development of human capital may affect the entire Romanian society;
- The competitiveness of Romanian companies relatively low compared to their competitors in the European Union. The consequences for generating new jobs, while restructuring the economic sectors, could pose a threat to social categories in the balance of risk;

- Public authorities limit to implement reform policies in the context of decentralization and economic crisis demands could threaten fair allocation of resources relatively limited and could be a factor for regression in training and use of human capital.

Conceptually, the paper will approach the human capital from the perspective of the School of Chicago theory (theory in its economic version: Mincer, Schutz, Becker), understanding through the human capital the education (formal and informal) and the health status.

## 2. Use of human capital dimension in Romania

Using the human capital generate competitive advantages. Only the people, the communities, the organizations and the nations which understand and act to preserve, protect and develop the human capital stock will gain the best profit. This ongoing process involves not only investment in education and training, but also in other areas which contribute to the "production" and maintenance of human capital. Human resources that Romania has place the country in a leading position among European Union states, but its use as human capital, raises certain issues which have worsened over time. Thus, according to the National Institute of Statistics, our population on 1 July 2010 was 21,431,298 inhabitants, recording in the last four years, a decline of 106 300 people from the total population. Of the total population: 10.4 million are men (48.7%) and 11.0 million are women (51.3%).

In terms of active and working population of the country it is observed a decrease in recent years due to financial and economic crisis.

**Table 1: Active population, employment and unemployed ILO (International Labor Office)**

	2007	2008	2009	2010
<b>Active population, total</b>	<b>9994</b>	<b>9944</b>	<b>9924</b>	<b>9965</b>
Female	4479	4418	4400	4416
Urban	5494	5471	5475	5538
<b>Employment</b>	<b>9353</b>	<b>9369</b>	<b>9243</b>	<b>9240</b>
Female	4237	4212	4143	4128
Urban	5072	5101	5032	5032
<b>ILO Unemployment</b>	<b>641</b>	<b>575</b>	<b>681</b>	<b>725</b>
Female	242	206	257	288
Urban	422	370	443	506

Source: National Institute of Statistics, Statistical Compendium. "Romania in figures 2011"

By the early 2000s, the active population remained elevated over 11 million people, but in recent years, there has been significant decline in the indicator value. Thus, after 2002, the population oscillated around 10 million and in 2010 recorded a population of 9.965 million people, of which 95.8% belonged to the working age group (15-64 years).

Another important indicator is the vacancy rate that expresses the demand for the labor in the labor market. Thus, as the effect of global economic crisis, the average annual job vacancies registered in 2010 registered the lowest value since 2005 and to date (0.59%, down 0.29 percentage points compared to previous 1.47 percentage points respectively compared to 2007, when the vacancy rate recorded the highest value).

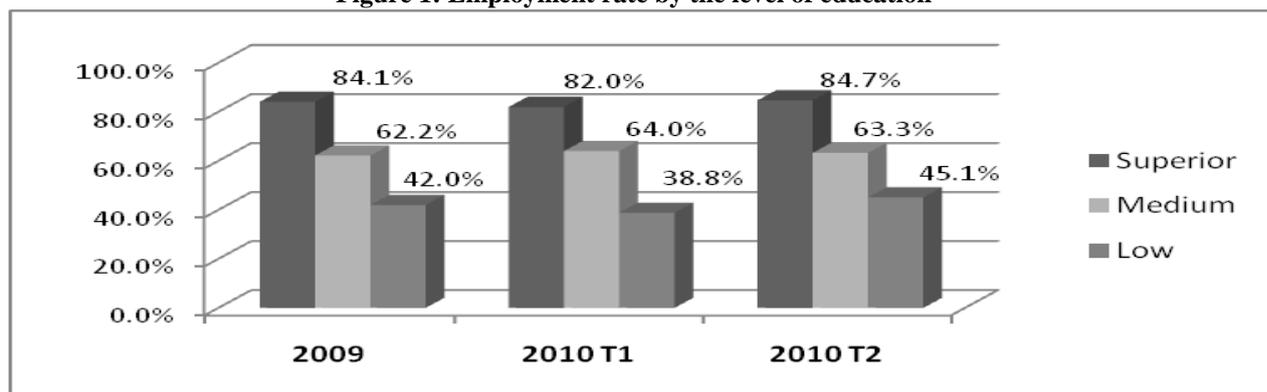
The crisis effects in the recent years are seen through the structure of jobs, bringing employment while reducing an increase in unemployment. After continuous growth recorded during 2005 - 2008 (characterized by economic growth), in 2009 employment began to decline, and in 2010 reached the lowest value (9.24 million people) in the last five years. Of those employed, 55.3% are men. Most of the employed population resides in urban areas, respectively 54.5% in 2010. Among them, there is prevailing the category of employees from the occupied (working) population, respectively 65.6% in 2010.

According to the National Employment Agency (NEA: RO - ANOFM), the highest employment rate for working people has been among higher education graduates (84.7%). Thus, 63.3% were employed people with average level of training/education and only 45.1% of those with low education level.

Also, most unemployed registered with the National Employment Agency (NEA) came in manufacturing, nearly 30,000 people; over 26,700 were from construction and among the sellers in shops and markets - over 18,500 people. People most affected by unemployment are from areas where the level

of education and professional development is medium or low. In terms of employment, there is a valuing of human capital, individuals with a high degree of training are hard fired and find a place of job easier.

**Figure 1: Employment rate by the level of education**



Source: National Employment Agency (NEA)

It should be noted that the structure of employment has been affected in the last three years by the economic crisis and the decline in living standards in Romania, increased unemployment caused major departures under the form of migration. Migration is stimulated by: the low level of salaries practiced in our country which is leading Romanian work force abroad; employees have a high degree of mobility and not very much attached to the companies they work, especially when the personnel policies of companies continues to be rigid and inappropriate to contemporary realities.

From the National Institute of Statistics data, but also those provided by institutions in Europe, we see that in recent years, the rate of migration of the Romanian citizens increased. Member States' statistics and survey conducted on the labor market in early 2010 shows that almost 2.5 million Romanian and Bulgarian citizens are working in 15 European Union countries. Therefore, at least 2.1 million Romanian are working in the Member States of the European Union, mostly in Italy (890 000), Spain (825,000) and Germany (110,000), this would be the first official figure reported by the European Commission representatives. The remaining 275,000 Romanian included in official statistics are working in Austria, Belgium, Denmark, Finland, France, Greece, Ireland, Luxembourg, Netherlands, Portugal, Sweden and the UK. Ten of these countries (Belgium, Germany, Ireland, France, Italy, Luxembourg, Malta, Netherlands, Austria and UK) have maintained some restrictions for Romanians before EU accession, among which is the need to obtain a working permit for certain qualifications.

The proper number of people who went to work abroad does not exist, there are only anticipations based on either contract workers registered through the NEA (National Employment Agency), or on estimates from NBR (National Bank of Romania). Following the NEA statistics, which manages the bilateral agreements that Romania has with other countries (Germany, Switzerland, France), we can see that in January-September 2010, over 100,000 Romanian had been hired abroad, mostly in Germany. On the other hand, a series of data, but "under the monetary shape" concerning the work abroad exist at the National Bank, which calculates how much Romanians abroad send money home every year. Last year, for example, Romanians abroad sent home 3.5 billion Euro, down 14% from 2009. The amounts calculated by the central bank, however, are included also the European funds.

Following the data outlined above results that the real economy labor market is under pressure in terms of active population and employed population. Therefore it is observed a decline from 9.33 million people employed in 2006 to 6.4 million employees in 2008. Later, in 2010, the number of people employed is around 4 million employees. Thus, Romania is using resources in the form of human capital, about four million persons. Of these it should be noted that a separate category is represented by people with high education and vocational training whose earnings are above the national average and another group consists of persons with medium or low education and who often earn less than the limit of subsistence. There is not a precise calculation of those who have and are available to borrow their human capital for an income (mostly in the form of the salary) because the statistical data that we have so far is insufficient and inconclusive. Interest in these indicators are not very important, Romania faces a lack of knowledge of the exact number of its citizens, their potential, knowledge of their location.

## 2.1. Erosion of human capital in the economy. Effects on the use of human capital in Romania and in Europe

As shown above, the economic and financial crisis has not gone unnoticed in the formation and use of human capital. In fact, the first effects of the crisis were felt mainly in the measures taken both at macroeconomic and microeconomic level. The effects consisted in a substantial reduction in financial resources for investment in human capital formation and a partial loss of capital human because of massive layoffs, high unemployment and lack of jobs for young graduates. Also, the status quo in the health system induces effects apparent and obvious risks for human capital in that the system has some characteristics: taxpayers are encouraged not to pay insurance under full unused amounts for which they were intended to be collected; unequal and difficult access to health services of the patients, doctors are the subject to financial constraints, sometimes incompatible with the proper conduct of the medical act.

The current statistical data used to compile the work confirms the view of the experts in human capital (eg. O. Neagu, 2009); thus, the most important consequences of current policies on human capital, reported in the financial and economic crisis, consist in:

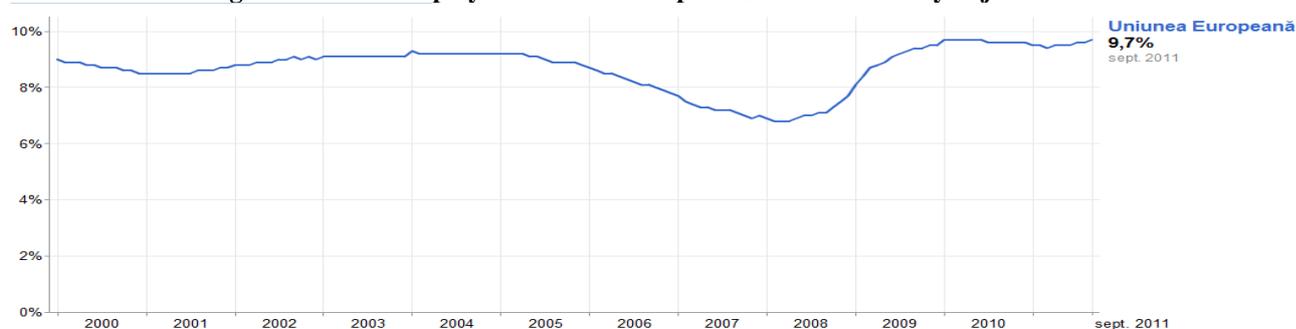
- quality of human capital depreciation due to job loss and unemployment, by a considerable number of persons;
- reducing the living standards of population, with repercussions in terms of ensuring the necessary support to maintain health and to maintain interest in education and training;
- reducing labor adaptability to structural economic changes and the flexibility conferred by a higher educational level;
- decreasing development alternatives and human capital accumulation as a result of restricting public spending on education and training;
- reducing the interest of individuals to develop their human capital and improve its quality.

It also considers that (European Commission, 2009 and recent debates about the Euro Area) European economic situation will deteriorate further in higher rates, which will increase risks for employment and social cohesion in the near future. Moreover, in the European Union it is recorded a negative trend in the use of human capital plan. There was a decrease in the number of jobs by 3.5 million and an unemployment rate increased from 2007 to present.

### 2.1.1. Unemployment – a type of erosion of human capital

However, we find that, although European Union unemployment rate is high (compared with its level after the Second World War) it fell to 9.4 percent in April compared with 9.5 percent in previous month and 9.7 percent in the same period in 2010. Also, the euro area unemployment rate fell compared with April 2010 from 10.2% to 9.9%, remaining at the same level in March 2011, according to the European Statistics Institute, Eurostat. Institute estimates 22.547 million people in 27 EU Member States, of which 15.529 million euro zone had a job in April. Netherlands and Austria have the lowest unemployment rate of 4.2 percent each, followed by Luxembourg with 4.5%.

Figure 2: The unemployment in the European Union - seasonally adjusted



Source: Eurostat, September 2011

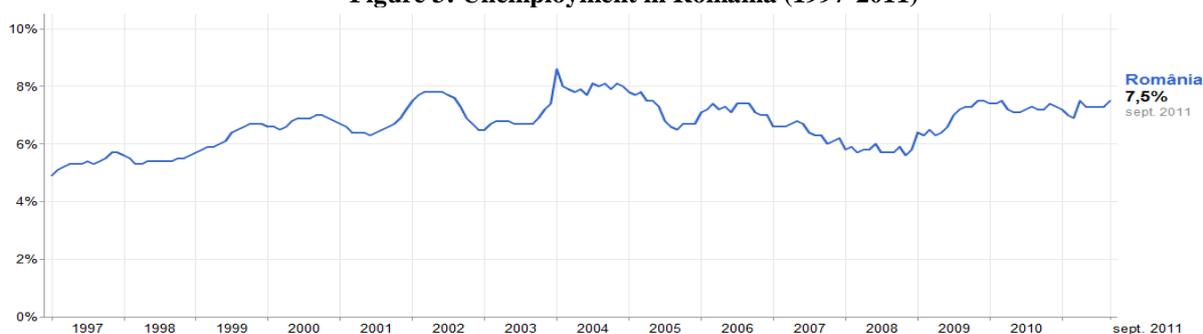
Spain remained the state with the highest unemployment rate in the European Union, by 20.7 percent, followed by Lithuania, with 17.3%, and Latvia, with 17.2% and Greece 14.1% in the last quarter of 2010 and . Also, due to economic and financial problems the unemployment rate that occurred in

Greece has increased from 10.2% in the fourth quarter of 2009, to 14.1% and 15.9% in the first quarter of 2012.

Among the 27 Member States, the largest and fastest increase in unemployment rate was registered in Spain, which crosses one of the biggest crises which affected also a part of Romanian citizens - immigrants in Spain. According to the Spanish National Statistics Institute, which uses a different method of calculating the unemployment rate among the working population at the end of 2011 was 22.85%. According to Eurostat Spain unemployment rate in February 2012 is 23.6%.

In Romania, the unemployment rate, according to Eurostat with seasonally adjusted data, in January had an unemployment rate of 7.3%, below the average of 9.5% in European Union Member States and in September 2011 there was an increase in unemployment reaching 7.5%. Even though our country is below the European average, but there are more elements that must be taken into account: the large number of citizens working in their farms or in agriculture, the large number of workers in the "underground" market and the Romanian citizens that left the country because of low living standards and were directed to look for a job abroad, especially in European Union countries.

**Figure 3: Unemployment in Romania (1997-2011)**



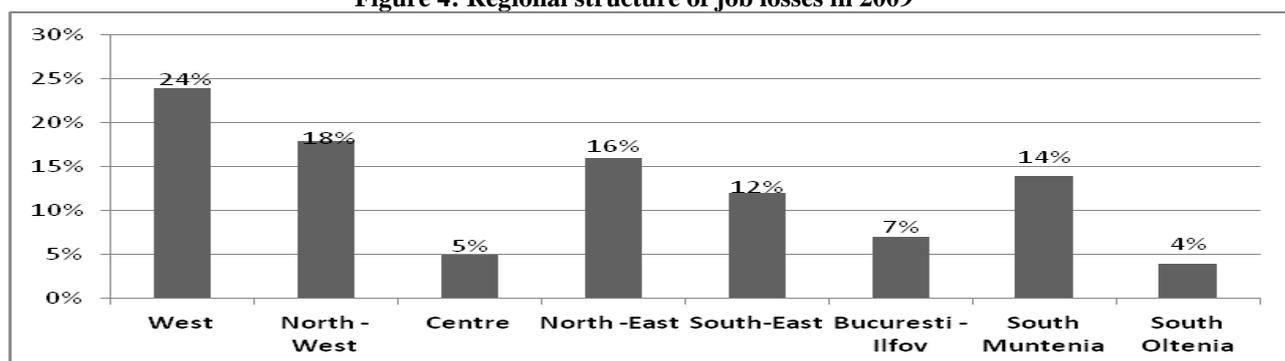
Source: Eurostat, September 2011

According to the National Institute of Statistics of Romania, by gender, male unemployment rate was 1.4 percentage points higher than among women, respectively, 8.2% for men compared to 6.8% for women. Statistics also show that unemployment is higher in urban than in rural areas (8.8% in urban areas, compared with a rate of 5.9% in rural areas). According to National Institute of Statistics of Romania, in the first quarter of 2011, the employment rate of working age population (15-64 years) was 58% and employment rate of population aged 20-64 years was 62.5%, at a distance of 7.5 percentage points to 70% national target set in the context of EUROPA 2020 strategy.

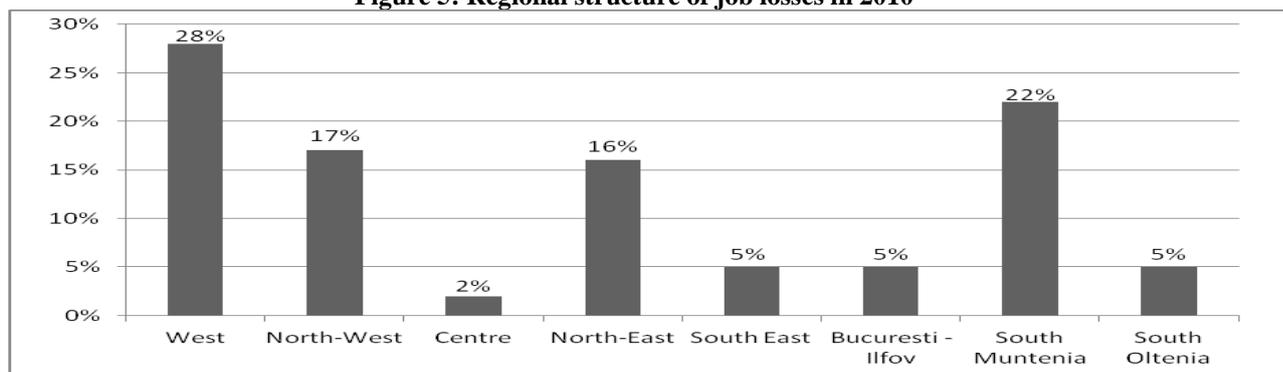
A more complete analysis and comprehensive indicators of unemployment is necessary because the unemployment rate reflects a number of issues that are both economic (e.g. under-employment, business cycle) and the social (e.g. risk of poverty and social exclusion, etc.).

An important element of economic analysis is the regional dimension of potential losses arising from the operation in the national economy in 2009-2010. This is calculated by applying the difference between the registered unemployment and NAWRU (Non-Accelerating Wage Rate of Unemployment) to the active population. The results are presented in the two diagrams below:

**Figure 4: Regional structure of job losses in 2009**



Source: National Employment Agency (RO: ANOFM)

**Figure 5: Regional structure of job losses in 2010**

Source: National Employment Agency (RO: ANOFM)

It is noted that the potential labor force is in use and the national economy since late 2008 has led to an operation in balance so that the size of losses is about 160 000 people in 2009 and 137,000 in 2010. This means about 2.1% of the workforce in 2009 and 1.6% in 2010.

### 2.1.2. External migration of Romanians. Export of Romania's human capital

Globalization and internationalization of the markets produce changes in the migration component consisting of an increased fluidity of territorial displacements. Moreover, the current economic crisis seems to act as a stimulus for people in countries hard hit by the crisis to countries with more developed economies. For example, in Romania one of the areas quite affected by the crisis is the health system; important health specialists (young doctors and nurses) have chosen to go to other states, our country losing such an incredible amount of specialists who could help to maintain population health. Therefore, all contemporary societies are affected by migration differently; depending on the quality they have (country of origin, country of transit or destination country). To reduce its effects, researchers, legislators, civil society representatives have proposed to create a national, European and world legislative framework to regulate the free movement of persons without impeding this right, but keeping a balance to economic and social instability within the family, regional and state level.

People involved in the migration flows can be classified into three categories:

- Persons with higher qualifications, with skills validated in their area of specialization: doctors, researchers, teachers, etc.
- The average qualified persons whose expertise covers a range of activities and professions: the hotel staff, paramedical personnel, builders, etc.
- Unskilled workers or semi-active in areas such as construction, agriculture, etc.

In the early 90s, the migration of Romanians abroad was directed to countries economically developed by the higher earnings than the level of earnings in our country. This confirmed the neoclassical economic theory dimension, but the economic dimension was associated with the political dimension because jobs were scarce in many countries for Romanians to the early 2000s. Therefore, in the first decade after 90, the favorite destinations of Romanians were Israel and Italy (17%), followed by Germany, Hungary, Turkey, and Spain with lower percentages. Even after Romania became a member of the European Union Community, the freedom of its citizens to hold jobs anywhere in Europe was restricted by the old Member States; only ten states in the EU 25 and Bulgaria were allowed full access of workers of our country from 1 January 2007. Two years later several countries have lifted restrictions. These restrictions aimed at receiving only in certain areas of activity or receive only a certain number of workers to who are also provided work permits.

Accepting a job offer abroad makes uncertain the professional development on the medium and long term for the persons decided to leave the country. Moreover, the migrant workers are often willing to take the compromise on the type of business which they are going to perform abroad in relation to their education, qualifications and skills acquired in the origin country. Thus, specialized disruption has a negative impact on the occupational continuity as well as on the skills necessary to practice the profession on the return in the origin country. From this perspective, migration of skilled and highly qualified persons is a loss for the state of origin; the result is being unable to benefit from invested in their human capital. For the workers in Central and Eastern Europe, accepting the conditions offered by the Member States is due to the possibility of obtaining better-paid jobs in sectors worst-paid abroad (there, where

there is demand exists) in comparison to their origin country job offer. Accepting a job with lower prestige is more easily when it is a temporary position and when the individual's entourage does not know about this. The effects on human capital do not stop just on the individual who decided to migrate, but also affects the worker's family. Leaving family, even for a short period of time in order to carry out the work abroad, can have negative effects on children's education or on the family's future. Children's education is affected because they are not supervised by parents but are in the care of grandparents who are either too old or too busy working in agriculture or household. The grandparents usually neglect the issues related to the presence of children in school and to their school results. Also, children still face serious psychological problems in terms of social relationships and school results. Another serious problem, at the European Union and at the authorities in Romania level, is the issue of „brain drain,, that accompanies migration in certain countries or at certain times. Educated people have a greater propensity for migration because they have less trouble adjusting in the country of destination, knowing or having foreign language skills or skills that better enable them to learn faster. For the countries of origin, specialists that are leaving may reduce technological development, economic growth, could bring lower income and lower employment rate in certain sectors. The “brain migration” topic brings the arguments for several disadvantages for the destination countries. On the long run, in the destination countries could be observed the lack of focus on their own educational systems. Collective costs allocated to the education are decreasing, which has a negative impact on the process of innovation and adoption of new technologies.

For that reason, the origin country, in our case – Romania must take measures to prevent this phenomenon using: incentives for professionals, temporary specialist's exchange between EU countries, creating the Romanian networks of specialists in origin country and abroad, stimulating investment in the country of remittances sent by migrant professionals. By migration, Romania exported human capital, supporting also the inherent effects of this phenomenon. Export cost of human capital is increasing and is only partially offset by the potential economic and social benefits. Migration of people registered in last years shows trends of increasing number of highly skilled workers (doctors, engineers, researchers) whose investment in human capital is much higher than for workers who went only for unskilled work and their education level was reduced. For example, in late 2008, the number of skilled Romanians left the country was 540,000 people.

It is noted that in the IT & C sector, more and more students and graduates, on the one hand, and specialists already trained on the other hand, choose to work abroad due to the wages several times bigger than in Romania. Given the current economic development of Romania, when computerization is strong, the “brain drain” is affecting the strong pace of development. Thus, migration results in a total final loss, the additional benefits are difficult to predict and manifest with a lag time or not at all. This led the researchers to state that “work migration can be considered as a partial and temporary export, associated to potential benefits relatively more certain. The individual earnings are transferred to the country family, their domestic consumption of goods and services to support domestic demand and, to some extent, national production” (Constantin, D.-L., Vasile, V., Preda, D. and Nicolescu, L., 2004). The export of labor in which they have invested important added value is a loss that could have made the country as a source for sustainable growth. We consider that the researchers mentioned above find a direct reflection of what characterizes today the labor market in Romania and the visible effects of the export of human capital.

The large volumes of Romanian migrant labor, especially their high weight to the total active population are socially and economically important effects. Working abroad is an important source of income for a large proportion of the population at the national level, it is estimated that approximately 10% of each type of investment in the past five years is carried out with international migration. On the other hand, the remaining population in the country has become insufficient to support the public budget, especially in terms of sustainability of the pension fund and social security related expenses.

The accentuation of aging process of the population through the international migration, a process already at an advanced stage due to lower birth rates (from 2000 to 2010, population growth has an annual average of -0.4%), raises questions about the government programs so far, whose priority was not pre-screen or reduce this phenomenon. As public authorities do not provide accurate statistics on migration, they are not concerned to undertake studies on the migration policies, ignoring the fact that migration in general and labor, in particular, is one of the most important problems Romanian society has, as the Romanian immigrants (legal migration declared) represent 13.1% of the total population. Lack of these policies will transform the flow of temporary migration to permanent migration, which at that time,

will cause the lasting of all negative effects estimated as well as the large reduction of the positive ones; for example, if permanent migration, which typically involves the entire family, remission volume will decrease considerably, without a further need to “send money home”. It remains however a significant deficiency in internal labor market, particularly drawing attention to those areas or economic sectors where the gaps already exist.

### 3. Conclusions

Romania needs to rethink public policies on education, health and labor market in order to improve the effectiveness and efficiency. Effectiveness stands in increasing the adaptability and flexibility of employment and preservation (at least) of the quality of human capital and labor force. On the other hand, through efficiency and development are provided forms of national stock of human capital in an optimal ratio between effort and results. The policies to promote active employment and combat unemployment can confirm the valences in the economic crisis period.

Based on the analysis of the human capital use and its types of erosion there can be set several guidelines of national policies to mitigate and repair the problems in this area. Therefore, Romania will have to develop and implement a long-term strategy to encourage the use human capital of people inside the country, to maintain the country's population that intent to emigrate and, simultaneously, to adopt measures to encourage the return of highly skilled persons from abroad. The solution would be the intra-regional economic integration which can reduce problems created by “brain drain” and loss of jobs in Romania. Thus, by stimulating as many categories, the solutions will generate multiplier effect and high level use of the resources. By the intra-regional economic integration is claimed to increase foreign investment that may produce the creation of networks and formation of highly skilled workers channels in both directions. Romania also needs to consider measures to stimulate: the creation of new jobs and requalification courses in other areas with problems in terms of employment for dismissed people due to the business restructuring; improve coordination between local development policy promoted by central and local authorities in order to obtain new jobs by encouraging links between businesses. Another set of measures should aim the taxation to stimulate sustainable growth of wages, living standards in Romania and to encourage companies to allocate funds for trainings improving the employee's qualifications.

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## FOREIGN DIRECT INVESTMENTS FLOWS EVOLUTION AT EUROPEAN LEVEL UNDER THE IMPACT OF THE FISCAL POLICY

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**Abstract :** *At European level the fiscal policies are aiming to harmonized and coordinate the 27 different systems in the European Union without undermining the national individuality, taking at the same time into consideration various development degrees. In this context, a way to determine an economy development degree is by analyzing the volume, or especially the flow, of foreign direct investments, under the fiscal policy impact promoted by each country.*

*In this context the paper aims to realize a dynamic analysis of the foreign direct investments flow at European level under the impact of the recent fiscal policy modifications, underlining Romania's position.*

**Key words:** foreign direct investments, fiscal policy, economic growth

**JEL classification:** G 01, O 16, O 23

### 1. Introduction

Fiscal systems are a key factor in influencing the whole economy by determining the economies, investments and work inclinations, influencing production and labor force, representing essential elements for the economical strategy and making from the fiscal reform an important component in the economical reform.

Our époque is characterized by paradoxes, but these are born from by state's arbitrages. Thus, when it comes to fiscal policies and their competition we will see that states are inclining to say that they are applying policies with the scope to limit economical agent's uneven competition. But, isn't competition indeed the liberty to act different from other's and as Bessard P. (2009) has said isn't it a "paradox to impose liberty".

At European level, even though efforts until now are consistent, it is difficult to find optimal solutions when you are "negotiating" with 27 different fiscal systems belonging to the same number of states with different developing degrees, more or less willing to make national changes. This way, in a community that wishes to be a whole there are irreconcilably differences. Nevertheless the European Union insists upon eliminating fiscal barriers for trans-national economic activities but, at the same time, intensifying the fight against harmful fiscal competition and fiscal fraud (European Commission).

Under the globalization impact factor's mobility has increase and with it economic integration is bringing into discussion the fiscal arbitration regarding enterprise localization and especially capital and labor localization. Thus, competition between European states faces a new challenge: increase national territory attractiveness. Most times a state capacity to attract foreign capitals and to preserve national ones is linked to the promoted fiscal policy.

The correlation between the fiscal competition and foreign direct investments has emerged in the context in which attracting more investments to national level have become an important goal for both develop and developing countries. Thus, the study done for EU 25 is demonstrating that the corporate taxes is influencing profits repartition and at the same time the foreign direct investments (Wolf, 2007).

### 2. The fiscal policy and the foreign direct investment flows at European Union level

Europe has always had a high fiscal rate. Starting from the '70's the state role in economy has been growing. It has been showed that once this happened the fiscal burden followed the ascending trend. This trend has been seen in economy though the 80's and the 90's. In 2000 the European states have tried to end the ascending trend of the fiscal burden but the process has been stopped in 2005 because some countries were facing real problems like the need to cover the budgetary deficit and unemployment rates that were reaching high quotas.

According to European commission analysis for 2008, the European Union-27 is presented as a high fiscal area. Thus, in 2008, fiscal revenue percentage, as average, in the gross domestic product (GDP) has been 39.3%, with one third over the USA and Japan levels and with 4.8 percentage points over

the New Zealand level (34.5%). The European area had in 2007 the same trend when European fiscal pressure (measured as the fiscal revenue (including here beside direct and indirect taxes, the social contributions) percentage in the gross domestic product) has been 39.8% with 12 percentage points over the USA and Japan levels.

Regarding fiscal revenue structure (direct taxes, indirect taxes and social contributions) we can notice that in states adhered before 2004 the structure is relatively constant the three types of revenue owning almost 1/3 from total with one exception (Malta) where direct taxes have the lowest percentage.

Analyzing indirect taxes percentage in total fiscal revenue (including social contributions) we notice that new member states have the highest values. Thus, Bulgaria is the state with the highest level of 55.7%, with 21.8 percentage points over the European average, and Finland is at the opposite pole with a 30.6% level. Romania, being one of the newest European members has an indirect taxes percentage of 42.7%, with 8.8 percentage points over the European average.

In the case of direct taxation the situation is in reverse. Thus, Bulgaria (21.0%) is again the state find at an European extreme, this time the lowest one, with 10.3 percentage points under the European average of 34.3%. At the opposite pole, again a Nordic state, Denmark with a 62.3% level, with 28 percentage points over the European average. This situation can be explained by the fact that most recent member states have adopted flat rates and their immediate effect is decreasing collected direct taxes volume. Romania with a 24.0% level is respecting the recent member states trend.

As regarding social contribution levels the European trend is indirect taxes alike. Thus, European Union average is 32.0% and newest member states are situated over it and states adhere before 2004 are situated under it. The Czech Republic is the state with the highest social contribution percentage in the total fiscal revenues, with 12.9 percentage points over the European level and at the opposite pole we find Denmark (2.0%) with 30 percentage points under the European average. Romania's level is just with 1.3 percentage points over the European average.

Differences occur between states adhere before 2004 too, thus in Great Britain or Ireland direct taxes percentage in total fiscal revenues is high and at the same time social contribution percentage is low (the paradox occurs because, most times, direct taxes are correlated with social contributions) because in these states, financing social actions funds are coming from the outside of the fiscal system.

Starting from 2008 European Union member states fiscal policies have been under a constant make-over because of the economic and financial crisis. This means that by successive reforms states have had a difficult mission to accomplish, that being finding a mix of policies that will ensure necessary resources for public institutions and at the same time achieving financial, budgetary and social objectives. Most times the easiest way to collect resources at national level is by changing fiscal legislation, and so, the public power is directly interested on how this fiscal modification can and will affect the entrepreneur environment.

Fiscal pressure is a way of measuring tax impact upon entrepreneur environment. This indicator is determined by dividing, at macro-economic level, the total amount of fiscal revenues, including social contributions, to the gross domestic product. This rapport shown a general fiscal pressure, but by excluding social contribution from the total amount of fiscal revenues, we are obtaining an indicator which shows just the tax (direct and indirect) impact upon entrepreneurship. Furthermore, if we want to obtain a detailed impact of financial and fiscal policies promoted by the state upon entrepreneurship, the indicator – fiscal pressure, can be determined in a limited manner by replacing the fiscal revenues value with any of its components.

**Table 1: Fiscal pressure evolution by components (%)**

Indicators	EU-27 average	Maximum value	Minimum value	Romania	
	2008	2008	2008	2008	2009
<b>General fiscal pressure</b>	39,3	Denmark: 48,2	Romania: 28,0	28,0	28,46
<b>Indirect fiscal pressure</b>	13,4	Bulgaria: 18,6	Spain: 10,2	12,0	10,3
<b>Direct fiscal pressure</b>	13,5	Denmark: 30,0	Slovakia: 6,4	6,7	6,3
<b>Social fiscal pressure</b>	12,6	France: 16,1	Denmark: 1,0	9,3	10,98

Source: European Commission (eurostat), "Taxation trends in the European Union Data for the EU Member States and Norway", 2010, process data from Finance Minister site

The general fiscal pressure, determined as the rapport between total fiscal revenues, including social contributions, and the gross domestic product, shows the impact of fiscal and social policies upon economy.

Romania has the lowest level of general fiscal pressure from the EU-27, with a level of 28%, at a difference of 28.2 percentage points from Denmark, the state with the highest level. Romania is also under the European average with 11.3 percentage points and under the 2009 level with 0.46 percentage points.

General fiscal pressure impact can be detailed according to the fiscal revenues components as follows: indirect fiscal pressure, direct fiscal pressure and social fiscal pressure.

The indirect fiscal pressure, determined as the rapport between indirect taxes value and the gross domestic product, has been in 2008 in Romania close to the European level, with only 1.4 percentage points under it and with 1.66 percentage points under the highest level registered in Bulgaria. In 2009 the level has decreased to 10.3%.

The direct fiscal pressure, determined as the rapport between the direct tax value and the gross domestic product, has registered at European level in 2008 a 13.5% value. In the case of direct taxation differences between registered values are the biggest. Thus, between the state with the highest direct fiscal pressure, Denmark (30%) and the state with the smallest direct fiscal pressure, Slovakia (6.4%) are 23.6 percentage points. Romania has registered a decreasing direct fiscal pressure from 6.7% in 2008 to 6.3% in 2009.

The social fiscal pressure, determined as the rapport between social revenues and the gross domestic product, shows that Denmark in the state with the smallest social fiscal pressure with just 1.0% value, with 11.6 percentage points under the European average of 12.6%. In Romania in 2008 the social fiscal pressure was 9.3%, with 3.3 percentage points under the European average, but in 2009 its level increased to 10.98%.

Furthermore from the entire European member states just six have modified their tax rate in 2009 face to 2008, five decreasing it and just one increasing it. All the other members maintained their profit tax levels. But, in 2010, European states have again, modified profit tax rates, under the economic and financial crisis hollow as shown in table no. 1.

**Table 2: Profit tax rates modifications (%)**

Country	Quota		
	2008	2009	2010
<b>Czech Republic (CZ)</b>	21	20	19
<b>Luxembourg (LU)</b>	29,6	28,6	28,6
<b>Slovenia (SI)</b>	22	21	20
<b>Sweden (SE)</b>	28	26,3	26,3
<b>Great Britain (UK)</b>	30	28	28
<b>Lithuania (LT)</b>	15	20	15
<b>Greece (EL)</b>	25	25	24
<b>Hungary (HU)</b>	21,3	21,3	20,6

Source: European Commission (eurostat), "Taxation trends in the European Union data for the EU Member States and Norway", 2009 and 2010

Under the first negative impact of economical and financial crisis, Great Britain was the European state with the most significant profit tax quota change of 2 percentage points in the sense of decreasing it while Lithuania was the only member state that increased its profit tax quota with 5 percentage points. In 2010 two new member states have modified their profit tax quotas, Greece decreased it with 1 percentage point and Hungary decreased it with 0.7 percentage points. If in 2009 it was the only state increasing its profit tax quota, in 2010, Lithuania has return to its 2008 level of 15% flat rate. Czech Republic and Slovenia have continued their decreasing trend furthermore with 1 percentage point to 19% and 20% flat rates.

Having as a starting point the fiscal policy promoted by each state and adding the globalization phenomenon we will see that the foreign direct investments flow has significantly change over the years. By eliminating borders both territorial and cultural globalization has opened economies to foreign investors searching for different things. Countries that have been able to create a competitive environment and have considerably reduce their restriction for foreign investors, even given several fiscal, financial and social advantages for them have attracted an increasing flow of foreign direct investments.

According to the international regulations a foreign direct investment represents a trans-national investment effected by a resident entity (investors – can be both a moral and a legal person) in another entity established in a different state. It is considered that the investment made this way should be a long time investment if it offers the investor more than 10% from the invested in firm's social capital, respective from the voting right in the shareholders assembly. The foreign direct investment should be composed from the subscribed social capital, reinvested profits and the net credit (meaning the loan that the foreign investment can get from the foreign investor minus the loan got by the foreign investors from the foreign investment). Furthermore, countries from which the capital is leaving are called origin countries and countries attracting the foreign investment are called target countries.

But why would investors place their capital, even on a regular basis, abroad? According to Bonciu (2003) there are 4 important factors that can attract to national level foreign direct investments:

- Resources, investments have as motivation obtaining access to state's natural resources often with a high quality and / or a better price than the ones in the origin country;
- Markets, investments are usually made to be closer to their opening market because of the indirect lower prices;
- Efficiency, investments are made with the scope of increasing both labor productivity and returned profits;
- Strategically assets, investments are made in order to gain complementary assets beside the existing ones, by reducing associated risks, realizing scale economies and strengthen firm's competition capacity.

A foreign direct investment has both advantages and disadvantages for either the origin or target country.

**Figure 1: Advantages and disadvantages upon origin and target countries**

	<b>Advantages</b>	<b>Disadvantages</b>
<b>Origin country</b>	Opens doors towards developing economies meaning that they can attract to their national level experimented labor force	Capital outflow that could have been invested on national level; Decrease in labor places due to capital leave; Lower budgetary revenues due also to capital leave.
<b>Target country</b>	Foreign capital will sustain economical growth; Help restructuring businesses and speeds up privatization; Stimulates infrastructure development; Generating positives effects upon the commercial balance; Generates supplementary revenues for the state budget.	Different fiscal treatments to foreign investors versus national investors; Trusting natural resources to be used in foreign hands; Narrowing national products and services face to foreign ones.

Source: personal synthesis

At European level according to the European Commission (2010) the foreign direct investments flow towards the BRIC countries (Brazil, Russia, India and China) has decline after 2007 under the effect of the economic and financial crisis.

**Table 3: Foreign direct investment flows with BRIC countries**

	<b>Inward flow</b>			<b>Outward flow</b>		
	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>BRIC</b>	49.4	38.7	17.9	43.0	18.6	6.4

Source: Economy and Finance, Data in focus, 29/2010, eurostat, author Elsa Gonçalves

As we can see the outward flow has decreased from 49.4 billion euro in 2007 to 17.9 billion euro in 2009, meaning with a total of 64%. This decrease was mainly focused in Russia where the decrease was 106% in 2009 face to 2007. On the other hand the inward flow of foreign direct investments has decreased by an upping 85% from 43 billion euro in 2007 to 6.4 billion euro in 2009, but this time all the BRIC countries have registered mostly equal decreases.

For the same period the European union foreign direct investment flow towards non- European member states has also decline but with a lower rate than the flow towards the BRIC countries. Thus the

outward flow has decreased with 50% from 530.7 billion euro in 2007 to 263.5 billion euro in 2009 and the inward flow has decreased by 46% from 411.4 billion euro in 2007 to 221.7 billion euro in 2009.

In this period from the European Union countries, Great Britain has been the biggest investor in Russia and China, while Spain invested mostly in Brazil and Germany invested in India.

The European Union foreign direct investment flow is still under the influence of the economic and financial crisis. Due to this situation the European Union income from foreign direct investment has decreased by 13% and the income balance in 2009 has been 0.55% from the gross domestic product face to 0.72% from the GDP in 2008 (the income balance has been determined as the differences between inflows and outflows revenues).

Among the European Union partners in 2009 were Singapore with a 44% increase in investments flows and Hong Kong with a 56% increase. From the BRIC countries just Brazil had a remarkable increase of the inward flows (37%) while South Africa is the state with biggest difference between flows (40% increase for outward flows and just 4% increase for inward flows).

As regarding the foreign investments flow in the European Union borders (intra-EU flows) the data given by the European Commission (2012) are showing that the EU member states have made more intra-EU flows than extra-EU flows. Thus, after the EU enlargement in 2004 an increase of the outward foreign direct investment flows was seen and that increase reached in 2010 its peak point at 15.6% higher than in 2009.

In 2010 there were 4 large contributors to the total foreign direct investment flows: Luxembourg (34.3% from the total FDI flow), Netherlands (29,3% from the total FDI flow), Germany (23.5% from the total FDI flow) and France (20% from the total FDI flow). As their opponent – the largest negative contributors, were Great Britain (-13,5% from the total FDI flow), Hungary (-10.9% from the total FDI flow) and Portugal (-12,6% from the total FDI flow).

**Table 4: Intra – European Union 27 foreign direct investment flows (2010, % from total flow)**

	<b>Outward flow</b>	<b>Inward flow</b>
<b>EU 27</b>	56.1	65.8
<b>Bulgaria</b>	42.1	88.8
<b>Czech Republic</b>	91.7	95.9
<b>Denmark</b>	65.7	97.5
<b>Estonia</b>	122.7	97.9
<b>Malta</b>	110.3	34.9
<b>Romania</b>	-236.2	95.7
<b>Sweden</b>	22.3	200.6
<b>Luxembourg</b>	54.6	59.1
<b>Slovenia</b>	115.7	53.0
<b>Great Britain</b>	-351.6	-10.5
<b>Lithuania</b>	84.8	80.4
<b>Greece</b>	81.9	63.9
<b>Hungary</b>	-65.3	35.8

Source: eurostat, Statistics in Focus, External trade, authors Franca Faes-Cannito, Gilberto Gambini, Radoslav Istatkov

As we can see the biggest investors in Europe was Estonia and the biggest attractor was Sweden. Furthermore if we will make a parallel between table 2 and table 4 will find that even though Lithuania has been the state with the highest profit tax rate decrease (5 percentage points from 20% in 2009 to 15% in 2010) it was not the state that attracted to most foreign direct investments. The state that attracted the most FDI has been Sweden that has a relatively high profit tax rate, even though this state has also decrease its profit tax rate in 2009 to 26.3%. This shows that a reduce profit tax rate is not enough to attract foreign investors and we should take into consideration other opportunities offered to investors.

We can not, also, state that a stable fiscal policy regarding the profit tax rate is a successful key in attracting more foreign investors. Take for example Malta, that is among the only states in the European Union that has not changed the profit tax rate in the last 5 years but still has one of the lowest foreign investments flow (only 34.9% from the total inward flow).

As far as Romania goes, in 2010 it attracted 95.7% from the total flow of foreign investments but it had a upping outward flow of – 236.6% from the total, meaning that our country does not yet have the ability to balance those two flows in order to have real gains.

If we are to analyze the data published by the Romania National Bank regarding the foreign direct investments flow by sector of activity we will find the trend has been almost the same since 2003. Thus, the industry is the sector attracting most funds, followed by the financial and insurance sector, commerce sector (both en-gross and en-detail), construction and real estate sector and finally communications. The region attracting the biggest part of these investments is the capital area (Bucharest – Ilfov area) and the region with the lowest attractiveness rate is the South- East area.

The Netherlands (20.7% from the total FDI flow in 2010) are the biggest investor in Romania followed by Austria (17.8% from the total FDI flow in 2010) and Germany (12.2% from the total FDI flow in 2010)

Even though our country is among the top countries attracting FDI funds from the intra-EU flows we can see that these revenues are not used at their best capacity based upon the real life experience.

### 3. Conclusions

The fiscal policy is a complex domain. At European level applying common regulations is harden by the diversity of the 27 member states fiscal systems – develop countries are focusing upon direct taxation and less develop countries are focusing upon indirect taxation. Furthermore it is difficult to harmonize taxes when different member states are differently interpreting tax laws and so generating, on a free market, strong distortions.

We can state that a single fiscal policy measure – like reducing tax rate for profits is not enough to increase the FDI towards national level. A mix of fiscal, budgetary, financial, monetary and social policies is required to make a territory a long term attraction to foreign investors. Furthermore, the policy makers should take into account that budgetary revenues are not always formed just by the incomes produced from the inward FDI but also the outflow of investments can and will bring revenues at national level, though profits redistribution. So, for a state the equilibrium between inward and outward investments is the key to a balanced economy, because it shows the state ability to both attract investors at national level and choose the best economies to invest in order to generate more revenues and further develop.

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## APPROACH OF CONSEQUENCES OF INCREASING TAXATION IN ROMANIA FROM BENEFITS TO COLLATERAL EFFECTS

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**Abstract:** *The Romanian economy is definitely tracing its steps on the open market path and is gradually recovering from the darkness of both former society and the current crisis. The present paper is an introspect analysis into some standard indicators - considered to be the signs of a sound growth such as: collected VAT, the bankruptcies number. When not correctly monitored these are the first signals to prove the presence of the underground economy as the primary effect of the economic crisis. In this paper, we identify and analyze some correlations focused on the aftermath of the crisis, and some official regulations allowing the businesses to avoid correct application of laws and speculate false profit creation.*

**Key words:** crisis, underground and informal economy, fiscal consolidation, economic recovery

**JEL classification:** D 04, E 01, E 26, G 01

### 1. Introduction

The fiscal policy measures are among the most controversial component of the macroeconomic policy, depending on how they understand the application norms of strategies to budgetary incomes and expenditures. With this paper the authors intend to demonstrate potential specific correlations between fiscal measures and government revenue growth, between fiscal measures and the companies' soundness, in close link to the level of the underground economy.

Past studies demonstrate a direct connection between fiscal measures and increased revenues for the public budget. Among those who have undertaken such studies, we mention Babushka, (1987), Easterly and Rebelo (1993), Engen and Skinner (1996), Weller and Rao (2008), Talpoş (2008). (Dobrota 2012) In this context our interest is to analyze the impact of taxation on the Romania economy as a whole, but in particularity to reveal whether or not the underground economy was favored by excessive taxation. Our analyze focus on business demography as companies are those generating the greatest mass budget revenues through levies required.

### 2. Some effects of increasing the VAT on the Romanian economy

Quite recently the government decided a VAT increase from 19% to 24% with the purpose to augment the public revenues. The decision found all companies and legal private entities unprepared to face the negative effects that didn't correspond at all to the policy maker's expectations.

The VAT effects as mentioned in Graph 1 were not only upon the public budget, but also on inflation, resulting in an increase of the inflation rate (the economic operators always try to recover the extra-paid sums in favor of the state by raising the prices). Before identifying the VAT increase elements and affects it was primarily necessary to find the economic and fiscal logic of the government decision to increase this fee. Thus, while most of the member states of the E.U. have mainly aimed to reduce tax rates at the level of the economic agents (in the interval 1995-2009, the average tax rate decreased with 11,8%, the area of deductions and exemptions being restricted and opting for broadening the companies taxation base by reducing the amortizations and deductions facilities (Dobrota 2012), Romania preferred the contrary: to increase the fiscal tasks, to complicate the fiscal legislation, to reduce the number of employments, with direct negative repercussions on the national economy.

Calculating the Pearson correlation between the evolution of the VAT rate from 2004 until 2011 and the public budget revenue from VAT we identified the VAT increases as follows:

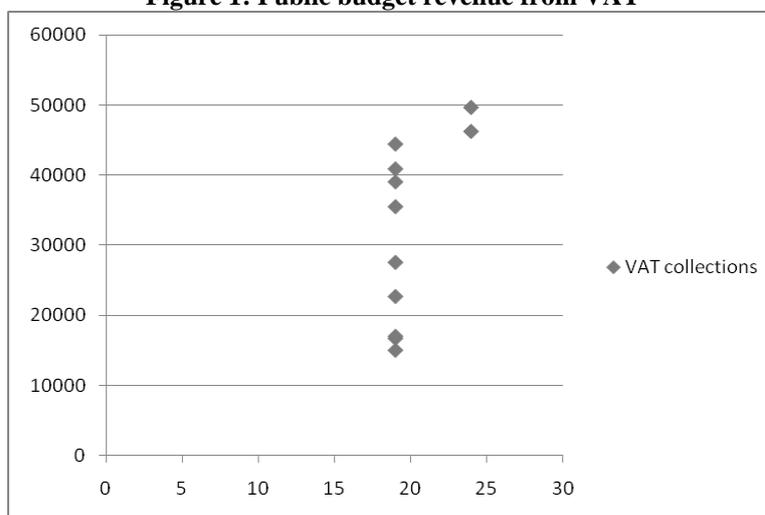
**Table 1: The influence of the VAT rate over the public budget**

	2004	2005	2006	2007	2008	2009	2010	2011	2012
(1) VAT rate (%)	19	19	19	19	19	19	19	24	24
(2) Public budget Revenue from VAT	16692	22679	27543	35487	40875	44416	39033	46231	49652*
Pearson correlation coefficient (1) & (2)	0.608								
Public budget revenue from VAT, % of GDP				80	77	69	76	87	86*
Budget deficit % of GDP	1.1	0.8	1.7	2.6	5.7	8.5	6.4	4.4	3*

Source: authors' calculations based on INSSE and the National Prognosis Commission estimations

Figures show a slow positive nonlinear (0.6) correlation between VAT and the VAT budget revenue from VAT. Hence, the VAT increasing rate did not have the expected effect on the public budget revenues. They have increased but not with a significant value.

**Figure 1: Public budget revenue from VAT**



Source: Authors calculations

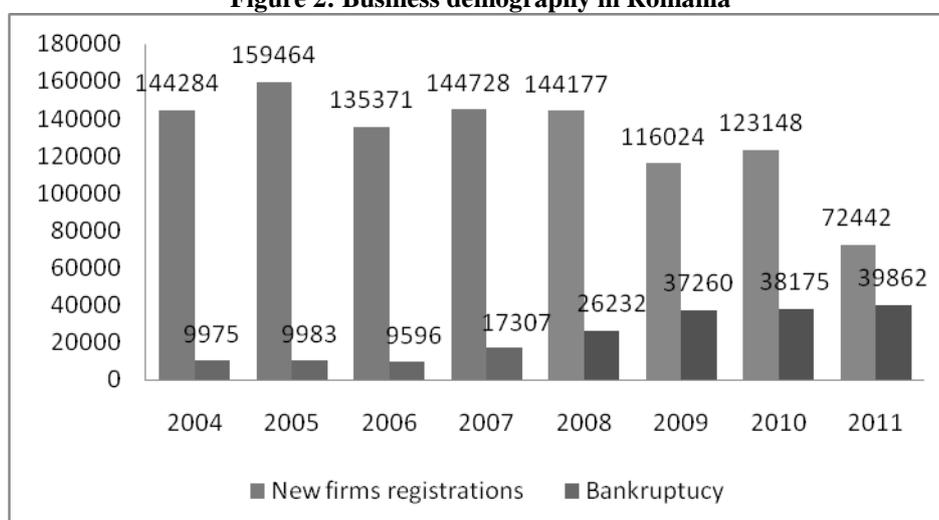
The later effect of VAT increase reflects the budget deficit, still recorded above the Maastricht Treaty requirements at 6.4% of GDP in 2010 and 4.4% in 2011. For 2012 the Government a target of 3% of GDP based on the diminution of Government spending. The first statistical figures of 2012 outlines the recession as the second time because lack of economic performance. The analysis does not take into account the possible adverse external shocks, which are also very probable, because the euro zone represents a terrible negative externality. To have a strong correlation between the VAT value and the public budget revenue that can demonstrate the government's decision to increase VAT we assumed and calculated potential public incomes from VAT as follows

**Table 1: Authors estimations for the state budget revenue from VAT**

	2010	2011	2012	2013	2014	2015	2016	2017
(1) VAT rate (%)	24	24	24	24	24	24	24	24
(2) State budget Revenue from VAT	39033	46231	65876	78654	117865	127897	135674	145752
Pearson correlation coefficient (1) & (2)	0.802							

Source: Authors' calculation, based on National Prognosis Commission estimation

To get a strong positive correlation, also reaching a Pearson coefficient higher than 0.8, we estimated that in 2012 the budget revenue from VAT has to increase by 29%. Under the circumstances that from between 2010 and 2011 the budget revenues from VAT have increased only with 15.57% it is hard to believe that the estimation of 65876 for the budget revenue from VAT in 2012 will be achieved, and the decision to increase the VAT was the best one. We have also to take into consideration that the VAT revenues represents 8-10%, the largest share of public budget revenue compared with income tax, which is around the value of 2% of GDP. As a fact it may be stated that the fiscal policy measure to raise the VAT rate in short term wasn't the best one for the government revenue, so for the public sector. With regard to the public sector if we analyze the business demography in Romania, during 2005 – 2011 presented in table 3 we draw the conclusion: that once the crises began the number of new firms registered at the National Trade Office decreased lightly significant during 2008-2010.

**Figure 2: Business demography in Romania**

Source: www.eurostat.eu, authors' calculations

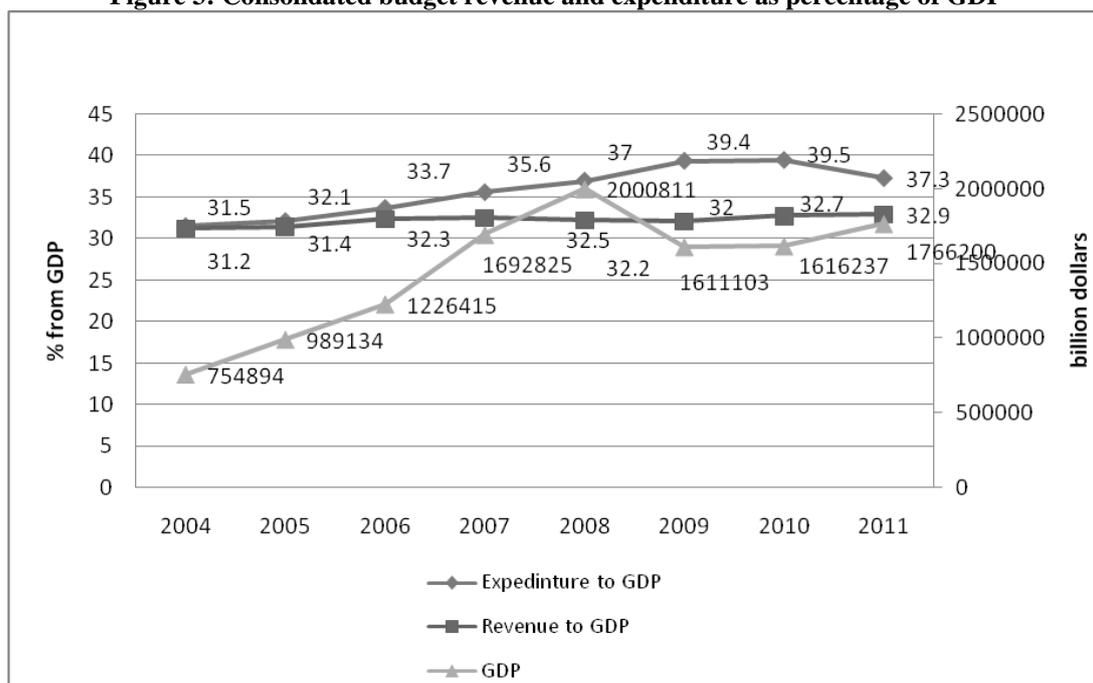
According to statistics, the bankruptcies doubled in the four years of crisis. The graph clearly indicates that the year when the crisis has had best effects is the devastating 2011. The number of new companies registered in the middle of crisis time is less than the number of companies registered in 2008. We assume that reticent managers to think twice new business in an unfavorable tax environment. No matter the number of new companies, the VAT incomes level doesn't differ too much compared to previous periods.

To highlight the impact of fiscal policy in Romania we will concentrate our analysis in the following on 2004 -2011 periods. Some weakness of the Romanian Government can be noticed after 2005, when the expenditure rose, and the revenues decreased. It was only the beginning. The graph below shows in Romania the revenues look to be smaller than the expenditures as a fact. Things began to become abnormal from 2005 when a fiscal reform was implemented: the profit tax of 16 percent and the flat tax rate of 16 percent on income tax that boost additional the consumer demand and contribute to the overheated Romanian economy.

After the integration in January 2007, the EU didn't bring improvements, contrarily things got worse. The pensions and wages were increased but in an unhealthy way. The government like the private consumers tend to expend more than can afford, without any economic or logic perspective. The

difference is that an individual doesn't have economic knowledge; the government has specialists that should give responsible advice.

**Figure 3: Consolidated budget revenue and expenditure as percentage of GDP**



Source: INSSE

The year 2008 represented the official recognition of economic crisis start; 2 years later in 2010 the Government tried the population with another fiscal policy. The VAT rose from 16 percent to 24 percent. After all these inconsistent fiscal policy, weakly anchored on a medium and long term, without a strategic vision regarding the management of the public finances is not surprising why GDP has decreased in the first quarter of 2012 for the second consecutive time. It is not possible to achieve economic growth due to cutting costs, especially wages in the public sector (which fell from 10.9% to 8.9% of GDP between 2009 and the first half of this year, calculated on ESA95 basis) and total investment (from 6% to 2.5% of GDP), while spending on goods and services even increased (from 6.9% to 7.2% of GDP).

The phenomenon of *escape from route taxes* is as old as taxes; taxpayers perceive it as a *necessary evil* which they try to avoid them at any time using them only the legal system look favorable to any of their activities.

That is why the phenomena of tax evasion and fraud are widespread throughout the world, both in developed countries, but especially in the developing or poor ones.

We believe that addressing the tax evasion in this new context of economic crisis allows a more complex analysis than the existing approaches in economic literature.

### 3. Causes and effects of amplifying the informal and underground economy

The amplification of the underground economy with specific form of the informal ones are acute problems faced by Romanian tax system; they become more pronounced with the arrival of the economic crisis that had significant influences on the growth of the budget deficit and increasing of propensity for fraud on the context of decreasing of profits and incomes of the economic agents. The most important factors of increasing of this phenomenon are:

- Fiscal immortality - represents a both determinant factor of fiscal evasion and underground economic contribution, the ethic behavior is influenced by socio- demographic characteristics, personal financial experiences, cultural differences, property tax system, economic variables (social status, income, financial satisfaction), religion, institutions, attitudes (national pride, confidence in the justice system);
- The permissive legal frame, highly dynamic with wide possibilities to be interpreted;

- The economic crisis can be considered in principle a contributing factor of the income tax evasion as of the taxpayers and the turnover of business people have declined significantly which caused that they should be increasingly more likely to flee from the payment of taxes and fees to the state by approaching different methods;
- The lack of monitoring or superficial fiscal auditing lead to a greater extent of the phenomenon;
- The lack of reaction by the authorities which is limited only to advertising and not to the creation of an objective legislative framework concrete, that would not leave places for subjective interpretations.

The causes of evasion are multiple and some of them hard to understand but all have one thing in common *the greed, the desire to have more and more, hence the desire to miss the taxes to the state (unless the law requires then it allows)*, and methods to avoid paying taxes are changing faster than laws and are becoming more innovative with no lacks imagination in terms of this phenomenon.

The problem of avoiding the fiscal obligations through tax evasion and fraud is more complex than it seems at a brief analysis, this is why this study comes to address the issue from the perspective of the causes that led to these phenomena and the measures that the Romanian government agreed to adopt in this context.

The tax revenues received at the budget depends on the ratio between the inclination to tax evasion or to civic education in the fiscal field. Therefore, with the increasingly of the fiscal pressure, the ethics in doing business will drop and will generate the increase of propensity for fraud. One of the worst effects induced by the underground and even more by the informal economy is that one of increasing the social polarization of population.

The economic differences become significant by the fact that some social groups involved in underground economic activities can get huge benefits, while society is experiencing a worsening of the living standards. In many poor countries practicing the underground economy is the only way to survive for a large part of population.

However, the underground economy through its ability to adapt and regenerative force that define it is a serious competitor to the real economy that can be characterized by immobility and inertia. Thus, the existence of the underground economy is a challenge for public authorities, who, in their attempt to limit or takeover of it to the official economy, should take into account both negative and positive effects of it.

The crisis did nothing but to generate at the level of the affected states a series of mistakes such as: increase of taxes, VAT increase from 19% to 24%, elimination of certain benefits and incentives granted to citizens and businesses, maintaining an expensive bureaucratic system and unreasonably in relation to his needs.

The measures adopted have made that tax evasion methods to be diversified and to be practiced in various forms, such as keeping of false accounting records, intentional destruction of documents that can help finding the truth regarding the delivery of goods, prices, fees collected or paid, etc., preparation of payment documents fictitious, unjustified changing of prices for purchasing and transportation costs, handling and storage, preparation of false customs declarations to import or export of goods, preparation of false tax statements, when knowingly are not mentioned some part of the income and so on.

However, the underground economy is not entirely a negative phenomenon on the real economy because during the economic crises an increase of the underground economy avoids a recession more pressing, and the money earned by individuals and companies in the underground activities can be spent in the real economy stimulating in this way the economic and monetary growth.

The excessive taxation constitutes the increasing support of tax evasion. The companies attempt to avoid paying their tax obligations lead to tax tightening, which in its turn, causes slipping and put and more companies away from the business transparent environment to underground economy.

#### **4. The VAT increase impact over the underground economy**

The decision to increase the VAT from 19% to 24% had no positive effect on the Romanian economy, many private sector companies being forced to close their activity and therefore not to contribute to the public budget.

Legislative gaps or issuance of some regulations left the state organs have led to speculation by economic agents of legal loopholes that may allow partial or total avoidance to pay taxes imposed by the state.

For this purpose some economic agents declare their insolvency stating to open the specific procedures under the Insolvency Law as a way to avoid paying taxes to save unilaterally their assets. Incompetent legal system, permissive and interpreted legislation lead to declare bankruptcy of these companies to the detriment of creditors who have no way to recover their debts from its debtor companies. Thus are eluded the payment of significant debts to the public budget and to other credit companies.

Overwhelmed by the financial crisis and austerity measures imposed by the government, thousands of businessmen have found a solution to limit the law's action and take them out of trouble. They prefer to evade the VAT payment as other taxes too by the alienation of their companies to third parties natural or legal persons for a fee of 10-20% of the debt, people who then can not be found, appear to have else identity or are companies that are not solvent. (Without any good on their behalf and therefore they can not be executed)

Even if the Government adopted a law which forbids the sale of shares by the LLC's with debts to the state if the IRS and creditors and others oppose to this decision, the same piece of legislation giving operators the opportunity to alienate their companies by selling social parts between associates. For this purpose they co-opted third parties in society by raising the share capital and later on to sell them their shares and withdraw from the company without the IRS or creditors to suspect the real reason for sale.

However, in their attempt to survive the economic crisis, other companies, have agreed to resort to other methods at the limit of the law or illegal tax evasion in order to reduce the taxes too burdensome. The most often used method in the field of VAT fraud is the carousel fraud related to intra-Community transactions.

The mechanism itself is structured on the current transitional tax on trade, including, as a rule, taxation of intra-Community goods carried on between taxable persons, in the State of destination. Along with the integration of our country into the European Union a part of economic agents from Romania have sought to assimilate on the fly the criminal practices to fraud tax obligations, experimented several years in the Community and, very often, even with success.

This type of fraud is based on a fairly simple mechanism, at least in appearance: the economic operator from the origin country invoiced without VAT (he performed because an intra-Community, which enter the category of operations exempt from VAT with right of deduction), and the economic operator from the country of destination will apply the reverse charge for this operation (because he performed an intra-Community acquisition, computing and recording VAT for an intra-Community acquisitions, at his country's tax rate, both VAT collected, as well as VAT deductible, but without actually being paid). Following on the intra-Community acquisition, the economic operator disappears without register, declare and pay the VAT (so-called tax liabilities of companies collecting VAT, which however will never be paid).

According to the Tax Code, operational since January 1, 2007, a company from Romania, who performed a purchase from another company located in an EU country (goods are actually transported in Romania), do not have to physically pay the VAT but only to register it with the reverse charge mechanism (both as VAT deductible and as VAT collected). In practice a number of methods of implementation of carousel fraud have been confirmed.

A first method, commonly encountered and called the classical method refers to acquisitions made by a trader from Romania. The company A from Romania, registered for VAT purposes under the Article 153 from the Tax Code, wishes to make an intra-Community acquisition from the company B located in a Member. Based on the above, the that company A could very well perform an intra-Community acquisition under the conditions that it would be an honest trader, with good faith and would consent to register the VAT tax obligations. In fact, to circumvent these tax liabilities, the decision makers of the firm establish a new company of arrow; company C, whose sole shareholder and director to be a straw man. In reality the company C is controlled by the representatives of the company A. When is set up the company C declares itself as a VAT payer by choice, but declare an annual turnover below the value of 100,000 Euros to benefit from the possibility of submitting quarterly VAT (the form code 300), in accordance with Article Paragraph 1561. (2) and (3) Tax Code.

Subsequently, the company C performed the acquisitions from the company B, the company C applying for these operations the reverse taxation regime. Thus the goods purchased are later invoiced by the beneficiary in their really, respectively by the company A. For these internal supply operations, the

company C collect (hypothetically) the VAT related and the company A will deduce, using as a supporting document the invoices from the firm C, in accordance with Article 155 para (5) Tax Code.

The operations described above have a "lifetime" precisely determined, namely within 3 months until the deadline specified on the obligation of submitting the VAT by the firm C, shortly before the end of this period, the company C "disappears" no longer be identified subsequently and without record, declare and pay the VAT collected from internal deliveries made to the company A. Basically, by the company C has the "unique object of activity" to provide documents to company A, for VAT deduction by the last one its direct supplier the company C. Clearly, the company that commits fraud is the company C according to Article 154. (1) Tax Code, but the question that arises is if the company A may deduct the VAT invoices from the company C? In this respect, the European judicial practice in terms regulates that if a taxpayer participate in fraud "carousel" inadvertently (without being aware of this fact), it has the right to deduct (and, implicitly, compensate or reimburse).

A second method of fraud carousel is, in fact, a form of perfecting the one described above, in the sense that products reach in final from the company A to the company B, their initial sender. This method can identify the mechanism of self-generation fraud carousel with visible effects in cheapening the products covered these transactions. This mechanism is structured on the fact that the price for the company A to the company B (and we consider the delivery price without VAT because, when the company has sold to the company B, the company A makes an intra-Community supply, which enters in category of exempt from VAT operations with right of deduction) is lower than the selling price from the company B to the initially company C; the company A can sustain this price of delivery from the gain of VAT which lies from the transactions, upstream, with the company C. In addition to adverse fiscal implications to the general consolidated budget revenues, this method induces distortions (through both prices) and at the economic competition level, so that the fair companies become uncompetitive in the market. This happens because of dualism existing in the market prices (real and fake).

A third method of this type of fraud after to simulated deliveries made by a company from Romania, registered for VAT purposes according to Article 153 Tax Code., to a trader from another EU Member, registered for VAT purposes under specific legislation of the Member State of which it belongs. In this sense, the company from Romania performed an intra-billed delivery without VAT based on the VAT code belonging to an economic operator outside of the Community area, but, in fact, selling the products domestically black. This method can be accomplished through external partner complicity (which communicates his code of VAT) or without his knowledge (for example, by purchasing the VAT code from different media).

Of course that the so-called intra-Community supply in question will be evidenced by the economic agent from Romania in the VAT settlement in the summary, declaration statement and at the Intrastate and dates reported to public authorities from Romania will be compared subsequently with those reported by the outsourcer, to the public authorities service in his country. In fact the economic operators concerned will request reimbursement of VAT will disappear (by changing the registered office and transferring the shares to hard to find people who usually do not even are in the country on tax verifications). Sometimes alternative possibilities are met when reverse situation can occur when a foreign economic operator bills a Romanian company with or without his knowledge.

A fourth method, highly sensitive on the edge of legal to illegal via informal ways (in terms of strength of proof) refers to situations where a company from Romania, registered for VAT purposes based on the Article 153 Tax Code., performed an intra-Community acquisition and declare all operations as of absolutely legal. Subsequently, they record a tiny profit margin and simulates retail sale through electronic fiscal cash. In fact, these products are marketed on the "parallel market" at prices much higher than those recorded in accounting records (but below the market price for those products); injury in this case, is located both at the corporate tax, as well as at the level of VAT (obviously corresponding to the price difference undeclared).

"The classic" example in this sense is intra-Community acquisition of flour, simulating its retail trade (through electronic fiscal cash tax to individuals whose identification is not required by any subsequent legal text, and otherwise nor can they be identified, in practical terms), but actually being sold to various units of bakery and confectionery products (which, in turn, will sell the finished product also outside the sphere of the fiscal).

## 5. Conclusions

The research concluded that the business environment in Romania suffered from fiscal policies proposed by the government along with the establishment of the economic crisis. It is almost impossible that economic growths to be when the private sector does not prosper; therefore the measures we consider the most appropriate to be implemented are: to provide stability of fiscal regulations, to eliminate the arbitrary regulations that enable random interpretations, to simplify fiscal legislation; Romania is the country where the number of taxes paid by businesses including electronic filing reached 113 in 2011, in conditions in which countries like France or Germany have 7 respectively 12, to improve the absorption of European funds as Romania succeeded to use only 9% of the total structural funds allocated to Romania for 2007-2013 is extremely small, to create new jobs in areas with high potential (agriculture, tourism), to adopt stimulating fiscal measures and maintaining a low inflation level; Knowing the causes and consequences of amplification and hidden the underground economy, requires action relevant, timely and efficient of removing or restriction of this phenomenon.

Closely linked to the alarming size of such phenomenon numerous lots of warning signs were signaled; however, the effects of measures taken to limit were not highly visible.

In March 2008, a series of proposals have been adopted at the level of the European Commission for to diminishing the phenomenon of circumvention of VAT within manageable limits. But the measures taken are mainly administrative, likely to strengthen the interstate cooperation in the field and timely detection of possible mal functions by reducing the reporting period but was started wrongly from the effect and not from what have caused this phenomenon, which involves radical change of the current tax system by changing the tax system at the destination with the system of taxation at origin. In order to implement such goal, unanimous agreement of Member States is required. From this point the discussion becomes much larger; given some Member States have reluctance in this direction. Romanian Government should also support the economic agents and population by providing tax incentives to reduce taxes, to find measures to return to healthy moral values and promote them in all walks of life, to create a coherent legal system that provide stability to take enforcement of the law, to create a specialized financial unit, computerized and efficient that have aimed not the enforcement action at any cost to gain money from the public budget but eradication of the escapist phenomena and not least to reduce phenomena of corruption among officials with control duties to the persons entitled to enforce the law.

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## A PARADIGMATIC SHIFT. THE NEW ROEGENIAN PARADIGM

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**Abstract:** *Although the mechanical dogma lost its supremacy in physics and its influence over the philosophical world for many years, the neoclassical school of economics tried to establish the grounds of an economic science based on the model of mechanics. The aim of this paper is to highlight the main elements of the roegenian economic universe by presenting it in contrast with the economic world described by the neoclassical paradigm. Due to the fact that the subject doesn't bear yes and no answers, the endpoint of this paper is an invitation to reflection more than a classic response.*

**Key words:** paradigm shift; neoclassical economics; bioeconomics; roegenian paradigm.

**JEL classification:** A 11, A 12, N 01

### 1. Introduction

Inevitably, the way we perceive the world that surrounds us is influenced by the cultural array in which we live; and this array is, at the same time, influenced by our knowledge about this world. In this way, we could resume one of the reasons for which the discoveries in the field of physics have a major influence on humanity, not only on a material, technical level, but also in the social and spiritual ones.

Thomas Kuhn made us to realize that science does not progress through accumulation of knowledge, by adding new "bricks" over existing ones, but through paradigm shifts, by revolutions that shake the grounds of science and put it on a new path. Kuhn argues his theory with examples from physics and astronomy, where the paradigm shift changes not only the image we have about the world around us, but brings profound changes in our understanding of this world and our relationship with it. Thus the evolution of scientific knowledge in the natural sciences had a major impact on the philosophical discourse. No scientific revolution has had a greater impact on scientific research process, as the appearance of Newtonian mechanics.

Although the mechanical dogma lost its supremacy in physics and its influence over the philosophical world for many years, the neoclassical school of economics tried to establish the grounds of an economic science based on the mechanics model, called "the mechanics of utility and self interest" as Jevons said.

Economics as a science has a double challenge: to ensure ongoing consistency of his statements and at the same time to deliver an explanatory model of the economic system. If the first challenge can be addressed from a historical perspective, the approximations proposed by successive theories, the second urges economics to assume the predictive power. Economics is founded on the belief in an image represented by a mechanism and theorized by the Newtonian mechanics that generates explanatory models.

The problem is that, although the advances made by economics, economic thinking remained within mechanistic epistemology, economic activity is presented as a circular motion with self-regulatory possibilities and dominated by equilibrium.

On the philosophical line of Karl Popper, Nicholas Georgescu-Roegen is among the leading thinkers who were concerned with scientific knowledge, and within it, the possibility of theoretical knowledge. The concerns of the great scholar have led to one of the most impressive buildings in the paradigmatic epistemology in general and that of economic epistemology, in particular: the entropic model. Nicholas Georgescu-Roegen proposed the abandonment of "standard" economics, based on mechanics, where there is only ondulatory movement, without loss or gain, without evolution.

Economics is still "enslaved" by the mechanical paradigm, which, although it served to create an impressive building from the theoretical point of view, led to the loss of sight of the fact that it is a social science. The introduction of the entropic model can be a revitalization of the economic science.

## 2. The neoclassical paradigm. A mechanical representation of the economic world

The emergence and development of analytical mechanical paradigm are linked to the name of **Galileo Galilei, René Descartes and Isaac Newton**.

**Galileo** is one of the central figures of the scientific revolution of the 17th century and his role goes beyond his achievements in astronomy. He proclaimed the priority of the mathematical language and introduced the scientific experiment. In his view, the real book of philosophy is the book of nature which only can be revealed through the language of mathematics. In order to be closer to the truth and to discover it we need to study the essential properties of material bodies, such as geometric shapes, movements and numbers, or in other words measurable properties.

These gave research the *rationalist orientation* which proved to be fundamental to the later successes of modern science, but at the same time generated the expulsion of *intuitive* investigations related to our senses, from the citadel of science. By excluding quality, feelings, motives, interests, consciousness and the human spirit, just ruled out the MAN from the scientific research.

**Descartes** introduced the mechanistic conception of science, being the father of modern rationalism. He decreed the legitimacy of reason to analyze all existing knowledge and to accept as true only what it will arise as such.

Another important part of the legacy of Descartes is the one that is related to the use of mathematics. Until now lasted the idea that *the legitimacy and confidence inspired by a science are related, directly proportional to the degree in which it uses mathematics*.

According to Descartes the universe is a perfect machine, which operates under the laws of mechanics. More than so, he extends this reasoning to the living beings, by reducing their body to a mechanism that works with heat created in the heart.

Thus, the scenery is set for the next stage in the development of the mechanical paradigm. The universe is considered a mechanism which operates by precise laws that are revealed through the language of mathematics, and man is viewed, in science, as a machine that operates by mechanical principles the elements relating directly the intuitive senses, as disturbing elements, being removed.

**Isaac Newton** is best known for his enunciation of the second fundamental principle of classical mechanics. *All physical phenomena are reduced to the movement of the particulate matter generated by the force of gravity*, latest particle, the smallest of which is composed matter, the atom. Movement of particles in space explains all changes in the physical world. Through the differential law, considering phenomena in an infinitesimally small time, Newton manages to offer a formulation that is valid for any motion. By combining motion law with the law of attraction is possible to calculate past and future state of a system from its state at a time.

Newton's view on the world is atomistic and, using the laws mentioned above, manages to explain it in a deterministic way. In the Newtonian model all is CAUSE, the law of universal attraction and EFFECT, the movement of matter.

Descartes' representation of the universe as a perfect engine is now a proven fact. The discovery of Neptune due to gravitational perturbations in the orbit of Uranus with mathematics will be decisive in creating the aura surrounding the mechanistic paradigm and transformed it into the object of fascination for scientists from all fields, even the social sciences for nearly four centuries.

At this point the reasoning proposed by the analytical mechanical the paradigm of knowledge becomes a system of sentences that is perfectly rational, self-sufficient and with no visible gaps, able to explain everything around us. There are three ideas that form the foundation of this paradigm and have managed to break away from natural sciences to catch all scientific thinking: **the idea of causality, the idea of movement and the idea of conservation of matter and energy**.

**The idea of causality.** The universe operates on the basis of the cause - effect relation and nothing can exist outside this relationship. The causal relationship is the sine qua non of movement. The cause is the engine that gives direction, meaning and purpose to the movement, is the one that moves the system from an equilibrium state to another. Without it the universe is inert, without the boost given by the cause everything is frozen.

**The idea of movement.** The universe is a system whose elements are in a continuous linear motion without progress or qualitative changes. As stated in the previous paragraph, the cause is the force that moves the system and gives the direction of this movement. But when the force ceases to act on the system, it returns to baseline. The analogy with a pendulum is enlightening: the system tends continuously to a steady state, forces acting on move it out of this state of balance, but if the forces that act are equal and contrary the system remains in equilibrium.

**The idea of conservation of matter and energy.** Matter-energy is in a continuous motion, but this movement does nothing more than transform the existing potential from one form to another. Movement in the system is circular and reversible, forms of matter and energy are constantly transforming into each other, but overall everything remains constant because nothing is lost and nothing is gained.

The merits of this paradigm cannot be disputed. Thanks to her, humanity emerged from the dark Middle Ages of animism, at the same time the industrial revolution and spectacular technological development would not have occurred without it. But the feeling that we are now trying looking into the past is that we had to start somewhere. Perhaps at that level of knowledge the complexity of the surrounding world would have been overwhelming. A simplified world, such as that proposed by the analytical mechanistic paradigm, seemed much easier to study.

**The marginal revolution** was initiated in the early decade of the 1870s, almost simultaneously in three different countries through three works that have in common the approach of economic analysis in terms of marginal utility (Pohoată 1993, p 220). These works are *The Theory Of Political Economy* in 1871 by **Stanley Jevons**, **Carl Menger**'s *Principles of Economics* in 1872 and *Elements of Pure Political Economy* by **Leon Walras** in 1874.

Because Roegen's criticism concerns not the whole neoclassical school, but focuses on the theories written by the marginalist mathematicians, we shall try to present the main ideas coming from Jevons and Walras. Indicating that, in large part, standard economics has taken many of the elements of the marginalist theory, or, in other words quoting Blaug, "*all of today's economics is of Walrasian origin*" (Pohoată, 2011, p. 95 apud Blaug, 1981, p. 689).

The neoclassical paradigm emerges as a reaction to doctrinaire trends imposed by the *economic nationalism* of **Fr. List**, the *historicism* of the German school and of **Marx's socialism**, an attempt to renew the classical tradition. But this revival of the classical school is done only on the fundamental values that match: natural order, private property, free enterprise, individual ascendancy to the collective interest, competition, the hedonistic principle (Pohoată 1993, p 224). To the classics the economic problem is essentially the contrast between limited natural resources (land) and the increasing number of workforce, the function of the economic analysis is "*to reveal the effects of quantitative and qualitative changes in workforce on the rate of aggregate output growth*" (Blaug 1992, p 330). In neoclassic view economics is a science that studies the link between "given" results and "given" means, without taking into account the effects of the quantity and quality of resources or of the development of demand dynamics. To the classics concern of building a model of *economic dynamics* is opposed the concern for equilibrium in a *static environment*.

The neoclassical economic universe is an *abstract* one, with perfect competition, and atomistic, remaining at the level of *microeconomic* analysis. The economic agents play the parts of the producer or the consumer being motivated by the hedonistic principle in the same manner the force of gravity acts on the material universe (Kirzner 1975, p 67). Thus, economic actors, motivated by *utility maximization*, are facing each other on the stage of the free market. Through this confrontation, the economy manages to achieve *equilibrium*.

Based on the argument that "*nothing is lost, nothing is gained everything turns*" economic reality can be cut from the whole and thus creating clearly defined borders. Although the boundary of the object is required in any science, her servants must always consider that this delimitation is not real, but rather designed to facilitate the study of the phenomena. If in classics natural resources occur in the analysis, the neoclassic capital is a homogenous mass that can expand or contract as needed. Also in an attempt to delineate the economic sphere, Pareto says that just as chemistry ignores geometry by simply ignoring it, economics can ignore the *homo ethicus*, *homo religiosus* and all the others *homines* (Georgescu-Roegen, 2009, p 116 cited Pareto, 1927, p 18). Therefore neoclassicism leads the economic analysis in an *ideal* and *surreal* framework. Economy is a closed system without external links, and man becomes a perfectly rational *homo oeconomicus*.

### 3. A new vision of the economic world. The entropic paradigm

To get a better understanding of the significance of these contributions to the development of economic science and to understand the actuality of this theme, it should be noted that in the current economic crisis, many voices were raised to criticize economics. The main complaints that are brought are excessive use of mathematical instruments, physics envy, allegation which relates precisely to the attempt made by "standard" economics, especially the neoclassical paradigm, to create a structure similar

to that of Newtonian physics, the presumption of rationality of economic actors. Nicholas Georgescu-Roegen attacks these issues, but does not belong to the category of those who only report problems; he gets in their mechanism emphasizing both their source and how should economic reality be reflected in order to prevent their repetition.

### 3.1. Economic reality in the assembly

While neoclassicism followers tried to turn economics into a logical-mathematical science, Nicholas Georgescu-Roegen remains convinced that it is a social science finding that Marshall's definition of "*study of mankind in the ordinary activities of life*" (Georgescu-Roegen, 1996, p 336 apud Marshall, 1924, p.1), is closest to the truth. With man and human activity in its focus, economics raises some difficulties to those who try to delineate its borders. Roegen is convinced that cropping the economic process and studying it as a slice of reality is not only impossible, but also counterproductive. The borders of economic science are dialectical penumbras; economic reality is interwoven with the political reality, social and even biological. For this reason, the study of economic activity should consider these dimensions when formulating the assumptions, and when interpreting the results. Economic analysis taken out of the context of the entire assembly has only the value of an intellectual exercise, failing to meet the problems posed by economic reality.

Economic evolution influences the evolution of social, cultural and biological life. But the process is not a bi-univocal; it is in its turn influenced by them. In order to have a complete and true image on human behavior in economic activity we must take into account all these facets, which are dimensions of the same reality. Therefore economy appears to us as a living organism, and knowing it involves multiple knowledge.

The need to incorporate all these elements makes the object of economics, to be impossible to be entirely integrated in a mathematical model. Mathematical analysis remains a useful tool for economic science, as well as for other sciences, but only that. To capture the complexity of economic life qualitative analysis is indispensable.

### 3.2. Validation in economics

Given the of *social and practical nature* of economic science, in agreement with his contemporaries Mises and Hayek, Roegen considers as a criteria of truth for the human action the *factual reality*. Just because theories built with Aristotelian logic do not contradict one another and the reasoning is built correctly, it does not mean that there are true. Validation criteria send to reality, and these sentences can be considered only as analytical tools.

The impressive theoretical edifice created by the marginalists mathematicians lacks the liveliness given by human action. To this inert economic reality Roegen opposes a social science, where „introspection can provide [...] support to give the dose of rationally and objectiveness to the used methodology" (Pohoata, 2006, p 4, emphasis added). Most times, in social sciences, to establish the truth, is more useful the direct dialogue with the studied object than neutral experience.

In order, to conclude, we will quote Georgescu-Roegen that wrote, to emphasize the the advantage offered by the social sciences, that the economic researcher "*can translate into action or resort to introspection, and, above all, can find the reasons of the one he studies by asking him questions. If, per absurdum, a physicist could talk to electrons, would refuse to ask it: why skip? Certainly not*" (Georgescu-Roegen, 1996, p 381).

### 3.3. The importance of the cultural matrix in economics

An important point of critique made by Roegen to "standard" economics is related to the *institutional uniformity*. The world of the neoclassical economic theory is composed of townspeople. Economic analysis has had as a starting point the Western developed society, and development models created cannot be applied to underdeveloped economies. Georgescu-Roegen shows in this context that the theory of marginal utility, as described by neoclassical economics, cannot explain the village economy if ignores *its cultural matrix*. Building its criticism thinking about the Romanian peasant, Georgescu-Roegen denies his *indolence* and *inertia* described by the neoclassical theory and argues that *urban civilization has found a serious support at the start point in the diligence, the modesty and the moderation of the peasant*. The reluctance of peasants to the values and ideas that were delivered from the city came after a long period in which he was humiliated and impoverished or assimilated and perverted.

Unlike insects with social life, man is not born with an endosomatic code that would guide his practices within the group. In order to guide within the social activities, man had to create a code. The result is tradition. Therefore "*man is born with an endosomatic code (biological), but within an exosomatic code (social)*" (Georgescu-Roegen, 1996, p 376, emphasis added). Just as a biological process makes that all the genes to be transmitted from one generation to another, *tradition* hands down through generations the *institutions* which have been shown useful for the community. Each tradition has an *inner logic*. This therefore leads to the impossibility of creating a viable cultural matrix by arbitrary choosing the matrix elements.

To argue the importance of the cultural matrix in economics, we turn our attention towards the Buddhist society. Here, because of the mentality printed by the teachings of Buddha, the general laws of classical theory, *a greater gain is preferred to less* and *the individual is inclined to obtain the greatest amount of wealth with as little labor and lower abandonment*, do not apply. Therefore, for "standard" economics the behavior of these individuals is "irrational".

Tradition imposes a certain inertia to society, therefore we cannot make individuals belonging to other cultural matrices to behave "rationally". The economic development must take into account the spirit of the society to which it applies. To succeed in this endeavor, we must appeal to the empathy of the researcher. Although not as accurate as a microscope, man can record phenomena that no physical instrument can see.

### 3.4. Entropy and economics

The free thermal energy of a closed system continuously and irrevocably degrades into bounded energy. Extending the properties of thermal energy over all the other forms of energy concerns the second principle of thermodynamics, the entropy law. This law states that entropy (i.e. the amount of bounded energy) of a closed system constantly increases and that the order of such a system is continuously transformed into disarray. Striking here is the example used by Nicholas Georgescu-Roegen of the piece of coal, combustion converts into heat, which can be used to create mechanical work before it disperses into the system, and ash, a waste; but what is more important, after burning one cannot recreate the original piece of coal.

The free energy which people can access is found in two distinct forms. The first one is a stock, the stock of free energy from underground mineral deposits and the second is a flow, the flow of solar radiation captured by the Earth. Living organisms require low entropy resources to combat their entropic degradation. But while all species depend on the sun to access this low entropy, man learned to use other sources of low entropy, such as fossil fuels and minerals.

All activities and overall economic processes are inevitably entropic processes. In other words, in terms of thermodynamics, what goes into the process consists in economically valuable natural resources, and what comes out are worthless wastes; the matter-energy is absorbed in the economic process in a low entropy state, and that which is eliminated in a state of high entropy.

But sources are finite, less the solar radiation flux, which is likely to provide low entropy long after the human race will be extinct, but which we cannot harness widely, properly yet. "*The rush for low entropy*" has characterized the entire existence of mankind. Millions of years were required to move from hunting to agriculture, thousands of years to move from a predominantly agricultural environment to a largely industrial one. At some time, environmental entropy increases so much that is required a shift towards other energy sources. Affordable energy sources are used first. Each successor environments sustain themselves with a form of energy less accessible than its predecessor.

As appears from the above, entropic degradation of the environment occurs faster in the presence of life than in its absence. But of all species, man alone has developed exosomatic organs, although they conferred advantages over other species, they have created a certain dependency on them and the comfort offered by them. He consumes more and more low entropy, neglecting the increased danger as the planet becomes unfit for human specie survival. The only way to protect future generations against the current loss of energy is our own reeducation - *in the sense of a responsibility based on care and love towards man - our future associate. Love for your own specie is the key for solving the crisis of tomorrow*, writes prophetically Nicholas Georgescu-Roegen. The monopoly over the future of the present generation will be substantially reduced in an economy based primarily on solar flux. Such an economy, rightly called *Bioeconomics*, in the vision of Nicholas Georgescu-Roegen, can be applied according to the following minimal program:

- An almost total decrease of arms production, which is a considerable loss of matter and energy. In this way enormous productive forces will be obtained, by means of which industrialized countries could help developing countries to achieve a better standard of living.

- Gradual reduction of the world population to a level where it could be fed from an organic rather than mechanized agriculture. This task falls mainly on the shoulders of the developing countries (the case of Romania)

- Avoid any loss of energy and matter, such as excessive heating or cooling and speeding on vehicles with internal combustion engines, if necessary even by introducing appropriate legislation. Nuclear power can not yet fully be considered a controlled man-power.

- Liberation of unhealthy human current trends to produce and consume new products of all kinds, and mechanical inventions "fashionable" and sophisticated goods (buying a new car every year, should be considered a bio crime).

- Companies producing goods should focus on sustainable products, on facilitating services, especially their maintenance and repair.

#### 4. Conclusions

The inert Universe of neoclassical economics is replaced by Roegen with an economic world where the *qualitative change* and *novelty by combination* are present at every step. Economic life is dynamic and its evolution is influenced by changes in biological, social and cultural life, which in turn it influences. Homo oeconomicus is rational only in the *cultural matrix* from which it came. All this limits the use of *arithmomorphic concepts* in economics. Although useful, mathematical tools are not sufficient, the particular nature of the subject incites the use of *the spirit of finesse*, sends to *dialectics*.

Economics is not a theoretical science. We need dialectical reasoning to capture features of the economic world. This need comes from the irregularity of phenomena. Peculiarities of processes occur both in relation to geographical location and according to the historical moment. Another feature of economics, which prevents it from becoming a theoretical science is the rapid development of its object of study.

The fierceness with which marginalist mathematicians have tried to make economics a theoretical science, transformed "standard" economics into an impressive theoretical edifice, but has destroyed bridges to the real world. Today, more than ever, we need a new breeze in economics, a reinstatement of the links to the real world.

Differences between Western society, driven by an excessive consumerism, and Third World countries, characterized by a more and more acute poverty are increasingly higher. The attempts of international organizations to help the latter to develop failed. As long as the poor population of the world dies of hunger while looking at the ostentatious luxury of the Western society, to which they do not have access, we have a problem, not just ethical or moral, but in the imminence of a possible conflict.

The economic theory should be redesigned to respond to the real world problems, not just to the issue of allocation of "given" means to achieve "given" results in an ideal environment. The limits of the Neoclassical paradigm and the need for a new economic science have been reported by many economists and many schools of thought. But changes have not yet appeared.

The crisis of a theory arises when the current paradigm fails to answer the questions proposed by it. Then a new paradigm with new puzzles takes its place. But what if the science is a social one and the problem comes not from the heart of the paradigm, but from misunderstanding the reality in which we live. We envision mechanically everything that surrounds us, not just the economic reality, although intuitively we perceive that is all about complexity. The inertia printed by tradition makes us reluctant to change, and four centuries of tradition tell us that the Universe operates mechanically, that the economic process is a circular motion between supply and demand. To accept the changes imposed by the new Roegenian paradigm, we must accept, at first, that our cultural matrix should be reassessed. For this reason this scientific revolution will need more than three decades, as prescribed by Kuhn, to change the thinking of economists.

#### 5. Acknowledgements

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## DETERMINANT FACTORS OF THE MORTGAGE LOANS DYNAMICS IN ROMANIA

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**Abstract:** Considering the situation created by the global financial crisis, the Romanian banking system has gone from excess of liquidity to deficit, namely from an aggressive lending activity to a significant reduction of credit growth rate. Therefore, in the conditions of uncertainty caused by economic and financial crisis became obvious the deterioration of loan portfolio quality. The aim of this article is to show the determinant factors of mortgage loan dynamics, the correlations between lending activity and the medium houses prices, medium net wage and unemployment rate in Romania.

**Key words:** regional economy, mortgage loan, real estate, medium net wage

**JEL Classification:** G 21, J 31, R 30

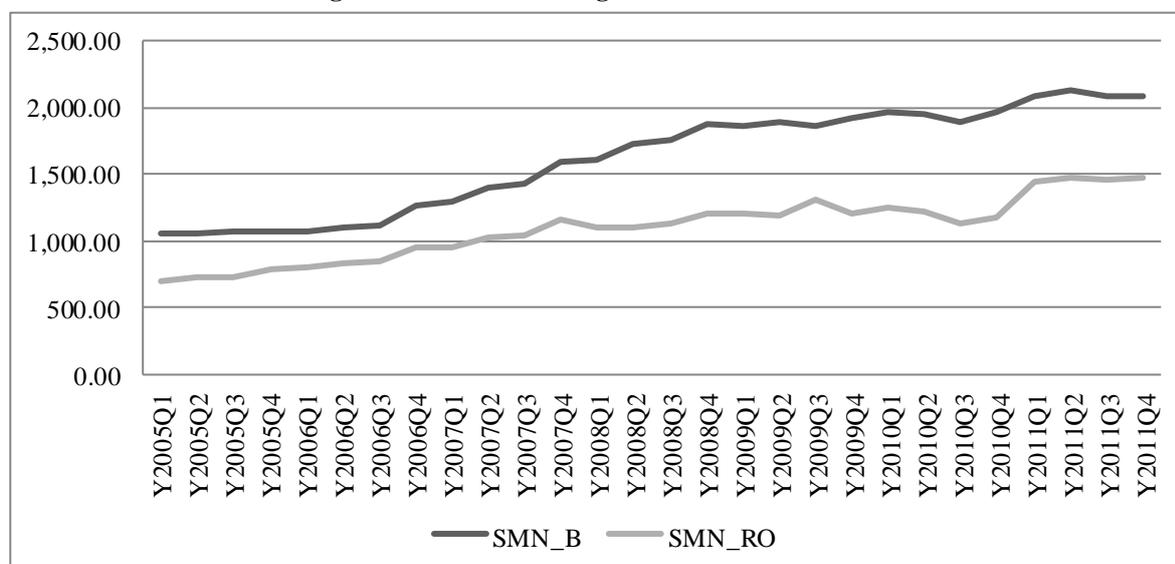
### 1. Macroeconomic background

#### 1.1. Banking sector dynamics and social situation

For a better understanding of the correlation between lending activity (especially mortgage loans) and real estate situation is necessary to analyze the overall economic picture. Thus, the following will be an overview of the key developments and measures taken between 2005 and 2011, which could provide arguments supporting the results to be presented at the end of the article. There have been some studies on the relation between house prices and mortgage loans in some countries and their basic finding is that the low interest rate set by commercial banks causes home prices to rise, and the rise in turn encourages the supply of mortgages. It is interesting to see if this applies to Bucharest and more important in Romania.

Thus, in terms of incomes policy, 2005 had been a relaxing year which contributed to the slowdown in the disinflation process. Moreover, the gross minimum wage per economy was limited to an increase of 10.7% (up to RON 310), but negotiations between syndicates and employers have raised the percentage to 17.9, the amount specified in the collective work contract at national level is of RON 330.

Figure 1: Medium net wage for Bucharest and Romania



Source: www.insse.ro; all the calculations were made by the author

In terms of loan activity there were issued NBR Regulations(10/2005) on limiting of the credit risk for the individuals loans- providing a total debt service to maximum 40 percent of their net income

and also the unification of real estate loans with mortgage loans and commitments to limit them to 35 percent of the net revenues - and NBR rules (11/2005) on limiting the concentration of exposures in foreign currency loans, which provides that a bank's exposure in foreign currency loans to customers not covered naturally by currency risk to 300 percent of equity. Both rules, in addition to their prudential character obviously had implications for monetary policy, slowing down the rapid expansion of credit and especially of its currencies component. (2005 Annual Report, National Bank of Romania, page 20)

Another situation registered in 2005 was the increased of the population demand for mortgage loans and the dynamics of the consumer loans. The quantification of credit risk situation has improved furthermore, the share of "doubtful" and "loss" credits exposure was 2.6%, the lowest level since last decade. The trend exposed above was supported also by the results obtained of the banking system and commercial banks to the stress testing.

The 2006 actions were undertaken in the context of Romania's accession to European Union and of course, the preparation of the economy for this process. Favorable developments continued and were recorded important levels in terms of disinflation and economic growth. In this period were registered results such the consumption growth based on expectations of additional revenue in the future, favored by facilitating the lending activity and increasing incomes. In 2006, the annual medium wage growth has remained robust, reaching 18.9 percent. (2006 Annual Report, National Bank of Romania, page 9)

The first two semesters working by the European Union mechanisms, had different developments. The first half of 2007 was dominated by significant inputs of foreign funds while the second half was marked by the U.S. mortgage loans crisis which led investors to withdraw capital and also to an increase of food prices. Overlaid with a series of adverse domestic developments (very dry agricultural year, stimulate domestic demand by lax wage policy and the rapid credit increase in private sector), have led to renewed of the inflationary pressures and further deepening of the external deficit.

2008 was dominated by a series of major events both nationally and globally. High-risk mortgage crisis triggered in 2007 became a year later, the biggest economic crisis recorded since the Great Depression registered in 1929. The excess of demand, relaxed wage and fiscal policies have led to an expansive growth of the bank's loan aggressively broken at the end of the year.

Thus, banks reconsidered their strategies and the intensity of credit activity was broken, the growth rate being of 33.7% in December 2008. However, loans in foreign currency faced a continuous growth (following the depreciation of national currency) reaching 57.8% in total amount of loans offered to the private sector.

Therefore, considering the situation created by the global financial crisis, the Romanian banking system has gone from excess of liquidity to deficit, namely from an aggressive lending to a significant reduction of credit growth rate. Despite the reduction of the credit growth rate, in nominal terms the portfolio deterioration was not evident. Exposure related to "doubtful" and "loss" in total increased to 5.95% from 3.76%, the value registered in 2007.

The financial crisis impact on the Romanian economy has indirectly manifested. National Bank's proactive measures but also the model based on traditional banking products made the word "stability" to be the proper characterization of the situation in Romania. There were several main channels through which were transmitted the crisis impact: the foreign trade (reduction of the export markets for the domestic products), financial (reduction of foreign private loans from mother banks), the exchange rate channel (considering the national currency depreciation), the wealth channel and the confidence one (perhaps the most important of those mentioned above by increasing investors' risk aversion).

The labor market was also affected by the economic crisis, reacting by an increase in unemployment to 7.8% and by the moderation of annual gross earnings growth that reached 1.9% in the last quarter of 2009. The private sector has made massive staff reductions especially in the first three quarters of the year (the employee number reported by employers was compressed by about 400,000 people in 2009).

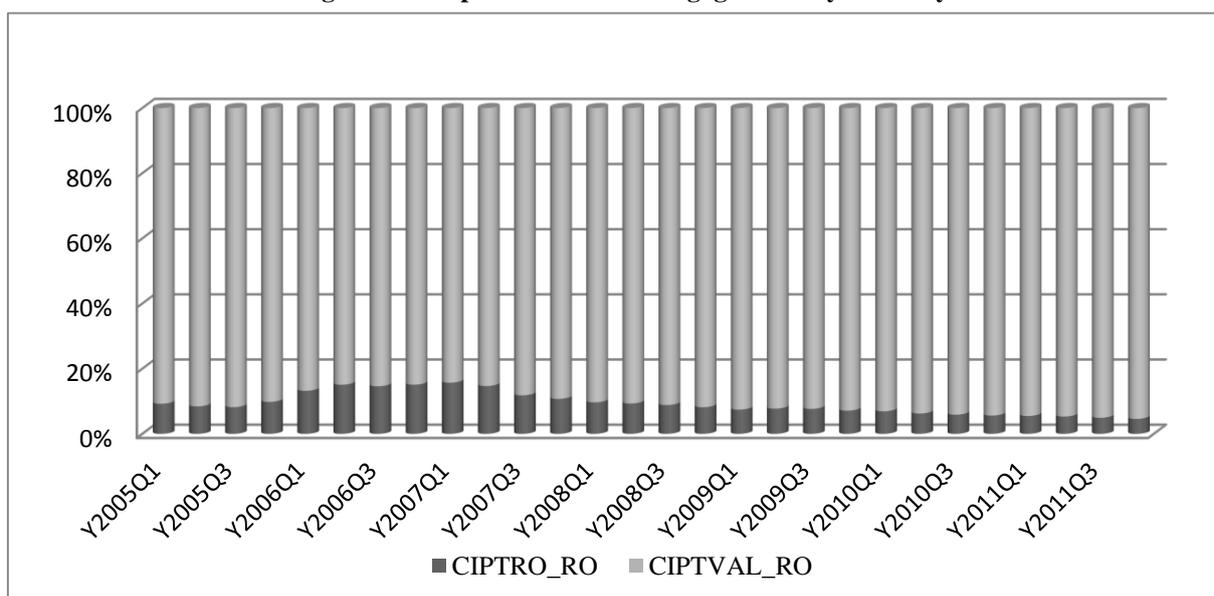
According to the Annual Report of the National Bank of Romania, in the conditions of uncertainty caused by economic and financial crisis became obvious the deterioration of loan portfolio quality. Thus, the remaining loans and interest rate exposure outstanding over 90 days for which proceedings were initiated in total loans, rose in December 2009.

Before the start of the economic crisis in Romania, there were a number of macroeconomic imbalances that caused the corrections of the budget sector in 2009. Along with these corrections there were turbulences also in private sector including banking, and so that economic decline was prominent in 2010, real GDP contraction was recorded even if at a slower rate compared to previous year.

In 2010, proactive measures have been taken by the National Bank of Romania for the management of mortgage loan risk. There were taken measures such as: creating a larger space to manage the effects of the LTV (loan to value) reduction but also determining solutions for the proper revaluation of property guarantees through the involvement of the specialized institutions in order to release a framework for the guarantees issuance in the banking sector.

2011 could be considered the recovery year taking into account the marginal increases recorded due to lending activity. Prudential conduct of the banks remained activated and the preference for government securities remained on top.

**Figure 2: The preference for mortgage loans by currency**



Source: www.bnr.ro; all calculations were made by the author

Also, improvement can be sustained by the values recorded at the nominal level of disposable income and the reduction of the population pessimism. Regarding mortgage loans, the real annual dynamic remained positive (11.8%), mainly because of the "First House" Program. Also, foreign currency remained a priority in people's preferences when they decide to contract a mortgage loan. As you may see in the above Figure, in Romania the mortgage loans obtained in national currency (CIPTRO\_RO) are substantially lower than the volume loans contracted in foreign currency (over 70% of the portfolio is in other currency than RON) (Annual Report 2011, National Bank of Romania).

## 1.2. Romania's house prices dynamics

The coincidence of cycles in bank credit and property prices has been widely documented in policy-oriented literature (IMF, 2000 and BIS, 2001). Regarding real estate market, the absolute values are slightly lower than the same period in 2006, which corresponds to the time leading up to the main housing bubble. At the same time, during 2011 decreases were more temperate than similar evolution in 2010, leading to the hope of a relative stabilization period that could turn into a new growth area. If other domestic indicators and foreign businesses are kept in the same parameters, the optimism could return in the residential market.

2008 was the first year in which there was a similarity, on average, between the old and new prices for houses in Bucharest, so no differentiation between areas. This difference increased over time from about 5% to 14% in 2011 in favor of housing considered old (with a lifespan of over 2-5 years). At national level, the price difference was always in favor of new homes, even if the level of 15% - 25% (during 2006-2008), slowed down to 5% - 7% (during 2009-2011) (according to EFG Property Services Residential Index). Both in Bucharest and nationwide, this situation was caused by a steeper reduction of the price for houses built in the last five years compared to older homes.

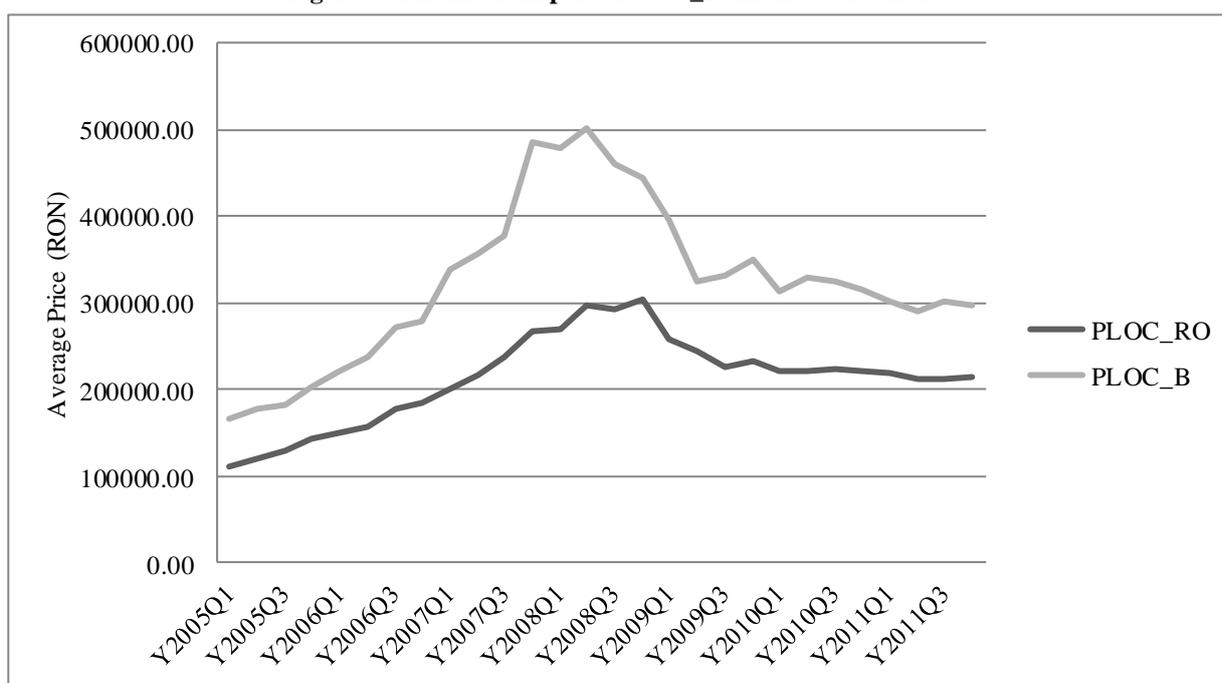
Despite the financial market restrictions and the need for "cleaning" of the real estate portfolios, are unlikely "explosive" insolvencies and bankruptcies in the residential sector. Perhaps they will increase compared with 2011, but they will not generalize the situation leading to a dramatic drop of prices

because active market participants want to avoid such situations. Also, the critical situations faced by some private developers should be approached differently from case to case because some projects have the possibility to recover, while others don't have a real chance because of the unrealistic assumptions they were built on.

Although the impact of the "First House" Program on the new residential unit is indirect, the support offered by it allows owners to hope they will sell the residential units. The impact of this program, not negligible, has not changed lately. Given that Romania's macro-economic indicators will continue to stabilize, especially inflation, and NBR interest rate reference will continue to fall, the attractiveness of the RON loans will grow. This will compensate probably the restricting conditions for the loans in EUR, preferred by local buyers so far. Eventually, this will reduce the "First House" dependence of the residential market and will be a development factor for other similar mortgage loans.

Romania's real estate market analysis shows a decrease on average by 4.3% in 2011 compared to 2010, a slower pace compared with the reduction of -4.6% recorded between 2009 and 2010, indicating a continued downward trend that began in mid 2008. Continuous decline of the prices brings us at the 2006 level. At the quarterly level, there is a stable behavior, without significant fluctuations.

**Figure 3: The medium price houses\_Romania vs Bucharest**



Source: EFG Property Services; all calculations were made by the author

Thus, we can say that house prices in Romania remain on a downward trend. However, in 2011, there are signs of stabilization. In some cases, quarterly indices show possible correction of structural imbalances, while the best performance of certain sectors or types of units provide clues to potential positive developments during 2012. In addition, calculated year to year changes of the last quarter show an average decrease of 4%, while the trend for the last quarter of 2010 compared to the same of 2009 was -7%. It seems that the market gradually slowing its downward trend and is trying to find a new equilibrium level in an unstable and uncertain economic environment. Approved studies are however needed to analyze this and of course requires a close observation of market shortly.

Bucharest analysis shows an annual decline of -9.9% and -11.3% respectively, with signs of further prices correction. It should be noted that in the last quarter of 2011, in Bucharest was a decrease of -4.5% from one quarter to another, compared with an increase of 3.8% during the previous quarter. In addition, it is likely that these fluctuations indicate that the market seeks, on the one hand, a new level of stability and, on the other, that has not shown the whole dynamic and it remains sensitive to international economic changes.

## 2. Determinants factors of the mortgage loans dynamic – econometric review

The analysis of credit activity focusing on the mortgage loans area correlated with houses prices, average population wage and unemployment rate is challenging from many points of view. First, because such an analysis may explain the existing correlations between the studied variables and show a relevant image of the market or will give reasons to sustain that in Romania exists an independent system that establish houses prices. On the other hand, it is very difficult to make such a study because of the lack of data given the fact that in Romania doesn't exist an official source for this kind of information. Therefore, for this article there were used information provided by EFG Property Services through the Residential and Commercial Index.

### 2.1. Econometric model description

In the analysis were used the following variables:

- CIPT\_B and CIPT\_RO: value of mortgage loans for Bucharest and Romania overall (RON);
- PLOC\_B and PLOC\_RO: medium price of houses in Bucharest and Romania (RON) considering EFG property Services analysis based on the houses evaluation reports;
- SMN\_B and SMN\_RO: medium net wage in Bucharest and Romania (RON);
- RS\_B and RS\_RO: unemployment rate in Bucharest and Romania

The data analysis is quarterly, for the 2005-2011 period and were used 26 observations. The sources for the data are the following ones:

- National Bank of Romania website: [www.bnr.ro](http://www.bnr.ro) for the volume of mortgage loans;
- National Statistic Institute: [www.insse.ro](http://www.insse.ro) for medium net wage and unemployment rate;
- The medium net price was obtained by working with a real estate evaluation company - EFG Property Services. The medium price of the houses was obtained using a hedonic method and after some data processing. Thus, arrangements were made on several criteria such as year and month of the real estate assessment value, usable area, adjacent land area, year of built, floor to which it is located and the total number of floors, underground parking and outdoor one, finishes quality, number of bedrooms, where it is located, the existence of an elevator, special view (if any) and type of residence. All these factors were ponderated and they were used in the analysis in order to obtain a relevant medium price of the houses in Bucharest and in Romania overall.

### 2.2. Econometric regressions, estimations and interpretations of the results

For the estimation it was used the Least Squares Method by logarithms of the variables. In order to choose the best possible result for this review there were made two simulations for each market (Bucharest and Romania).

#### a) Equations for Bucharest Review

Because Bucharest is the most representative real estate market in Romania, the main objective of this study is to analyze the correlations between the chosen variables.

The first equation obtained is the following:

$$\text{Equation (1): } \text{LOG}(\text{CIPT\_B}) = 5.987 + 0.329 * \text{LOG}(\text{PLOC\_B}) + 1.905 * \text{LOG}(\text{SMN\_B}) - 0.322 * \text{RS\_B}$$

Dependent Variable: LOG(CIPT\_B)

Method: Least Squares

Date: 04/28/12 Time: 00:31

Sample (adjusted): 5 28

Included observations: 24 after adjustments

$$\text{LOG}(\text{CIPT\_B}) = \text{C}(1) + \text{C}(2) * \text{LOG}(\text{PLOC\_B}) + \text{C}(3) * \text{LOG}(\text{SMN\_B}) + \text{C}(4) * \text{RS\_B}(-4)$$

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	5.987663	1.195714	5.007606	0.0001
C(2)	0.329255	0.185932	1.770837	0.0418

C(3)	1.905773	0.344741	5.528123	0.0000
C(4)	-0.322812	0.110234	-2.928429	0.0083
R-squared	0.984390	Mean dependent var		23.79700
Adjusted R-squared	0.982048	S.D. dependent var		0.632005
S.E. of regression	0.084678	Akaike info criterion		-1.948902
Sum squared resid	0.143408	Schwarz criterion		-1.752559
Log likelihood	27.38682	Durbin-Watson stat		1.538369

As it can be seen above, the econometric regression shows a strong determination between the chosen variables and therefore a strong correlation among them, determined by the value of R-squared (98.4%). Also, the coefficients of the explanatory variables obtained in this model show a specific modification of the dependent variable. In that sense, one of the most important variables, which is the medium price of the houses (PLOC\_B) has a positive influence on the volume of mortgage loans (CIPT\_B). This could be explained by the fact that a growth of the prices, correlated with NBR regulations determines a growth of the demand for mortgage loans. A different influence is seen, as expected at the unemployment rate with an year an 3 months lag, considering first of all the fact that one can't obtain a loan if there is no working activity. As there was expected, the medium net wage has a positive influence on mortgage volume because a higher wage can assure a bigger amount of money for the loan.

**Equation (2):  $\text{LOG}(\text{CIPT\_B}) = -6.214 + 1.006 * \text{LOG}(\text{PLOC\_B}) + 2.362 * \text{LOG}(\text{SMN\_B}(-6))$**

Dependent Variable: LOG(CIPT\_B)

Method: Least Squares

Date: 04/28/12 Time: 00:32

Sample (adjusted): 7 28

Included observations: 22 after adjustments

$\text{LOG}(\text{CIPT\_B}) = \text{C}(1) + \text{C}(2) * \text{LOG}(\text{PLOC\_B}) + \text{C}(3) * \text{LOG}(\text{SMN\_B}(-6))$

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-6.214861	1.777668	-3.496075	0.0024
C(2)	1.006948	0.110558	9.107846	0.0000
C(3)	2.362123	0.088022	26.83566	0.0000
R-squared	0.974426	Mean dependent var		23.90447
Adjusted R-squared	0.971734	S.D. dependent var		0.540484
S.E. of regression	0.090869	Akaike info criterion		-1.832672
Sum squared resid	0.156886	Schwarz criterion		-1.683894
Log likelihood	23.15939	Durbin-Watson stat		2.099106

For the second equation were considered the same variables but without unemployment rate. The results were similar with the first simulated equation, the correlation between them being strong but lower than the previous one and with the same influence of the coefficients.

The results obtained after the econometric simulations are mentioned in Table 1 and it should be said that the best option for the analyzed problem is the second model. It can be easily seen that the correlation between variables is strong in Equation 1 and the Durbin-Watson test is also more relevant even if in the two situations it shows there is no significant linier correlation between the residuals.

**Table 1: Results for Bucharest review**

Equation	C(1)	C(2) PLOC_B	C(3) SMN_B	C(4) RS_B	R squared	DW
<b>Equation 1</b>	5.987	0.329	1.905	-0.322	0.984	1.538
<b>Equation 2</b>	-6.214	1.006	2.362	n/a	0.974	2.099

Source: calculations made by the author

### b) Equations for Romania Review

The same variables are used for the national review but the results could not be relevant considering that PLOC\_RO variable has the date only from some cities and also taking into account that Bucharest influenced the national average.

**Equation (3):  $\text{LOG}(\text{CIPT\_RO}) = -4.540 + 1.183 * \text{LOG}(\text{PLOC\_RO}(-1)) + 1.955 * \text{LOG}(\text{SMN\_RO}) - 0.152 * \text{RS\_RO}(-2)$**

Dependent Variable: LOG(CIPTD\_RO)

Method: Least Squares

Date: 04/28/12 Time: 00:55

Sample (adjusted): 3 28

Included observations: 26 after adjustments

$\text{LOG}(\text{CIPT\_RO}) = \text{C}(1) + \text{C}(2) * \text{LOG}(\text{PLOC\_RO}(-1)) + \text{C}(3) * \text{LOG}(\text{SMN\_RO}) + \text{C}(4) * \text{RS\_RO}(-2)$

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-4.540508	1.724720	-2.632606	0.0152
C(2)	1.183012	0.223280	5.298341	0.0000
C(3)	1.955645	0.254215	7.692887	0.0000
C(4)	-0.152153	0.029074	5.233365	0.0000
R-squared	0.957165	Mean dependent var		24.59076
Adjusted R-squared	0.951324	S.D. dependent var		0.652451
S.E. of regression	0.143948	Akaike info criterion		-0.898097
Sum squared resid	0.455860	Schwarz criterion		-0.704544
Log likelihood	15.67527	Durbin-Watson stat		1.177634

The main result of the equation is the strong correlation between the variables (like in Bucharest case). Also, the Durbin-Watson test has the same result as in Bucharest case even if the value is smaller than the level of the first market.

**Equation (4):  $\text{LOG}(\text{CIPT\_RO}) = -5.154 + 0.314 * \text{LOG}(\text{PLOC\_RO}(-2)) + 2.276 * \text{LOG}(\text{SMN\_RO}(-6))$**

Dependent Variable: LOG(CIPT\_RO)

Method: Least Squares

Date: 04/28/12 Time: 01:00

Sample (adjusted): 7 28

Included observations: 22 after adjustments

$\text{LOG}(\text{CIPT\_RO}) = \text{C}(1) + \text{C}(2) * \text{LOG}(\text{PLOC\_RO}(-2)) + \text{C}(3) * \text{LOG}(\text{SMN\_RO}(-6))$

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	5.154682	1.504599	3.425950	0.0028
C(2)	0.314546	0.146876	2.141576	0.0454
C(3)	2.276284	0.139325	16.33799	0.0000
R-squared	0.959956	Mean dependent var		24.78331
Adjusted R-squared	0.955741	S.D. dependent var		0.502680
S.E. of regression	0.105752	Akaike info criterion		-1.529307
Sum squared resid	0.212488	Schwarz criterion		-1.380529
Log likelihood	19.82238	Durbin-Watson stat		1.763265

The coefficient influence is positive in case of all variables: medium price of houses and medium net wage. This confirms the results obtained by other studies like Gerlach and Peng (2005) or Egert and Mihaljek (2007) in which it was showed that a change in house prices causes changes in bank credit respectively that between house price appreciation and credit growth is positive and highly significant relation.

**Table 2: Results for Romania Review**

Equation	C(1)	C(2) PLOC_RO	C(3) SMN_RO	C(4) RS_RO	R squared	DW
<b>Equation 3</b>	-4.540	1.955	1.905	-0.152	0.957	1.177
<b>Equation 4</b>	5.154	0.314	2.276	n/a	0.959	1.763

Source: all calculations were made by the author

### 3. Conclusions

The main purpose of this article was to determine the correlation between house prices and the income or social situation of the population in Bucharest, respectively in Romania. Also, it was very interesting to see the intervals in which the NBR regulations were made and their impact on the mortgage loan value. Unfortunately, the introduction of a dummy variable could not be done because of the short analyzed period and the number of observations.

Even though, the results obtained are relevant and show the importance of the price evolution over the mortgage loan value as it was demonstrated in other countries cases. The income and the social statute of the population are very important in the banking sector not only because of the existing regulation (that requires a minimum level of wage and a good financial situation in such manner to repay the debts) but also because they influence the mortgage loans demand.

These results confirm actually other studies made on other markets that stated the existing coincidence of cycles in bank credit and property prices.

Based on the data available, the house prices are correlated to mortgage lending and generally, there is a direct relationship between. The results showed the same trend for national analysis and regional one (Bucharest) but it will be interesting to see the regional situation all over Romania. It is known the fact that Bucharest is the one of the most dynamic markets with higher prices than the rest of the country. However, the lack of data didn't allow using the panel method for a regional analysis and to see if the correlation is the same for all the Romania's important cities.

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**THE COMPETITIVENESS OF THE EUROPEAN ECONOMY DURING A CRISIS SITUATION**

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**Abstract:** *The economies of E.U. member states are not prepared enough to face new challenges such as: the increased economic competitiveness of the economies of the world, the need for energetic efficiency and security and the rapid system of technological innovation. In such a context, a new strategy was proposed – Europe 2020 – for a smart growth, with the accent falling on increased competence and innovation. Very few member states offer an environment which encourages innovation. The strategies of member states concerning innovation differ from state to state, although the challenges are the same. European Union strategies must contribute to increased European economic competitiveness and the elimination of barriers on the Internal Unique Market.*

*Within the E.U.-27 index of competitiveness, for 2006-2010 and 2010-2012, Romania is fourth at an European level and 67 at a global level, which is deemed way too low. Thus Romania is formulating, or the 2012-2020 periods the Competitiveness Strategy with the aim of becoming a worthy participant to the Internal Market, insisting in the field of education.*

**Keywords:** competitiveness, competitiveness index, dynamic and competitive economy, social innovation, economic and financial crisis

**JEL classification:** A 10, H 12

The dynamics of economic phenomena, the diversity and amplitude of dysfunctions and discontinuities within modern economies have generated and continue to generate new reasons for concern on the modern theory of competitiveness.

The competitiveness concept occurred and evolved during a period in which economic activities developed with changes and trade at an international level, in the context of knowledge based economy.

The great diversity of angles and points of view which are expressed on competitiveness abound within the literature, with major contributions by Michael Porter and Paul Krugman.

According to these authors, competitiveness is an important and complex economic concept, with various interpretations and definitions and with various classification methods based on unique composite indicators and systems of indicators, on which economists do not agree entirely.

The analysis of the competitiveness system for world countries is a global reference report, and is taken into account by major corporations when deciding on international investments, particularly within the context of globalization, which determines an increased competition among the economies of the world.

The competitiveness index is based on a set of over 100 indicators based on the three pillars: economic, social and technological.

Analyzing “the EU-27 standing according to the global competitiveness report 2010-2011” [Global Competitiveness Report, 2010-2011], Romania, compared to the EU-25, had a negative index during 2006 – 2010 and 2010-2011, due to the economic component, except for 2010, when it registered a positive attitude, but still a much smaller one than the European Union level.

The same standing reveals that Romania registered a decreased of competitiveness, as rationed to E.U. member states, being placed 4<sup>th</sup> within the E.U.-27 and 67 at a global level.

The increase of Romania’s competitiveness must not be seen as a process determined by production factors or their low cost, but as the result of the building of an economic framework based on capital and research and development investments, as well as innovation.

According to the Porter model and the add-ons made by Dunning, Romania is within the first stage of developing its competitive advantage.

As an E.U. member state we aligned ourselves to the requirements of the Lisbon Strategy of 2000, whose strategic objective was to become the most competitive and dynamic economy by the end of 2010. The Lisbon Strategy was adopted in March 2000, for a time span of 10 years, in order to transform the European economy into the most dynamic and competitive one in the world.

In retrospect of the Lisbon Strategy results we notice that macroeconomic turmoil and competitiveness issues were the foundation of the economic crisis within the economies of member states, not monitored thoroughly enough within the economic growth and stability pact.

The Lisbon Strategy should have organized the economies of member states better, to identify critical elements which triggered the crisis such as : a robust supervision and a systemic risk of the financial markets, speculative issues, consumerism triggered by credit access, wage increase without productivity gains, etc.

After 10 years, several objectives of the Strategy became extremely hard to attain by the European Union. Failure to reach the objectives is a consequence of the heterogeneous nature between economic and social structures of the economies which compose the European economy.

The European economy failed in the following aspects: economic growth reforms, the ability to recover from gaps with the U.S.A., the ability to transform into an innovative and flexible economy.

The economic growth of the European Union during 2000-2009, was with 18 % lower than the established target, by the Lisbon Strategy.

The economic crisis reduced the potential of the European economy and increased the gap concerning the objective fixed within 2000.

The most competitive economy in the world, based on knowledge, find the Lisbon Strategy replaced with the E.U. 2020 strategy, with three other expressions which are key directions at a national and European level: promoting knowledge, innovation education and the digital society; a more competitive production, with a more efficient resource usage, a larger participation of a labor force, gaining knowledge and fighting poverty.

We consider that the E.U. 2020 strategy is far more mature and contributes to the increased competitiveness as well as the exit from the actual crisis through communitarian actions.

The E.U. 2020 strategy should contribute to the increase of European competitiveness by eliminating Internal Market barriers, through investments in increased competitiveness and the support of the innovation sector.

In such a context, the European Union should consolidate its potential of qualified personnel, science, research and technology, so that the capacity for innovation to become an essential factor of competitiveness.

The notion of innovation must include social innovation as a way to increase social capital, thought to be an important factor for both competitiveness as well as social cohesion. Insufficient investment within innovation and staff qualification deepens the woes of the European economy. We believe that in order to adopt the reforms of the Lisbon Strategy, one did not assure sufficient national and communitarian financing. Romania benefits, during 2007-2013, through structural funds, of almost 20 billion Euros, of which it absorbed, until December 31<sup>st</sup>, 2010, less than 10%. At a national level, through the National Strategic Reference Framework (CSNR), aligned with European requirements, seven major Operational Sector Programs (POS) are being implemented. Operational Sector Program Increased Economic Competitiveness (POS CCE) is the instrument which the long term increased competitiveness of Romania is being assured. The general objective of this program is the increased competitiveness of Romanian companies within the principles of durable development and the reduction of gaps compared with the European Union average. The target is an average GDP increase of around 5,5% which would allow Romania to reach, until 2015, a 55% level of the average European productivity, but only in a scenario of maximum fund absorption, for all the 7 major programs. For POS CCE, 2,5 billion Euros have been allocated, during 2007-2013, which in percentages, would be 9.83 % of the total amount. Until December 31<sup>st</sup>, 2010, for this program, the situation was the following: 7666 submitted projects, 2161 approved projects and 1453 financed projects, whereas payments for beneficiaries account for 266 million Euros. On December 31<sup>st</sup>, POS CCE was 4<sup>th</sup> within the 7 major programs` standings, and was 5<sup>th</sup> on January 31<sup>st</sup>, 2011. We believe that this program was not a priority during the first years after the adhesion. We propose, for increased absorption, the creation of a Center of free consulting for such projects, financed by the European Social Fund which would grant to interested parties judicial consulting, economic consulting, human and marketing resources, and others. Due to the very low level of absorption for all seven major programs, the "2012-2020 Competitiveness Strategy for Romania" was created for POS CCE, whose aim is to pass from a development level based on cheap labor to a system based on quality infrastructure and institutions, in which labor potential will be used at a maximum level and in which the economy will be lead by creative and innovative companies. This strategy is based on four major pillars: economic performance, the efficiency of public investments, the efficiency of the

business environment, infrastructure. The last pillar, concerning education as well, mentions the fact that increased access to education is paramount, together with labor market requirements, with an accent on vocational professions.

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## ECONOMIC INTERDEPENDENCE BETWEEN THE USA AND CHINA

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**Abstract:** *Interdependence is one of the main concepts in international relations. The idea of this theory appears for the first time within Robert Keohane and Joseph Nye's research „Power and Interdependence”, in the mid 70's. They focus mainly on liberalism, economy, international organizations and transnational corporations. We can speak about interdependence both at the global level, between all international actors as well as at the bilateral level, between two states.*

*First part of the paper is about the theoretical aspects of the theory, second part being a study case about the interdependence between United States and Popular Republic of China, the first and the second economical actors in the world. China's growth is due to American investments and massive exports from China to USA. At the same time American corporations have big benefits from the cheap labor force in China and most of the profit returns to United States. There are expenses for everyone but the benefits are common.*

**Key words:** economic interdependence, cooperation, development, international organizations, power.

**JEL classification:** F 02, F 23, F 59

### 1. Introduction

From the beginning of the 20<sup>th</sup> century, since mankind faced an important economic and technologic development appeared also the discussions about the interdependence theory within the international relations. The idea of a new theory was launched in the mid 70's in Robert Keohane and Joseph Nye's paper "Power and Interdependence". This new theory – the interdependence theory – is focusing on liberalism, economy, international organizations and transnational corporations.

Interdependence is considered to be today one of the most important concept within the international relations. Firstly, there is an interdependence at a general level – within the system as a whole – and secondly, between its specific parts for instance between specific states or between great powers which are interconnected by a reciprocal system of dependencies.

Thereby, I intend to analyze within this research paper also the theoretical approach of the interdependence theory beginning with the authors Nye and Keohane, focusing on the premises and conclusions they achieved as well as the way in which the theory has been applied into practice emphasized by the important interdependence liaison existing between the United States of America and the Popular Republic of China, the first and second global economic powers.

### 2. Interdependence – theoretical approach

Interdependence represents the phenomenon of complex liaison between events occurring in different parts of the world. One of the most relevant examples is represented by an economic crisis of a state which can easily provoke global consequences as it has happened with the collapse of the Asian market at the end of the 90's. We can also speak about interdependence within commerce or monetary policy beginning with the classics of liberalism: Adam Smith, David Ricardo or John Stuart Mill.

Consequently, also within political sciences, the concept of interdependence has been used first time in the 60's in the context of the ideological Cold War. Starting with the invention of the intercontinental ballistic missiles (ICBM) the geographical distance stopped offering security to any state facing potential attacks, such in the case of the strategic and military interdependence (Dudau, 2008, p.27).

Once the Cold War came to an end, as well as the Soviet Union, the combination liberal democracy-capitalism was adopted on the international scene, proving to be superior to any other alternative of economic and political system. Capitalism proved to be invincible and the liberal democracy – the only one which respects human value and dignity, political freedom or equality. Free market economy and parliamentary democracy became, with few exceptions, the rule. Between democratic states war is extremely rare, expression of the principle of the democratic peace (Fukuyama, 2008, p.50).

The economic interdependence was first connected with the emergence of economic crises and economic conflicts between industrialized states. The first two economic shocks have been the collapse of the Breton Woods monetary system – who established the convertibility of the American dollar into gold – and the oil crises started by the OPEC embargo due to the war between Israel and the Arabic countries from 1973.

Individual reactions of the states proved to generate conflicting situations with other state's policies. The background of this conflict is the decrease of the American power due to the Vietnam War and the economic development of Europe and Japan. At the beginning of the 1975 the heads of the biggest 4 economical powers – USA, Japan, Germany and France – met in a global economic summit, precursor of the present G8. The national rhetoric changed focusing now on international cooperation through highlight the economic interdependence between states. In this way the idea of economic interdependence became very important in security, economic growth, natural resources or environmental policies (Fukuyama, 2008, p.28).

The synthesis between economic research and political research has develop and spotlight the international political economy, the most important contributions had the American economist Richard Cooper, with the paper "The Economics of interdependence", Edward Morse, "The Politics of Interdependence" and Robert Keohane and Joseph Nye, "Power and Interdependence".

### 3. Interdependence at Nye and Keohane

We are living in an era of interdependences. Modernists believe that progress leads toward the creation of a global state, towards a world without frontiers, the state losing in front of international organizations and transnational corporations. By comparison, traditionalists believe that military power is the most important component of current international relations and the state remains the most important actor on the international scene. Nye and Keohane do not argue anything of this into their research.

In common language dependence represents the state of being affected or determined by external forces in a considerable amount. A simple definition of the interdependence reflects it as reciprocal dependence. Interdependence in global politics refers to specific situations characterized by reciprocal effects between countries or between actors from different countries. These effects appear most of the times from international transactions which have multiplied continuously after the Second World War (Keohane, Nye, 2009, pp.49-54).

Benefits of interdependence are being represented by:

1. *Zero sum*: losing a partner becomes the benefit of the other partner and vice versa;
2. *Non zero sum*:
  - Positive sum: both partners win;
  - Negative sum: both partners lose.

Interdependence does not have to be defined only from the perspective of situations of reciprocal dependencies equally equilibrated. *Asymmetries* are the ones which offer sources of power and influence to all actors.

Relations of interdependence develop sometimes between a framework of rules, norms and procedures which regulate the behavior and control its effects. These sets of governmental arrangements which influence the relations of interdependence represent in fact specific *international regimes*. The structure of a system refers to the distribution of capacities between similar units; the most important units are being represented by states. Power is split within the system depending on the number and importance of the main actors.

Within the complex interdependence the non-stately actors participate directly and actively at the global politics, there isn't a clear hierarchy of the discussed topics and force represents an inefficient political instrument.

Taking this into consideration, we can present the three main characteristics of the complex interdependence:

1. *Multiple channels* – which connect all societies; among them there are informal connections between governmental elites as well as official arrangements between the ministries of foreign relations; informal relations between non-governmental elites, transnational organizations.

2. *Absence of themes hierarchy* – represents that the military security does not consequently dominate the agenda. Likewise, the distinction between internal and international problems is more and more difficult to achieve.

3. *The minor role of the force* – within interdependence, governments do not utilize force against other governments. Military force is irrelevant in solving economic misunderstandings between members of an alliance (Keohane, Nye, 2009, pp.57-74).

In order to verify the theory of complex interdependence, Nye and Keohane analyzed the relations between the United States and Canada as well as United States and Australia. Because of interdependence small countries succeed to counterbalance the big countries. For example, even if USA controls 2/3 of Canada's external commerce and Canada controls 1/3 of USA's external commerce, Canada triumphs most of the times, menacing with tariffs and restrictions.

The two authors distinguish between three types of leadership: hegemony, unilateralism and multilateralism – and in the context of the decline of the American hegemony, vote for multilateralism as the most adequate policy taking into consideration the existing conditions of interdependence. They recommend to the United States an active policy of international coordination based on the conviction that international organizations and regimes are in the position of resolving international conflicts through implementing *win-win* solutions for all the parts involved. This direction will be developed afterwards by Robert Keohane in the 80's under the name of *theory of regimes* (Dudau, 2008, pp.30-35).

The interdependence illustrates the problems of the collective action: interests of a state cannot be accomplished but in a dependent mode from the decisions taken by the other states involved in the relations of the interdependence. Interdependence is both a condition of possible cooperation and a source of the need to cooperate.

As the world becomes more and more interdependent, cooperation will replace competition. Interdependence creates common benefits, and these benefits encourage cooperation. Interdependence may be and it is used as a weapon. We can see an example in the economic sanctions against Serbia, Irak or Cuba.

After the end of the Cold War it has been noticed that conflicts have multiplied at a regional level but also that they have diversified due to the apparition of new forms of manifestation as well as due to the involvement of different types of actors than the consecrated one – the state. At the same time, asymmetry appeared and developed gaining new valences because of the raise of the economic interdependence, of globalization and emphasize of processes of inequality within the economic development between different regions around the world (Nye, 2005, pp.180-181).

As well as interdependence was a fashionable concept in the 70's so it is globalization today. Though, these two concepts do not overlap. We can say that interdependence is one part of globalization. Making the distinction between globalization and globalism we can observe that globalism is a form of interdependence, a type of interdependence with special characteristics (Keohane, Nye, 2009, pg.290).

A theory is valuable if it can be relevant for the global politics, for example Waltz's theory regarding the balance of power which has been successfully applied between China and the Soviet Union, even if both were part of the communist bloc, but this does not mean that the policy of a state must blindly follow a single theory, but rather all international theories must be used in every specific situation as they all frame our perceptions regarding this world. We need to have a critical attitude and we also need to be aware of the advantages and disadvantages of each theory as well as the way in which these can influence the international trajectory of the state we represent (Keohane, 1986, pp. 15-26).

“The concept of complex interdependence is obviously liberal more than realist. Our vision on the complex interdependence has always been in opposition to the realist conception over the global politics. Anyways, just because we have insisted that the complex interdependence represents rather an ideal type than a precise description of the global politics; its relevance for the contemporary global politics is thus ambiguous.” (Keohane, Nye, 2009, pg. 338)

Thereby, we can conclude that the scientific demarche of the two authors is an exceptional one, the interdependence theory being one of the main theories within the international relations, of great actuality and importance for all the actors within the system, for all the political decision-makers as well as for the researchers in the area of study.

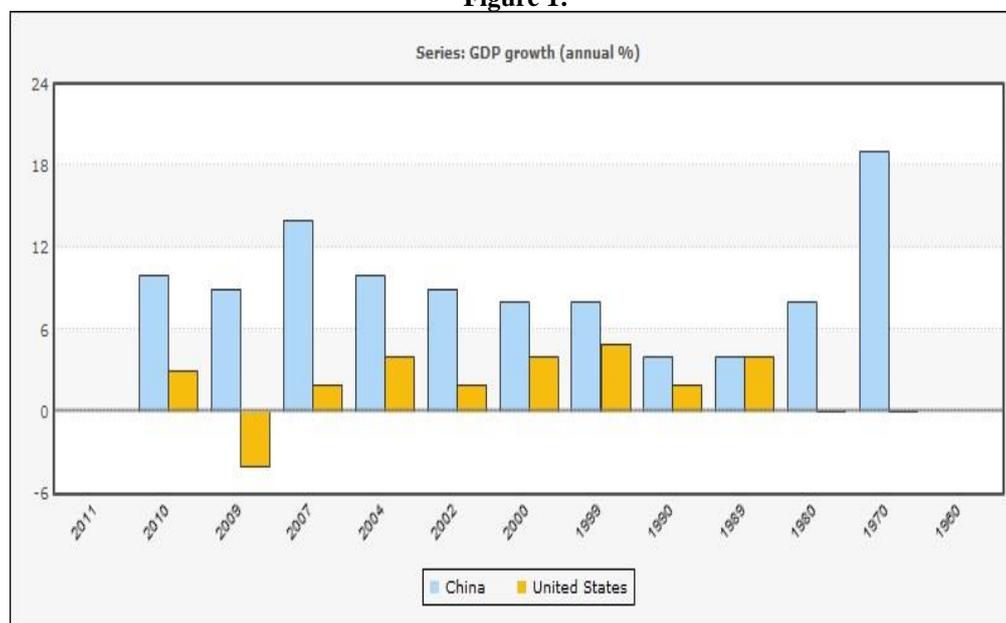
#### 4. Economic interdependence between the USA and China

From the economic-financial point of view, the United States of America occupy the number one globally, and China the second place and this is mainly because of the existing interdependencies between the two, both because of the American investments in China and of the Chinese exports in America.

China is the country with the most outstanding raise from the last years, the communist state becoming in 2010 the second world's greatest economic power considering the value of the GDP. China's

GDP is facing continuous increase in the last 40 years; the medium annual growth rate was 9.1%. In numbers, China's economy evolved as follows: 91 billion dollars in 1970 (the 8<sup>th</sup> economic power), 306 billion dollars in 1980 (8), 404 billion dollars in 1990 (11), 1.200 billion dollars in 2000 (6) and 5.700 billion dollars in 2010 (2). In the last 40 years day the value of the GDP has raised 37 times in China. China has the greatest weight of the industry reflected into their GDP, a double percentage from the USA or Germany. On the other hand though, this spectacular growth of the industrial production was owed also to the transfer of production lines from the developed countries, especially from the United States; this did not suggest that exactly the developed countries were managing the greatest part of the deal.

Figure 1:



 **World dataBank**  
World Development Indicators(WDI) & Global Development Finance(GDF)

Source:

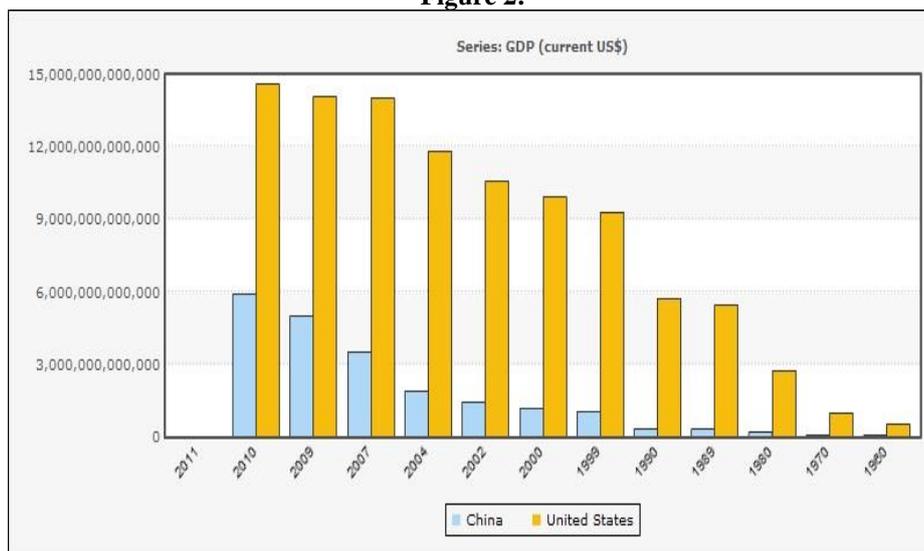
The Apple example is a relevant one: iPhone are being assembled in China but the Chinese do not receive but 1% from the profit, the rest going back to USA reflection of economic interdependence between the two. On the one hand USA is investing in China through its companies, offering jobs, technology, while the profit grows and returns to the USA, respecting one of the main principles of the interdependence which emphasize the more and more importance of transnational corporations within the international scene.

Likewise, China has the world's greatest currency reserves – 2.8500 billion dollars, or the equivalent of 50% of the GDP, registering annually a trade surplus around 200 billion dollars, and the volume of the foreign investments and the flow of capital have generated this large amount of reserves. Even though in the next years probably the current growth rate will attenuate alongside with the process of maturing of the economy, with the salary growth, it is estimated that it is just a matter of time until China will excel the USA, becoming the world's greatest economic power (Orgonas, 2010).

On the other way, taking into consideration the life standard, the Chinese will have to wait a long time until comparing with developed countries such as the USA, Germany or Japan, with the condition that the latter maintain their level above the average.

Even though China knows a furious growth (China Economy Profile, 2012), the gap to equal the level of the USA's is still very large, China's GDP is more than 2.5 times smaller than the USA's GDP (United States Economy Profile, 2012).

Figure 2:



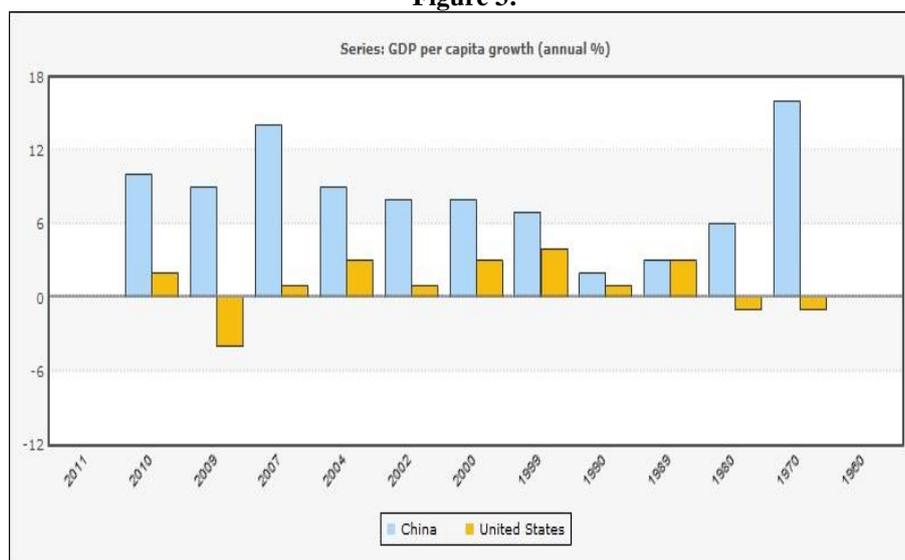
World dataBank  
World Development Indicators(WDI) & Global Development Finance(GDF)

Source:

Even if the growth rate of the USA’s economy is very slow and many international analysts consider that starting with 2016 the statistics might indicate that China had excelled the USA regarding the GDP value, this indicator is most of the times considered irrelevant related to the GDP.

Speaking about GDP per capita, this indicator represents one country’s GDP reported to the number of citizens from that country. This indicator is often used as a unit of measure of one nation’s general weal. The USA occupy the first place regarding the GDP but is classified only as the 6<sup>th</sup> power regarding the GDP per capita, being excelled by Qatar, Luxemburg, the Arabic Emirates, Norwegian and Singapore (Popa, 2011).

Figure 3:



World dataBank  
World Development Indicators(WDI) & Global Development Finance(GDF)

Source:

Consequently, the economic interdependence between the USA and China has common benefits as long as the foreign investors find in China cheap labor force, along with an increase of the level of economic growth and of education, the salary claims will also grow as well as the probability of many companies to focus on other markets. At the same time, interdependence relies on cooperation and not

competition, a potential economic conflict between these two aiming to cause a major impact on both, both being sensitive at each and everyone's measures and policies.

Meantime the USA represents the main market for China's export, a ban of these exports might affect China more than the USA because the latter can import from someone else while China cannot export on different markets the enormous quantity of products, thereby China proving to be much more vulnerable than the USA.

Another sensibility is represented by the foreign investments in China, the American firms and companies directing their funds towards China. Reducing or the lack of those investments would represent another huge vulnerability for China in comparison to the USA which would not be that affected because its companies could easily be relocated into the less developed countries, where they can find again cheap labor force. These companies would not be easily replaced in China proving one more time the fact that China is by far more exposed than the USA.

There is also another chapter where the situation is vice versa and it is represented by the foreign debt. At this level the foreign debt is another element of the interdependence between the two actors mostly because the main creditor for the United States is actually China. The public debt of the United States excelled 14 trillions, reaching a historical record with 4.4 trillion debts towards foreign governments. This debt does not consist of amounts of cash borrowed but of certificates of treasury bought by those countries (Anghel, 2012). If one day all these governments decided to claim these sums, the USA would be compelled to divide and every country to "buy" one of the American states which GDP would equal the amount of the debt, the biggest debt being the one towards China. This specific debt reaches 891.6 billion dollars, the weight from the total debt being of 20.4%, emphasizing that by far the USA are indebt the most towards China (Dumitru, 2011). Moreover, the only financial evaluation agency from China considers that the SUA has already proved to be incapable of paying this debt once it had reached the maximum limit of public debt.

At the same time, Beijing is still in the middle of a "currency war", being accused by the USA and other powerful states that it intentionally keeps its national currency, the Yuan, at a low appreciation in order to encourage its exporters. The members of the American Congress have inserted a measure in a bill of law in which they asked the Pentagon and the Intelligence Agency to determine if USA's debt towards China represents a threat to the United States' national security. The Secretary of Defense and intelligence director would have 120 days after adopting the bill of law to specify to the Congress if China could or could not obtain military advantage from its situation as a creditor. This text would offer to the Budget Bureau within the Congress 30 days before publishing the amount of money Washington has paid to Beijing in the past five years (Nicolescu, 2011).

We can thus observe several elements which define the economic and financial interdependence between the United States of America and China. As we could notice there are also a series of costs that this interdependence implies as well as a series of common benefits. Both countries have specific sensibilities and vulnerabilities and the future predicts to be an extremely interesting one analyzing the fight for reaching the global supremacy. China has all the premises to win the battle thus the United States still has a considerable advantage.

Politically speaking, the two states are completely different. One represents the symbol of democracy meanwhile the other the most successful pattern of communism. The USA is an example of democracy and human rights while China is always faulted for not respecting them. What brings them together though, is the free market economy, capitalism, a liaison that definitely link them, emphasizing therewith one of the most important element of the interdependence created between them.

At the same time, very often analysts have tried to legitimize conflicts, both those from the interior of the country and the international ones or of any other nature, the most common explanation stating that the world's conflicting state was inevitable as it resides within human nature, and we cannot avoid it but with extremely high efforts. Likewise, there is another perception stating that at the route of the starting of a conflict there might be also demographic causes, the repartition of resources worldwide etc. (Urdas, 2011, pg. 33).

When analyzing interdependence, the risk of a conflict is noticeable reduced or even absent, cooperation replacing conflict within global politics. This does not suggest that states remove from their agenda the concept of military security; on the contrary, they spend considerable efforts in order to decrease their vulnerability.

Super nuclear, cosmic and naval power, permanent member of the Security Council of the United States, founding member of NATO, the USA has impressive military capacities. Consequently, they have

military expenses up to 380 billion dollars. Percentage of their GDP allocated to the military sector: 3.2%, emphasizing the position of the USA as the only present military superpower (Paul, Coscodaru, 2003, pp. 26-31). In the same context, the tendency is to shape coalitions aimed to stop this sovereignty, such an example being represented by the alliance between China and Russia and even by Europe's will to become independent.

But besides of all the disjunctive factors there are also elements of real cooperation between China and the United States, emphasized by their common economic interests. In what concerns America she has no reasons to fear China's economic and military power yet. The fundament of the Sino-American relations is sufficiently important in order to choose for cooperation and avoid confrontation.

The United States aims to convert China into a more powerful and secure country, connected to the Eastern world by commerce, diplomacy and common interests to establish the international stability. Washington needs to cooperate with Beijing in order to achieve an efficient Asian policy sustained by the idea that the USA and China do have different values but also important common interests (Paul, Coscodaru, 2003, pg. 31).

China's economic boom from the past few years has activated and brought into forefront China's geopolitical potencies which until 1989 were latent (Simileanu, 2007, pg. 6). China, the 3<sup>rd</sup> biggest state represents the state with the biggest Asian surface and the greatest world's population, managing considerable resources, dominating Pacific's commercial flows and one of the most powerful armies – is now prepared to value its strategic position, promote and protect its interests.

From the perspective of the military geopolitics, the goals of the Chinese strategy have been achieved. China is not menaced in Eurasia and the control over the regions of liaison has been preserved by Mao's successors. From the military point of view the danger for China would come only from the United States' side, moreover because the Chinese economy is dependent on the naval transport and the USA might easily install a blockade over the Chinese harbors. Thereby, one of China's main goals is to exclude the possibility of such a blockade (Frunzeti, Zodian, 2009, pg. 710). Likewise, China is focusing nowadays also on creating an anti-satellite system designed to counterbalance the American ones.

Consequently, the Chinese army is putting considerable efforts towards arming and development, still having to follow a long way until reaching the American military capacities as a reflection of the classic realist pattern applied for its strategy of intervening around the world. The American interventions in Yugoslavia, Afghanistan, Irak or Libya, are representative examples of hard power interventions.

Unlike, China, with its defensive military strategy, based on protecting the national territory represents a classic model of soft power which denies the use of force within its foreign relations and adopts cooperation, especially economic cooperation, creating at the same time relations of interdependence beneficial for both parts. Analysts consider that the future of the international relations will follow this soft pattern, a pattern of interdependence, dominated by China. This is nevertheless just a prediction, which will be exposed to the changes and evolution of the global system.

What is certain is that economic interdependence represents a reality within international relations well reflected within the existing relations between the United States and China. Interdependence creates a strong liaison between them, liaison very hard to destroy, both being influenced by the existing vulnerabilities and by the changes that might appear within the system of interdependences.

## 5. Conclusion

The interdependence theory is an ideal theory within the international relations created as a reaction against the realist theory. This theory implies some costs but the benefits are always much more relevant. When we speak about interdependence we refer mainly to a situation of reciprocal dependences, dependences which are not all the time equilibrated, this asymmetry representing a source of power.

The most important interdependence nowadays is represented by that one between the United States of America, the economic, political and military world's leader and the Popular Republic of China, the world's second economy, the biggest numeric army and the symbol of an innovative and efficient communist system.

The economic interdependence between these two global powers is very noticeable; the development of China is possible and sustained mainly by the American investments, the externalizations of the United States' companies in China and also by the massive exports from China to USA. At the same time, the American companies have low taxes, cheap labor force and huge profits returning to America. Likewise, China is the biggest creditor for the United States and also China has the world's biggest reserves in USA dollars, important aspects in negotiation.

The economic interdependence between the United States and China has common costs and benefits, and any change in this relation of interdependence, especially using force, will deeply affect the interests and future ambitions of both parts.

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## ECONOMIC DEVELOPMENT AND MIGRATION FLOWS - A REGIONAL APPROACH AT THE EUROPEAN UNION LEVEL

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**Abstract:** *The successive enlargement of the European Union has brought together regions with different levels of development. This paper analyzes from a comparative perspective the evolution of GDP per inhabitant and employment rate at European NUTS 2 level. Compared with year 2000, although the disparities between European regions diminished, in 2009 the differences remained significant. This situation exerts a large influence on migration flows, with all consequences on the future economic development in sending and receiving countries.*

**Key words:** regional disparities, GDP per capita, employment rate, net migration, EU regions.

**JEL classification:** R 11, J 61, J 21

### 1. Introduction

Migration represents a dynamic process, influencing and being influenced by various elements related to economics, but equally to demography, sociology, geography, culture and political science. Given the complexity of this phenomenon, at present there is no unitary theory of international migration, but rather many different theories, which try to explain its multiple facets. In the literature it is generally made a distinction between theories that explain the initiation and consequences of international migration (classical theories), and theories explaining the perpetuation of migration (Massey, 1998). All theoretical concepts are complementary, helping to a better understanding of the migration processes. Given the space constraints we will briefly describe the most relevant theories in the context of this paper.

The classical theories analyse migration flows (immigration and emigration) by their main determinants. This idea is commonly reflected in push-pull models, which emphasize the pull and push factors in sending and receiving regions/countries (Lee, 1966). The neoclassical theory considers wage disparities and better employment conditions as the main motivations for international migration (at macroeconomic level) and for adopting the decision to migrate (at microeconomic level). In that case, the flows are mainly from high to low wage countries (Lewis, 1952; Todaro, 1969; Borjas, 1989).

New economics of migration, in contrast, consider not only the labour market as reason to migrate, but also the conditions of other markets, such as the capital market or unemployment insurance market. According to this point of view choosing to migrate represents a household strategy to minimize family income risks or to overcome capital constraints on family production activities (Stark, 1991).

Dual labour market theory and world systems theory emphasize factors that influence migration at an aggregated macro-level. Dual labour market theory links immigration to the structural requirements of modern industrial economies (Piore, 1979). According to world systems theory migration is a natural consequence of economic globalization and market penetration across national boundaries (Wallerstein, 1974).

### 2. Development gaps

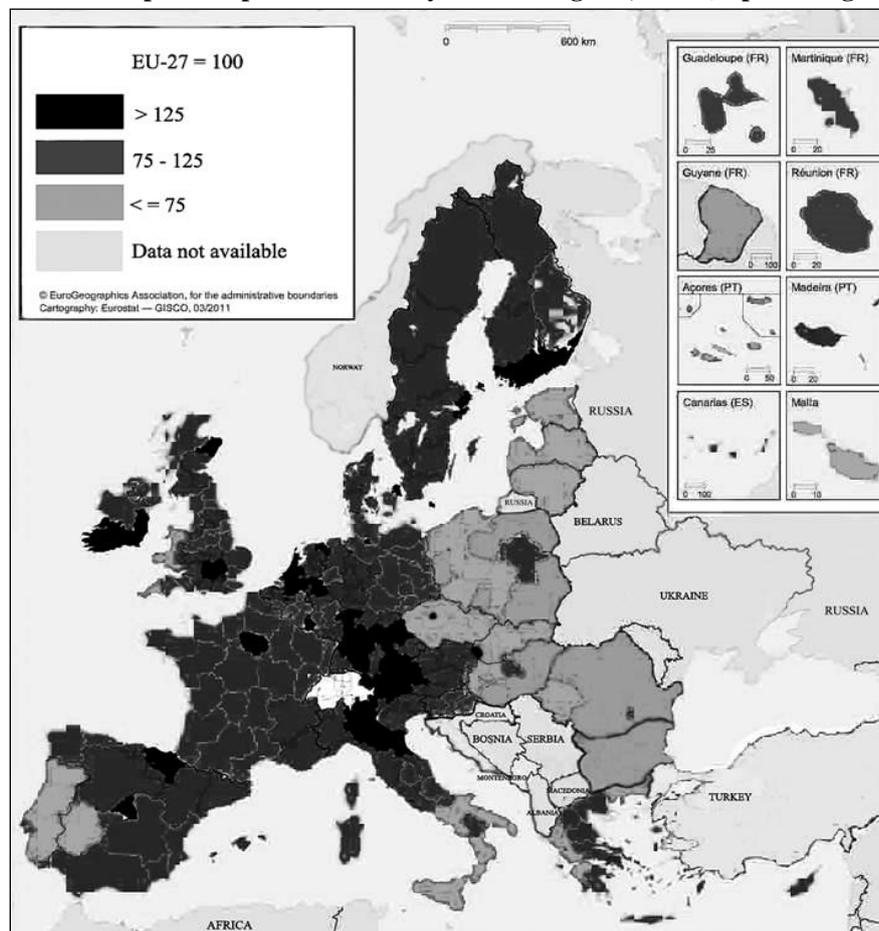
The economic development of a region is expressed in terms of its gross domestic product (GDP). This indicator is also frequently used as a basis for comparisons between regions. A meaningful comparison can be made only by comparing the regional GDP with the population of the region in question.

According to the analysis of the latest data available at EU's level (2009) the regions with the highest levels of GDP per inhabitant are concentrated in southern Germany, the south of the United Kingdom, northern Italy and Belgium, Luxembourg, the Netherlands, Austria, Ireland and Scandinavia. Low levels of GDP per inhabitant are found in the southern, south-western and especially south-eastern periphery of the Union (the new Member States) (Figure 1).

Given the large number of EU-27 NUTS 2 regions (271) and the space constraint we will focus on 14 regions at the top and bottom of the GDP hierarchy (Table 1). The group of regions with the highest GDP per capita includes mainly the regions around certain West-European capitals (London,

Luxembourg, Brussels, Paris, Copenhagen, Stockholm, Wien and Dublin), but also “common” regions: three in Germany (Hamburg, Oberbayern, Bremen), two in The Netherlands (Groningen, Utrecht) and one in Finland (Åland). Within this group the GDP exceeds 40,000 Euros per capita, respectively 170% of the EU average. On the opposite side, the poorest 14 EU regions are in the new Member States (five in Bulgaria, six in Romania, two in Poland and one in Hungary). Within this group the per-inhabitant GDP ranges from 2,839 (Severozapaden, Bulgaria) to 5,578 Euros (Podkarpackie, Poland), that is between 12 and 23.7% of the average EU GDP per capita.

**Figure 1: Gross domestic product per inhabitant by NUTS 2 regions, 2009 (in percentage of EU-27 = 100)**



Source: own calculation based on Eurostat data, <http://epp.eurostat.ec.europa.eu>.

The difference between the two ends of the distribution is quite significant. Thus, in 2009, in Inner London, one of the 3.05 million inhabitants generated an average GDP of 76,319 Euros, which represents 324.5 % of the EU-27 average. At the same time, in Severozapaden (Bulgaria), the 2,839 Euros per capita represented only about 12% of the average EU-27 GDP (Table 1). In other words, the GDP per inhabitant in the poorest region of EU-27 (Severozapaden, Bulgaria) is about 27 times lower than in the richest region (Inner London). However, there should be mentioned that, in some regions (especially capital city regions), commuter flows can have a strong impact on the level of GDP per inhabitant. Net commuter inflows in these regions generate an increase of production up to a level that could not be achieved by the resident active population on its own. Accordingly, in these regions the GDP per capita appears overestimated, while in sending regions of commuter flows they are underestimated (Eurostat, 2012).

If we take a look on the complete hierarchy of regions we could mention some other interesting aspects. Although Praha (Czech Republic) occupies position 58 in EU-27, it has the highest per-inhabitant GDP in the new Member States (29,012 Euros, or 123.4% of the EU-27 average); Bratislavsky kraj (Slovakia) follows with 121.5% of the EU-27 average (28,579 Euros) in 65th position. The next most prosperous regions in the new Member States are a long way behind: Cyprus at 90% of the EU-27 average (21,149 Euros) in position 158, Zahodna Slovenija (Slovenia) at 89% (20,894 Euros) in position

164. Actually, the four already mentioned regions represent only exceptions in the new Member States, since all the other 51 regions have a per-inhabitant GDP of less than 75% of the EU-27 average.

**Table 1: GDP per inhabitant at NUTS level 2\*, EU-27, 2009**

	The 14 regions with the highest GDP per inhabitant	Euro/inhabitant	% of the EU average (23,518 €)		The 14 regions with the lowest GDP per inhabitant	Euro/inhabitant	% of the EU average (23,518 €)
1	Inner London (UK)	76,319	324.5	1	Severozapaden (BG)	2,839	12.1
2	Luxembourg (LU)	75,771	322.2	2	Severen tsentralen (BG)	3,059	13.0
3	Bruxelles-Cap. (BE)	60,390	256.8	3	Yuzhen tsentralen (BG)	3,188	13.6
4	Hovedstaden (DK)	49,303	209.6	4	Nord-Est (RO)	3,446	14.7
5	Île de France (FR)	47,915	203.7	5	Severoiztochen (BG)	3,735	15.9
6	Hamburg (DE)	47,252	200.9	6	Yugoiztochen (BG)	3,788	16.1
7	Åland (FI)	47,166	200.6	7	Sud-Vest Oltenia (RO)	4,180	17.8
8	Stockholm (SE)	45,605	193.9	8	Sud-Est (RO)	4,418	18.8
9	Groningen (NL)	44,728	190.2	9	Sud - Muntenia (RO)	4,697	20.0
10	Wien (AT)	42,693	181.5	10	Nord-Vest (RO)	5,011	21.3
11	Utrecht (NL)	41,319	175.7	11	Centru (RO)	5,324	22.6
12	Oberbayern (DE)	40,190	170.9	12	Lubelskie (PL)	5,460	23.2
13	Southern and Eastern (IRL)	40,140	170.7	13	Észak-Magyarország (HU)	5,541	23.6
14	Bremen (DE)	40,004	170.1	14	Podkarpackie (PL)	5,578	23.7

Note: level 2 of NUTS has 271 regions: Belgium (11), Bulgaria (6), the Czech Republic (8), Denmark (5), Germany (39), Ireland (2), Greece (13), Spain (19), France (26), Italy (21), Hungary (7), the Netherlands (12), Austria (9), Poland (16), Portugal (7), Romania (8), Slovenia (2), Slovakia (4), Finland (5), Sweden (8) and the United Kingdom (37). Estonia, Cyprus, Latvia, Lithuania, Luxembourg and Malta are considered as single regions at NUTS 2 level. Source: own calculation based on Eurostat data, <http://epp.eurostat.ec.europa.eu>.

At the EU-27 level, in 2009, GDP per inhabitant was less than 75% of the EU average in 73 regions. A closer look at the demographic situation outlines the fact that over 28% of the EU's population lives in these 73 regions (Table 2). Only a quarter of these regions are in EU-15 countries, while three quarters are in new Member States. Moreover, some 6% of the EU population lives in the 14 poorest regions, with a GDP per inhabitant below 25% of the EU average. At the same time nearly 7% of the EU-27 population lives in (the 14) richest regions, with GDP per capita over 170% of the EU average.

**Table 2: Distribution of resident population by the level of relative regional economic development, 2009 (%)**

Regional GDP per inhabitant as percentage of the EU-27 average	Number of regions	Share of EU-27 population
<75, of which:	71	28.3
<25	14	5.7
75-125	144	47.2
>125, of which:	54	24.5
>175	11	5.1
TOTAL	271	100

Source: own calculation based on Eurostat data, <http://epp.eurostat.ec.europa.eu>.

The same analysis for the year 2000 showed that among the 149 regions with available data, the highest GDP per inhabitant was in Inner London (70,286 Euros), representing nearly 370% of the EU-27 average, while the lowest GDP of only 1,258 Euros or near 7% of the EU average was recorded in Nord – Est (Romania). Actually, the ratio between the lowest and the highest GDP per inhabitant was 1:56 (Nord – Est versus Inner London).

In the hierarchy of EU-27 regions, all Romanian regions ranked among the 16 positions at the bottom. Bucureşti – Ilfov, the best-performing region of the country (3,907 Euros) was in position 16, with a GDP per inhabitant of only 20.5% of the EU-27 average.

Of all 149 regions, only 53 recorded an increase of the GDP per inhabitant as percentage of the EU-27 average during 2000 and 2009. Moreover, this trend was typical rather to regions with low GDP per capita (not accidentally, all regions with the lowest GDP per inhabitant presented in Table 1 were in such a situation). In other words, **the disparities between European regions diminished their extent.**

But there are important **disparities also between the regions of the same country.** In 2009, the highest level of GDP per capita was more than twice the lowest in 12 Member States (United Kingdom, Romania, Slovakia, France, Belgium, Hungary, Bulgaria, Czech Republic, Germany, Poland, Italy and Finland). The largest regional differences are in the United Kingdom, where the level of highest GDP per inhabitant is 4.9 times bigger than the lowest. In Romania and Slovakia there is a factor of 3.8 and 3.7 respectively between the highest and lowest values. At the same time, the lowest values are in Slovenia and Ireland, with factors of 1.5 and 1.6. Excepting Slovenia, moderate regional disparities in per-inhabitant GDP (factors of less than 2 between the highest and lowest values) are found only in EU-15 Member States.

Although data for the year 2000 is largely incomplete, we compared the ratio between the highest and the lowest GDP per inhabitant in each region of the same country in 2000 and 2009 (for those countries with available data). The analysis suggests that three out of seven EU-15 Member States recorded a shrinking of the gap between the regional extreme values (Germany, Belgium and France), while in the other four (Portugal, Ireland, Sweden and United Kingdom) the gap widened. In Romania the ratio highest vs. lowest GDP per inhabitant increased from 3.1 at 3.8. A similar trend was recorded in Bulgaria, where the factor grew from 1.7 to nearly 2.8.

Regarding the situation of the eight NUTS 2 regions of **Romania**, like in majority of EU Member States, the capital city region (Bucuresti – Ilfov) was the richest of the country, with a GDP per inhabitant more than twice the values of all other regions. In 2000 it stood at one fifth of the EU-27 average. This situation gradually changed, so that in 2009 all regions more than doubled the ratio between their GDP per inhabitant and the average GDP at the EU's level, as shown in Table 3. Under new conditions, București – Ilfov slightly surpassed 55% of the EU-27 average (13,006 Euros), standing in position 223 in EU-27 hierarchy. Vest follows a long way behind at 25.6% (6,027 Euros) in position 253. At the opposite side, Nord - Est remained the poorest region of country and the fourth poorest of EU, with a GDP per inhabitant (3,446 Euros) representing only 14.7% of the EU average.

**Table 3: The hierarchy of NUTS 2 regions of Romania by share in the EU-27 average GDP per inhabitant, 2000 and 2009**

2000			2009		
	Region	Share in the average GDP per inhabitant of EU-27 (%)		Region	Share in the average GDP per inhabitant of EU-27 (%)
1	București - Ilfov	20.5	1	Bucuresti - Ilfov	55.3
2	Centru	9.8	2	Vest	25.6
3	Vest	9.8	3	Centru	22.6
4	Nord - Vest	8.7	4	Nord - Vest	21.3
5	Sud - Est	8.4	5	Sud - Muntenia	20.0
6	Sud -Vest Oltenia	7.9	6	Sud - Est	18.8
7	Sud - Muntenia	7.6	7	Sud -Vest Oltenia	17.8
8	Nord - Est	6.6	8	Nord-Est	14.7
<i>Ratio highest vs. lowest value</i>		3.1	<i>Ratio highest vs. lowest value</i>		3.8

Source: own calculation based on Eurostat data, <http://epp.eurostat.ec.europa.eu>.

Even if during 2000 – 2009 the GDP per inhabitant recorded in all regions a **tendency to converge towards the average of the EU-27, the disparities between regions widened.** The ratio between the highest and the lowest value (Bucuresti - Ilfov vs. Nord - Est) of 3.1 in 2000 increased to 3.8 in 2009.

In 2000 the GDP per inhabitant was less than 10% of the EU average in seven out of eight regions of Romania. Actually, over 90% of total population lived in these regions. Despite some positive adjustments, in 2009 the incidence of poverty remained high. The GDP per capita was less than 25% in six regions that concentrated over 80% of total population.

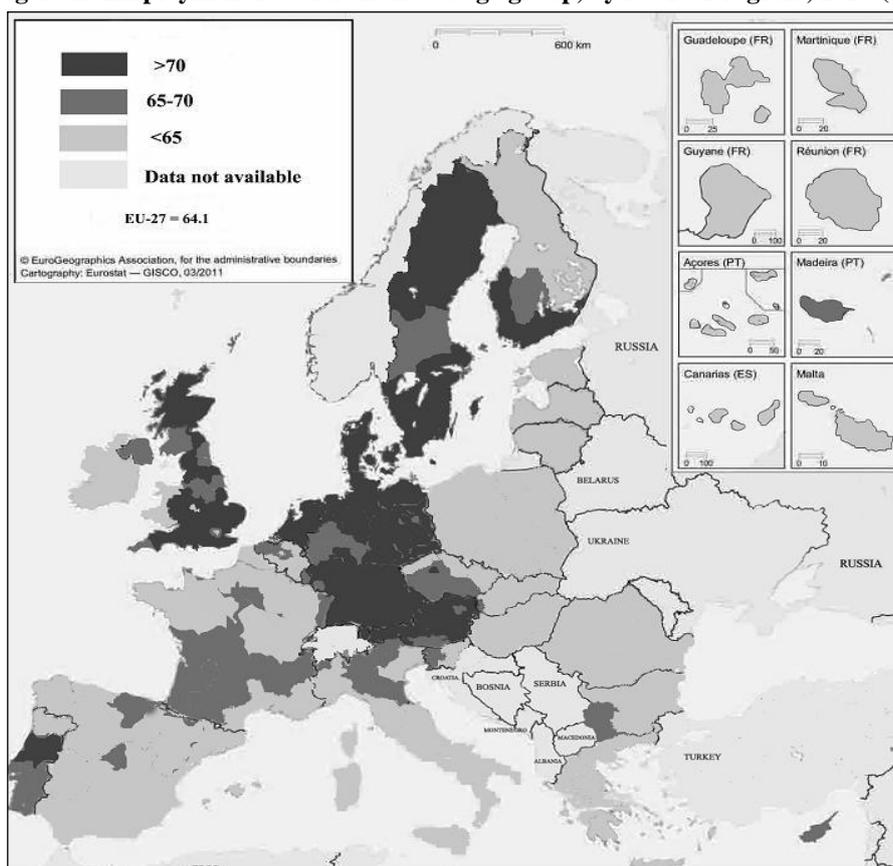
### 3. Employment gaps

The analysis of the employment rate for the 15-64 age group at EU-27 level highlights a steady increase during 2000 – 2008, from 59.9% to 65.8%. This evolution was based on the fact that, until 2008, the number of employed persons grew faster than the total population. However this trend reversed in 2009, when European labour markets started to feel the full negative impact of the global economic crisis. Under these circumstances, total population continued to expand, while the number of employed persons began to decrease. Thus, in 2010, the rate of employment moved downward to the level of 2006 (64.1%).

A more in-depth investigation of available data at regional level reveals however that during 2000 and 2010, a number of 174 regions recorded an increase of the employment rate. Among the 75 regions where the employment rate declined seven were from Romania (Bucuresti - Ilfov being an exception).

In 2010 the regions with the highest employment rates were concentrated in Germany, the Netherlands, United Kingdom and Scandinavia. At the same time, low levels of employment rate characterized the regions of the new Member States, but also of the southern old Member States (Italy, France, Spain, Greece), or Ireland (Figure 2).

**Figure 2: Employment rate for the 15-64 age group, by NUTS 2 regions, 2010 (%)**



Source: own calculation based on Eurostat data, <http://epp.eurostat.ec.europa.eu>.

Within a hierarchy of EU-27 regions by the level of employment rate, in the first ten positions one region was in Finland, five each in the Netherlands and Germany, two in United Kingdom and one each in Sweden and Denmark, as presented in Table 4. In all these regions the employment rate was higher than 75% of total population. At the other end of distribution, five regions with the lowest employment rates were in Italy, three in France (all representing overseas departments) and two in Spain (autonomous territories located in mainland Africa). They had employment rates ranging between 40% and 48%. It is important to mention that, on the whole, the highest employment rate was twice of the lowest. Thus, for each two persons employed in Åland (Finland), in Campania (Italy) barely one is employed.

To see how much the regions differ from each other within a country or in the whole EU-27 we have computed the dispersion of employment rates during 2000-2010 (Table 5). A low level of dispersion rates highlights the relatively small disparities between the regions of a specific country (respectively the

countries in EU). Also, at EU's level, a decline in dispersion of these rates indicates an increase of labour market cohesion.

According to this perspective it appears that the Scandinavian countries are the top performers. Although the available data covers only the period 2007-2010, Denmark is the country with the smallest differences between regional employment rates (1.6% in 2007 and 2.1% in 2010). Although it recorded some fluctuations, the Netherlands maintained the second lowest dispersion rate in EU-27 (at some 2-3%). Sweden was in position 3 with a dispersion rate of 4.5% in 2000, which declined to 2.6% in 2010. In Romania, the relatively moderate disparities between regions widened during 2000-2010, the dispersion rate reaching 5.8%. Portugal and Germany recorded in 2000 relatively higher dispersion rates than Romania, but their evolution was a positive one, as in 2010, they stood at 3-4%. Italy is by far the Member State with the largest regional gap in the employment rates (16.9% in 2010), followed by France (11.3%), Slovakia and Spain (10.6% each).

**Table 4: Employment rate at NUTS level 2 (15-64 age group), 2010 (%)**

	<b>Regions in top 10 positions with highest employment rate</b>	<b>Employment rate, %</b>		<b>Regions in top 10 positions with lowest employment rate</b>	<b>Employment rate, %</b>
1	Åland (FI)	78	1	Campania (IT)	39.9
2	Utrecht (NL)	77.7	2	Calabria (IT)	42.2
3	North Eastern Scotland (UK)	77.6	3	Sicilia (IT)	42.6
4	Noord-Brabant (NL)	75.9	4	Réunion (FR)	44.0
4	Stockholm (S)	75.9	5	Puglia (IT)	44.4
5	Freiburg (DE)	75.8	6	Guyane (FR)	45.4
5	Overijssel (NL)	75.8	7	Melilla (ES)	46.6
6	Schwaben (DE)	75.7	8	Ceuta (ES)	46.7
7	Oberbayern (DE)	75.6	9	Basilicata (IT)	47.1
7	Trier (DE)	75.6	10	Guadeloupe (FR)	48.3
7	Noord-Holland (NL)	75.6			
8	Niederbayern (DE)	75.4			
8	Gelderland (NL)	75.4			
9	Berkshire, Buckinghamshire and Oxfordshire (UK)	75.3			
10	Hovedstaden (DK)	75.2			

Source: Eurostat, <http://epp.eurostat.ec.europa.eu>.

At the EU level, as a whole, the lack of data for some countries made impossible the estimation of the coefficient of variation until 2007. Even if some countries succeeded better than others to manage the challenges posed by the global financial crisis, the evolution of the latest four years suggests a widening of the employment rates gap between Member States.

**Table 5: Dispersion of employment rates for the 15-64 age group by NUTS 2 regions, 2000-2010 (%)**

<b>Country</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
<b>EU-27</b>	:	:	:	:	:	:	:	<b>11.5</b>	<b>11.5</b>	<b>11.8</b>	<b>11.9</b>
Belgium	7.7	7.7	7.8	7.4	8.4	8.0	8.3	8.2	8.1	8.4	8.4
Bulgaria	:	:	:	6.6	6.9	7.3	7.3	7.0	7.1	7.8	8.5
Czech Republic	6.4	6.2	6.1	6.3	6.1	6.0	5.7	5.1	4.5	5.1	5.4
Denmark	:	:	:	:	:	:	:	1.6	1.8	1.9	2.1
Germany	5.5	6.0	5.8	5.8	6.0	5.7	5.1	4.6	4.6	4.1	4.0
Greece	6.4	5.7	4.9	4.9	5.1	6.1	4.9	4.6	4.6	4.2	3.5
Spain	10.7	10.0	9.7	9.1	9.3	9.5	10.3	10.6	10.0	10.0	10.6
France	10.2	14.2	13.4	13.4	13.3	13.2	13.2	11.3	11.8	11.4	11.3

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Italy	16.9	16.5	16.1	16.4	14.6	14.9	14.8	15.2	15.7	16.3	16.9
Hungary	9.9	9.8	10.3	9.2	9.7	10.2	9.7	10.5	10.5	9.8	8.3
Netherlands	3.3	3.0	2.5	3.0	2.9	2.4	2.8	2.7	2.8	2.9	2.7
Austria	3.0	3.3	2.7	3.1	3.4	3.9	3.4	3.6	3.4	3.3	3.2
Poland	6.6	6.9	7.4	7.0	6.2	5.5	4.9	4.4	4.8	4.2	4.1
Portugal	6.3	5.7	5.1	4.8	4.1	3.7	3.7	4.1	3.5	3.0	3.5
Romania	5.0	6.2	3.5	3.9	5.0	4.6	3.9	4.8	4.6	5.4	5.8
Slovakia	13.3	12.1	10.6	11.0	12.3	13.3	11.5	11.2	10.8	11.3	10.6
Finland	12.5	11.8	10.6	10.6	9.0	9.0	8.5	9.5	10.1	9.2	8.8
Sweden	4.5	4.4	5.0	4.9	4.9	3.1	3.0	2.4	2.9	2.9	2.6
United Kingdom	7.0	6.7	6.4	5.9	5.5	5.4	5.2	5.1	5.7	5.9	5.4

Note: due to the fact that Estonia, Ireland, Cyprus, Latvia, Lithuania, Luxembourg, Malta and Slovenia comprise only one or two NUTS 2 regions, computing dispersion rates is not applicable.

Source: own calculation based on Eurostat data, <http://epp.eurostat.ec.europa.eu>.

#### 4. Migration gaps

Many of the developed nations are confronted with serious demographic challenges. Migration is considered to be an important key in solving the puzzle whose aim is to find the way to assure the healthy bases for future economic growth. Unfortunately, in the majority of cases, the pieces of this puzzle are represented to a lesser extent by opportunities, but rather by constraints. For example, demographic changes such as the declining of birth rates or expanding life expectancy represent the main determinants of population ageing, an already common phenomenon in a relatively large number of European regions, especially in old Member States. One way of fighting it is “inviting”/receiving/accepting migratory flows, as they usually comprise young individuals, in other words young workforce. Thus the migrants become “cheaper” pillars for sustaining pension systems, for maintaining/increasing the size of the population. If settled, in time migrants bring their children to the receiving countries. Moreover, the immigrants are more likely to have more children than the native population. At the same time, for the sending countries migration can exert a destabilizing effect on a fragile demographic balance, with all the serious consequences on sustainability of the future development of that nation.

We initially intended to analyze the migration flows (immigration and emigration) at NUTS 2 regions, but due to data availability constraints we had to look for another indicator and the closest we could find at this level of disaggregation was the *net migration*. Although according to the definition of the United Nations Population Division (UN, 2009), net migration represents the difference between immigration to and emigration from a given area during the year, many countries either do not have accurate figures on immigration and emigration, or have no figures at all, so the net migration has to be estimated. It is usually estimated as the difference between the total population change and the natural increase during the year. Net migration is positive when there are more immigrants than emigrants and negative when there are more emigrants than immigrants. It is important to specify that net migration gives no indication of the relative scale of the separate immigration and emigration flows to and from a country; it refers only to the difference between them; a country may report low net migration but experience high immigration and emigration flows.

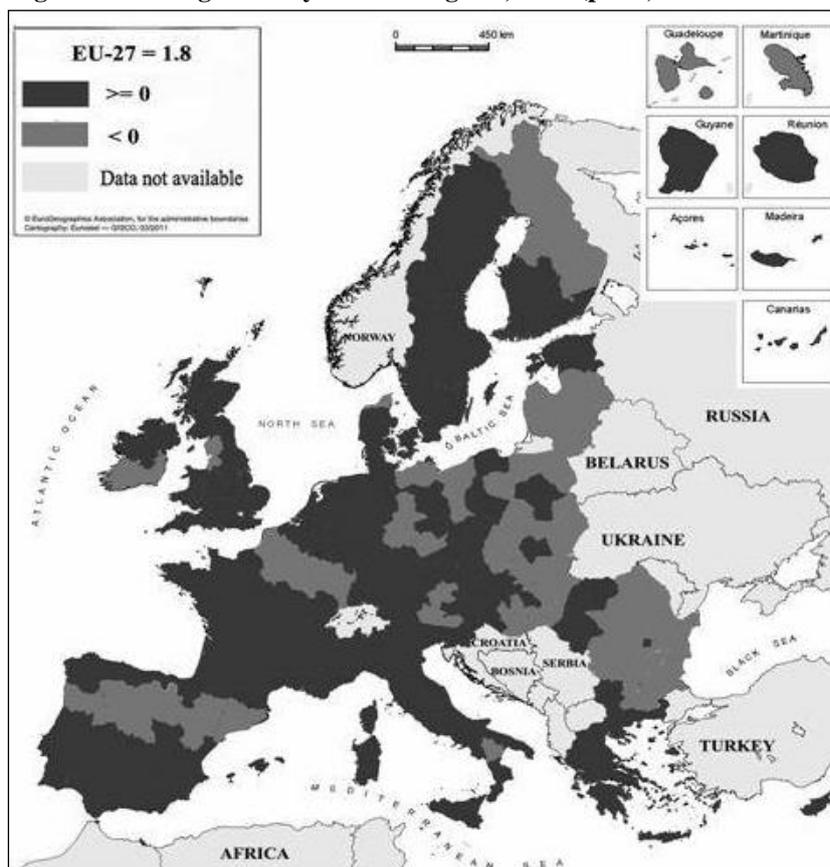
During 2000-2009, EU-27 recorded more immigrants than emigrants, and the difference increased in time. Net migration was 1.5 at 1,000 inhabitants in 2000, it reached the highest level in 2003 (4.2), then declined to 1.8. On the whole, 17 Member States and 113 NUTS 2 regions were in a similar situation, meanwhile in ten of EU-27 and 152 regions the difference between immigrants and emigrants diminished.

Figure 3 shows the net migration (including statistical adjustment) in 2009, the latest year with data available for all Member States. The darkest regions are those where the net migration is positive. Migration exerts a beneficial influence on demographic prospects especially in regions from the south of Spain and Portugal, France, Italy, Greece, United Kingdom, Denmark, Sweden, southern Finland.

In 2009, 12 regions recorded a net migration higher than 10 per 1,000 inhabitants (Table 6). Melilla and Ceuta were in the first two positions of the hierarchy, not very surprising since they are located in Africa, an important reservoir of migrants. Among the other ten regions, two were in western

Greece (Ionia Nisia and Ipeiros), one each in the center of the Czech Republic, southern France (Corse) and northern Italy (Emilia Romana), but also four capital city regions: Stockholm, Brussels, Praha and Közép-Magyarország (Hungary), and the Luxembourg. On the other side, in the 12 regions with the lowest net migration, the number of emigrants exceeded the one of immigrants with at least 3.8 per each 1,000 inhabitants (Champagne – Ardenne, north-eastern France). La Rioja (northern Spain) had the lowest net migration (-7.3 per 1,000 inhabitants), followed by Észak-Magyarország (northern Hungary) and Martinique. Among the other regions with low net migration two were in northern Bulgaria, two in northern Germany (Sachsen-Anhalt and Mecklenburg-Vorpommern), one each in eastern Germany (Chemnitz), northern France (Nord - Pas-de-Calais) and north-eastern Hungary (Észak-Alföld), also Lithuania.

**Figure 3: Net migration by NUTS 2 regions, 2009 (per 1,000 inhabitants)**



Note: due to a lack of data, the values for the two NUTS 2 regions of Ireland are those recorded in 2008.  
 Source: own calculation based on Eurostat data, <http://epp.eurostat.ec.europa.eu>.

In Romania, in 2009 only three regions had positive net migration: Bucuresti-Ilfov (3.4 per 1,000 inhabitants), followed by Nord-Vest (0.6) and Vest (0.3). Of all the other regions where the number of emigrants was higher than the one of immigrants, the most important difference was recorded in Nord-Est and Sud-Vest Oltenia (being -1.2 and -1.1 respectively).

**Table 6: Net migration at NUTS 2 regions, 2009 (per 1,000 inhabitants)**

	Top 12 regions with highest net migration	Net migration		Top 12 regions with lowest net migration	Net migration
1	Melilla (ES)	22.4	1	La Rioja (ES)	-7.3
2	Ceuta (ES)	17.1	2	Észak-Magyarország (HU)	-6.9
3	Ionia Nisia (E)	13.8	3	Martinique (FR)	-6.3
4	Luxembourg	13.3	4	Severozapaden (BG)	-5.6
5	Stockholm (S)	12.4	5	Sachsen-Anhalt (DE)	-5.2
6	Ipeiros (E)	12.2	6	Mecklenburg-Vorpommern (DE)	-4.7

7	Střední Čechy (CZ)	11.7	7	Lithuania	-4.6
8	Corse (FR)	11.5	8	Nord - Pas-de-Calais (FR)	-4.5
9	Région de Bruxelles-Capitale (BE)	11.5	9	Chemnitz (DE)	-4.3
10	Praha (CZ)	11.1	10	Severozápadní (BG)	-4.1
11	Közép-Magyarország (HU)	10.8	11	Észak-Alföld (HU)	-4.0
12	Emilia-Romagna (IT)	10.4	12	Champagne-Ardenne (FR)	-3.8

Source: own calculation based on Eurostat data, <http://epp.eurostat.ec.europa.eu>.

## 5. Conclusions

According to our analysis at EU NUTS 2 level, regional disparities in GDP per inhabitant, employment rate and net migration are significant. In 2009, the richest 14 regions had a GDP per inhabitant higher than 170% of the EU average, while the poorest 14 regions barely reached to 23% of the EU average. At the same time, the ratio between GDP per capita in the poorest region versus the richest was 1:27 (Severozápadní, Bulgaria vs. Inner London). Except four regions, all the other regions in the new Member States had a per-inhabitant GDP of less than 75% of the EU-27 average. In fact, at the EU's level, the 73 regions with a GDP lower than 75% of the EU average concentrated over 28% of total population.

Compared with the situation in the year 2000, the disparities between European regions diminished their extent in 2009. However, we cannot say the same about the development gaps between the regions of the same country. Although some EU Member States recorded a shrinking of the gap between the regional extreme values, in others the gap widened. As a result, in 2009, the highest level of regional GDP per capita was more than twice the lowest in 12 Member States. Except Slovenia, moderate regional disparities in per-inhabitant regional GDP (factors of less than 2 between the highest and lowest values) were found only in the old EU-15 Member States.

The analysis of the employment rate for the 15-64 age group at EU-27 level highlights a steady increase during 2000 – 2008, from 59.9% to 65.8%. However, the global economic crisis reversed this trend. Starting with 2009 the employment rate moved downward, and in 2010 it reached the level of 2006 (64.1%). During 2000 and 2010, the employment rate increased in a number of 174 NUTS 2 regions. Among the 75 regions where the employment rate declined seven were from Romania (București - Ilfov being an exception). In 2010, regions in the first ten positions of the European hierarchy had employment rates higher than 75% of total population. The regions in the first ten positions at the bottom end had employment rates ranging between 40% and 48%. On the whole, the highest employment rate was twice of the lowest. Thus, for each two persons employed in Åland (Finland), in Campania (Italy) barely one finds a job.

The analysis of the dispersion of employment rates between the regions of the same country suggests that Denmark recorded the smallest gap, followed by the Netherlands and Sweden. Meanwhile, Italy is by far the Member State with the largest regional gap in the employment rates, followed by France, Slovakia and Spain.

At the EU level, as a whole, even if some countries succeeded better than others to face the challenges posed by the global financial crisis, the evolution of the latest four years suggests a widening of the employment rates gap between Member States.

According to the evolution of the net migration during 2000-2010, EU-27 recorded more immigrants than emigrants, and the difference increased over time. On the whole, 17 Member States and 113 NUTS 2 regions were in a similar situation, meanwhile in ten of EU-27 and 152 regions the difference between immigrants and emigrants diminished.

In 2009 migration had a beneficial influence on demographic prospects especially in the regions from the south of Spain and Portugal, France, Italy, Greece, United Kingdom, Denmark, Sweden, southern Finland. At the same time, in the 12 regions with the lowest net migration (negative), the number of emigrants exceeded the one of immigrants with at least 3.8 per each 1,000 inhabitants.

In Romania, like in most of the of EU Member States, the capital city region (București – Ilfov) was the richest of the country, with a GDP per inhabitant more than twice the values of all other regions. In 2000 it stood at one fifth of the EU-27 average. By 2009 all regions more than doubled the ratio between their GDP per inhabitant and the average GDP at the EU's level. Under the new conditions, București – Ilfov slightly surpassed 55% of the EU-27, followed by Vest a long way behind at 25.6%. However, in spite of this positive trend, six regions of Romania were still among the first 11 positions in

the hierarchy of the poorest regions of EU-27: Nord – Est (the poorest region of country and the fourth poorest within EU (14.7% of the EU average), followed by Sud – Vest Oltenia, Sud – Est, Sud – Muntenia, Nord – Vest and Centru. Moreover, these six regions concentrated over 80% of the total population.

Even if during 2000 – 2009 the GDP per inhabitant recorded a tendency to converge towards the average of the EU-27 in all regions, the disparities between regions widened. The ratio between the highest and the lowest value (Bucuresti - Ilfov vs. Nord - Est) was 3.1 in 2000, but increased to 3.8 in 2009.

During 2000 and 2010, except Bucuresti – Ilfov, all regions recorded a decline in the employment rate. Moreover, the relatively moderate disparities between regions widened. In 2010, the eight regions were in the last third part of the hierarchy of the highest regional employment rates.

In 2009 only three regions had positive net migration: Bucuresti-Ilfov (3.4 per 1,000 inhabitants), followed by Nord-Vest (0.6) and Vest (0.5). Of all the other regions where the number of emigrants was higher than the one of immigrants, the most important difference was recorded in Nord-Est and Sud-Vest Oltenia (being -1.2 and -1.1 respectively).

The regional disparities as GDP per inhabitant and as employment rate can generate important migration flows from the poorer new Members States but also from non-EU third countries to the richer western old Member States. Nevertheless the developed Member States are not the only “target” for migrants. Sometimes this “role” is borrowed even by poorer and/or peripheral (southern and eastern) EU Member States, which offers to migrants the advantage of an easier and cheaper (geographical) access to EU. This is a vicious circle, since it is likely that migration flows to contribute to a further widening of regional gaps. From another point of view, in the sending countries, migration flows can leave behind a quasi-drained labour market. The labour shortage, as well as the low level of education of the workforce (associated with diminished levels of GDP per inhabitant) can act as impediments for the incoming capital flows. All these could generate in the end a negative impact on social and economic cohesion at the EU-27's level.

At institutional level, the EU recognizes the necessity to act towards “a harmonious development by reducing the differences existing between the various regions and by mitigating the backwardness of the less favoured” (European Economic Communities, 1957).

Under these circumstances, financing through European Funds, both the Sectorial Operational Programme – Human Resources Development (SOP HRD) and European Regional Development Fund (ERDF) can bring a major contribution to strengthen the economic and social cohesion in the European Union. It is vital to adopt a strategic approach and setting the major intervention areas and priority axes for these programmes within the next EU multi-annual Financial Framework (2014-2020), adapted to Romania's regional specific conditions and necessities.

## 6. Acknowledgments

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## ECONOMIC SYSTEMS BETWEEN THEORY AND REALITY. APPLICATION ON INTERHUMAN SYSTEMS

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**Abstract:** *In this article I set off to realize a chronological sequence from the occurrence of the notion of system to the time this concept became embedded in economic science, describing in detail the defining elements, connections and limits but also its structure, both at a theoretical level in the first part of the article, and also in a real economic system using interhuman systems as an example in the second part.*

**Key words:** economic system, interhuman system, system analysis

**JEL classification:** P 00

*“Economy is a science like all the others but also an art of blending the possible knowledge with imagination and the broader picture of the complex, of the system”  
Dinu (2010)*

### 1. From a System to an Economic System

“The concept of system appears, in an incipient form, in Greek philosophy. Asserting that “a whole is more than the sum of its components”, Aristotle provides a first definition of this concept. The idea of system will develop and evolve in time, until it reaches its current form, at the beginning of our century.” Stoica (2001)

In 1950, Ludwig von Berhalanffy laid the bases of the system theory. From his point of view, a system may be defined as a union of interacting/interdependent elements, which operate with a view to reaching a common goal, by using an assembly of material, energetic, financial, informational and human resources.

According to some authors, a system is “any section of reality where an assembly of phenomena, objects, concepts, finite processes or groups can be identified” Stiglitz (2010), which are interconnected by means of various reciprocal relations and which operate in an ordered manner, jointly, in order to achieve well defined objectives, established in a prior plan.

This definition of a system includes three essential elements: a goal (objective) motivating the conception and existence of the system; a certain organisation (hierarchical organisation) of its elements; the supply of information, energy and materials to its components, with a view to achieving the goals.

All the relations between the components of a system and the relations between the components and the whole represent the system structure, and the multitude of the system’s features at a given moment determine its state.

Any system represents an integrated whole of its components and is only set up when a range of elements begin to interact.

The components of a system are abstract objects or events, which may often be systems themselves, according to Chrchman. This author states that a system may be seen as a subsystem integrated into another system (a more complex one) or it can be decomposed into a range of subsystems. The main point is, hence, to find primary, simple elements, of which it may be said that they no longer contain other subsystems or, in the opposite sense, to confirm the existence of a super system that includes the existing systems and is no longer included into another upper system. It is, however, easily understandable that the existence of these two limit cases of a system may only be considered in an abstract, imaginative manner, for theoretical research requirements.

The comprehension of the concept of “system” must be based on the following specific elements:

- The connection between the system elements is stronger than the relations between the system and the environment;
- Any system, regardless of its complexity, is a subsystem of a more comprehensive system;
- The nature and complexity of a system impose a certain organisation of its elements, for the proper functioning thereof;

- Any system is characterised by a certain structure, which may be seen as such, i.e. as the exact union of all the subsystems, up to their smallest components, or may be seen by following the various characteristic structures;
- Any system may have a range of reaction loops which are closed in certain system parts or even at the level of the whole system.

## 2. Relationships Between the System Elements

The relationships between the system elements influence them, limiting its behaviour. The elements of a system are connected in time and space by means of informative and decisional flows and flows of material, human, energetic resources in a wide range of manners, accomplishing the so-called connection relations, which may be physical, logical, temporal, causal, internal and external.

Any analysis of these connections is obviously subject to incertitude and depends on the level and type of specialisation of the observer. Thus, an economist will underline financial connections, an engineer – technological relations, a computer specialist – the informational flow, and a system analyst must establish all the relevant aspects of these types of connections, in terms of the pursued goals.

The connections between the various subsystems of a system outline:

- The interconnection of these subsystems (linear, hierarchical connections);
- The time period when the information exchange is performed;
- The manner of coordination and subordination of subsystems;
- The type of connections and the degree of flexibility.

Therefore, one may find discrete or continuous connections, logical or physical connections, trade-supported connections, etc.

These connections are discrete in economic systems, similarly to sampling systems found in technology. The sampling period (i.e. the time period when information is collected and transmitted) in economic systems is usually higher than in technological systems, but all depends on the system type. The period must be chosen well, as important information on the operation of the analysed system may be lost, especially when dealing with a complex system such as interhuman systems.

The necessity to observe these connections in time should also be underlined, as they may change because of the dynamic evolution of the system and environment. The total effect of interactions and interdependencies within a system is not additive in relation to the local effects of the components. The whole operation of the system based on its connections ensures, according to the synergy principle, a global effect which is higher than the effect obtained by simply summing up the specific effects of component subsystems, hence the necessity to investigate the internal and external connections of the system, in order to accomplish an efficient project.

“The complexity of connections at a system level is given by the complexity of the result of the composition of internal connections existing between the system elements and between its subsystems, with the external connections existing between the subsystems and the environment, respectively between the system and its environment.” Păun M., Hartulari C. (2003)

## 3. The Goals of a System

The purpose of any system is accomplished through the achievement of its objectives. Ideal objectives are the easiest to identify in system analysis. Generally speaking, objectives are not clear in complex economic systems. The alternatives or unintended consequences must also be considered in the analysis of the goals. Generally, more than one objective is followed in economic systems.

On balance, several problems related to these objectives arise:

- Their hierarchical structure;
- Their aggregation or decomposition;
- The manner of achievement;
- The determination of perturbing factors which may influence goals;
- The organisation of objectives based on certain criteria;
- The establishment of performance measures evaluating these objectives;
- The evaluation of the consequences of objectives and their revaluation, if required;

The aggregation and decomposition of objectives are related, on the one hand, on the requirement of establishing the relevant objectives which are fundamental for the entire system, on the requirement of establishing one or several complex performance indexes and, on the other hand, on the requirement of a practical application, which can only be successful if the sub-objectives of the issue are determined.

Objectives must be properly organised so that they may be aggregated. A proper organisation may be obtained by establishing an initial organisation, considering the experience of decision makers at various hierarchical levels. The sense of aggregation is given by the hierarchy, from lower to upper levels, through the successive performance of changes, without affecting the global goal of the system.

Aggregation is often discarded, for convenience reasons. The decision maker is simply provided with a list of objectives and consequences so that, based on his/her experience and intuition, the decision maker chooses the desired option.

Objectives which are attained by means of other objectives may be discarded if dominance rules are used. The decomposition of goals also takes into account the structure of systems, their connection method and the specific means used for their achievement. Unfortunately, in the case of the analysis and choice of objectives, either aggregated or decomposed the uncertainty principle steps in. The training and subjectivity of the human factor play an important part in this case.

The concept of "system" is frequently used in various fields of economy, technology, nature and society. One can identify business, computer, biological, educational, production, social systems, etc. For instance, the goal of a business system is the achievement of maximum profit. For a productive system, the various components, connected by technological, financial, informational, material and interhuman flows, aim at obtaining products and selling them on the market, with a view to obtaining a profit that may allow the resumption of the production cycle at a higher level. The common features of these systems consist of the relatively high number of component elements, which also interact with the environment they are included in, with a view to achieving a goal which may be a law of nature or a human-established objective, as happens with interhuman systems which, in my opinion, come to revolutionize the new economy.

#### 4. System's Analysis

System analysis has developed since the beginning of the 2<sup>nd</sup> World War, in military applications, being closely connected to a range of results obtained in the field of operational research. Afterwards, it was also extended to economic systems, in applicative terms, so that, nowadays, the management and design of a system is unconceivable without using studies related to the analysis and diagnostic of systems (ADS).

Three steps of evolution of system analysis may be distinguished. A first step was identified during the 2<sup>nd</sup> World War, when system analysis was used for investigating industrial systems. The specific issues of these systems were solved by being taken out of context and by using solution models and algorithms belonging to operational research.

"However, as Professor Bernard Roy of the Paris University states, the application of operational researches did not solve what they were expected to, as economic reality is highly complex and continuously dynamic. Any system interacts with its environment, which it influences and which provides it with reactions with a direct impact upon its operation." Păun M., Hartulari C. (2003)

The second phase envisaged an increase in the complexity of issues at a microeconomic and macroeconomic level, parallel with the development of technology and the appearance of modern computer systems. A systemic approach was required for a successful treatment of these issues, considering the impact of the issues in the analysed system upon the other systems it is connected to. The use and extension of models and algorithms from operational researches, decision theory, cybernetics, computing, etc. or the elaboration of specific and original algorithms, proper for the analysed issues represent the main results of this phase.

A special interest must be given to the role and limits of computer systems in that period. As shown by the specialist John Gall, computer systems may sometimes "strangle" human intelligence and initiative, with immediate and prospective effects upon people and companies. As practice has shown, the crisis of mathematical modelling applied in companies has been overcome by adopting a systemic vision, which is closer to the real needs of end users.

Ronald Besancet, a specialist in computer systems and management, performed a study on a group of companies (some with low results, some with high results) and deduced the causes of low results and the principles lying at the basis of companies with operative efficiency. He found that computer methods and techniques are not enough for the efficient operation of a company. They only represent a support, as company managers must assimilate modern management methods.

These opinions reflected the existence of a crisis in computer systems, in operational research and, generally speaking, in the management of companies in that period, a "settlement" crisis of the huge

theoretical and practical experience in the field. Professor Gh Boldur Latescu outlined the importance of information and decision-related aspects and goals in the system analysis studies in a range of fundamental works.

A third step, which appeared after the 80s, was marked by a range of progresses in subjects related to system analysis. The appearance of the complexity theory (which showed that a range of issues cannot be solved in due time with the exact techniques), of expert systems, the extension of interactive techniques and computer networks, the appearance of new models and methods in operational research, the increase in the role of the information and decision system in the management of companies, as well as the progresses in subjects such as decision theory, and company management played a determining part in the successful development and application of system analysis.

In order to design a system's command and control block, we need to know, define and analyze those elements that might influence this process: the system's border, its structure, the system's state, the system's behaviour and functionality in relation to internal and external perturbations, as well as the evolution of the environment in which these elements take place.

The correct definitions of these concepts, studying them in a dynamic perspective, as well as taking into account disruptive factors and uncertainties that act on the system are important steps in the process of selecting and designing the command block of the system, which eventually leads to finding efficient solutions for boosting the performance of the analyzed system.

A system undergoes a series of changes in time as a result of the dynamic character of its evolution and of the necessity to adapt to the environment it belongs to. Although there are only dynamic systems in the economic field, the system's dynamic character is underlined by its interaction with the environment and is determined by the border concept, border which may be considered a subsystem on its own.

The system's border is defined as a collection of elements whose behaviour is determined not only by the behaviour of the elements within the system, but also by the elements adjacent to the system that impose certain restrictions to these elements.

The border elements should have the following properties:

- They react easily and rapidly to system's reactions;
- They have their own memory and intelligence, e.g. the subsystem representing the border should be an adaptive and self-taught subsystem;
- They do not manifest negative influence on the "mother" system objects in relation to the environment.

While a system's border is physical in nature, it is necessary and useful to determine a border in terms of cause-effect. If a certain aspect of a system is completely determined by factors outside the system, then that aspect is outside the system's borders. In systemic terminology, all that lies outside system's borders, but has the potential to influence the system, represents the environment of the system.

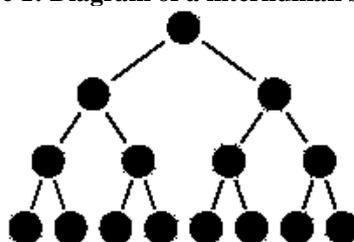
Border is yet a relative concept as it may be defined by taking into account the objectives of the system's analysis and has at the same time a subjective touch as it reflects the analyst's view of the matter, the principle of uncertainty being present as such.

Incorrect or too restrictive definition of the border may in these conditions affect the objectives of the system's analysis in that a series of specific causes or determinations may be ignored or introduced in its environment without being taken into account.

Borders may be changed as a result of fluctuating policies of the system under analysis as well as a result of changing strategies and tactics employed because of environment changes, therefore the system's border should be conceived with slenderness and flexibility.

## 5. Interhuman Systems – A New Vision in Modern Economy

Figure 1: Diagram of a interhuman system



Source: Personal work

The idea of this system came to me as a result of working in a Multi Level Marketing system at an insurance brokerage company. There I began to understand how the system works and the improvements that should be made as a result of the dissatisfaction expressed by my colleagues at the time and respectively the clients of the insurance company.

In the autumn of 2006 I started to develop a new system based on interhuman relationships, but with common structure that would allow it to function in many fields; following I will present a few of them:

Automotive industry:

- Porsche Dealer
- Ford Dealer
- Fiat Dealer
- BMW Dealer

Hotel industry:

- Suterin Hotel
- Rembrand Hotel
- Paradis Hotel

Any type of product that can be imported from China (bulk):

- Fireworks
- Building materials
- Bicycles
- Scooters
- Massage covers for car seats
- Tomato paste etc.

Tourism:

- Go Travel travel agency
- Zone Travel travel agency
- Vita Turism travel agency

Constructions industry:

- Straco concrete plant
- Gekor concrete plant
- Rombeton concrete plant

Air conditioning

Car repairing shop

Real estate agencies

Firms whose objective is cleaning and administering condominiums

Firms who create computer software and offer computer service

Construction companies that provide building and renovating of any type of homes

Transport companies – including large trucks

Wooden house building (export included)

Custom Furniture

Ecological products

Insurance companies (any type of insurance)

Natural treatments:     - bio-energy;  
                                   - acupuncture;  
                                   - somatic, anti-cellulite, reflex massage.

In all these fields the system is functioning by contractors or, if not available where corporations are involved, by employees. The system is functioning by acquiring goods at prices below market price through relationships with important people, offering them in exchange other types of services that they cannot get a discount for through their jobs. Every person who activates within the system is both consumer and supplier of relationships and in exchange of these they receive money or other types of desired goods.

Advantages of the system:

- Obtaining a discount for a large part of the consumed goods;
- Possibility to barter among the system's members;

- If one becomes a member, that person may earn a monthly income (as a commission) out of the economical transactions done by the two system's members introduced by the person;
- Rapid communications by telephone or email (a large number of network members may be contacted by a single email message);
- Offering high quality products or services within the system as people who relate have a mutual interest;
- Possibility of negotiation because when someone chooses a merchandise, he/she is presented many choices in a very short time as a database already exists;
- Possibility to cumulate the demand of the people within the system for certain goods (homes, cars, mobile telephones, PVC windows etc.) and to buy wholesale reducing the price significantly;
- The system serves for the interaction of people who might have otherwise not related through the opportunities of everyday life: businessmen and ordinary workers, the latter enjoying a warm welcome due to recommendations received;
- The possibility to obtain loans from banking institutions thanks to the employees;
- Profitable currency exchange if another member of the system wishes the reverse operation or through the employees of the banking institutions that offer a profitable exchange rate, close to that of the NBR's one.

Disadvantages of the system:

- Fading relationships in time;
- Maintaining relationships by meetings, telephone, email is quite difficult to achieve;
- Lack of seriousness from people who are at their first collaboration, or even from people older in the system.

Limits of the system:

- Network coordination requires time proportional to the number of members, therefore large networks must be divided in sub-networks;
- Recession periods deeply affect this type of system as demand visibly drops;
- This type of system CANNOT function inside the judiciary system.

## 6. Conclusion

On a theoretical level we battle with the lack of a „scientific economic system” – as I have named it - capable of handling the new directions implemented in economy by the „real economic system”

The multitude of services offered to consumers, but also their possibility of using their relationships to gain a monthly income in the form of a commission give this system a high degree of singularity.

The SWOT type of analysis outlined above proves the efficiency of these interhuman systems and in my opinion something is happening that comes to underline the future utility of this type of system for consumers, by a new, similar concept that incorporates the power of spreading via the Internet - the occurrence of deduction by coupons sites.

The interhuman systems come about as a viable solution for the ordinary citizen in his struggle with bureaucracy.

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## THE USE OF THE $h$ -HOMOGENEOUS PRODUCTION FUNCTION IN MICROECONOMICS. MODELLING CHALLENGES

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**Abstract:** *Recently, some geometric properties of  $h$ -homogeneous production functions with applications in microeconomics were studied (Chen, 2011), (Chen, 2012). In this paper we continue the study of geometry of  $h$ -homogeneous production functions by considering the minimality property of the production hypersurface and also the minimality of a production surfaces corresponding to a quasi-sum production function of 2- variables.*

**Key words:**  $h$ -homogeneous production function, production hypersurfaces, perfect substitute, quasi-sum production function.

**JEL classification:** D 22, D 24, C 51

### 1. Introduction

A function  $f$  of a multiple variables  $x_1, x_2, \dots, x_n$  is a  $h$ -homogeneous function (or homogeneous of degree  $h$ ) if

$$(1.1) f(tx_1, tx_2, \dots, tx_n) = t^h f(x_1, x_2, \dots, x_n),$$

for any given positive constant  $t$  and some constant  $h$ , where  $h$  is the degree of  $f$ .

A production function is a non-constant positive function used very often in the economic field, specifying the output of a firm, an industry or even entire economy for all kinds (combinations) of inputs; the concept of "production function" is then one of the key concept in the economic theory.

A production function is  $Y(y, x) = 0$ , where  $x$  is an  $n$ -dimensional vector of inputs and  $y$  is an  $(m-n)$ -dimensional vector of outputs; equivalently,  $y = f(x)$ , with  $f(x)$  single valued.

Properties of production function (Chambers, 2007):

1. monotonicity and strict monotonicity – which means that the production function to be non-decreasing in inputs:

a) If  $x' \geq x$ , then  $f(x') \geq f(x)$ ;

b) If  $x' > x$ , then  $f(x') > f(x)$ ;

2. quasi-concavity and concavity

a)  $V(y) = \{x: f(x) \geq y\}$  is a convex set;

b)  $F(\theta x^0 + (1-\theta)x^*) \geq \theta f(x^0) + (1-\theta)f(x^*)$ , for any  $0 \leq \theta \leq 1$ ;

3. weakly essential and strict essentiality

a)  $f(0_n) = 0$ , where  $0_n$  is the null vector;

b)  $f(x_1, \dots, x_{i-1}, 0, x_{i+1}, \dots, x_n) = 0$  for all  $x_i$ ;

4. the set  $V(y)$  is closed and nonempty for all  $y > 0$ ;

5.  $f(x)$  is finite, nonnegative, real valued, and single valued for all nonnegative and finite  $x$ ;

6. continuity

a)  $f(x)$  is everywhere continuous;

b)  $f(x)$  is everywhere twice-continuously differentiable.

Combining both previous definitions, one obtains the notion of  $h$ -homogeneous production function which is, of course, a production function homogeneous of degree  $h$  (a  $h$ -homogeneous production function). This class of production functions includes many important production functions in microeconomics, such that the generalized Cobb-Douglas production function and the ACMS production function. For details about the production functions and their history see (Cobb and Douglas, 1928), (Douglas, 1976), (Filipe and Adams, 2005), (Mishra, 2010).

In economics is assumed that a firm's production is homogeneous of degree 1. Of course, if the inputs are multiplied by  $t$  then the output is also multiplied by  $t$ .

The demand function is homogeneous of degree zero, that's means that if the prices and consumer's income are multiplied by any positive number  $t$  then the demand for goods stay the same.

We will denote by  $Q = f(x_1, x_2, \dots, x_n)$  a  $h$ -homogeneous production function  $f: \mathbf{R}_+^n \rightarrow R_+$ , where  $R_+ = \{t \in \mathbf{R}, t > 0\}$  and  $\mathbf{R}_+^n = \{(x_1, x_2, \dots, x_n) / x_1, x_2, \dots, x_n > 0\}$ . If  $h > 1$ , the function exhibits increasing return to scale; if  $h < 1$ , it exhibits decreasing return to scale; if  $h = 1$ , it exhibits constant return to scale. A homogeneous function of degree 1 is often called *linearly homogeneous*.

As well-known  $h$ -homogeneous production functions we recall the CD and ACMS production functions. Cobb and Douglas (Cobb and Douglas, 1928) defined a 2-factor production function (CD production function) of the form

$$(1.2) Y = bL^\alpha C^\beta,$$

where  $L$  represents the labour input,  $C$  is the capital input,  $b$  is the total factor input and shows the efficiency of all production factors,  $Y$  the total production and the parameters  $\alpha$  and  $\beta$  which can be considered the coefficients of the elasticity. Douglas was looking for a function which estimates the relationship of an output to inputs, of the workers and capital. If we have  $\alpha + \beta = 1$  the production function is called homothetic and implies constant return to scale. This means for example, if we double the consumption of one factor than the production will double too. If we have  $\alpha + \beta < 1$  then the returns to scale are decreasing, and if  $\alpha + \beta > 1$ , returns to scale are increasing.

CD production functions are considered a way characterised a lot of real world productivity process. That's why CD production function is very often used for studying issues about input productivity or production costs. For example, some economists used CD production function for studying the impact of managers practices on worker productivity in U.S. firms. They used data from the late 1980s and early 1990s to see if the modification of CD production function coefficients were influenced by the practices adopted by firms. The results were the following: the total quality management determined the increasing product quality and the implication of workers in decision-making determined the grow of productivity.

CD production function satisfies the property 1a), 1b) for any positive  $x$ , 3a) and 3b) (for more details see Chambers, 2007).

A generalized CD production function is of the form

$$(1.3) Q = bx_1^{\alpha_1} x_2^{\alpha_2} \dots x_n^{\alpha_n}, (x_1, x_2, \dots, x_n) \in \mathbf{R}_+^n,$$

with  $b$  a positive constant and  $\alpha_i, i \in \overline{1, n}$ , non-zero constants. The function  $Q$  is homogeneous of degree  $h = \sum_{j=1}^n \alpha_j$ . This function satisfies all the properties of CD production function and property 2b only if  $\alpha_j \leq 1$ , for any  $j$ .

Arrow, Chenery, Minhas and Solow (Arrow et al, 1961) defined another 2-factor production function called the ACMS – production function,

$$(1.4) Q' = F[\alpha K^r + (1 - \alpha)L^r]^{\frac{1}{r}},$$

where  $Q'$  is the output,  $F$  is the factor productivity,  $\alpha$  is the share parameter,  $K, L$  are the primary production factors,  $r = \frac{s-1}{s}$ , with  $s$  the elasticity of substitution.

There is also a generalization of ACMS production function as follows:

$$(1.5) Q'(x) = b(\sum_{i=1}^n \alpha_i^\rho x_i^\rho)^{\frac{h}{\rho}}, x = (x_1, x_2, \dots, x_n) \in \mathbf{R}_+^n,$$

where  $\alpha_i, b, h, \rho$  are constants,  $b, h > 0, \rho < 1$  and  $\alpha_i, \rho \neq 0$ .

For each production function  $Q = f(x_1, x_2, \dots, x_n)$  it is possible to define a non-parametric hypersurface of a Euclidean  $(n + 1)$  – space  $\mathbf{E}^{n+1}$  (endowed with the canonical Euclidean structure,  $x \cdot y = x_1y_1 + x_2y_2 + \dots + x_ny_n + x_{n+1}y_{n+1}, x = (x_1, x_2, \dots, x_{n+1}), y = (y_1, y_2, \dots, y_{n+1}), x, y \in \mathbf{E}^{n+1}$ , given by  $L(x_1, x_2, \dots, x_n) = (x_1, x_2, \dots, x_n, f(x_1, x_2, \dots, x_n))$ .

$L$  is called a *production hypersurface* (Chen, 2011).

Some geometric properties of  $h$ -homogeneous production functions via their corresponding production hypersurface were studied in (Chen, 2011). Geometric properties of CD and ACMS-production hypersurfaces and their generalizations were proved in (Chen, 2011), (Vîlcu and Vîlcu, 2011), (Vîlcu, 2011).

A production function  $Q$  is called *quasi-sum* (Chen, 2012) if there are continuous strict monotone functions  $h_i: \mathbf{R}_+ \rightarrow \mathbf{R}, i \in \overline{1, n}$  and there exist an interval  $I \subset \mathbf{R}$  and a continuous strict monotone function  $F: I \rightarrow \mathbf{R}_+$  such that for each  $x \in \mathbf{R}_+^n$  we have  $h_1(x_1) + \dots + h_n(x_n) \in I$  and

$$(1.6) Q = f(x_1, x_2, \dots, x_n) = F(h_1(x_1) + \dots, h_n(x_n)).$$

The quasi-sum production functions are related to the problem of consistent aggregation (Aczel and Maksa, 1996). The generalized CD production functions (1.3) and the ACMS production functions

(1.4) are examples of quasi-sum production functions. A quasi-sum product function is *quasi-linear* if at most one of  $F, h_1, \dots, h_n$  in (1.6) is a non-linear function.

Another important production function is Leontief function which is defined as follows:

$$(1.7) f(x) = \min \{ \alpha_1 x_1, \dots, \alpha_n x_n \}$$

with  $\alpha_i$  positive coefficients. This equation shows that the production function is defined for the smallest  $\alpha_i x_i$ . Leontief production function satisfies properties 1a) but not 1b), 2a) because  $V(y)$  is convex, 2b) because the function is quasi concave and this means is concave too, 6a) and 6b) (for more details see Chambers, 2007).

## 2. Production hypersurfaces in the euclidean space $E^{n+1}$

Let  $M$  be a hypersurface in  $E^{n+1}$ . For general references on the geometry of hypersurfaces see (Chen, 1973).

Recall the following notations on  $M$ :

$\xi$  is the *unit normal* at  $M$ ;

$g$  is the *metric tensor*, having the coefficients  $g_{ij} = g \left( \frac{\partial}{\partial x_i}, \frac{\partial}{\partial x_j} \right)$  with  $(g^{ij})$  the *inverse matrix* of  $(g_{ij})$ ;

$dV$  is the volume element;

$\sigma_{ij}$  are the coefficients of the second fundamental form  $\sigma$ ;

$\alpha_i^j$  is the matrix of the shape (Weingarten) operator  $A$ ;

$H$  is the mean curvature vector;

$G$  is the Gauss-Kronecker curvature;

$K_{ij}$  is the sectional curvature of the plane section spanned by  $\frac{\partial}{\partial x_i}$  and  $\frac{\partial}{\partial x_j}$ ;

$R$  is the Riemann curvature tensor.

In (Chen, 2011), (Chen, 2012) B. Y. Chen gives the known formulas for the previous quantities. More precisely, the following statements hold:

*Proposition 2.1* (Chen, 2011), (Chen, 2012) For the production hypersurface  $M$  of  $E^{n+1}$ , defined by

$$(2.1) L(x_1, x_2, \dots, x_n) = (x_1, x_2, \dots, x_n, f(x_1, x_2, \dots, x_n)),$$

with  $Q = f(x_1, x_2, \dots, x_n)$  a  $h$ -homogeneous production function and  $w = \sqrt{1 + \sum_{i=1}^n f_i^2}$ , where  $f_i = \frac{\partial f}{\partial x_i}, i = 1, \dots, n$ , we have

$$(2.2) \xi = -\frac{1}{w} (f_1, \dots, f_n, -1)$$

$$(2.3) g_{ij} = \delta_{ij} + f_i f_j, \text{ where } \delta_{ij} = \begin{cases} 1, & \text{if } i = j \\ 0, & \text{if } i \neq j \end{cases} \text{ is the Kronecker symbol}$$

$$(2.4) dV = \sqrt{g_{ij}} dx_1 \wedge \dots \wedge dx_n = w dx_1 \wedge \dots \wedge dx_n$$

$$(2.5) g^{ij} = \delta_{ij} - \frac{1}{w^2} f_i f_j$$

$$(2.6) \sigma_{ij} = \frac{1}{w} f_{ij}, \text{ where } f_{ij} = \frac{\partial^2 f}{\partial x_i \partial x_j} = \frac{\partial^2 f}{\partial x_j \partial x_i} = f_{ji}$$

$$(2.7) \alpha_i^j = \sum_{k=1}^n h_{ik} g^{kj} = \frac{1}{w} f_{ij} - \sum_{k=1}^n \frac{1}{w^3} f_{ik} f_k f_j$$

$$(2.8) H = \frac{1}{n} \sum_{j=1}^n \frac{\partial}{\partial x_j} \left( \frac{1}{w} f_j \right)$$

$$(2.9) G = \frac{\det(K_{ij})}{\det(g_{ij})} = \frac{1}{w^{n+2}} \det(f_{ij})$$

$$(2.10) K_{ij} = \frac{1}{w^2 (1 + f_i^2 + f_j^2)} (f_i f_{jj} - f_{ij}^2)$$

$$(2.11) g \left( R \left( \frac{\partial}{\partial x_i}, \frac{\partial}{\partial x_j} \right) \frac{\partial}{\partial x_k}, \frac{\partial}{\partial x_l} \right) = \frac{1}{w^4} (f_{il} f_{jk} - f_{ik} f_{jl}).$$

Geometric quantities form above have, of course, geometric interpretations.

The *Gauss-Kronecker curvature* measures how far is a hypersurface for being flat. When  $n = 2$ , the Gauss-Kronecker curvature is simply called the *Gauss curvature*, which is an intrinsic invariant (depends on the surface  $M$  only). A surface of null Gauss curvature is a *flat surface*.

The *mean curvature vector*  $H$  measures the tension received by the hypersurface from the ambient (Euclidean space). A hypersurface of null mean curvature is *minimal*. Of all hypersurfaces with a given boundary, *the minimal one* has maximum volume.

The Riemann curvature tensor is the most standard way to express the curvature of a Riemannian manifold (i.e. a manifold endowed with a metric). A Riemannian manifold is flat if its Riemann curvature tensor vanishes identically or, equivalently, all sectional curvatures are zero.

**3. Known results on h-homogeneous and quasi-sum production function**

A production function is a perfect substitute (Chen, 2011) if it is 1-homogeneous (linearly homogeneous) which takes the form

$$(3.1) Q(x_1, x_2, \dots, x_n) = \sum_{i=1}^n a_i x_i$$

for some constants  $a_1, \dots, a_n$ , not all zero (linear function).

A perfect substitute with inputs capital and labour has the property that the marginal and average physical products of both capital and labour can be expressed as functions of the capital-labor ratio alone (see (Chen, 2011)).

In (Chen, 2011) B. Y. Chen proved geometric characterization for a h-homogeneous production function to have constant return to scale or to be a perfect substitute.

*Theorem 3.1* (Chen, 2011) A h-homogeneous production function has constant return to scale if and only if the production hypersurface has null Gauss-Kronecker curvature.

*Theorem 3.2* (Chen, 2011) A h-homogeneous production function with more than 2 factors is a perfect substitute if and only if the production hypersurface is flat.

*Theorem 3.3* (Chen, 2011) A 2-factor h-homogeneous production function is a perfect substitute if and only if the production surface is a minimal surface.

As applications, the following statements were proved.

*Corollary 3.4* (Chen, 2011) The generalized Cobb-Douglas production function has constant return to scale if and only if the production hypersurface has null Gauss-Kronecker curvature.

*Corollary 3.5* (Chen, 2011) The 2-factor Cobb-Douglas production function has constant return to scale if and only if the production surface is flat.

*Corollary 3.6* (Chen, 2011) The production hypersurface of the generalized Cobb-Douglas production function with more than 2-factors is always non-flat.

Similar results have been obtained for ACMS production functions:

*Corollary 3.7* (Chen, 2011) The ACMS production function has constant return to scale if and only if the production hypersurface has null Gauss-Kronecker curvature.

*Corollary 3.8* (Chen, 2011) The ACMS production function with more than 2-factors is a perfect substitute if and only if the product hypersurface is flat.

In (Chen, 2012) B. Y. Chen obtained necessary and sufficient condition for a quasi-sum production function to be quasi-linear and completely classified quasi-sum production functions whose production hypersurfaces have vanishing Gauss-Kronecker curvature.

*Theorem 3.9* (Chen, 2012) A twice-differentiable quasi-sum production function with more than 2-factors is quasi-linear if and only if its production hypersurface is a flat space.

*Theorem 3.10* (Chen, 2012) Let  $f$  be a twice-differentiable quasi-sum production function. Then the production hypersurface of  $f$  has vanishing Gauss-Kronecker curvature if and only if, up to translations,  $f$  is one of the following:

- a)  $f = a x_1 + \sum_{i=2}^n \varphi_i(x_i)$ , with  $a$  a non-zero constant and  $\varphi_2, \dots, \varphi_n$  strict monotone functions;
- b)  $f = F(a_1 x_1 + a_2 x_2 + \sum_{i=3}^n \varphi_i(x_i))$ , where  $a_1, a_2$  are non-zero constants and  $F, \varphi_3, \dots, \varphi_n$  are strict monotone functions;
- c)  $f$  is a generalized Cobb-Douglas function given by  $f = \vartheta x_1^{\alpha_1} \dots x_n^{\alpha_n}$  for some non-zero constants  $\vartheta, \alpha_1, \dots, \alpha_n$  satisfying  $\sum_{i=1}^n \alpha_i = 1$ ;
- d)  $f = \left( \sum_{i=1}^n a_i x_i^{\frac{\varepsilon-1}{\varepsilon-2}} \right)^{\frac{\varepsilon-2}{\varepsilon-1}}$ , where  $a_i, \varepsilon$  are constants with  $a_i \neq 0$  and with  $\varepsilon \neq 1, 2$ ;
- e)  $f = a \cdot \ln(\sum_{i=1}^n b_i e^{r x_i})$  for some non-zero constants  $a, b_i, r$ .

For quasi-sum production function with 2-factors the following Corollary was given:

*Corollary 3.11* (Chen, 2012) Let  $f(x, y)$  be a twice-differentiable quasi-sum production function. Then the production surface is a flat surface if and only if, up to translations,  $f$  is one of the following:

- a) a quasi-linear production function;
- b)  $f$  is a Cobb-Douglas function, i.e.  $f = a x^r y^{1-r}$  for some non-zero constants  $a, r$  with  $r \neq 1$ ;



The system (4.5) admits positive solutions (because  $(x_1, x_2, \dots, x_n) \in \mathbf{R}_+^n$ ); then  $\det(f_{ij}) = 0$ . From the hypersurface theory in Euclidean space, it follows that the production hypersurface  $L$  is flat. So,  $L$  is in the same time flat and minimal, which implies that  $L$  is totally geodesic (the second fundamental form of  $L$  in  $\mathbf{E}^{n+1}$  vanishes identically). But the only totally geodesic hypersurfaces in  $\mathbf{E}^{n+1}$  are given by linear functions, so  $f$  is linear.

In conclusion, the production function is a perfect substitute.

b) For the remaining case we have to solve the system  $S$ .

A partial result was given by B. Y. Chen in (Chen, 2011). The author proved that if  $f$  is of 2-factors, the system  $S$  has not solutions.

To solve the system  $S$  for a function  $f$  of more than 2-factors is an open problem.

Our conjecture is that the result is similar with 2-factors case, i.e.  $S$  has not solutions.

Remark. If our conjecture is true, then both Theorems 4.1 and 4.2 can be written in only one Theorem, with equivalent statements.

### 5. New approach of quasi-sum production functions from the minimality view-point

Let  $f$  be a twice differentiable quasi-sum production function, given by:

$$(5.1) f(x) = F(h_1(x_1) + \dots + h_n(x_n)) (= F(y)),$$

with  $F, h_1, \dots, h_n$  continuous strict monotone functions.

Denoting by  $h'_j = \frac{dh_j}{dx_j}, j = \overline{1, n}$  and  $F' = \frac{dF}{dy}$ , we have  $F', h'_1, \dots, h'_n \neq 0$  at every point.

The following formulas hold:

$$(5.2) \begin{cases} f_i = F' h'_i \\ f_{ij} = F'' h'_i h'_j \\ f_{ii} = F' h''_i + F'' h_i'^2 \end{cases}$$

We will study the minimality of the corresponding production surface of a 2-factor twice differentiable quasi-sum production function.

So, in our case  $n = 2$  and we have the following expressions for  $w$  and  $H$ :

$$(5.3) w = \sqrt{1 + f_1^2 + f_2^2} = \sqrt{1 + (F' h'_1)^2 + (F' h'_2)^2},$$

$$(5.4) H = \frac{1}{2} \left[ \frac{\partial}{\partial x_1} \left( \frac{1}{\sqrt{1 + (F' h'_1)^2 + (F' h'_2)^2}} F' h'_1 \right) + \frac{\partial}{\partial x_2} \left( \frac{1}{\sqrt{1 + (F' h'_1)^2 + (F' h'_2)^2}} F' h'_2 \right) \right].$$

The corresponding production surface

$$L(x_1, x_2) = (x_1, x_2, F(h_1(x_1) + h_2(x_2)))$$

is minimal if  $H = 0$ .

From (5.4) we obtain:

$$(F' h'_1)^2 (F'' h''_1 + F' h''_1) + F'' (h'_1)^2 + F' h''_1 + (F' h'_2)^2 (F'' h''_2 + F' h''_2) + F'' (h'_2)^2 + F' h''_2 = 0,$$

or, equivalently,

$$(5.5) F' \{ [(F' h'_1)^2 + 1] h''_1 + [(F' h'_2)^2 + 1] h''_2 \} + F'' \{ [(F')^2 h'_1 + 1] (h'_1)^2 + [(F')^2 h'_2 + 1] (h'_2)^2 \} = 0$$

We have several cases to consider:

a) If  $F, h_1$  and  $h_2$  are all linear functions, the relation (5.5) holds identically.

b) If  $h_1$  and  $h_2$  are linear functions, then  $h''_1 = h''_2 = 0$ . It follows that  $h'_1 = r = \text{constant} \neq 0$ .

From formula (5.5) two cases occur:

b1)  $F'' = 0$ , which corresponds to case a).

b2)  $[(F')^2 r + 1] r^2 + [(F')^2 s + 1] s^2 = 0,$

$$(F')^2 (r^3 + s^3) + (r^2 + s^2) = 0,$$

$$(F')^2 = -\frac{(r^2 + s^2)}{(r^3 + s^3)} = \text{constant}.$$

Then  $F'' = 0$  and we have again case a).

c) If  $F$  is a linear function,  $F'' = 0$  and  $F' = p = \text{constant} \neq 0$ .

From formula (5.5) we have

$$[(p h'_1)^2 + 1] h''_1 + [(p h'_2)^2 + 1] h''_2 = 0,$$

where  $h_1$  depends on  $x_1$  and  $h_2$  depends on  $x_2$ .

Then

$$(5.6) \begin{cases} [(p h'_1)^2 + 1] h''_1 = q = \text{constant}, \\ [(p h'_2)^2 + 1] h''_2 = -q = \text{constant}. \end{cases}$$

By integrating the first equation in (5.6) we obtain

$$\frac{1}{3}p^2(h_1^1)^3 + h_1^1 = qx_1 + q', \text{ where } q' = \text{constant.}$$

Denote by  $h_1^1(x_1) = z(x_1)$ . We have the following third degree equation:

$$\frac{1}{3}z(pz^2 + 1) = qx_1 + q',$$

which is written equivalently:

$$z^3 - \frac{z}{p} - \frac{3}{p}(qx_1 + q') = 0.$$

By using Cardano's formulas, we get:

$$z(x_1) = \sqrt[3]{\frac{3}{2p}(qx_1 + q') + \sqrt{\frac{9}{4p^2}(qx_1 + q')^2 + \frac{1}{27p^2}}} + \sqrt[3]{\frac{3}{2p}(qx_1 + q') - \sqrt{\frac{9}{4p^2}(qx_1 + q')^2 + \frac{1}{27p^2}}}$$

Then  $h_1(x_1) = \int_0^{x_1} z(t) dt$  is a non-linear function. In a similar way,  $h_2(x_2)$  is a non-linear function.

*Remark.* The cases a), b), c) are not the only possible cases.

We have obtained the following:

**Theorem 5.1** Let  $f(x_1, x_2) = (x_1, x_2, F(h_1(x_1) + h_2(x_2)))$  be a twice-differentiable quasi-sum production function.

Then:

- If  $F$ ,  $h_1$  and  $h_2$  are all linear functions, the corresponding production surface is minimal.
- If  $h_1$  and  $h_2$  are linear functions, then the minimality of the corresponding production surface implies that  $F$  is also a linear function and we have again case a).
- If  $F$  is a linear function, then the minimality of the corresponding production surface implies that  $h_1$  and  $h_2$  are non-linear functions, i.e.  $f$  is a quasi-linear quasi-sum production function.

## 6. Conclusions

The production functions are very often used in the economic field.

We have discussed the properties of h-homogeneous production functions and quasi-sum production functions and found new results involving the minimality of their corresponding production hypersurfaces, respectively surfaces.

Of course, the study of such functions from geometric point of view is in the progress and we aim for obtaining new geometric characterizations of the production hypersurfaces, with applications in economic theories.

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## ECONOMIC EFFICIENCY IN ENERGY FIELD

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**Abstract:** *Analysis of the development of an economic system's capacity for survival, the final development direction, is the definition and accurate measurement of economic efficiency.*

*In general, it is considered that an activity is effective if the results are obtained at low-cost or proceeds of sale when market outcomes that exceed expenditures were made to produce them. Economic efficiency is the relationship between the effects obtained (results) and effort (costs) deposited in an economic activity in a certain period of time.*

*Therefore an important role concept of economic efficiency, making the link between resources allocated for further action and results from it, a concept that directs resources to the determination of fields which ensure maximum efficiency of their use under rational development, harmonious national economy. Correct and justified management can help prevent the inconveniences caused by decrease of production, decrease of revenues, in few words – prevent negative results.*

**Key words:** efficiency, productivity, costs, green certificates, energy

**JEL classification:** E 26, M 21, M 41

### 1. Introduction

Although not a new term, efficiency is a modern conception of assessment activity and serves to substantiate decisions, so that available resources be consumed in the most favourable for the company. Unfortunately, most of the resources that are available to the company are limited, of course, primarily to the need. If resources were unlimited, economic problems would greatly simplify and those of efficiency can no longer ask not. But precisely this limitation of resources makes efficiency issues become not only very important, however, and difficult to solve. This is because, through them, must find the answer to a complicated series of questions which he puts entrepreneur on how, what and how to produce.

It can be said that economic efficiency is closely related to the use of resources in the economy and its essential character is the causal effort / effect.

The competitive system of free market economic activity to the extent that ensure performance is high efficiency. Any human activity is at the same time, consuming resources and producing effects. Economic and social development was based on the idea that time mankind has unlimited resources. Shocks produced by the crises of energy and raw materials, and more and more evident degradation of the natural environment due to its irrational exploitation led to the creation of a more realistic conceptions about the availability of resources worldwide and to every country in hand. Protecting natural resources reserves, using them as rational, have become fundamental coordinated activity between the current criteria of efficiency in global economic decision making.

Increased economic efficiency is an objective for all companies, which translates into specific objectives for the company on performance.

Companies from energy field to increase efficiency are focused on maximization of revenues by: increased turnover, increased revenue, diversification, specialized services and rationalizing costs by: increase productivity, qualification / training of staff, expansion of technical progress, better organization of work, increase individual accountability

### 2. Green Certificates Market – opportunity to increase turnover and revenues in energy field

Energy efficiency represents a significant opportunity to reduce energy use, save money and reduce environmental impacts. For private and state companies that are facing increasingly tight budgets and have an aging building stock, efficiency represents an especially attractive opportunity. One of the key challenges, however, is how to consistently secure the initial capital necessary to make investments in projects that increase efficiency.

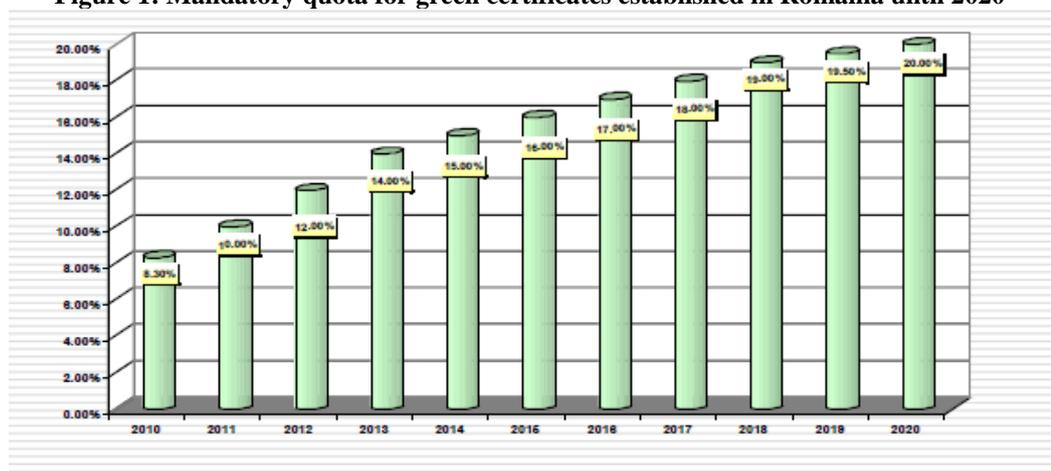
Power producers made and delivered the electricity from renewable sources eligible for support through green certificates scheme, according to a decision taken by the Government.

In Romania, green certificates system is still forming, but the green certificates support scheme applies to these renewable energy sources: hydro electric power used in groups with a maximum installed capacity of 10 MW, wind, solar, geothermal, biomass, biogas, landfill gas (gas deposits), gas fermentation sludge from wastewater treatment plants.

Producers of electricity from renewable sources that benefit from this scheme to support participation in separately so the electricity market, selling electricity at market price, and the green certificates market by trading green certificates.

To promote electricity production from renewable energy sources in Romania applies mandatory quota system combined with green certificates trading system green. Annual mandatory quota of green certificates were 5.26 percent for 2008, 6.28 percent for 2009, 8.3 percent for 2010-2012, will be nine percent in 2013, 10 percent in 2014 and reach 16.8 percent for 2020.

**Figure 1: Mandatory quota for green certificates established in Romania until 2020**



System operator will issue monthly an amount of green certificates for electricity from renewable energy produced and delivered to the network.

Three green certificates will be issued for each MWh delivered to the electricity producers of electricity from solar energy, a green certificate for each MWh delivered in the electricity produced from hydroelectric power plants with installed capacity of more than 10 MW and were not retrofitted, a green certificate for each MWh delivered in the electricity producers of electricity from renewable sources other than those mentioned.

Electricity suppliers are required to purchase annually a number of green certificates equal with the mandatory quota value and the amount of electricity supplied to final consumers annually.

Besides the major benefits that impact on the environment by using green certificates system bring other benefits.

Green certificates can be used as a guarantee of origin can be sold beyond the borders of the country, provides flexibility and transparency for the market.

Green certificate system has proven to be robust and resistant to fraud and to have a positive economic impact and long term business, but also for consumers.

Environmental investments is a commitment that the world today will have to respect. All investments to be made will be found short-term electricity prices, but long term positive economic impact in several ways:

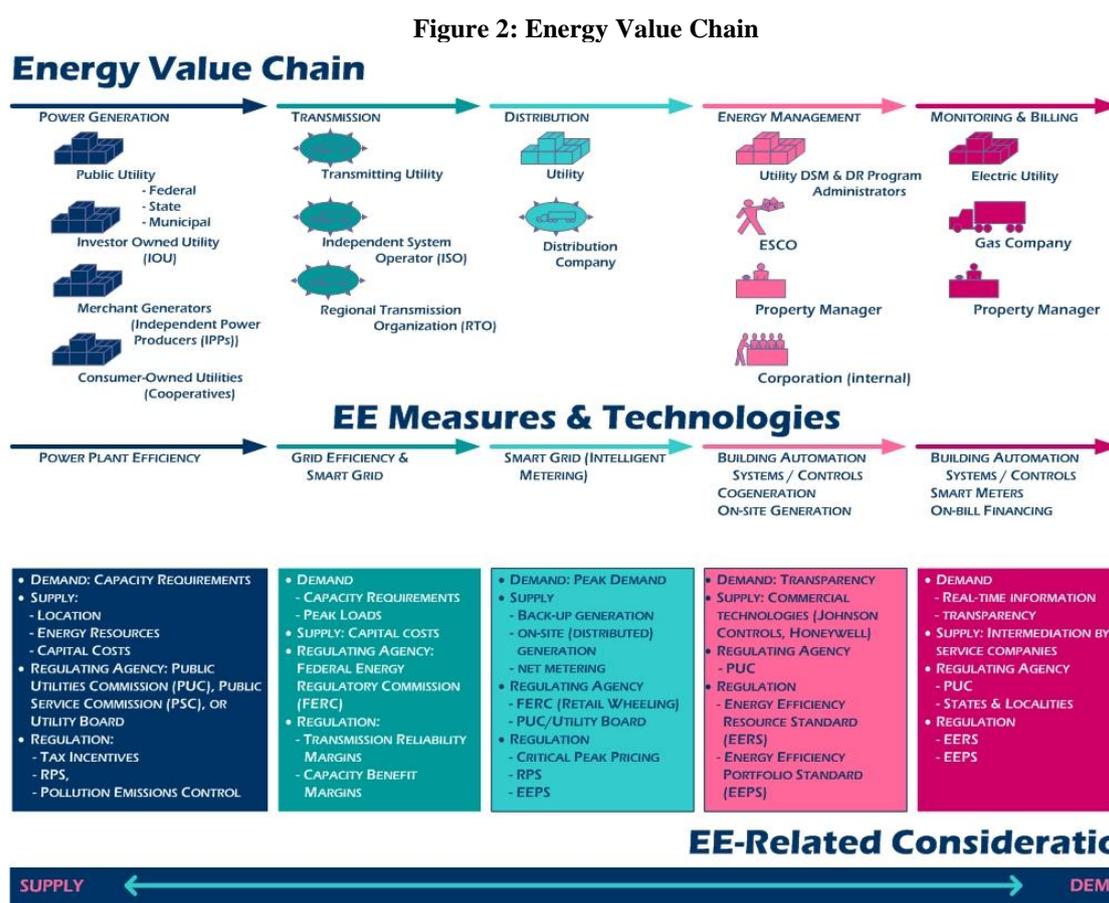
- Each country will have access to cheaper energy, because there will be no shipping costs, import and other taxes on energy access in other countries where resources are greater;
- Each country will have energy security
- Those who are able to invest in production facilities from renewable resources will benefit short enough to recoup their investment and increase its turnover and profit by applying green certificates scheme motivation. For each MW produced from renewable resources will receive between 1 and n green certificates that each country will decide by law. According to law 220/2008 of a green certificate value is between min. € 27 / CV and max. € 55 / CV to the average exchange rate in December of last year, calculated by the central bank adjusted annual consumer price index for Romania.

Thus countries that implement such systems have an advantage in several ways. There is still risk of double funding for motivating manufacturers where there is no well-established law.

**3. Increase of productivity through Business Process Management (BPM) implementation: qualification / training of staff, expansion of technical progress, better organization of work, increase individual accountability.**

Business process management (BPM) is a holistic management approach focused on aligning all aspects of an organization with the wants and needs of clients. It promotes business effectiveness and efficiency while striving for innovation, flexibility, and integration with technology. BPM attempts to improve processes continuously. It can therefore be described as a "process optimization process." It is argued that BPM enables organizations to be more efficient, more effective and more capable of change than a functionally focused, traditional hierarchical management approach.

Below is showed the Value Chain in energy, coming from a business process management approach.



**4. Limit and control of costs through specialised services and costs optimization**

Below are listed methods adopted by some companies in Romania for cost reduction.

**Working with budgets** quarterly, annual or greater time periods, organized by responsibility centers, profit centers, cost centers or investment centers;

**Implementation of integrated software solution** that provides overview of companies' performance and the ability to control <<on time>> the costs; Working with integrated systems gives big advantages in terms of costs control:

Real time access to information centralized, coherent and consistent, securing access to information and restricting access according to each user reduction of time and human resources transactions and accelerating processing time for marketing; image unified, integrated system, the traceability of operations. Also, functional benefits: optimized

inventory, reduction of losses generated by end goods, control of commercial conditions for customers and suppliers, management of the area of sales, flexible reporting.

**Using ABC (Activity Based Costing)** - The concept of the method starts from the idea that there are products that consume resources but activities. After the appearance of the accounting activities, it was discovered that traditional Calculation methodology of expenditure may create significant differences in final product costs. A modern management method that allow a company to understand more clearly how and what activity or product is made profit ABC (Activity Based Costing and cost analysis activities). The principle behind this method is smoother distribution of expenditure carrier. In other words, ABC, all specific activities to achieve a product or service are identified and their expenses are calculated to achieve greater accuracy than traditional accounting methods.

**Using Direct Costing.** The direct costing method is the simplest of the three cost allocation methods. All costs are directly allocated to the operating departments, bypassing the other service departments. Hence the term direct method. Nevertheless is very effective in operational costs control in departments.

**Using Outsourcing for non-core activities.** Simply put, outsourcing is the contracting of a third party to manage a business process more effectively and efficiently than can be done in house. Outsourcing is a useful tool employed by companies across the world to cut costs, improve quality of service, and raise revenue.

Outsourcing has been used by companies in energy field to solve various problems ranging from a lack of internal expertise to a need for significant cost reductions. Many companies have found that equipment, maintenance, or labor costs for providing a service have risen faster than budgeted revenues. Other companies have found that outsourcing allows them to improve quality, by utilizing a contractor with more knowledge and expertise in providing a particular service. In these cases, some have found that the economies of scale and resulting efficiencies enjoyed by private vendors can be a solution to adopt as cost management decision.

**Using Cost Plus and Transfer Pricing Methods.** In this methods, the total price of intangible incurred by the tested parties in transferring products and services to Associated Enterprises is measured and the sum of gross profit spot used by similar enterprises in comparable transactions with self-determining associated enterprises is determined. In common, for reason of apply a cost-based method, costs are divided into three categories: direct costs:- raw materials; indirect costs:- repair and maintenance which may be allot among several goods and operating expenses:- selling, general, and organizational expenses. The cost plus method uses limits calculated after direct and indirect costs of goods. Correctly shaping cost under the cost plus method is important. Cost is typically calculated in agreement with accounting values that are usually accepted for that exacting industry in the region where the products are produced. The cost base of the deal of the associated parties to which a mark-up is to be applied be calculated in the same way and returns comparable functions, risks, and properties as the cost base of the similar transactions. Where cost is not exactly resolute in the same way, both the mark-up and the transfer will be used.

## 5. Conclusions

Energy has become a strategic factor in global politics, a vital component and a cost factor for economic development and progress of society, creating a series of major concern worldwide, including in tourism.

If the primary energy resource limit, to reach sustainability in this area is needed that energy to be produced, provided and consumed in a more efficient way than before. If no changes are made in the production, transport and energy consumption, humanity could face a major energy crisis in coming decades.

Increasing energy supply security at affordable prices and tackling climate change are two major concerns and challenges of contemporary society. So, efficiency in energy field is a must.

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## THE ROLE OF THE STATE IN TRIGGERING AND MANAGING THE PRESENT ECONOMIC-FINANCIAL CRISIS

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**Abstract:** *The starting research hypothesis is that the role of the state in economy becomes predominant in crisis situations, and the way governments act may be inefficient and procyclic. From the analysis of macroeconomic indicators we wish to highlight the contribution of wrong decisions to the crisis apparition, the identification of its typology and its manifestation peculiarities in Europe and in Romania. The conclusions point out the directions of action as regards the implementation of the European Fiscal Contract by Romania.*

**Key words:** laissez-faire, welfare state, economic-financial crisis, balanced budget, fiscal policy.

**JEL classification:** H 12

### 1. Introduction

**The objective** of this paper refers to the analysis of the extent to which the state's institutions have got involved in economy, considering also the present situation in the context of the economic crisis.

**The research hypothesis:** the state has an economic role in adjusting the mechanisms of free market, but one has not yet identified an optimum flexible and dynamic relation.

**The research methods** have mainly consisted in:

1. The study of the thematic bibliography from the perspective of the historic and inductive methods regarding:

- the notions of "laissez-faire" and "welfare state" in economy;
- presentation of causes, effects and the notion of "economic and / or financial crisis";
- identification of misbalances having generated the present crisis;
- analysis of the effects of adopting a fiscal policy based on a balanced budget.

2. Formulating several pertinent conclusions regarding the analysed economic processes and phenomena taking into account:

- the opinions of the speciality community related to the themes debated in the paper;
- the necessity of truthfulness and plausibility of the forwarded conclusions.

The troubled contemporary economic context has triggered a resurgence of debates related to the state's economic policies, especially the extent to which the state should get involved in economy, and where exactly this intervention should be applied.

At present Keynes's theories regarding the "welfare state" are considered inefficient by economists, but from the politicians' perspective, i.e. those who rule the state's actions, they are considered necessary. It is true that politicians' electoral motives may be considered responsible for such an involvement of the state in what should be a free market economy.

### 2. Theoretic approaches related to the state's role in economy

"The state is a political organisation made of representatives of the population from a certain territory, who are invested with power attributions consisting in the possibility to make mandatory decisions, on behalf of the entire population, decisions concretised in law norms or acts of law enforcement, which, if not observed voluntarily, are put in practice by the constraining force." (Boboș G., 1999)

In his work "*Wealth of nations*", Adam Smith (1723 – 1790) claimed that the specific policies specific to a free market are more productive and beneficial for society. History would prove that later on by the Industrial Revolution which might be regarded as an effect not only of advanced technology, but also of superior economic policies. Smith's major innovation consists in demonstrating the way in which the markets' natural co-ordination mechanisms (signals given by prices) encourage the personal interest to act productive and in favour of the public good.

This innovation states that a market system operating without hindrance or according to the laissez – faire principle, fed by personal interest, will spontaneously generate a state of things superior to any other known alternative: an abundance of goods and services reflecting people's subjective options.

The state must intervene and correct the market's imperfections only because of the apparition of public goods in welfare supply.

Other economic thinking trends, such as the neo-classic or the Keynesian ones, or diverse western economic schools relied on and then deepened Adam Smith's vision.

Jeremy Bentham (1748-1832) and his disciples were the first to annex to ethics the notion of welfare. Policies are justified only to the extent they tend to increase the community's happiness or to diminish it.

The main economic doctrine opposed to the idea of "invisible hand" (metaphor introduced by Adam Smith to describe the self-adjusting character of the free market) was the Marxist theory. Created and developed by Karl Marx (1818 – 1883) and Friedrich Engels (1820 – 1895), it may be considered the pole opposed to liberal thinking, supporting the need for an almost absolute state's control in economy, the elimination of private property and eventually even of money. This theory proved to be inefficient, impracticable and even immoral.

John Maynard Keynes (1883 – 1946) was a British economist whose ideas influenced in a major and decisive manner the ways of thinking related to the state's role in economy. He theorised the fact the modern capitalist economy does not automatically operate at maximum efficiency, but needs the state's intervention in certain key areas in order to reach its maximum potential. Keynes's ideas have been and are currently applied in almost all capitalist states. "His radical ideas that governments should spend money they do not have may have saved capitalism." (Reich R, 1999)

The 19<sup>th</sup> century utilitarianists considered the diminishing of poverty as a sort of public good – we would all benefit from its elimination. A key notion in the evolution of the welfare conception is freedom.

Then notion of welfare state refers to the state's intervention in order to ensure citizens' economic and social welfare by distributing wealth and providing certain services, such as health care, education and other benefits, by paying the "bill" by the state, thus by society, and not by the individual. A good example of such thinking put in practice would be the "northern model" referring to Norway, Sweden, Denmark and Finland. Although such a policy may be a burden for the state budget, these states showed that it is not obligatory, the living standard being very high there. The policy of the "welfare state" is not implicitly an anti-laissez-faire policy, although the state's need for money grows, triggering thus higher taxes. In such a system, the main supplier of welfare is the state. It is the state that puts in practice all policies and programmes meant to ensure the social welfare.

Modern ideas about welfare are clearly connected to the important evolutions in economy and social sciences, which started about the second half of the 18<sup>th</sup> century, triggered especially by the utilitarianism's ascent.

In a precise referral to the state's alleged economic and assistance liabilities, Edmund Burke claimed that those who govern "cannot fulfil the more minute tasks, and the more they try, the more they fail in the important ones". (Lock, F.P, 1999)

On the other hand, the state is only a mechanism or a transmission channel of individual preferences for certain general-interest activities. From among these public goods, law and order, defence, polluted air etc. are the most widely known, but we should not exclude the transmission of individual preferences for the general wellbeing. Moreover, one supports the idea that this is the only way the welfare state may be justified.

A renown egalitarianist and welfare theoretician, R. H. Tawney, wrote about the state: " Fools will use it, whenever they have the opportunity, for foolish purposes, criminals for criminal purposes, decent and sensible people will use it for decent and reasonable purposes". (Thompson N.W., 2006)

In a democratic society the state must be theoretically used for the promotion of its citizens' purposes, and the success of the welfare imperative will depend on the altruism level among the voters and the efficiency of the type of democratic mechanism existing in the conveyance of this feeling.

The importance of the connection between causality, liability of personal action and the welfare concept is hard to ignore, as the way one understands these ideas (and their interactions) influences in a crucial manner the attitude towards the state's involvement in economic and social issues.

The New Liberalism's redefining of freedom and the remodelling of the notions of citizenship and community have laid, almost imperceptibly, the ethic foundations of the modern Interventionist State.

The term of welfare state is inappropriate. It actually constituted a complex of viewpoints with normative character, changing and often in conflict. Its heterogeneity is reflected in the institutions of the

welfare state which have developed not according to a rational plan, but in a rather random manner, as a reaction to certain specific circumstances.

The existence of the welfare state, as it supposes constraint, obligatorily limits freedom. Liberty means the absence of constraints. But economic and social underdevelopment also limit freedom. Thus, the dispute about welfare is turned into one about liberty.

### 3. The state's role in the triggering of the present economic crisis

The '90s represented a period of continuous economic development for the countries with capitalist economic policies. The countries of the former communist block, in their turn, did not enjoy such a favourable situation. The latter had the extremely difficult task to modify their policy and economic structure in a radical manner. This metamorphosis, by its nature and diverse political factors, determined a steep drop of the living standard and GDP in the aforementioned countries.

That decade witnessed several *economic crises*: the Mexican financial crisis (1994), the Asian financial crisis (1997), the Russian financial crisis (1998). All these crises have in common the fact they were either caused or deepened by certain decisions of the respective governments.

In the case of the Mexican crisis, the Carlos Salinas de Gortari administration caused a high deficit by governmental expenditure, for electoral reasons. In order to finance the deficit, which had reached 7%, he launched "tesobonos", a financial instrument denominated in pesos but indexed in dollars. Another cause of the crisis was the widely spread corruption in Mexico, even in the case of Salinas, but also the actions of the E.Z.N.L. (a local insurgent group) who considerably reduced the investors trust in this region. The Mexican economy was eventually saved by loans and international guarantees in value of 50 billion dollars.

In the case of the other two examples, although the state's intervention was not directly liable for the effects, their management by the state was deficient. In Asia, the main causes were both a real-estate bubble, and a too high dependency of exports. Maintaining an artificial exchange rate of national currencies made the situation even more difficult. In Russia, the origins of the crisis were the political context and the inefficient measures of the government, but also the first war in Chechnya, which cost around 5.5 billion dollars (without including the cost of Chechnya's reconstruction).

The first decade of the new millennium seemed more stable, some were even thinking we had succeeded in overcoming somehow the cyclic nature of economy. In fact, all we did was to continue to swell the speculative bubble, and thus we had a longer period of calmness but, as it was proved, a more painful fall. The first period of this decade was characterised by constant economy growths at global level and by improvements of the population's living standard, especially in the developing countries. This period of economic growth was nevertheless not a real one. It was based on governmental expenditure (which led to immense deficit and sovereign debts), unreliable credits, and high risks assumed by investors. But there came the day to pay the debts and instalments and to bear the effects of failed risks, and that is when the bubble exploded and economy fell.

The economic crisis, which is technically over now, but is practically still stalking, is at present the main subjects of debate for any economist, business man or ordinary citizen.

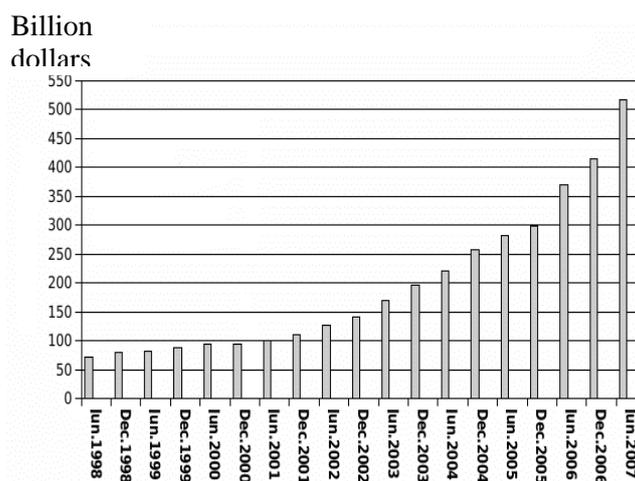
If we were to express the causes of economic crisis in a nutshell, this would be the financial crisis. The financial crisis has one single main effect – the lack of liquidity on the market, but has several important causes. These causes originate in the financial sector.

The most widely spread theories consider that the following are the causes of financial crisis:

- related to the financial market:

- *incorrect evaluations of the rating agencies* – this is extremely apparent by the fact that some financial institutions were evaluated at an AAA rating (equal to that of government guarantees) only a few days before they went bankrupt by important rating agencies such as Fitch, Standard and Poors and Moody's. The number of such high (and mostly incorrect) ratings had steeply increased in the years before the financial crisis. Because of them, erroneous information was circulating in the market, which led to an unjustified optimism of the market.

- *financial innovations* – they refer to the creation of new warrants and bonds, especially derived (their rapid growth is represented in figure 1). These financial innovations such as C.D.O. (collateralized debt obligation) or C.D.S.(credit default swap) "are nothing but attempts of some to hide the garbage under the rug or to control something that in fact can never be controlled, the free market" (Dorin Gidiu's affirmation in the 16 November 2010 show "Trust the Market" moderated by Radu Soviani, broadcast by "The Money Channel" regarding some financial innovations.)

**Figure 1: Growth of global value of derived contracts in the period 1998 – 2007**

Source: <http://www.bis.org/>

- regarding the real estate market:

- *small deposits* – they are dangerous because the recipient of the credit is less interested to pay it, as he does not lose anything important except the real estate property acquired with the help of the loan, building for which he had not paid anything anyway, so one cannot say he has really lost it. Besides, some dwellings were worth less than the credit, and thus the failure to pay the instalment was even more stimulated. Although only 12% of the mortgage loans were in this situation, they represented 47% (in a total of 1.5 million) from the mortgage prescriptions in the second half of 2008 in the U.S.A. In 2005, the average value of deposits in the USA was of only 2%, compared to China, where they ranged from 20% upwards

- *subprime credits* – they refer to offering loans by creditors to natural or legal persons who exhibited a high risk of failure to fulfil their obligations and / or an unfavourable financial history. Their weight increased by 150% from 2003 to 2006;

- risky behaviours – refer to the risks taken by investors. These risks were inefficient as the growth of risks was higher than the growth of revenues and profits. The most important example is perhaps the extremely small reserves banks had compared to loans, of only 1 to 33. This means that if only 3% of the lent amounts had not been returned, these banks would have gone bankrupt.

As regards the causes of economic crisis, the state may be accused of an insufficient involvement. Throughout the world, but especially in the USA, the origin point of crisis, the regulations of financial market were reduced, and the existing ones were applied to the most limited extent possible. There were two main reasons for this situation. First, those responsible for the regulation of the financial market, especially the Secretary of the USA Treasury and the Head of the Federal Reserve had usual been, in the previous decades, persons like Alan Greenspan, Henry Paulson or Timothy Geithner, who considered the new instruments of the capital market as being dangerous in the long run. Second, this lack of regulation of economy initially triggered growth. Seeing this, the decision-makers deregulated even more the financial market, causing a domino effect. The only problem was the fact the no one (or almost no one) knew that this increase had no real bases and in fact they deepened even more the “depression” that was about to come.

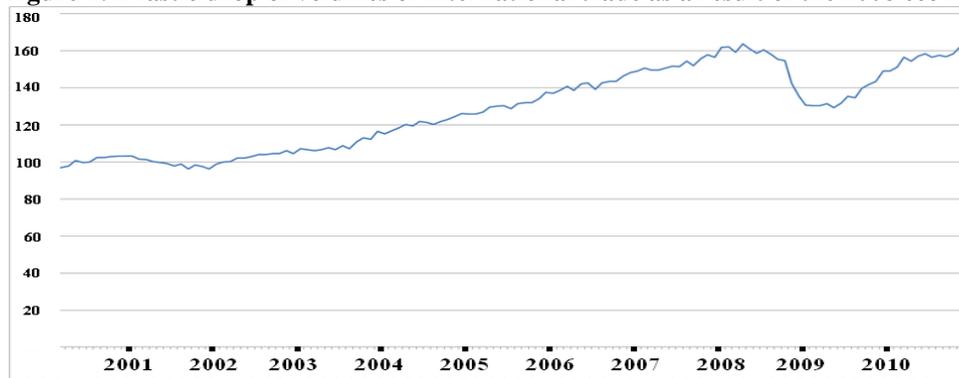
Very high sovereign deficits (highlighted in detail in figure 4) represented in their turn a major problem, as they limited the states’ ability to borrow in order to inject liquidity in the market, forcing the states to ensure this liquidity by monetary issues, or to prevent the austerity measures.

The main effect of the financial crisis was the lack of liquidity in the market, and the effect of the latter was the economic crisis. The lack of liquidity meant the inability of firms to invest or to operate by contracting loans. The result was that extremely numerous SMEs could not dispose of the financial resources necessary for continuing their operation and consequently they went bankrupt, which considerably weakened the economy.

The effects of the economic crisis were serious. The global GDP and the demand for goods and services contracted to an alarming level, unseen since the ’50s, companies in value of 14.5 trillion dollars

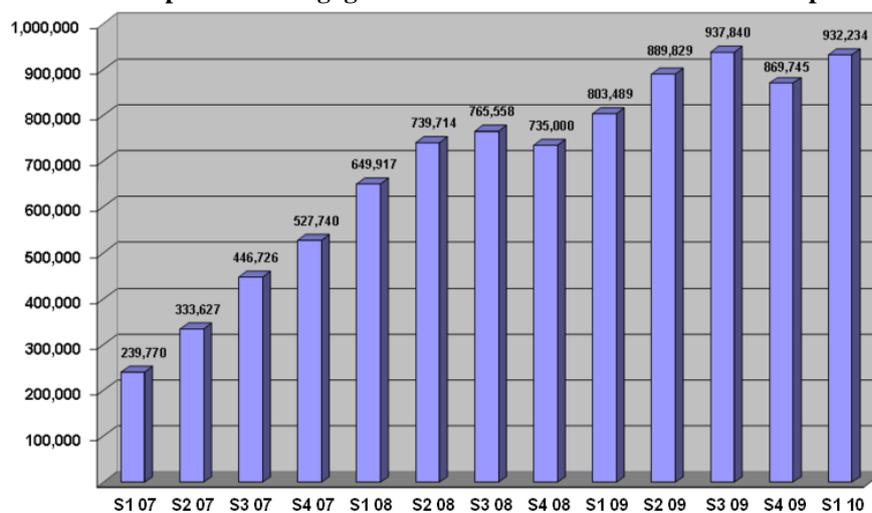
disappeared from the economy (together with their value), “up to 45% of the global wealth was destroyed in less than a year”, mass bankruptcies in the sector of small and medium businesses, unprecedented interventions of governments to save some large private financial institutions considered to be essential, the considerable reduction of the trade volume (which is clearly pointed out in figure 2), the collapse of the real estate market (its cause – high subscriptions of mortgages because of the subprime credits – shown in figure 3) the risk of political crises outburst etc.

**Figure 2: Drastic drop of volumes of international trade as a result of the 2008 economic crisis**



Source: <http://en.wikipedia.org>

**Figure 3: Massive subscription of mortgages on the USA real estate market in the period 2007 – 2010**



Source: Press release of RealtyTrac about the mortgage subscription in the USA.

The effects of the economic crisis were largely amplified also by the severe austerity measures taken by states (perhaps the most severe in the Europe Union were those taken in Romania), but also by the states’ inability to guarantee financial resources because of high deficits.

Figure 4: Public debts of the European Union countries in May 2010



Source: <http://www.hotnews.ro/>

#### 4. Romania and the new European fiscal treaty

The new fiscal treaty is part of the *Treaty for Stability, Co-ordination and Governance in the Economic and Monetary Union*, and introduces a set of rules meant to improve budgetary discipline in the region, bringing about also automatic penalties for the states that signed the treaty. It was agreed by the 17 states members of the euro zone, to which adhered almost all the other EU member states, except Great Britain and the Czech Republic. The new treaty falls within the EU general policy to support sustainable economic growth, job creation, competitiveness and social cohesion.

As we know, in the last decade, neither the Lisbon Strategy nor the Pact for stability and growth succeeded in offering an answer to the issue of stagnation and competitiveness loss compared to the other states of the world. The Europe 2020 Agenda, the Europlus Pact and the Treaty for Stability, Co-ordination and Governance in the Economic and Monetary Union put the basis of the way in which the European Union will develop.

After this general character frame, the technical notions occur regarding the structural deficit. The effective budgetary deficit is made of two components. The first is a structural component ("permanent" budgetary expenditure and revenues, which do not vary in dependence with the phase of the economic cycle), and the second is a cyclic component (budgetary expenditure and revenues whose evolution is correlated with the growth / stagnation / decline of national economy, such as the VAT revenues, taxes on profit or expenditure for the unemployment aids). The amount of these two components finally leads to what is called effective budgetary deficit. According to the Treaty, the effective budgetary deficit must be of 3% of the national GDP, whereas the structural deficit has a percentage of maximum 0,5%.

In the long run, i.e. at the level of the potential GDP, the cyclic component is zero, which leads to the identity **Effective budgetary deficit = Cyclic budgetary deficit (automatic stabilizers) + Structural budgetary deficit (discretionary policies)**.

This new rule may contribute to an increase of confidence in the EU economy in general, and of the Eurozone in particular. It may be a signal that the politics attempts to bring order in a context (still) dominated by several effects:

- The policies started in the '80s, which led to the extension of the social character of the European economy model, high taxation level and labour market rigidity
- Failure to reduce sovereign debts, which was necessary for the fulfilment of the Maastricht criteria set in 1992, where it was mentioned that the public debt in the GDP should not exceed 60%. Only the northern states succeeded in reducing their public debt in this period. In 2008, the EU average of public debt was around 62%, and in 2009 it reached 74%, according to the European Commission.
- The growth rate, inferior to those of other global powers (the USA, China, India, etc.) in the years 2000 and at present, which led Europe (its western part) to a certain economic stagnation characterised by high public debts, high unemployment rate (even worrying among the youth) and trade deficits.

The limit of 0.5% of the GDP stipulated in the new fiscal compound is applied for the structural budgetary deficit. As the structural budgetary deficit is a technical term, difficult to understand by the general public, several clarifications and explanations are needed.

The evolution of budgetary revenues and expenditure is influenced both by the evolution of the volume of economic activity (the position of economy in the economic cycle), and by the “discretionary” decisions of the governmental authorities.

The more progressive the taxation system, the more strongly the afore-described mechanisms function.

Romania had in the past a procyclic discretionary fiscal policy, without discipline, stressing the macroeconomic misbalances instead of attenuating them. Thus, the structural deficit increased in an useless manner when the GDP was above the potential level, annulling thus the action of automatic stabilizers. The new rule limiting the structural deficit to 0.5% of the GDP will lead almost to the impossibility to practice procyclic policies and to an accented fiscal discipline, which for a county like Romania, considering the negative historic experience, may be a significant advantage.

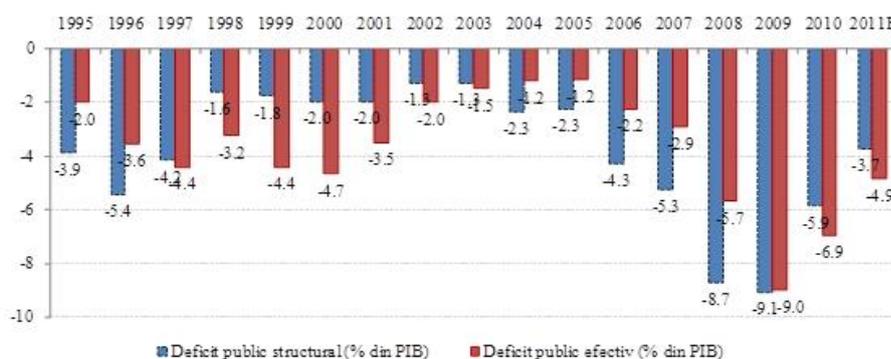
If the rule had functioned in the past, a simple calculation, although not totally accurate, shows that, for instance, in 2008, when the GDP was above the potential, Romania should have had a budgetary surplus of 2.5% of the GDP instead of an actual budgetary deficit of 5.7% of the GDP. In fact, during the entire period 2004-2008, Romania should have had budgetary surpluses, the GDP being in that period above its potential level, and the structural budgetary deficit of only 0.5% of the GDP would have forced the effective budgetary balance to be on the surplus.

Figure 5: Evolution of the effective budgetary deficit in the context of the rules of the fiscal pact



Source: calculations based on the estimates of the European Commission, November 2011

Figure 6: Evolution of the effective and structural budgetary deficits



Source: European Commission, November 2011

### 5. Conclusions

The state may play an important part in economy, both as entrepreneur and as consumer. As producer, it can solve the needs of the community taken as a whole (individuals, groups and businesses). As factor of economic policy, the state may be preoccupied by sector or specific action areas, which are

not necessarily related to the field of public services, but may be satisfied together with the private sector. As entrepreneur, the state is often responsible for ensuring a wide range of public services (health care, education, access to justice): the purpose of the activities carried on by the state depends on the social values in each and every society, although the political reasons are predominant in the decision-making process.

It is not enough to argue that the state should be active in the transition process. Moreover, we must find the way to increase its importance and to put the structural bases for a new type of state. The state is a variable factor in the transition process, as it influences the entire economy by legislation, administration, justice and fiscal system. In its role of referee, it influences the condition and balance of transition, improving or reducing the efficiency of the economic system as a whole and of human development.

As Romania's experience suggests it, pleading for the state's restoration requires a serious reflection. Consequently, the rethinking of human development implies the reform of the state.

From several viewpoints, the state has deteriorated in Romania even before the fall of Ceaușescu's dictatorship, in December 1989. Romania started the transition process with an economy already in rapid involution and with a huge institutional deficit.

Romania's GDP in 1989 was of 53 billion dollars, in decrease by 5.8% compared to the previous year, the country being already in a severe recession. In 2009, despite the economic crisis, high corruption and incompetence of the political rulers, the GDP had a treble value compared to 1989, i.e. 165 billion dollars.

For Romania, neither the Assistential State, nor "sponsorship or Godfather's capitalism" or inefficiency of bureaucracy are the main causes of the present situation. They are mere symptoms. If we were to restrain the list to a single element, it would sound very accounting-related: the source of all evils is the budgetary deficit.

The budgetary deficit reached a maximum of 7.3% in 2009, in 2010 it decreased to 6.6%, the external debt reaching in its turn 78 billion euro, whereas the public debt was of 17 billion euro. In exchange, the international reserves of BNR (National Bank of Romania) increased to 31.3 billion euro.

Contrary to the political discourse, it was not the expenditure for social security that was responsible for this deficit, as in Romania it represents only 14.3% of the GDP (pensions representing half of this amount) in 2008. By comparison, in countries such as France, Denmark or the Netherlands, this percentage was double.

According to the National Institute of Statistics, Romania has one of the highest fiscal burdens in the EU, around 43%. This triggered a very high value of underground economy, of 29.4% of the GDP, one of the highest in the EU.

In politics, a better governance involves a certain level of organisational efficiency and institutional liability, by promoting the system of control and balance.

Any policy and model of centralisation of the state and public sector should take into account the comprehensive nature and at the same time the stage of the phenomenon evolution.

The capacity of the governmental sector to contribute by automatic stabilisation to the damping of the economic cycle fluctuations is relatively low in Romania, compared to other European countries. The dimension of the automatic stabilizers in Romania compared to the other European countries is significantly more reduced. The automatic stabilizers are the most efficient, as expected, in countries such as Denmark, Holland, Sweden and Finland, countries where taxation has an accented progressive character.

Because of weak automatic stabilizers, Romania would need the possibility to apply certain more powerful discretionary fiscal stimuli (a higher structural deficit) in recession periods, in order to help economy overcome recession more rapidly and to bring it to its potential.

As shown in the literature, the size of automatic stabilizers is closely connected to the taxation system (progressive or single quota) and the weight of the governmental sector in the GDP. (Baunsgaard, T., Symansky, S.A., 2009)

By assuming a maximum structural deficit target of 0.5% in the GDP, Romania assumes the obligation that the actual budgetary deficit, as an average in a long time horizon, to be of maximum 0.5% of the GDP, which will mean in terms of primary balance (the budgetary deficit before the payment of the interests to the public debt) a primary budgetary surplus (the interests to the public debt being now around 1.8% of the GDP). This will force the reduction of the public debt. (Cappella E., 2011)

On medium and long term, the limit of 0.5% of the GDP for the structural deficit leads to the decrease of the public debt (as % of the GDP). In the case of Romania, calculations show that in about 20 years, at a 5% GDP average nominal growth the public debt decreases to 20% of the GDP is the structural deficit is of 0.5% of the GDP.

In the context of the fundamental change of approach in fiscal policy in the following years as a result of the new fiscal pact, the manoeuvre space at the level of the fiscal-budgetary policy will be much more reduced than before, the maximum budgetary deficits allowed being much lower. Furthermore, the low efficiency of the automatic stabilizers represents an extra constraint for Romania. In this context, we must find the solutions to stimulate economy even in the circumstances of a much more limited space at the level of the fiscal budgetary policy.

A first solution in this respect is the *absorption of EU funds*. They represent an enormous stimulus that we may have in economy, which becomes crucial in the context of the constraint related to the discretionary fiscal policy imposed by the new fiscal pact and the reduced size of automatic stabilizers.

The multiplication potential of own budgetary expenditure in the case of projects financed from EU funds is much higher than in the case of projects entirely financed from own resources. Considering the co-financing of only 5% in the case of projects financed by the EU, to 1 lei own resources – budgetary deficit – we may effect budgetary expenditure of 20 lei (the EU funds absorption has an impact on the budgetary deficit only with the co-financing share, the money received from the EU being reflected also in revenues and expenditure), compared to a 1:1 in the case of projects entirely financed from own resources. In this respect, there are no rational arguments whatsoever to prefer financing a project from our own resources, if it may be financed from EU funds. The new budgetary constraints imposed by the fiscal compound are a very powerful additional argument in this respect.

Besides the absorption of European money, the new budgetary constraints imposed by the fiscal pact also force us to a *much more efficient spending of public money*. With the same budgetary resources, the limiting of the budgetary forces us to obtain much higher effects in economy through the spending of public money.

The reserves of efficiency in the sector of budgetary expenditure are very large. For instance, Romania had the highest allotment for investment expenditure as percentage of GDP (and as percentage of total budgetary revenues) among all EU countries in the period 2001-2010, and nevertheless the results were modest, as Romania has still the weakest infrastructure in the EU. This example clearly shows that the money was inefficiently spent. (opinion expressed in “Ziarul financiar” / The Financial Newspaper)

The way in which macroeconomic indicators involuted makes us claim that the state has proved to be incapable of leading the economy towards a productive direction, either because of excessive absence, or because of excessive presence. But this does not mean that the state does not have an evolution potential, because it actually does, it only has not reached it yet. For the state to reach its maximum potential, that of efficient and responsible co-ordinator of economy, it should first of all get rid of political populism and start counting on meritocrats and scientifically grounded economic policies, sustainable and dynamic, in order to offer the best life possible to its citizens.

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## INVESTING IN EDUCATION – A WAY TO SOLVE THE SOCIAL AND ECONOMIC CRISES OF THE ROMANIAN RURAL AREAS

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**Abstract:** *One of the key elements for achieving sustainable development in the Romanian rural areas is investing in education, which, in a long term approach, will lead to the formation of farmers able to face the challenges of the competitive European and international markets. This paper aims to present, the result of a theoretical analysis of two aspects concerning the problem of education, namely: the current level of education of the rural population and the main difficulties faced by the educational rural system.*

**Key words:** education, rural development, teaching quality

**JEL classification:** I 24

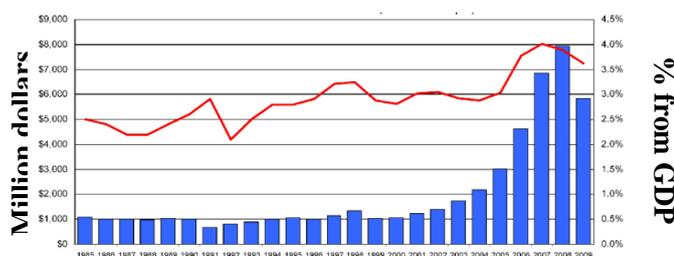
### 1. Introduction

In the last few years, will most of the European developed countries focus their national strategies on investing in continuous education, basing this decision on the increasing need of the individuals to adapt to the rapid changes of the present society, many of the developing countries still struggle to ensure the basic need of human resources and infrastructure that will satisfy the educational needs of the population. These differences emerge not only between countries but also inside the national territory, especially between rural and urban areas. These types of regional discrepancies occur within most countries, in varying degrees, depending on the overall participation in education, but are particularly serious in developing countries. This is also the case of Romania, where local schools and training opportunities are not available in most rural communities. The effects of such a situation are reflected in the level of development of the rural areas and in the living standards of the locals.

At European level, in the period 2001 – 2008, before the beginning of the world's economic crises, according to the European Commission's Report on education, the public expenditure allocated to this sector maintained a constant value somewhere around 5 % of the GDP (average in the European Union). However the differences between countries were considerable. For example, in 2008, Bulgaria spent for one pupil/student 3000 EURO wail Austria more than 9000. But after the economic crisis many countries not only could not increase, but even worst, have decreased the public investment in education and training, despite the position of the EC which sees investing in education as a long time solution for the economic and social development. For the few countries that managed to maintain or even slightly increase their past allocations, a series of measures are being taken in order to improve the efficiency of public spending for this sector. This is necessary not only because the national funds are being redirected to other fields of interest but also because the demand for vocational education and training, adult and higher education is becoming higher and higher.

But most countries decreased public investment in education by reducing teaching posts, freezing teachers' salaries, cutting down expenditure on infrastructure and reorganizing educational provision by merging institutions and increasing class sizes. This is also the case of Romania which in the past years showed a tendency to increase the amounts allocated for education until 2009 - the first crises year, when it decreased considerable (Fig.1)

Figure 1: Education allocated Budget



Until the year 2002 the evolution was constant, the amounts allocated for this sector being more or less the same, in value but not as a percent from the GDP where variations occurred. At that time, according to the official data from the last finalized census, the situation for the enrolment of the rural population was as presented in the Table below (Fig.2)

Figure 2: The situation of population enrolment in education institutions in 2002

Name/Type of attended education institution	I. Higher education institutions	II. Post-secondary education institutions and technical schools	III. Secondary education institutions	IV. Primary education institutions	V. Other situations	VI. Unreported	Total Population
Rural	66136	14773	887071	531628	8746271	15	10245894
Urban	497855	43610	1405844	461490	9026225	56	11435080

Source: 2000 Population Census

Starting with 2002 the budget for education significantly grew, although this fact was not reflected at all in the quality of the education process, especially in the rural areas.

In 2010, according to the data from Eurostat-Labor Force Survey, from the EU-27 population between 26 and 64 years, representing approximately 124 million citizens, 73% attained at least upper-secondary education. The percentage has increased considerably over the period 2006-2010. Referring to the rural population, in the same context (year 2010, EU-27), the share was only one percent lower, namely 72%. Both in the urban the rural areas, this indicator increased with 3 percentage points in between 2006-2010.

If we consider lifelong learning in rural areas the percentages are not very promising, if we consider that only 6% of the total labor force was involved in 2010 in education and training activities that were meant to upgrade their information and knowledge baggage. The percentage in this case is a lot lower than the one registered for the urban areas, where 9% of the population between 26-64 years old considered necessary to continue learning. At the bottom of the least we can find Romania and Bulgaria with 1%, but also Greece and Slovakia with 2 %.

In Romania, in 2009, due to the beginning of the world economic crises, drastic measures were taken in this sector. Among the decisions adopted that affected the education system two stand up as having a profound negative effect, namely: decreasing the salaries of the state employees with 25% (including bonuses, benefits and other remuneration rights) and decreasing the amounts allocated for infrastructure and equipment. The incomes of the human resource that activated in the rural areas were affected even more by the cutting of a specific bonus like the one for practicing in the rural areas which represented a considerable percent from the total income of a teacher or professor from a rural school. Such measures, cumulated with the already existing poor conditions, caused a decrease in their interest to practice in rural schools and had a dramatic effect on the level of education of the rural population.

## 2. Education problems in the rural areas

It is impossible for Romania to have a performing agriculture as long as the current population from the rural areas has serious educational deficiencies that represent an obstacle in their development, and, implicitly, in the way of achieving sustainable development.

The case of the rural areas, due to the particular nature of the developed activities, implies special attention in what the educational system is concern and in order to be able to resolve a long time problem like this it is recommended to first try to identify the reasons that lead to it.

The World Bank economists, after having analyzed the data collected from developed countries and from countries with low economic growth, have concluded that investing in primary education is very important especially in the rural areas, where basic education is essential for improving the individual's live standard.

Basic education ensures the accumulation of knowledge and development of skills that will increase the farmer's productivity, facilitate off-farm employment and, in a long term perspective, contribute to the economic development of rural areas.

Achieving rural development is not possible only by increasing productivity in agriculture. It is also necessary to expand the off-farm job opportunities in order to reduce the size of the labor force involved in agricultural activities and, implicitly, to decrease the financial dependency of the farmer's family to its results. Changes in the occupational composition of the labor force could also prevent the migration from the rural to the urban areas of the young people who seek a transition from farming to off-farm employment. Different studies on the return rates in this field concluded that the impact of education is greater on off-farm income than on farm income (Psacharopoulos, 1985; Lanjouw, 1999). But such an initiative requires for the persons in question to be able to make simple business transactions, to weigh and measure, and to read simple documents, in conclusion to show basic skills in at least literacy and math, besides the specific experience and discipline that comes from attending a formal learning program. So, the persons that don't find productive employment and decide to relocate, are much more likely to be able to find a suitable job if they have attended school and learned basic skills.

The skills developed by individual farmers by attending a form of education are also making them more open and capable to adopt and use new technologies and practices, and modern organizing systems, becoming in this way more productive. In the areas where the economy is modernizing and generating new production possibilities the investments in education have an even greater return rate. (T. P. Schultz, 1988).

Also, for the rural areas, where most of the knowledge is informal, being passed on from person to person and from generation to generation, being part of an organized learning process also helps individuals learn new skills outside school.

Education also has an important social contribution by increasing the farmers ability to socialize and better integrate into the community to which they belong to, even though the social connection in the rural areas are highly superior to the ones from the urban areas.

The links between basic education, economic development, and poverty alleviation have been clearly proven in the many studies conducted on this topic. It is more than obvious that funding this sector and investing in the educational system, mostly in basic education, are required in order to be able to bring the Romanian agriculture to the level of the developed agricultures from the European countries.

But providing good-quality basic education to children in rural areas is a lot more difficult than to those in urban areas. The differences between the quality of urban schools and rural schools can be striking. In most urban areas—even in the poor countries—the main problem facing schools is that they are lacking the funds to ensure the necessary logistics (equipment, and instructional materials). For example in some cases space itself can be a problem, in many cases schools being overcrowded and unable to support the enrolled students.

But in the case of rural schools the difficulties they are facing are of a different nature. The lack of interest of both students and parents, the big distances between schools, unqualified and unmotivated teachers, are only a few of the problems that have to be solved in order to achieve rural development, in a long term approach. In the following part of the paper we are going to study a few of the reasons why the educational system in the Romanian rural areas finds itself in such a precarious situation.

One of the main problems of rural schools is distance. Many villages are isolated from each other. Being less densely populated than the urban areas, rural education institutions are also farther apart, requiring many children to walk long distances or pay for transportation in order to go to school. This is not only expensive but is also time consuming. From the farmer's family point of view the time spent by their children on the road is time lost, that could have been spent helping at home. This is particularly true in planting and harvest seasons when the activity of the household intensifies. Also many families are unwilling to expose their small children to the dangerous of sending them alone down long roads.

Since we have mentioned the problem of time spent outside the household, in the rural areas children have a bigger contribution to the activities of the family, being required by their parents to supply labor on the farm and in the home. This is way sometimes parents consider that is not worth taking them away from their daily chores in order for them to go to school.

In many south-European countries poverty in rural areas is common, so even the children who live close to school often are unable to afford the costs for pencils, lunch, shoes, and often uniforms. The problem is that the costs with the necessary supplies are high and not many parents can purchase them or consider that is not opportune to spend a considerable part of the family budget for education.

Many rural families see little immediate value in their children going to school, and learning how to read and write and other skills for which there is no use in the village. In many cases children themselves are often not interested in what they are taught, making the education process an inefficient one. So it is not enough to enroll children in schools. Drop-out rates are high in many low-income countries, because the farmer families are aware that they get little return on their own investment. If the families of those children see no value in the time and other costs spent on schooling, it is very possible that they will withdraw them from school. The perception that school is of little value is also highlighted by the poor state of the logistics the poor quality of the teaching staff and their lack of involvement in the teaching process, which characterize most of the schools from the rural areas.

For those parents that identify, at a certain level, sending their children to school with preparing them mostly for activities that are not agricultural, two concerns emerge. Either they became afraid that school will rob them of their children (in case they decide to migrate to the urban areas or chose some other activities that will make them grow apart from their family) or that after completing their education it will have no finality due to the lack of alternative non agricultural jobs in the rural areas. Also, for the parents who see primary school as the first step of the process, sending their children to school when they know that no secondary school (representing the second step) is available, seems unjustified.

Another aspect that has to be taken in consideration is the level of involvement of the parents and of the community in general, in the process of education. While urban parents play an active role in their schools, the interest of the rural communities of participating in the process is significantly lower and their skills insufficient for the type of activities that they should perform.

Another important problem regards the teaching staff. Far fewer teachers want to work in rural schools. Most individuals who have the education credentials that would qualify them as teachers have at least the urban or quasi-urban experience of teacher training school. This is way many of them are reluctant to practice their job in rural areas, especially if they don't belong to that community. This is particularly true of female teachers. To this we can add the difficulty in ensuring their continuous training due to the difficulty in getting them together, because they are spread thinly over wide distances.

In terms of logistics, long distances and poor roads, make it very difficult to provide the necessary building materials, equipment, furniture, teaching materials, scientific lab equipment, radios, and other audio-visual equipment to remote rural schools. Purchasing textbooks and other school supplies is in most cases very difficult because the sale points are few and far between in rural areas.

But the biggest problem in our opinion, is the curriculum (the knowledge and skills to be taught and the methods used for teaching) which is the same used in the urban areas, and is not at all relevant for the rural communities. Except basic mathematics, reading, and writing, the rest of the subjects taught are not adapted to the needs and interests of the students, this is way many are useless for them. Although we are talking about starting the process of restructuration of the rural education system from the basic level, where it supposed that the degree of specialization is low, we still consider that, at least for the third and fourth grade, the curriculum should be more carefully chosen in order to support the development of skills that will actually serve the interest of the future farmers.

Another problem regards the support services for remote rural schools. Accessing information, knowledge, innovation is very difficult for the staff involved in the teaching process in the rural areas. The reasons are usually the lack of resources to create a system that would link all the education units and give them the possibility to upgrade at all time.

Education is nevertheless one of the most important pillars in achieving rural development. In a country in the situation of Romania, where agriculture is a basic economic sector, investing in the education of the rural population is a "must"! Such an approach will not only ensure a better life standard for the farmers but will also make possible the alignment of the Romanian agriculture to the one of the European countries.

### 3. Acknowledgements

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## ENERGY AND THE ENVIRONMENT: THE CASE OF ROMANIA

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**Abstract:** *This paper is a case study of the environmental dimension of the Romanian energy sector based on secondary data and the energy indicators for sustainable development (EISD) published by the IAEA in 2005. We aimed to reflect the impact of energy production, transportation and use on: air, water, soil quality and forests. Based on the study, we provide recommendations regarding further options for policy makers to obtain sustainability including the possibility to increase the use of renewable energy sources. In terms of sustainable development indicators, the results of our study also show the applicability of the EISD system in Romania.*

**Key words:** energy and heating, environmental impact, sustainable development

**JEL classification:** Q 01, Q 51

### 1. Introduction

‘Safeguard the earth's capacity to support life in all its diversity, respect the limits of the planet's natural resources and ensure a high level of protection and improvement of the quality of the environment. Prevent and reduce environmental pollution and promote sustainable consumption and production to break the link between economic growth and environmental degradation.’ ( Council Of The European Union, 2006)

Energy is vital for the human society but ‘the production, distribution and use of energy create pressures on the environment in the household, workplace and city and at the national, regional and global levels.’ (Vera I.A et al, 2005). It is important to know a country's current status concerning energy and to be able to measure its state of development and monitor its progress towards sustainability. This gives the policy makers the necessary understanding of the implications of the selected energy and the energy programmes and policies. (Streimikiene et al, 2005) Therefore appropriate instruments to measure the impact of energy systems on the environment in general and to determine in particular the positive or negative trends in air, water and soil quality are necessary. In 2005, the IAEA in cooperation with the United Nation Department of Economic and Social Affairs (UNDESA), the International Energy Agency (IEA), Eurostat and the European Environment Agency (EEA) published a set of Energy Indicators for Sustainable Development (EISD) together with guidelines and methodology sheets. These are consonant with international commitments and global policy initiatives (Medina-Ross et al, 2005) and target three dimensions: social, economic and environmental. The environmental indicators (ENV 1 to 10) are grouped regarding their impact on the atmosphere, the water and the land. The six sub-themes are climate change, air quality, water quality, soil quality, forest and solid waste generation & management (IAEA et al., 2005).

This paper is the second of a series of four articles that analyze the energy sector in Romania. It presents the results of our research on the environmental dimension of Sustainable Development. We aim to picture an image of the environmental dimension of the Romanian energy sector by measuring progress towards energy sustainability, using secondary data and the EISD indicator system.

### 2. Policy

Romania's obligations as a Member State of the EU regarding the reduction of greenhouse gases emissions during the post-2012 period derive from the policy objectives that were agreed at the Spring session of the European Council on 9 March 2007 were: to reduce until 2020 the emissions of greenhouse gases by 20% compared to the levels of 1990, to increase by 20%, within that timeframe, the share of renewable energy in the overall energy consumption, to enhance energy efficiency by 20%, and to achieve a minimum 10% share of bio-fuel in the total fuel consumption in transport. (Miron, 2010)

In Table 1 we have synthesized the targets set by the national renewable action plan (Government of Romania, 2008) picking out those that have a close connection to environmental protection.

**Table 1: National targets according to the national renewable action plan**

2013	2020	2030
- final energy consumption reduced by 13,5% (2008-2016) compared to 2001-2005 - modernization of CHP systems - selective support of investments encouraging clean energy technologies - 11,2% RES of total consumption	- 20% GHG reduction (against the emissions levels of 1990) - 24% RES in the final energy consumption - 38% electric power produced by RES - energy efficiency: - 20% reduction of primary energy consumption - minimum 10% renewable fuels used in the transportation sector - aprox. 35% of the multi-storeyed-buildings rehabilitated - 2 new reactors at the nuclear plant in Cernavodă - several new hydropower stations	- improved energy efficiency: - 30% reduction of the primary energy consumption - generalization of energy efficient light bulbs - use of clean technologies for power and heat production using RES with low CO2 emissions and facilities for the capture and underground storage of CO2 - an additional 15-20% capacity of the hydropower stations - 2 additional large capacity nuclear power units - thermal rehabilitation of 40% of the multi-storied buildings - new passive buildings (with an average energy consumption of 15-50kWh/m2/year)

As in other countries too (Aslanyan, 2005), the Romanian Sustainable Development Strategy recognises environmental protection as a priority and calls for limiting the negative environmental impacts of energy production, transportation and use.

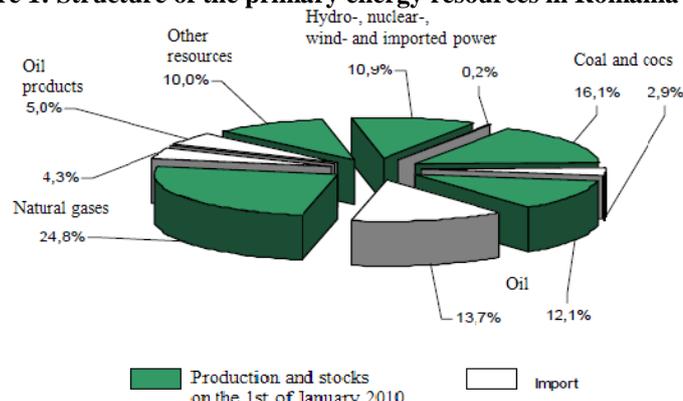
**3. Environmental impacts from energy production and use**

The energy sector is a major contributor to the global GHG emissions. As such it has a vested interest in fostering sustainable investment (WEC, 2009). Coal based electricity generation plants have the highest CO2 emissions per kWh electrical as well as other pollutants at high levels. They still form an important share of the Romanian electricity sector (Figure 1). Efforts to modernise these plants are made and the increase of electricity production is wished to be due to new hydropower stations, wind-farms and the increase of capacity at the Cernavoda nuclear plant.

Although one of the most clean energy forms the production of nuclear power introduces us to the problem of the disposal of nuclear waste.

Hydro-energy is considered clean energy but building dams on rivers can disturb the habitat of many species in those regions. Water also suffers pollution due to the activity of thermo-electrical plants. As we can see producing energy affects the environment in various ways. In the following we will discuss this in more detail.

**Figure 1: Structure of the primary energy resources in Romania 2010**



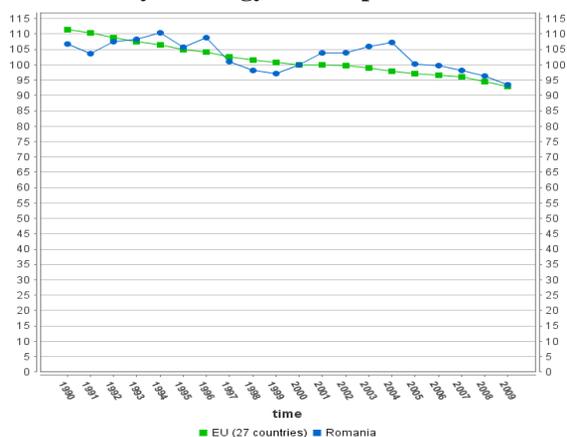
Source: www.insse.ro; Energy balance for 2010

**3.1 Air pollution**

One-third of the solar energy that reaches the top of Earth's atmosphere is reflected directly back to space. The remaining two-thirds are absorbed by the surface and by the atmosphere. To balance the

absorbed incoming energy, the Earth must, on average, radiate the same amount of energy back to space. Some trace gases like hydrogen (H<sub>2</sub>), carbon dioxide (CO<sub>2</sub>), ozone (O<sub>3</sub>), nitrous oxide (N<sub>2</sub>O), methane (CH<sub>4</sub>) and hydro-fluorocarbons (HFC) can absorb parts of this infra-red radiation which then heats the atmosphere and is reradiated back to Earth. This is called the greenhouse effect. The Earth's greenhouse effect warms the surface of the planet. Without the natural greenhouse effect, the average temperature at Earth's surface would be below the freezing point of water. Thus, Earth's natural greenhouse effect makes life as we know it possible. However, human activities, primarily the burning of fossil fuels and clearing of forests, have greatly intensified the natural greenhouse effect, causing global warming. (ipcc.ch, accessed April 2012)

**Figure 2: Greenhouse gas emissions intensity of energy consumption**



Source: <http://epp.eurostat.ec.europa.eu>

The energy sector is a major contributor to the global GHG emissions. As such it has a vested interest in fostering sustainable investment (WEC, 2009). The main activities associated with GHG-emissions from the energy sector include: transport, electricity generation, manufacturing industries and construction and also energy consumption activities (Figure 2) like: the residential, commercial and institutional sub-sectors, agriculture, forestry and fishing activities. (Varun, 2009)

Looking at the impact of the different GHGs, CO<sub>2</sub> is responsible for roughly three quarters of the total anthropogenic GHG emissions. The second largest contribution is made by methane, with a share of approximately 15%. (WEC, 2009)

In the period between 2000 and 2009 the GHG emissions from the Romanian energy sector varied (Figure 2). However after a period of increase the quantity of GHG emitted in 2009 was smaller than the one recorded in 2000. In percent the emissions from the energy sector lie above 66% and show a decreasing trend but are still higher than the EU-27 values (Table 2).

**Table 2: GHG-emissions in Romania (thou tonnes CO<sub>2</sub> equivalent)**

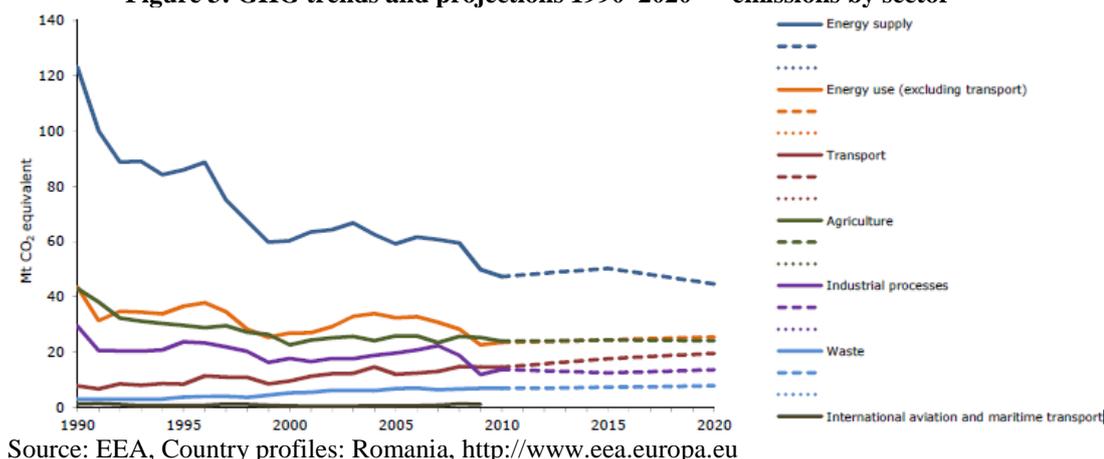
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total (excluding LULUCF)	142117.24	147844.43	154572.95	161226.84	160117.60	155738.20	160403.84	156214.89	153418.65	130828.28
Energy	96515.77	101546.34	105503.42	111800.26	111059.56	103459.33	106766.58	104260.93	102342.90	86922.11
% Emissions from the energy sector	67.91	68.68	68.25	69.34	69.36	66.43	66.56	66.74	66.70	66.43

Source: Romanian National Institute of Statistics (RNIS)

According to EEA, Annual European Community Greenhouse Gas Inventory 1990–2006 and Inventory Report 2008 the electricity and heat sector was with 61% the main contributor to EU-27 CO<sub>2</sub>-eq emissions in 2006.

In the long term trend, average GHG-emissions in Romania in 2010 dropped to 50% of the emissions recorded in 1990 according to the country profile presented by the European Environmental Agency (2011). In the short term trend 2008 - 2010 emission also dropped considerably – approximately - 15% - representing the second largest decrease in percentage terms across the EU and well below the -8% Kyoto target. One of the largest decreases in this period was observed in the production of public electricity and heat.

Figure 3: GHG trends and projections 1990–2020 — emissions by sector



Source: EEA, Country profiles: Romania, <http://www.eea.europa.eu>

The emissions from energy supply and use represent the sector with the most powerful decrease between 1990 and 2010 (Figure 3). The EEA projects a stagnation of GHG-emissions until 2020 (Figure 3).

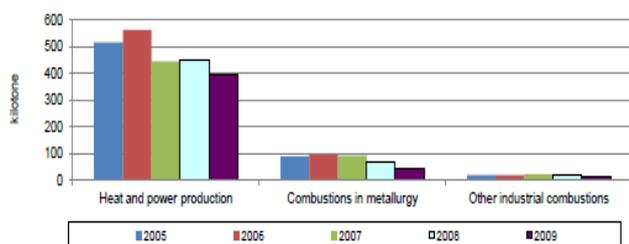
Table 3: Values of the indicator ENV 1 between 2000 and 2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
ENV1 capita	4.29	4.52	4.83	5.13	5.11	4.77	4.94	4.83	4.75	4.04
ENV1 GDP	1.19	0.86	0.69	0.56	0.44	0.35	0.30	0.25	0.19	0.17

Using the EISD ENV1 indicator we calculate the amount of GHG emissions from energy production and use per capita and per unit of GDP (Table 3). We can observe that between 2003 and 2009 the annual emissions per capita decreased with more than 1000 tonnes CO2 equivalent. Unfortunately we couldn't access data for the years 2010 and 2011. The census in 2011 showed that the total population in Romania is of 19.042.936 persons while the number used for calculation in 2009 was 21.498.616 this will certainly increase the value of this indicator for 2011. Compared to the EU-27 the GHG-emissions in Romania are still high. The EU-27 GHG-emissions per capita decreased between 2000 and 2009 from 3.12 to 2.82 thou tones CO2 equivalent per person.

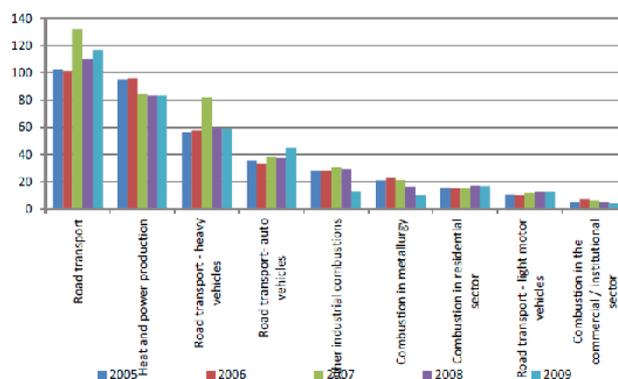
The GHG emissions per unit of GDP decreased continuously since the year 2000 due to inflation and the net decrease of GHG-emissions.

Figure 4: SO2 emissions



Source: Annual report on the state of environment in Romania 2010

Figure 5: NOx emissions



Source: Annual report on the state of environment in Romania 2010

Romania has the obligation to limit annual emissions of acidification, eutrophication and ozone precursors greenhouse pollutants under the values of 918 thousand tons/year of sulphur dioxide (SO2), 437 thousand tons/year for nitrogen oxides (NOx), 523 thousand tons/year for non-methane volatile

organic compounds (NMVOC) and 210 thousand tons/year for ammonia (NH<sub>3</sub>), values that are national emission ceilings. (ANPM, 2011)

Regarding ENV3 – Air pollutant emissions from energy systems following trends were recorded. Sulphur dioxide emissions, corresponding to 2009 are characterized by a decrease of about 28.43% compared to 2005 (Figure 4), significant decreases occurring in areas like "*Burning on metal industry*" (54.67%), and "*Production of heat and power*" (23.53%). Nitrogen oxides emissions calculated for 2009, which saw declines compared to 2005 (Figure 5), were the ones from sectors like "Production of heat and power" (12.62%), "Combustion in metallurgy" (54.29%) and "Combustion in the commercial/institutional" sector (20.85%). NH<sub>3</sub> emissions have decreased by 5.4% compared to 2005. NMVOC emissions increased slightly in 2009 compared to 2005, 1.49% respectively while the "*Combustion in the residential sector*" ranks first. (ANPM, 2011)

### 3.2 Soil quality, forest and waste management

The soil in the area of influence of thermal power plants suffers pollution with emissions from these plants. A soil pollution with low-moderate amounts of heavy metals and a weak acidification of soils under the impact of low SO<sub>2</sub> emission, as a result of using lignite, less rich in sulphur have been highlighted. Power plants pollution effects extend over a wide area, but the most affected is that around the unity and heaps of sterile area, located on land depression, existing the risk of entering into the groundwater of heavy metals and pollutants acid, which have a higher concentration in the stored materials. In the influence area of CET Mintia and Paroseni, 3,500 ha of agricultural lands are moderately affected and the influence area of CET Rovinari and Turceni, about 30,000 ha are weakly affected and 25,000 ha are moderately affected. Although apparently less polluting than the non-ferrous metallurgy, the coal thermal power plants impose a series of actions to be taken, such as: continuous surveillance of the state of pollution of the soils and vegetation in the affected area and the re-technologization of the units in cause, by replacing the used filters, refilling the lands. (ANPM, 2011)

**Table 4: National forestry real estate surface**

	2005	2006	2007	2008	2009	2010
Total forestry real estate (thou ha)	6,391	6,427	6,485	6,470	6,495	6,515
Percent forest of total land	26.80	26.96	27.20	27.14	27.25	27.33

Source: ANPM and RNIS

Forest area is land under natural or planted stands of trees of at least 5 meters in situ, whether productive or not, and excludes tree stands in agricultural production systems and trees in urban parks and gardens. The percent forest of total land in Romania between 2005 and 2010 recorded a slight increase: from 26.8% to 27.33% (6,515 thou ha). As a comparison: in 2010 Finland's surface was covered in proportion of 72.9% by forests, France's in 29.1 % and Germany's in 31.8%. Romania's forest percentage lies below EU average which is 36%.

**Table 5: Non-dangerous generated wastes**

Non-dangerous generated wastes	2004	2005	2006	2007	2008	2009
Production, transport and distribution of electrical and thermal energy, gas and water	15,784.8	105,606.09	102,551.84	36,465.59	7,055.92	6,103.45

Source: ANPM and RNIS

Related to the problem of nuclear waste the intermediary deposit at Cernavoda has the capacity to shelter the fuel used by the two CANDU6 reactors during 30 years of functioning for a period of 50 years. Each reactor produces yearly approximately 100 tonnes of used fuel, nearly 10 m<sup>3</sup>. This gives a ratio of solid radioactive waste to units of energy (ENV9) of: 0.07 t/toe

### 3.3 Water

Groundwater pollution is often an almost irreversible phenomenon and has serious consequences upon the use of underground reserve at drinking water supply, water remediation of groundwater sources

being a difficult process. The major polluting factors related to the energy sector are: oil products and the activity of thermoelectric plants. Such cases are identified in the following examples:

- Aquifer pollution in the Prahova-Teleajen alluvial cone with oil and phenol compounds, due to refineries: Petro-Brazi, Astra Româna, Petrotel Ploiesti, Vega and other industrial areas of Ploiesti (Dero, TIMKEN, IUC);
- Aquifer pollution in Baia Mare Depression, due to both stations and fuel depots in the county of Maramures and Petrom Baia Mare and Petrom Zalău units;
- Groundwater pollution with petroleum products from the area of RAFO ONESTI from Siren hydrographical basin, as well as oil pipelines across the country (degradation, breakage, etc.) of hydrocarbons deposits from various industrial facilities (ANPM, 2011)

Regarding the global contribution of wastewaters evaluated depending on national economy activity, with 3123,472 mil m<sup>3</sup>/year – approx. 64% of the total volume of water discharged, including conventional clean waters the electricity and heat sector has the lead. In terms of used waters requiring treatment the same sector is second with approx. 13% - 259,171 mil m<sup>3</sup>/year.

Electricity and heating is one of the sectors with the most important contribution to the pollution of water as shown in the yearly report of the National Agency for Environmental Protection.

- load of organic substances, expressed by CBO5 6.3% and CCO-Cr: 20%,
- suspended solids loading: 21%,
- charging with mineral substances expressed by fixed residue: 40%,
- nutrient load, expressed as nitrogen compounds (NO<sub>2</sub>, NO<sub>3</sub>, NH<sub>4</sub>), total nitrogen and total phosphorus has a significant contribution to the following areas: Ntot - 16,3%, Ptot - 11,5%, NO<sub>3</sub> - 57%, NO<sub>2</sub> - 22,3%, NH<sub>4</sub> - 2,2%.
- fat load expressed as extractable substances indicator: approx. 20%.
- petrol products load: about 95,6%;
- heavy metals loading: As – about 80%;

#### 4. Conclusions and discussions

The results of our assessment show that Romania like the EU is going to move towards a more environmental sustainable energy system (Taylor, 2005). The results show that:

- the electricity and heat sector is the main contributor to GHG-emissions in Romania. Although total emissions and the percentage of GHG emitted by the energy sector dropped the percentage still is above EU average.
- in the long term trend, average GHG-emissions in Romania, 2010 dropped to 50% of the emissions recorded in 1990.
- GHG- emissions per capita also lie above EU average
- the soil in the area of influence of thermal power plants suffers pollution with emissions from these plans. Although apparently less polluting than other industry sectors, the coal thermal power plants impose a series of actions to be taken, such as: continuous surveillance of the state of pollution of the soils and vegetation in the affected area and the re-technologization of the units in cause, by replacing the used filters, refilling the lands. (ANPM, 2011)
- although the use of timber as fuel for heating has increased over the last years the percent forest of total land in Romania between 2005 and 2010 recorded a slight increase. Romania's forest percentage still lies below EU average.
- the major water polluting factors related to the energy sector are: oil products and the activity of thermoelectric plants.
- electricity and heating is one of the sectors with the most important contribution to the pollution of water
- the two new reactors planned to be build at Cernavoda will increase the quantity of power produced without GHG-emissions. They will also increase the quantity of radioactive waste to be disposed. Is nuclear energy really a good solution?

To develop the so-called climate-friendly technologies, investment into research, development and deployment of new technologies is needed. The investment cycle of this industry, however, necessitates a reliable and predictable long-term framework. The global warming challenge is not an issue that will be solved within a few months; it certainly will take a few decades. Reducing GHG emissions will be a financial burden on society. However it is cheaper to spend now although, since the effects of climate changes are long-term and cumulative the benefits of these investments will be reaped not by the

investors, but by the next generations (WEC, 2009). Reducing the water and soil pollution is a shorter term challenge but of great importance. It is left to be seen if the high demand of wind-parks in the southern part of Romania will also have an impact on water and soil quality.

Renewable energy comes in as a resolution for this global issue. Renewable energy is any natural source that can replenish itself naturally over a short amount of time. Renewable energy comes from many sources such as solar power, wind, running water, waves and geothermal energy. An important benefit from using renewable energy is that many of them do not pollute our air and water they way burning fossil fuels does. The world must transform its current energy system on a global scale. It is expected that 60% of all our energy will come from renewable energy by the year 2070. (Miron, 2010)

## 5. Acknowledgements

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## EUROPEAN ECONOMIC PROTECTION HEDGED BY THE EU LEGISLATION

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**Abstract:** According to provisions in the Treaty of E.U. Functionality (art. 169) in order to promote the consumers' interests and for a high level of protection, E.U. will have a contribution to protect health security and economic interest of consumers as well as to promote their right for being informed for education and organization in order to defend their own interests. Therefore, we speak about the necessity to promote the right to get informed inside the E.U. and this is being carried out by the citizens' (consumers) access to powerful competitive markets, by press news release, sites, conferences.

**Key words:** economic protection, EU

**JEL classification:** H, K

### 1. Introduction

It is due to the amplification of anticompetitive abusive practices, of modern marketing procedures legally manifested towards competitors but with negative impact on consumers that the necessity to protect the latter had appeared.

Wherever the competitive market economy is present, the consumers' protection is being viewed by the legislator in order to set up a competitive discipline that refers to the outcomes that are to be found on consumers. Such outcomes become interesting only if compared to the real problems of economic, concrete, normal competition.

### 2. European Protection

Consumers can be wronged as a consequence of infringement of genuine competition, of commercial nature. Such acts can be taken into account by professionals and by consumers too who may ask for their ending when their main interests are being tapped.

The main practices (1) that can be suspected to infringe the consumers' protection are:

- those referring to prices
- those regarding selling merchandise

As such then, the first practice is being referred to prices that are imposed and to discriminating prices, too.

Administered prices concern acts and facts with illegal character that under certain stage of the process regarding delivery of merchandise stability, limitation, or price control.

This practice checks the ratios on the verticality between the producers or wholesalers and retailers. Another alternative of imposed administered prices is that of recommended prices, reference prices, indicatives or catalogue ones as this is being stated by some specialists.

Class prices are forbidden as they are not justified by the correspondent differences of the cost under the same conditions of sale.

The second practice that refers conditions (terms) of sale aim at: either accomplishing some differentiations, or the abusive attraction of clients, or the influence of the consumer's liberty to choose. This practice is being manifested by the following procedures: selective, of attraction, promotional sales.

The first procedure comprises abusive refusals to sell products or to deliver services.

The second one is referring to attracting the client either the sellers or the consumers who can sometimes create a systemic link between the supplies and reseller that can entail form of vertical integration.

Promotional sales are sales with bonus/prizes accompanied by presents or sales on credit. The adjustments regarding the protection of competition as well as consumers' protection are seen as hostile

to this form of sale because the bonus makes the price of the main product get higher. The one who offers the bonus will introduce it in his portfolio of expenditures and exemption is deceitful. This bonus distorts the ratio price quality that must be the convincing reason for its granting. By considering the bonus as an unlawful component this means that the main product and the one for which the bonus is being granted be different.

An important role in protecting the consumers is given by the transparency of the market. It is through this that the conditions of consumers' information are being assured regarding prices and selling conditions for products.

Each seller of products or worker gets information by himself on prices and tariffs including tax payment or other indebtedness that must be paid. Under certain situations the supplementary expenditures for the additional work are being asked. The quoted price must comprise the margin of the trader, expenditures of packaging and shipping, or regarding the merchandise that must be at the disposal of the consumer.

Within the anticompetitive politics (antitrust) consumers (citizens) are encouraged to give information on possible infringements of competitive regulations by lodging a complaint or by providing information within the context of market investigations. The citizens are being invited by Hearing Officer to participate in hearings if their interests are affected.

Tackling the problem of competition politics The European Commission focused on the idea according to which the best institutions and the best laws make a good country of the E.U. The Commission is examining in the domain of private turning into account of the conditions where the parties involved (including consumers) can introduce indemnity actions at national Courts of the member states for the infringement of legislation regarding community competition. In this context the General Management for Competition within the European Commission was created. The assessment of the possible complaints regarding efficiency must first take into consideration the advantage, the profit of citizens (consumers). Therefore, the chief economist and the team he coordinates (as part of Competition Authority within the EU) are obliged to assure a thorough economic assessment of the market efficiency and of the welfare of consumers.

Taking into consideration the functional changes of the D.G. Competition the Consumer Liaison Unit A6 was created in 2008. This assures a dialogue with the consumers whenever the particular cases are being analyzed or subject to the general problem of hedging the economic competition.

Among the competencies of Unit A6 3 we must consider:

-they constitute a contact point for individual consumers and consumer organizations such as European Organizations of Consumers (BEUC) .

They give special attention to some possible collective actions for damages of consumers' organizations in order to stimulate positive answers in private enforcing of competition norms.

- warns groups of consumers regarding the cases when their contribution is considered to be useful in order to express some points of view within the anti competitive procedures(antitrust), of mergers(economic concentration) or in cases connected with legislative proposals.

- gets contact to solve cases of National Authority of Competition.

Unit A6 within the ECN encourages the dialogue between the National Authority of Competition and those of Consumers. At the same time it came with the proposal to create a small group of competition hedged by the European Group of consumers and coordinated by the General Management for Health Protection and Consumers' Protection (DGSANCO).

The aim is to facilitate the exchange of information regarding the way of getting solutions and improvement of competition problems that consumers have to face. Such a measure was necessary as far as many of the signals from the Unit A6 have direct national involvements that do not always affect trade in countries that are membership of the UE. As a consequence, the small group of competition of ECCG has an important role to develop the dialogue with all national organization of consumers within the countries that belong to the EU.

- when notifications and recommendations are on work regarding the politics of competition and protection of consumers at the European Economic and Social Committee then there is a request for the point of view regarding Unit A6.

Complaints and notifications of consumers can comprise all main economic activities: car(cars, transport, electric energy, gas, telecommunication, household goods, media, financial services).

The concerns of consumers are permanently supervised by the politics of competition promoted by the European Commission. In this context, the General Management for Competition within the

European Union prioritizes the issues decisions to entail the welfare of consumers.

Therefore, the politics that is being promoted must ensure the consumers to have access for a wide array of products and services of good quality at competitive prices.

It is to take into consideration that possible prejudices brought to consumers are caused by setting up cartels. As a consequence, the European Commission continued to enforce the anti competitive regulations (antitrust) even when the world is now confronting the outcomes of the economic financial crisis. Enforcing the competition norms by the European Commission comes as a hope for European consumers so that the behavior line regarding the cartels be kept and sanctions applied have a discouraging role.

As such the European Commission will not allow the cartel men to cheat consumers by maintaining some high prices in an artificial way and to hinder innovation. Competition among firms must represent a guarantor for innovation and economic growth for the benefit of the consumers. As such, the consumers benefit from merchandise of good quality, at good and competitive prices and competitors and the newly entered on the market can manufacture innovative goods.

In order to comply with the principles of loyal competition within the European Union one of the most important European achievements is being represented by the unique domestic market. In this way, the European Commission continues to work in order to develop such a market. More than this, the Commission uses the competition politics as a flexible instrument in updating the new regulations, to reflect the evolution of the market as well as possible. The Commission also acts systemically to render efficient the collective activities.

It is to outline the fact that a collective activity represents a wide concept which comprises any mechanism that can lead to the end or prevention of commercial illegal practices which affect so many complains or to obtain damages for the injury caused by such practices.

### 3. Conclusions

Competition during firms on the unique European Union market must be a guarantor for innovation and economic growth for the advantage of customers. To find out and stop anti competition practices there are two forms of collective activity:

- Through the activities by ceasing
- Through the activities by indemnities

For the first the claimants have in view to stop the anti-competition behavior of the firm. For the second they have in view to hedge the damages caused by the prejudice suffered.

The procedures that hint the collective activities can take different forms including the extra juridical mechanism to solve the litigations. The collective ways differ a lot within the Union. It is for this that the European Commission has the role to tackle the issued litigations as community and the European consumers benefit from the corresponding protection regardless the geographic area where they are to be found.

In order to identify the common norms and a minimum standard of efficiency concerning collective activities, the European Commission proposes a public consultancy in this field. This is being called:

Towards a coherent European approach regarding collective activities. After launching such activities the European Commission made efforts to agree a common approach regarding the general juridical environment regarding collective activities within the EU. Later legislative initiatives were launched in different domains by specialists within the member states.

One of them would refer to activities in indemnities on anticompetitive phenomena as far in this domain there is a great variety in rendering it profitable. For example, starting a process on such activities in Bulgaria regards the Association of consumers, in Finland some public authority, in Portugal the association of consumers or natural persons ready to act in the name of a group of consumers.

And for this the European Commission must assure a community approach of the litigations that have come up and European consumers take benefit of the corresponding protection, regardless the geographical area.

The Commission will prioritize the work in such domains. At the same time the Commission uses the competitive politics as a flexible instrument and continuously updates the specific norms in order to render the evolutions of the market as well as possible. An example would be the revision of regulations regarding vertical agreements that take into consideration the development of sales with the help of the internet.

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## FISCAL POLICY IN ROMANIA

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**Abstract:** *Romanian economic activity in recent years was not linear, periods of expansion were followed by periods of contraction, peak moments were followed by depression. To reduce the effects of the crisis, evident in our country since the end of 2008, the state appeals to a series of tax measures, measures that contribute to the recovery of economic activity. Must be selected those instruments of fiscal and budgetary policy, which correspond to the real possibility of economic recovery, considering that they have an impact on the economy of any country.*

**Key words:** budget deficit, public debt, fiscal policy

**JEL classification:** E6, E62

### 1. Introduction

The global economy entered 2008 in the greatest economic crisis since the Great Depression of the 1930s. The crisis has had a high degree of synchronization, as it has affected both developed countries and emerging countries, demonstrating the significant increase of the degree of interdependence of world economies.

Since the last quarter of 2008, the financial crisis spread rapidly in Romania, in the context of an increasingly globalized world economy, and specifically, the Romanian economy highly integrated EU economy, so any negative external shock has spread rapidly and at national level.

On medium term, government priority was and remains linked to economic recovery, creating jobs and ensuring sustainable public finances, adjusted deficit and current account deficit to levels that enable their continuation funding of disinflation. Despite the reduced fiscal space budget due to expansionary macroeconomic policies pursued in previous years, the government reacted promptly in 2009, and implemented an anti-crisis program materialized in a substantial number of measures to stabilize the economy and resumption the economic growth process.

### 2. The concept of fiscal policy

Fiscal policy is the set of instruments of state intervention, generated by the training, through taxes, the revenues, the allocation of budget expenditures and ensuring the budget balances, oriented towards objectives, more or less defined.

Through fiscal policy can protect or encourage certain economic sectors, enabling fiscal interventionism to aim different objectives such as : inducement of economic agents to make investments in certain areas, increase quality and competitiveness of various products, stimulating exports, encouraging small manufacturers, stimulate agriculture and its sub-branches.

Through fiscal policy is determined primarily the volume of state's financial resources needed to carry out functions and tasks, their size is given by the amount of public expenditure of a certain period. In practice, between supply and demand of financial resources is not established a fully compliant, leading in this way either surpluses or budget deficits.

Economic literature shows when fiscal policy could become the first driver to stabilize the economy:

- when interest rates are very low, almost zero, and are needed other tools to build a further monetary policy;
- when the monetary policy begins to lose effectiveness in supporting economic activity, despite the reduction of the interest rates in money market and reduced credit demand;

- an important role has the reduction of interest rates, in this case, pessimism itself harms the economy, which makes that all monetary stimulus to be ineffective;
- when are needed jobs with high rather than low rates. When an expansionary monetary policy leads to low interest rates, the production increase, and when the deficit increase, the interest rates increase.

In order to achieve the main macroeconomic objectives, which are usually multiple such as high level of labor, high rates of economic growth, price stability, external balance, fiscal policy plays an important role. The role of fiscal policy in this period of crisis is crucial, because state intervention in order to still the slippages is decisive, the ultimate goal is economic stabilization.

These fiscal policy measures aimed to define the categories of taxes used, the place of revenues into budget, but also how to use these as leverage to stimulate the economy. So, fiscal policy has a dual dimension: the classic, reflecting the share of tax revenues in total financial resources, and the interventionist, which highlights its concerns in economic terms.

Some major elements define the configuration fiscal policy: maintaining a stimulating fiscal policy, the condition imposed in the Treaty of Maastricht, targeting funds to those sectors considered priority display, such as education, health, agriculture, research and innovation.

A loose fiscal policy stimulates aggregate demand by making government spending more than income. This could mean either lower revenue budget (lower taxes) or higher costs (investments, salaries of public sector employees). In other words, fiscal policy is characterized as procyclical if increase variations of economic cycle and not stabilize it. So, in a phase of economic expansion, it would further stimulate aggregate demand. Conversely, in a period of economic growth below potential, would be too restrictive, further reducing aggregate demand dynamics and preventing the economy to recover. Amplify business cycle fluctuations increases the uncertainty and therefore, increase informational cost for all economic agents, which is not desirable. A procyclical fiscal policy will cause a greater effort from monetary policy to stabilize prices and reduce inflation and macroeconomic correlation is always a negative signal. In previous years, Romania had a procyclical fiscal policy and loose, deficits above 3% were recorded only in 2000 and 2001.

### 3. The fiscal framework during 2007-2011

The global economy has overcome the critical point of crisis, recorded in 2010 a recovery in demand in many advanced economies, but also in emerging economies. This year, the GDP EU27 grew by 1,8%, given that in 2009 was down by 4,2%. In the first quarter of 2011, growth trend has continued, with GDP increasing by 0,8% from the previous quarter. Romania's commercial partner countries were also positioned on the slope of growth, thus Germany, France, Italy and Austria recorded economic growth much more than was anticipated in May 2010.

Regarding the romanian economic framework, the effects of the global crisis were felt strongly in 2009, when gross domestic product fell by 7,1%, given that there was a significant adjustment of current account deficit, 4,2 % of GDP from 11,6% in 2008 and the budget deficit has increased due to the imbalances accumulated in 2007-2008.

**Table 1: Economic Growth (percentage changes)**

	2009	2010	2011
<b>GDP</b>	-7,1	-1,3	1,5
<b>Industry</b>	1,4	5,1	2,7
<b>Agriculture</b>	-14,3	-0,8	1,0
<b>Construction</b>	-13,3	-10,7	1,6
<b>Services</b>	-6,2	-2,3	0,9

Source: National Institute of Economic Statistics and National Forecasting Commission

The decline continued in 2010 when GDP fell by 1,3%, but was better than expected. Should be mentioned that was accompanied concomitantly with budget deficit adjustment from 7,3% of GDP in 2009 to 6,5% and also managed to keep the current account deficit in the area of stability, 4,1% of GDP. 2010 is the year when industrial production was relaunched, which increased by 5,1%, recovering the total loss of the previous year, with a better structure adapted to the needs of foreign and domestic market.

Fiscal policy is a tool for managing the national economy, affecting aggregate demand, allocation of resources and income distribution. Managing growth by the year 2008 proved to be difficult for

Romania. Fiscal policy has contributed to these imbalances by higher expenses than revenue from economic growth (leading to the budget deficit).

Romania missed the opportunity to create reserves in the period of continuous expansion, as protection against a possible slowdown in growth. If part of the growth results were saved would be created the fiscal space necessary when an expansion of a significant decline in capital flows and the economy generally.

**Table 2 : Evolution of the main budget indicators 2007 - 2011 (% GDP)**

	2007	2008	2009	2010	2011
<b>Income</b>	32,5	32,2	32	32,7	32,9
<b>Costs</b>	35,6	37,0	39,4	39,5	37,3
<b>Deficit</b>	-3,14	-4.82	-7,4	-6,8	-4,4

Source: Consolidated Budget Report, 2011

In 2008-2010, budgetary revenues recorded a share in GDP which stood at around 32,2% - 32.7% while spending share of GDP have been growing larger, ranging between 37% - 39,5%.

Severe slowdown in the growth rate put strong pressure on the fiscal position, given that it was already weakened because of the large number of taxes and their frequent changes, resulting in an increased tax burden on business.

Thus, fiscal consolidation and urgently address the imbalances macroeconomic became a priority. To mitigate the effects of economic crisis and economic recession, expansionary fiscal policy was dropped, and since 2010 was promoted an austere fiscal policy with clearly defined strategic priorities: ensuring long-term public finance sustainability and the environment, equitable distribution of tax burden and costs, support monetary policy.

The main medium term objective of fiscal policy aimed simplify the tax system (which involves simplifying tax returns and the number of payments to be made and reducing the number of fees and charges for non-fiscal nature) and business support (supporting young entrepreneurs up to 35 years, young people can get bank loans with state support).

The table below shows the evolution of general government revenues during 2007-2011.

**Table 3 : The revenues' evolution of general consolidated budget (% GDP)**

	2007	2008	2009	2010	2011
<b>Corporate tax</b>	2,7	2,6	2,4	2,0	1,8
<b>Income tax</b>	3,7	3,4	3,7	3,5	3,3
<b>Tax on foreign trade</b>	0,2	0,2	0,1	0,1	0,1
<b>Excise</b>	3,2	2,5	3,1	3,4	3,3
<b>Social security contributions</b>	9,9	8,5	9,5	8,9	8,8

Source: own processing based on consolidated reports 2007-2011

Due to uncertain international context, recovery is still fragile, being necessary the continuation of fiscal consolidation so their effect allow starting from 2012 to achieve a budget deficit of 3% of GDP, according to the Maastricht convergence criteria.

It can be noticed that since 2008, the main categories of budgetary revenues have registered a continue decrease, as the effects of the global crisis were felt in our country. If in 2007, corporate tax was 2,7% of GDP at the end of 2011 its value was 1,8%. Excises duty has increased from 2,5% of GDP in 2008 to 3,3%, the value recorded at the end of 2008.

Romania has the lowest level of revenues as a percentage of GDP in the EU. Corporate tax, income tax is much lower than in most other European countries. Even after increasing taxation of social security contributions, Romania ranks eighth in terms of overall levels of tax rates, is exceeded by most countries in the region, Hungary, Czech Republic, Bulgaria, Slovakia, Poland and the larger states such as France and Belgium. Corporate tax in Romania is 16%, among the lowest in Europe, the European Union there are only five other states with lower tax rates: Latvia, Lithuania, Ireland, Bulgaria and Cyprus.

Budgetary policy promoted is a restrictive expenditure policy, prudent and balanced, based on the principle of strong financial management, given the turbulence and uncertainty in international markets, and internal constraints. Budget policies must ensure a better future income redistribution, a more efficient spending, and finding alternative sources of funding, capacity to raise funds.

Restoring macroeconomic balance on medium-term by respecting fundamental economic correlations is dependent with the economic policy coordination. This correlation is required for admission to the Economic Monetary Union, but must be kept on, given that Romania needs to find its rhythm and development resources.

The fiscal policy objectives include: reducing the budget deficit from 4,4% of GDP in 2011 to 3,0% of GDP in 2012 to 2,5% of GDP for 2013, and 2,2% of GDP in 2014, this objective depends on the elimination of arrears and spending under control, targeting expenditure towards investment projects with a role in economic development, further adjustments and restructuring public expenditure.

**Table 4 : Evolution of the main expenses of general consolidated budget**

	2007	2008	2009	2010	2011
<b>Personnel expenses</b>	6,5	6,1	9,2	8,4	6,6
<b>Goods and services</b>	6,6	5,8	5,7	5,8	5,5
<b>Interest</b>	0,7	0,7	1,2	1,4	1,1
<b>Subsidies</b>	1,8	1,5	1,4	1,3	1,1
<b>Transfers</b>	15,6	14,1	16,1	18,5	16,6
<b>Capital expenses</b>	3,7	3,8	4,6	3,8	3,9

Source: own processing based on consolidated reports 2007-2011

On the budget expenditure side priorities for the coming years should focus on improving efficiency of public spending and restructuring expenditures to increase their sustainability. The structure of budgetary expenditures in Romania is characterized by the predominance of social spending (salaries, pensions, welfare).

Compared with other European countries, Romania has one of the highest rates of social spending in the budget, only countries like Greece, Ireland, Spain and Portugal with a higher share. Regarding capital expenditure, Romania in 2007-2009 had the largest allocation (both as percentage of GDP and as a percentage of budgetary revenues) for public investment compared to in the EU27 countries.

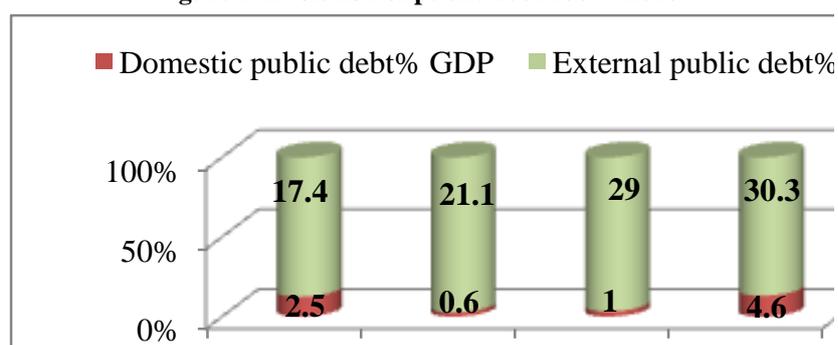
Each year was intended to reduce spending, but they had an oscillatory evolution. In 2007 their value was 35,6% of GDP, so in 2010 it reached 39,5% and at the end of the period analyzed reached a value of 37,3%

In classical theory public deficits were considered to be dangerous, their existence was systematically considered a sure way to economic ruin. The modern theory of public finance, inspired by Keynesian theory, reduced these fears to the status of superstitious, demolishing an obstacle to continued growth in the share of national income absorbed by government spending.

Deficit and debt problem is present in varying degrees in most European countries. The Maastricht Treaty, which was the basis for Monetary Union accept the obligation to keep the national debt below 60 percent and the budget deficit below 3% of national income.

In the case of Romania, the budget deficit is strongly influenced by economic position in relation to the economic cycle, thus reduced deficits hide serious imbalances of the fiscal position, to the extent that is due to the increases of budgetary revenue obtained by overheating the economy. The accumulation of these deficits from one year to another lead to a debt increasingly higher. Below is shown the evolution of internal and external public debt in the period 2007 to 2010.

**Figure 1: Evolution of public debt 2007 - 2010**



Source: own processing

In 2007, total public debt was over 82,3 billion Ron and represented 19,94% of GDP in 2007. In terms of public debt recorded at the end of 2008, nearly 60% was in Ron, 27,68% was in euros, 9,57% in dollars, 1,9% in Japanese yen and the rest in other currencies. Romania's total public debt increased by 32,26% from late 2007 until the end of 2008, about 108,9 billion Ron (27,3 billion), representing over 20% amount of estimated gross domestic product for 2008. In 2009, public debt rose to 148,05 billion Ron, which means 30% of GDP. During January-November 2011, public debt was 96,886 million, up 4,8% from 2010.

#### 4. Conclusion

Therefore, Romania needs to record progress in disinflation plan, constantly strengthening the fiscal position, reducing the current account deficit, improving the business environment, increase stimulus for creating jobs. Maintaining macroeconomic balance can not be put solely in charge of monetary policy, fiscal policy should have a supporting role and thus taking of the stabilization efforts. So, fiscal policy plays an important role in Romania's macroeconomic strategy, especially given the prospects for capital inflows and strong growth in private sector also is favorable for strengthening permanent revenue base.

Its role is important, it revealed that directly controls about 40 percent of costs throughout the economy. If NBR is left alone to fight against inflation, will result in much higher interest rates, which will affect investment share in GDP and the prospects for growth. Therefore, appropriate policy response of the NBR, which may include further increases in interest rates must be supported by a restrictive fiscal policy and a prudent public sector wage policy, both in order to reduce inflation and to promote growth.

However, fiscal policy should be improved and price stability remains an important objective of monetary policy, the two must be related, given that National Bank has been difficult to maintain the inflation target. For Romania is essential to ensure fiscal sustainability, keeping the deficit under control, at a level below 3% of GDP. For achieving this objective it is necessary to improve collection in order to reduce the budget deficit as tax predictability, simplifying the collection, continued macro-financial stability.

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## THE INFLUENCES OF THE SINGLE CURRENCY ON THE ROMANIAN ECONOMY

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**Abstract:** *Monetary policy of a country is usually in the national currency. For an economy that is not part of the euro area but with strong links with the euro area and the central bank has a euro anchor there major influences from the single currency. The mix of measures required for intervention must be considered and influence the direction and magnitude of the single currency.*

**Key words:** currency, interest rate, budget deficit;

**JEL classification:** E 31, E 58

### 1. Introduction

If for the citizens of the member countries that joined initially the Monetary Union there was a period of implementation-adaptation to the new currency, for those from the countries outside the Union the transition was more abrupt and without official and relevant explanations. Considering that very many commercial operations in Romania are made with partners of the European Union member states, the Romanian companies were forced along with changeover to the euro to update their contracts with them equating prices, tariffs and contractual values in euros.

Starting with 1 January 2007, Romania joined the European Union. Upon joining the EU, there must be followed certain rules of economic governance and, after meeting the criteria established in the Maastricht Treaty, it shall have the right to join the single currency. Until then, payments between the resident economic agents are still made in lei in Romania respecting the currency regulation in force. Although the single currency has not yet been adopted in Romania it generates by its nature and structure of the economy multiple influences. Positive most of the time in situations of economic boom, and when the single currency has problems they are felt, often with the same consistency as in the economies that are part of the euro area.

### 2. The influence on the interest rate

To attract foreign capital and therefore direct investment in different economic sectors, following the adoption of the single currency by some EU Member States, the NBR gradually cut the interest rates. Since 2000 the interest rates have entered a downward trend amid the decline of the inflation rate and inflation expectations. In 2001, despite the liquidity surplus from the Romanian banking system NBR regained its ability to effectively influence the interbank interest rates.

In 2002 both the income policy and the external position of Romania's economy strengthened, thus the risk of attracting speculative capital increased, due to the high gap between national and international yields which determined NBR to reduce the interest rates until the end of the year when there was a period of maintaining them. Because of the persistence of the risk to attract speculative capital and NBR's need to diminish the gap between interest rates relating the loans in foreign currency and in national currency, the NBR resumed in 2003 the lowering of the monetary policy interest rate. This continuous decrease in the interest rates was also fuelled by the industry's slower start at the beginning of the year and the low inflation. Although the inflation rate was continuously declining in the first half of 2004, the NBR kept the monetary policy interest rate at 21.25% until May and it firmly sterilized the excess of liquidity, after which it decreased the interest rate reaching 17 % in December.

The relaxation of the interest rate policy also continued in 2005 but with different intensity. Thus, if until the middle of the year the interest rate slowed, in September-October the decline accelerated reaching 7.5% at the end of the year. This fast decrease was necessary to temper the speculative capital inflows on the domestic market.

Since early 2006, the NBR increased the monetary policy interest rate to 8.75% and maintained it at this level throughout the year in order to keep the inflation rate within the established parameters. Along with Romania's accession to the EU (Romania joined the European Union on January 1, 2007), the NBR was forced to adopt a monetary policy according to the commitments made both in the pre-accession period and during the preparation for the euro adoption. Therefore, in order to keep inflation on the projected track, the central bank decreased the interest rate in the first semester of 2007. In the third quarter the NBR decided to keep the interest rate because of the probability of manifestation of certain major risks to the sustainability of the disinflation.

From February to July 2008 the NBR Board increased the interest rate to 10.25% to counter the inflationary pressures. Because of the international financial turmoil and increased uncertainty regarding the global economic prospects and their influences on the Romanian economy, the external demand for Romanian products dropped significantly and the local economic agents had much more difficult access to external and internal financing. Given that the expansion of the economic and financial crisis at international level and the downward revision of forecasts on the economic activity in the industrialized countries impeded the prediction of the speed and intensity of propagation of these effects on the Romanian economy, the central bank decided to maintain the interest rate at 10, 25% until the end of the year. By this decision the central bank intended to create a balance between the growth of the real monetary restrictions in order to achieve the disinflation objectives in the medium term.

In 2009, The NBR maintained the prudent nature of the monetary policy by gradually and continuously adjusting the real monetary conditions in the broad sense, to build a healthy crediting in the private sector of the economy without stimulating the exchange rate volatility. Thus, from February to September 2009, the monetary policy interest rate was gradually reduced from 10.25% to 8.0%. Towards the end of the year the political climate instability generated new risks to the short term inflation prospects and hence to the economic activity. One of the major risks was the disruption of carrying out loans contracted from the international financial institutions and organizations and the deterioration of the national and international economic-financial environment perception on the national economy perspective, meaning the national currency depreciation, the increase in the costs of financing / refinancing of the public sector and implicitly inflation expectations. To counteract the adverse implications of these risks and to be able to prevent the short-term amplification of the inflationary shocks the NBR decided to maintain the the monetary policy interest rate at 8% until the end of the year. The interest rate depreciation was resumed in January 2010 after the tempering of the domestic political environment and the reactivation of the multilateral external financing arrangement. But in June the NBR stopped the interest rate declines and maintained it at 6.25% following the deviation from the inflation target. In 2011, the NBR kept the monetary policy interest rate although most of the European Union states were reducing it in order to encourage crediting and stimulate the economic growth. Amid the announcement of new regulation on lending, in which there are certain restrictions on both the consumer credit and the real estate ones and especially on the single currency loans, in November the NBR decided to lower the rate from 6.25% to 6.0% per year to encourage lending.

**Table 1: The NBR interest rate evolution**

<b>Date</b>	<b>The monetary policy interest rate</b>	<b>The interest rate on the lending facility (lombard)</b>	<b>The interest rate on the deposit facility</b>
	(% p.a.)	(% p.a.)	(% p.a.)
Feb. 2012	5.50	9.50	1.50
Jan. 2012	5.75	9.75	1.75
Dec. 2011	6.00	10.00	2.00
Dec. 2010	6.25	10.25	2.25
Dec. 2009	8.00	12.00	4.00
Dec. 2008	10.25	14.25	6.25
Dec. 2007	7.50	12.00	2.00
Dec. 2006	8.75	14.00	1.00
Dec. 2005	7.50	14.00	1.00
<i>Date</i>	<i>The monetary policy</i>	<i>The interest rate on the</i>	<i>The interest rate on the</i>

	<i>interest rate</i>	<i>lending facility (lombard)</i>	<i>deposit facility</i>
Dec. 2004	17.00	30.00	5.00
Dec. 2003	21.25	30.00	5.00

Source: The National Bank of Romania – www.bnr.ro – The NBR interest rates

### 3. The influence on the budget deficit

Romania's budget deficit level in relation to the GDP ranged during 1995 - 1999 from 2% to 4.4%. After having reached 4.7% in 2000, the influences of adopting the single currency by the EU Member States began to be felt also in Romania, so the budget deficit began to decline to 1.2% in 2005. The downward trend of the budget deficit is due to increased budget revenues amid the overheating of the economy at international level both in 2004 and in 2005, the budget deficit affected the inflation moderation and limited the deterioration of the current account deficit.

Although in the first months of 2006 Romania registered a budget surplus at the end of the year, after the relaxation of the fiscal policy, it was recorded a budget deficit higher than the one of the previous year. Because of the inflationary pressures in 2007 it was needed further easing of the fiscal policy, which implicitly led to an increase in budget deficit.

In 2008 a series of budget and fiscal policies was adopted also influenced by elections which resulted in a budget deficit of 5.7% of GDP. Some of the budget expenditures were in the short term (e.g. compensations for the refugees from Bukovina, Bessarabia and the Quadrilater), but other decisions, such as the pension point increase from 32% to 45% of the average salary will affect the budget deficit also in the future.

The budget deficit continued to grow in 2009 too, significantly exceeding the limit of 3% of GDP mentioned in the Maastricht Treaty. Thus, Romania was included in an excessive deficit procedure by the European Council by which it is obligated to achieve fiscal consolidation in the following period of at least 1.75% of GDP per year.

In 2010, the budget and fiscal measures to reduce by 25% the public sector wages and increase the VAT standard rate by 5 percentage points from 19% to 24% increased the budget deficit.

**Table 2: The evolution of the budget deficit (% of GDP)**

<b>GEO</b> ▾ <b>TIME</b> ▾	<b>European Union (27 countries)</b>	<b>Euro area (17 countries)</b>	<b>Romania</b>
<b>1995</b>	:	-7.2	-2.0
<b>1996</b>	:	-4.3	-3.6
<b>1997</b>	-2.7	-2.8	-4.4
<b>1998</b>	-1.9	-2.3	-3.2
<b>1999</b>	-1.0	-1.5	-4.4
<b>2000</b>	0.6	-0.1	-4.7
<b>2001</b>	-1.5	-1.9	-3.5
<b>2002</b>	-2.6	-2.6	-2.0
<b>2003</b>	-3.2	-3.1	-1.5
<b>2004</b>	-2.9	-2.9	-1.2
<b>2005</b>	-2.4	-2.5	-1.2
<b>2006</b>	-1.5	-1.3	-2.2
<b>2007</b>	-0.9	-0.7	-2.9
<b>2008</b>	-2.4	-2.1	-5.7
<b>2009</b>	-6.9	-6.4	-9.0

GEO TIME	European Union (27 countries)	Euro area (17 countries)	Romania
2010	-6.6	-6.2	-6.9

Net necessary (-) / Net capacity (+)

Source: Eurostat - Government deficit/surplus - Annual data

#### 4. The influence on the public debt

If in the period 1995 - 2001 Romania's public debt ratio of GDP rose from 6.6% to 25.7%, since 2002 the government debt began to decline, reaching 12.4% of GDP in 2006 (according to the SEC95 methodology - the European System of Accounts was created in 1995 to bring to a common denominator the classifications of the national accounts and within them the taxes and fees in the European Union). In 2007 the public debt increased reaching 12.8% of GDP at the end of the year.

In the absence of some concrete fiscal measures to reduce sustainably the budget deficit which was constantly growing, the public debt increased in the following years at an alarming pace (about 10% per year). Thus, the public debt ratio reached 31% of GDP in 2010.

Table 3: The evolution of the public debt (% of GDP)

GEO TIME	European Union (27 countries)	Euro area (17 countries)	Romania
1995	:	72.0	6.6
1996	69.9	73.7	10.6
1997	68.3	73.2	15.0
1998	66.4	72.8	16.8
1999	65.7	71.6	21.7
2000	61.9	69.2	22.5
2001	61.0	68.1	25.7
2002	60.4	67.9	24.9
2003	61.9	69.1	21.5
2004	62.3	69.5	18.7
2005	62.8	70.1	15.8
2006	61.5	68.5	12.4
2007	59.0	66.3	12.8
2008	62.5	70.1	13.4
2009	74.7	79.8	23.6
2010	80.1	85.3	31.0

Source: Eurostat - Government debt - Annual data

#### 5. The influence on the exchange rate

Immediately after the adoption of the single currency by the EU Member States, 1999 - 2003, Romania's national currency was continuously devalued in relation to the euro. Thus, the exchange rate increased from 1.8345 to 4.1158 lei for one euro.

In 2004, to reduce inflation and increase the purchasing power of the national currency, the NBR Board of Directors adopted a monetary policy aimed at the leu appreciation against the euro and dollar. As a result both in 2004 and in 2005 and 2006 the national currency appreciated and therefore the exchange rate dropped to 3.3835 lei / euro in 2006.

Both the worsening of the economic development of the emerging countries and the deterioration of the investors' perception towards the prospects for correcting the economic imbalances in the following period were also felt in Romania. Thus, since 2007 the leu embarked a downward trend against the euro and the exchange rate increased every year, exceeding the maximum level of 4.1158 lei / euro reached in 2003, reaching a parity of 4.2363 lei / euro at the end of 2009.

Romania's currency depreciation tempered in 2010, its volatility being lower than the exchange rate variations of the currencies in South Eastern European countries. In the first quarter, even the leu had a trend of appreciation against the euro due to the increased international appetite for risk and the improvement of the investor's perception towards the financial markets in Central and Eastern Europe and implicitly in Romania.

In early 2011 the exchange rate leu / euro increased, followed by a national currency depreciation starting with May. The downward trend continued until the end of November when the leu restarted to appreciate against the euro reaching an exchange rate of 4.3233 lei / euro at the end of the year.

The national currency fluctuations lately, the stock market crash amid the global economic crisis have led to the appreciation of the inflationary process and could have a negative impact on the interval of accession set: 2012-2014, the analysts warn.

**Table 4: Historical exchange rates between the Romanian Leu (RON) and the Euro (EUR)**

CURRENCY TIME	Romanian leu / Euro	Variation
1999	1,8345	
2000	2,4142	31,60%
2001	2,7817	15,22%
2002	3,5135	26,31%
2003	4,1158	17,14%
2004	3,9390	-4,30%
2005	3,6802	-6,57%
2006	3,3835	-8,06%
2007	3,6077	6,63%
2008	4,0225	11,50%
2009	4,2363	5,32%
2010	4,2620	0,61%
2011	4,3233	1,44%

Source: Eurostat - EURO/ECU exchange rates - Annual data

But the fifth nominal convergence criteria, regarding the stability of the exchange rate depends critically on the performance of the criterion concerning inflation. Since inflation was brought to single digit values, the exchange rate has started to show a degree of stability compatible with this criterion. It should be noted that the relationship between inflation and exchange rate is bi-univocal, meaning that they balance each other.

In other words, a more stable exchange rate is not only a result of a lower rate of inflation but, in turn, through a lower nominal depreciation (or - which is the same - through a higher real appreciation ) may lead to a decrease in the rate of inflation.

So a very important conclusion is that a real appreciation of the exchange rate potentiates the disinflation process. But this real appreciation can not be imposed arbitrarily, without respecting the "golden rule" according to which labour productivity growth (seen as external competitiveness stimulating factor) each year must be higher or at least equal to the amount between the appreciation in real terms of the national currency and growth in real terms of the average wage (seen as factors inhibiting external competitiveness).

One can appreciate that given the need to implement further structural reforms to increase the capacity and flexibility of the Romanian economy to face asymmetric shocks, Romania will not be able to join the exchange rate mechanism two (SME II) sooner than 2012. The accession to the exchange rate mechanism 2 planned for 2012 will be an important step towards convergence.

## 6. Conclusions

According to the Maastricht Treaty, the countries acceding to the European Union become Member States with temporary derogation regarding the adoption of the common currency. This means that at some point following the accession, the new Member States will enter the EMS II, and then conditioned by the nominal convergence criteria, they will adopt the euro, which offers the integration into the Economic and Monetary Union full content. Although after the accession to the European Union, the monetary and exchange rate policies of each state become subject to the common interest, it is also clear that the options for monetary and currency strategy after joining the EU are mainly a responsibility and prerogative of the Member State.

For the Romanian economy, joining the euro area is an extremely important strategic objective whose implementation timetable was developed taking into account the benefits and costs that this process generates. The first edition of the Convergence Programme, completed and published in January 2007 - after its project was publicly debated in the previous months - has particular importance for

Romania, being the first document to evaluate the possibilities of economic development while promoting policies to achieve nominal and real convergence.

Given the need to implement structural reforms to increase the capacity of the Romanian economy to face asymmetric shocks, it is estimated in the Convergence Programme that Romania will not be able to join the EMS II sooner than 2012. Given the conditions to enter the EMS II in 2012 and of minimizing the duration of participation in this mechanism, the euro adoption could take place at the horizon of 2014.

We observe that the transition from the national currency and the monetary policy made by the Romanian central bank we can move into a predictable timeframe and with a phased schedule naturally to a currency common for more economies with complex manifestations and dynamics.

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## THE CRITICAL ANALYSIS OF SUFFICIENT ATTRIBUTES OF THE EMPIRICAL ASSERTIONS IN LIGHT OF THE APPLICATION OF THE METHODOLOGICAL PRINCIPLE OF APPEARANCE

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**Abstract:** *In this paper we claim that the principle of appearance should become a methodological premise of all economic researchers. Because the primary observations are at the core of empiric assertions, they should meet, at the same time, the following prerequisites: to be synthetic sentences about the world we live in and to be non-debatable. A consequence of the principle of appearance is however the logical impossibility of meeting both conditions at the same time. We will analyse in this paper the impact of this problem for the economic scientific research. In order to limit the sphere of inclusion of the "empirical assertion" category, we will also try, in the following, to establish the adequate criteria which an assertion must meet in order to be considered empirical, or, to put it in another way, the sufficient attributes of empirical assertions in general and of economic empirical assertions, in particular.*

**Key words:** the principle of appearance, economic empirical assertions, synthetic sentences

**JEL classification:** B 40, B 41

### 1. A methodological principle of scientific research – appearance

Analysing the issues of defining and using empirical sentences, undoubtedly linked with the concept of reality, we reach the area of metaphysics, where, considering the array of well-founded approaches, but often contradictory, we must find our place. Such an endeavour is necessary we say, paraphrasing Popper (1981), in order to shed light within the "marsh" of philosophical theories which form the foundation of the establishment of scientific research. We thus believe that the Kantian approach represents the path to follow. Our study will thus be founded by using as a starting point several of Kant's (2009) philosophical ideas concerning rational knowledge accurately described in "The critique of pure reason", which creates the philosophical grounds for the methodological principle which we follow ourselves – the principle of appearance. We will try, in a few words, to summarize those ideas.

Kant (2009) does not deny the existence of an objective reality, quite the opposite, he supports it, but he states at the same time that it is outside of our possibilities of rational knowledge. We know, from a rational point of view, through our senses, thus objective reality is filtered (Pohoăț, 2011) and subjective. What we come to know about reality refers to those perceivable forms of manifestation of reality, so, to appearance, to a phenomenon (see Dinga, 2009) and thus not to the reality per se, to its essence, which remains unknown. Any primary observation created as a result of the study of the world around us implies our perception on this world. For this reason, we believe that any empirical assertion must be tested by its confrontation with the primary observations which fundament it. The supported idea, however, generates the appearance of the issue presented in the following paragraphs. Because these primary observations are at the core of assertions concerning the surrounding world, they should meet, at the same time, the following prerequisites: to be synthetic sentences about the world we live in and to be non-debatable. A consequence of the principle of appearance is however the logical impossibility of meeting both conditions at the same time. Either the primary observation talks about what we believe about the world and *not the world as it is*, but then it does not meet the first condition, being, in fact, a statement about the watcher and not the watched object, or it presents a part of the external world and involves our perception about *belonging to this world*, being, in this situation, debatable. To put it

differently, any primary synthetic observation about the world is debatable because it surprises its appearance, while any personal perception is undebatable, but it is not included within the synthetic affirmations about the surrounding world.

The principle of appearance become, we claim, within the presented context, a methodological premise of all researchers which use the Kantian approach as a philosophical ground. In the following, we will present the solutions which have been taken into account by the specific literature when dealing with overcoming the methodological deadlock mentioned before.

## 2. The critical analysis of sufficient attributes of empirical assertions

In order to limit the sphere of inclusion of the "empirical assertion" category, we will try, in the following, to establish the adequate criteria which an assertion must meet in order to be considered empirical, or, to put it in another way, the sufficient attributes of empirical assertions.

Watkins (1960) creates a synthesis of the criteria which have been used throughout time to delineate the category of factual understandable assertions from other categories of assertions. He presents the following categories of criteria:

- Translational;
- Verifiable;
- Verifiable or falsifiable;
- Falsifiable.

Watkins (1960) realizes, within his study, an analysis of the criteria mentioned above, but judged not from the perspective of factual understandability, but from the perspective of their ability to reveal the difference between empirical assertions and non-empirical assertions. In the author's opinion, the sufficient adequacy criteria (the attributes which we will also use until establishing our own criteria, in the second part of the paper) to set the bounds for an empirical assertion are:

1. The possibility to universally generalize all the elements of the assertion which refer to testable properties;
2. The lack of tautologies within the assertion;
3. The lack of assertions of a theological nature within an assertion whose acceptance cannot be affected by observations.

The first adequacy criterion which Watkins (1960) mentions is not one which cannot be challenged, and, for this reason, we will make a series of assumptions concerning its use. Through the "possibility of universal generalization of all the attributes of an assumption which make reference to testable properties" we understand the submission of all such attributes to the test of falsifiability (and not the one of verifiability), thus eliminating the false assertions from the category of empirical assertions. As an example, we notice that a rule of inference such as "blond hair is a characteristic of all Romanians" would generate, in the absence of the mentioned criteria, situations in which the observation "this is a Romanian" with the consequence "as a result, he has blond hair" in conjunction with the observation "he does not have blond hair" leading to the conclusion "thus he is not Romanian", the inference rule does not have the possibility of becoming false. In the context in which the first criterion is an operational one, thus not having the possibility of universal generalization of the elements to which it refers, the stated intention is not included within the category of empirical assertions. The assertion "all Romanians are blond" is an empirical one if it is judged by the first stated criterion, because with the observation "this is a Romanian", generates the logical conclusion "thus, he is blond", which in conclusion with the observation "he is not blond" leads to the conclusion that "so not all Romanians are blond".

The second criterion which Watkins (1960) mentions, namely the lack of tautologies within the empirical assertion takes into account the fact that it represents assertions obtained by replacing several known terms of an assertion with synonymous terms and this is why it is not tautology, which represents a logical truth and is empirically testable, but the initial assertion that was the foundation for its construction.

The third criterion of adequacy mentioned by the author, namely, the lack from within the assertion, of several tautological assertions whose acceptance cannot be affected by observations, is cited, as no such assertion is not testable.

Coming back to the boundary criteria whose usage has been considered throughout time to be possible with the purpose of creating demarcation line. The first category of criteria on which we shall pause, from the chronological perspective of their occurrence, represents the translational criteria.

### 2.1. Translational criteria

According to Wittgenstein (1922), any original sentence results from the logical processing of the elementary sentences, true or false according to performed observations, so the sentences which are not testable are meaningless. The world, he says, is completely described by the specifications of all the elementary sentences and the mentioning of these specifications being true or false. To make a difference between the empirical assertions, a solution is thus, to build an empirical language which would be used as a "bed of Procrustes" for the assertions which are subject to being tested. Those who cannot be expressed by the usage of the created language will not pass the test to which they were subjects.

The supporters of the translational criteria are the partisans of such an empirical language whose foundation is given by connected primary observations, through various logical connections. In our opinion, however, such a translational criterion would not be adequate for the third criterion for empirical assertions which Watkins (1960) identified. As Popper (1981) proved, by building a counter-example, such a criterion would allow for the issuing of theological assertions whose acceptance cannot be affected by observations, within the assertion. As long as such a language includes, within its logical operations, an universally existential quantifier, negation, and primary noticeable elements, the assertion "there is an X which was not born, will not die, is not divisible, is not limited and is not material; and there is no Y of which X does not know about or cannot influence or a Y which can influence X" is, according to the translational criteria, empirical (Watkins, 1960).

Also, we believe that, considering all the presented aspects for the support of philosophical grounds of the appearance principle, an elementary assertion bound to the surrounding world cannot be true or false, only apparently true or apparently false according to this principle. In this context, a universal generalization of all the elements of the assertion to which it refers is not possible.

As a result, a translational criterion cannot be used as a means for demarcation for the delimitation of empirical assertions because it allows for the inclusion of theological assertions within them and does not lead to the universal generalization of all the elements of the assertion which refers to testable properties, which is in contradiction with the adequacy criteria defined before.

### 2.2. Verifiable criteria

Another solution to the problem which Wittgenstein (1922) issued, proposed in an attempt to eliminate the lackings of the translational criteria, is that of using assertion verification criteria, which, if confirmed via primary observations, validate the verified assertions, confirming their empirical character.

The partisans of these verifiable criteria consider that the probability of an empirical assertion to be true is greater and greater as the number of singular particular verified cases which confirm the assertion in cause is greater.

The application of the checkable approach comes in contradiction with the first criterion which Watkins (1960) established for empirical assertions, because it does not allow for the universal generalization of all the elements of the assertion which refers to testable properties. The probability that a universal law is true cannot be "pushed" towards zero most of the times by applying verifiable criteria, because most universal laws are assertions which make reference to a number of situations which is invariably greater than the number of verified cases. The practice to determine the probability that an empirical assertion is true by establishing a relation between the number of verified cases which confirm the assertion to the total of verified cases most often generates the occurrence of a paradox, meaning that the assertion which was empirically proven false has a high possibility of being true. This probability differs from zero, but only appears because the denominator has the number of possible cases (infinite) is replaced with the number of observed cases (finite).

Still, such a paradox cannot exist when the verifiable criteria are being used to confirm empirical assertions which regard a finite number of terms, completely observed. Considering all these factors, we believe that verifiable approaches cannot be used in these situations, in order to validate an empirical assertion because the first adequacy criterion stated by Watkins (1960) is not accomplished. According to the principle of appearance which we issued, an elementary sentence linked to the surrounding world cannot be true or false, but only apparently true or apparently false. In this context of universal generalization of all the elements of the assertion which refers to testable properties is not possible and because appearance always allows for the apparition of new manifestations of the real which would transform elementary verified assertions and considered to a certain point both true and universally valid, in challengeable assertions. Testable properties which result after the primary observations are not logically unchallengeable, considering the appearance.

### 2.3. Verifiable and falsifiability criteria

Using this group of criteria appeared as a reaction of logical empiricists to the critics of Popper's verifiability. Using this disjunctive criterion does not succeed in the delimitation of empirical assertions because it breaks the second adequacy criterion which Watkins (1960) issued, allowing the existence of tautologies within the assertion. So, an assertion like "Romanians are blonds or non-blonds" through "non-blonds" meaning "which are not blonds", would be included within the verifiable half of the used criterion within the category of empirical assertions.

And within the situation of using such a type of demarcation criteria, the testable properties which result from primary observations are not logically unchallengeable. Considering the appearance and using the same arguments as with the verifiable criteria, we have as a result the impossibility of their universal generalization, ergo the rejection of the first adequacy criterion used.

### 2.4. Falsifiability criteria

Popper (1981) tries to solve one of the issues signalled within the first pages of this article, meaning that the synthetic primary observations on the world are challengeable because they also include their appearance, introducing a new criterion in the debate. He says that we can include them within the sphere of primary synthetic observations which we can test as long as we consider necessary. In other words, the author creates a relaxation of the defining characteristics of the primary observations on the world, considering that they must be synthetic assertions about the world outside us which can be tested as long as we consider necessary. By introducing the testable criterion, Popper accepts challengeable assertions within the category of primary synthetic observations, with the condition that they can be tested (thus proven false). Assertions with a theological content are however eliminated from this category, because they can neither be tested, nor unchallenged.

By introducing this new condition with a large affordability, Popper does not solve, we believe, the issue raised by the first adequacy criterion used by Watkins (1960). The possibility to universally generalize all the elements of the assertion which refer to the testable properties is not logically possible as long as falsifiability does not solve the issue of primary sentences, true or false according to made observations.

Popper (1981) states that we can accept within the category of empirical assertions only those who contradict at least one of the primary observations, as true or false, considered "a potential falsifiability". But the existence of potential falsifiability is impossible within the acceptance of appearance as a methodological principle. A "true" primary observation now can prove "false" in the future which involves the impossibility of a universal generalization of assertions which refers to possible false properties. If within the situation of verifiability the observation of does not allow for the generalization, as showed before, neither in the case of falsifiability, an (apparently) unfalsified assertion until the present moment, cannot be universally generalized, from a logical perspective, because:

- a. It could become false in the future or
- b. It was false in the past, but the appearance did not allow noticing its falsehood.

In the context of sufficient given attributes, the relaxation of defining characteristics of primary observations of the world which Popper (1981) realized does not solve the problem of belonging which we raised because the second situation allows for the universal generalization of sentences which refer to properties which were already false. So, falsifiability cannot be used as a criterion of demarcation within the situation when we use the sufficient attributes of the empirical assertions which Watkins (1960) used in his article.

## 3. Conclusion

Considering all the presented aspects for the support of philosophical grounds of the appearance principle, an elementary assertion bound to the surrounding world cannot be true or false, only apparently true or apparently false according to this principle. In this context, a universal generalization of all the elements of the assertion to which it refers is not possible.

As a result, a translational criterion cannot be used as a means for demarcation for the delimitation of empirical assertions because it allows for the inclusion of theological assertions within them and does not lead to the universal generalization of all the elements of the assertion which refers to testable properties, which is in contradiction with the adequacy criteria defined before.

Regarding the verifiability criterion, the universal generalization of all the elements of the assertion which refers to testable properties is not possible and because appearance always allows for the apparition of new manifestations of the real which would transform elementary verified assertions and considered to a certain point both true and universally valid, in challengeable assertions. Testable properties which result after the primary observations are not logically unchallengeable, considering the appearance.

Using the same arguments as with the verifiable criterion, we have as a result, for the verifiability or falsifiability criteria, the impossibility of their universal generalization, ergo the rejection of the first adequacy criterion used.

For the falsifiability criterion, in the context of sufficient given attributes, the relaxation of defining characteristics of primary observations of the world which Popper realized does not solve the problem of belonging which we raised because it allows for the universal generalization of sentences which refer to properties which were already false. So, falsifiability cannot be used as a criterion of demarcation within the situation when we use the sufficient attributes of the empirical assertions which Watkins used in his article (1960).

#### 4. Acknowledgments

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## INCOME INEQUALITY IN THE LIGHT INDUSTRY

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**Abstract:** *This paper analyses the income inequality based on gender in Romanian light industry. The first step of the analysis was focused on the wage gap between men and women, while the second one focuses on calculating the Gini index using the Dacum decomposition. According to the results obtained, the main conclusion is that men are better paid than women in the light industry even though women dominate this sector of activity from the occupational point of view. The wage gap between men and women is small and in favour of men.*

**Key words:** textile industry, income inequality, Gini index, wage discrimination

**JEL classification:** D 63, L 20, J 71

### 1. Introduction

According to the International Trade Statistics' Report (WTO, 2009) quoted in Tripa and Cuc (2010), world textile and clothing trade has grown by more than 100 times in the past 40 years, which outlines the importance of this branch for the world's economy. In this context, Romania's light industry, comprising the textile, garment, leather and footwear industry, even though declining, remains an important sector both from the standpoint of its contributions to exports (Romania's National Export Strategy, 2011-2015) and from the social one. As this traditional branch groups the main private employers of the female labor force, it constitutes an appropriate area of study for the discrimination between men and women in terms of wages. Consequently, the goal of this article is to measure the inequality of gender incomes distribution within the light industry.

Income inequality is a problem both in post-communist countries as well as in the developed countries, and it is considered a real impediment in reaching cohesion at the national and world level. According to OECD's report (*Toujours plus d'inégalité: Pourquoi les écarts de revenus se creusent, 2011*), income inequality has increased these past few years, including in the developed countries, because of their incapacity to reduce unemployment and of create quality jobs.

The literature is rather poor in studies on wage discrimination in the light industry. Thus Fields and Wolff (1995) discovered analysing the USA's example significant wage differences between men and women within the industries after the elimination of the productivity effects. USAID's report (2008), *Gender and the Garment and Textile Industry-Evidence from Bangladesh and The Dominican Republic*, highlights large wage differences between men and women in the analysed countries (countries in which, in 2005, women earned approx. 75 % of men's wages). Gannon et al. (2007) identifies non-void wage differences between men and women in Ireland's, Belgium's, Denmark's, Italy's, Spain's and UK's textile industry, given that this sector is among the low paid industries..

This study confirms the results of the aforesaid studies, its main conclusion being that the wage gap between men and women in Romania's light industry is small and in favour of men. This conclusion is based on the empirical analysis from the third part of the column, performed on the basis of the methodology set out below.

### 2. The research methodology

In this work we have used two research methods: (1) *the wage gap* (Baudelot and A. Lebaupin, 1979) - in order to calculate the wage differences between men and women in the light industry, and (2) *the multi-dimensional decomposition of the Gini index* (Dacum, 1997) - in order to calculate income

inequality. Dagum (1997) proposed/developed a new decomposition of the Gini index into three indices: the inequality inside each sub-group, the mean inequality among sub-groups and the inequality of the trans-variation among sub-groups. This method has certain advantages: it enables the analysis of income differentiations on a wider range of distributions, it shows each sub-group's contribution to the general value of the Gini index, and the third component (trans-variation) derives from overlapping the distributions of incomes that belong to various sub-groups.

For computing the wage gap we have used the relation below:

$$e = \frac{SM-SF}{SM} \cdot 100 \quad (1)$$

Where: SM – men's wage; SF – women's wage.

This indicator ranges between 0 and 1, where 0 means that there is no difference between the wage cashed by men and women; the more the index gets closer to 1, the higher the level of discrimination.

The *dissimilation index (ID)* according to Blackburn (1993) is based on the understanding that segregation means a different distribution of men and women in occupational categories; the larger the distribution, the lower the segregation. The index may be defined in the following way:

$$ID = \frac{1}{2} \sum_i \left| \frac{M_i}{M} - \frac{F_i}{F} \right| \quad (2)$$

The formula of ID index can be re-written in the following way:

$$ID = \frac{1}{N} \sum_i \left| M_i \cdot \frac{N}{M} - F_i \cdot \frac{N}{F} \right| \quad (3)$$

Where: M –total number of employed men;  $M_i$  –number of men belonging to the  $i$  occupation (field, branch of activity); F –total number of employed women ;  $F_i$  –number of women belonging to the  $i$  occupation (field, branch of activity) ; N –total number of employees.

The ID index equals 0 in case of total/complete equality (where women's employment level is distributed similarly to men's along the occupational levels) and 1 in case of a complete non-resemblance (where the men and the women belong to totally different occupational groups).

The Gini index (1921), the main indicator used in income inequality analysis, also has values ranging between the 0 to 1 span and it measures the actual income inequality within groups of population. The zero value means that incomes existing in society are equally distributed among its members, and the 1 value suggests that an individual from society owns the totality of the existing incomes. In reality, the Gini index usually has values between 0.25 and 0.5. This index can be computed in the following way:

$$G = \frac{\sum_{i=1}^n \sum_{r=1}^n |y_i - y_r|}{2n^2 \mu} \quad (3)$$

Where:  $y_i = i$ 's individual income;  $y_r = r$ 's individual income;  $n =$  the number of individuals;  $\mu =$  incomes average.

The Gini coefficient, which measures (intra-group) the  $Q_j$  sub-population's incomes, can be computed in the following way:

$$G_{jj} = \frac{\sum_{i=1}^{n_j} \sum_{r=1}^{n_j} |y_i - y_r|}{2n_j^2 \mu_j} \quad (4)$$

The inter-group Gini coefficient measures the desired income difference between an individual that belongs to group "j" and another individual from group "h" and it is calculated according to the following formula:

$$G_{jh} = \frac{\sum_{i=1}^{n_j} \sum_{r=1}^{n_h} |y_{ij} - y_{rh}|}{(\mu_j + \mu_h) n_j n_h}, \forall j, h = 1, 2, 3, \dots, k \quad (5)$$

Where:  $y_{ij}$  = income of the  $i$  individual that belongs to group  $j$ ;  $y_{rh}$  = income of the  $r$  individual that belongs to group  $h$ .

When the  $G_{jh}$  index differs from zero, the income distribution between the two sub-groups is unequal, otherwise (the index tends to zero) the income distribution tends to become equal.

The decomposition of the Gini index is based on two components : each group's contribution to total inequality (the  $G_w$  inter-group inequality) and the gross contribution of the inequality among sub-groups ( $G_{gb}$ ) to total inequality, which represents the income difference between each pair of sub-groups (for instance : men-women, urban-rural etc.). In this case the Gini index equals:  $G = G_w + G_{gb}$

Dagum (1987) considered that the Gini coefficient could be decomposed into three indices and in this case he separated the gross contribution of the inter-group inequality into two components:

- *the Gini net inequality index among sub-groups ( $G_{nb}$ )* – which measures the inequality that results from the bigger wages received by the richer population (men) versus the lower wages cashed by the poorer population (women) ;
- *trans-variation ( $G_t$ )* – which represents the inequality determined by the wages of the poor population (women), which are bigger than the wages of the richer population (men) at a certain moment, even though, as an average, men earn more than women.

### 3. The empirical analysis

For the database we used the monthly face wage earnings between 2003 and 2010 for the three branches of the light industry, namely: *textile, clothing, leather tanning & dressing, the travel & Morocco items manufacture*. The data were taken from the National Statistics Institute of Romania.

The wage gap was computed separately for the three branches of the light industry and the resulting values are presented in table 1.

**Table 1: The wage gap between men and women in the light industry**

Wage gap	2003	2004	2005	2006	2007	2008	2009	2010
<b>Textile</b>	19,7%	13,0%	17,8%	13,7%	19,0%	9,8%	12,4%	6,2%
<b>Clothing</b>	17,0%	16,6%	13,0%	14,1%	18,0%	12,4%	11,3%	12,2%
<b>Leather tanning &amp; dressing, the travel &amp; Morocco items manufacture</b>	10,8%	6,2%	6,5%	12,2%	11,5%	12,5%	9,4%	12,5%

Source: Our computation using National Statistics Institute data

In case of all the three branches of activity, the wage gap had an oscillating evolution along the analysed period of time. The wage differences between men and women can be accounted for by the fact that most companies from Romania's light industry are small-sized and they practise a traditionalist management, where the labourer's gender is taken into account and not his/her performance (Table no. 2).

**Table 2: Enterprises' size in the light industry**

Industry	Enterprises size	2002	2003	2004	2005	2006	2007	2008
<b>Textile</b>	<b>0-9 labourers</b>	4494	4628	4948	5162	5081	5088	5042
	<b>10-49 labourers</b>	1550	1702	1794	1798	1865	1891	1778
	<b>50-249 labourers</b>	1203	1255	1276	1203	1095	984	859
	<b>&gt;250 labourers</b>	351	370	357	318	274	229	192
<b>Leather tanning &amp; dressing, the travel &amp;</b>	<b>0-9 labourers</b>	991	1007	1109	1100	1064	1039	1074

<b>Morocco items manufacture</b>	<b>10-49 labourers</b>	431	477	497	542	543	601	563
	<b>50-249 labourers</b>	372	397	407	409	402	377	326
	<b>&gt;250 labourers</b>	97	94	89	77	72	63	52

Source: National Statistics Institute data

In the light industry, the segregation level is low (Table no. 3), which means that this sector of activity is not fully dominated by the male or female labourers, even though there are more women than men working in this field and that men's wage is higher. In this case, the wage is not influenced by the employment rate but by other factors such as productivity, minimal wage, forces balance between trade unions and the employers' union a.s.o.

**Table 3: The dissimilation index (DI) in the light industry**

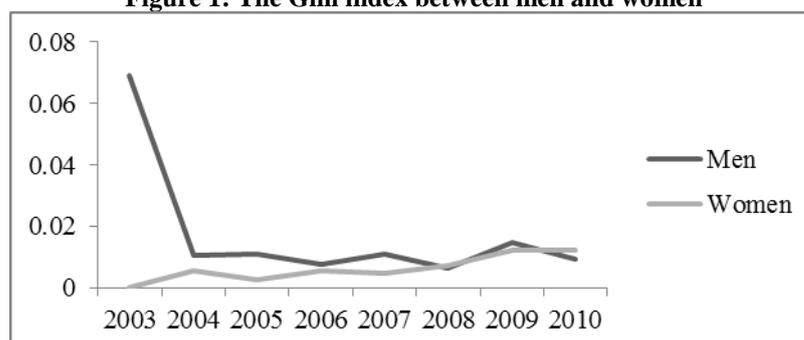
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>ID</b>	0,155	0,134	0,160	0,142	0,158	0,161	0,121	0,162	0,175	0,173	0,198

Source: Our computation using National Statistics Institute data

Regarding the Gini index, in order to apply Dagum's decomposition we divided the population into two groups (men -  $G_1$  and women -  $G_2$ ) and we applied the VBA (Visual Basic Application) macro-command, an instrument developed by Mussard (2003), taking into account the net face wage earning. The decomposition of the Gini index helps us outline the inequality within each group, between the groups, as well as the distribution of the two groups' incomes (Annex no. 1).

Inequality among men is higher than among women, which may point out the existence of heterogeneity in the income distribution and the characteristics of the jobs occupied by men (Figure 1). During the period of time analysed the Gini index decreased in case of men between 2003 and 2004, whereas in case of women this index started to increase, as part of them began receiving better paid jobs in the light industry at the same time causing an increase of the income inequality within this group.

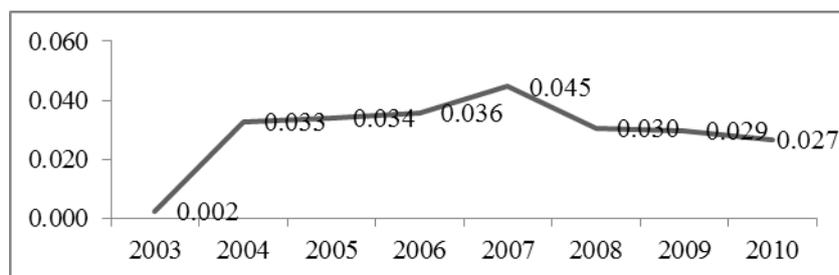
**Figure 1: The Gini index between men and women**



Source: Our computation using National Statistics Institute data

The net inequality between the groups (Figure 2) increased between 2003 and 2007, due to the enhancement of the wage gap between men and women in the light industry (especially at the level of 2007). Even though women have begun holding better paid positions in the light industry (since 2004), men are better distributed on several types of activities within this industry.

**Figure 2: The inequality between the groups**

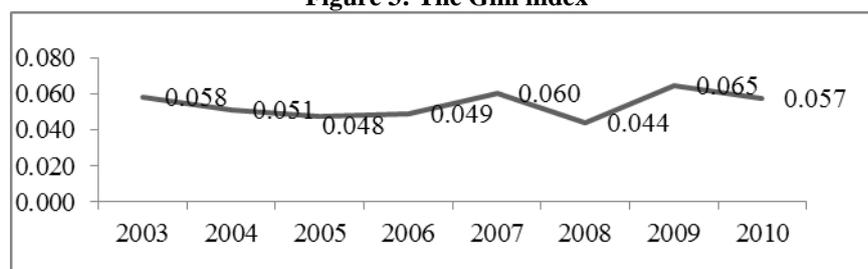


Source: Our computation using National Statistics Institute data

The intensity of the trans-variation between men and women is low and its value in the 2005-2007 time span was even null, which means that, as an average, men earn better than women in the light industry and that the sub-groups income distributions do not overlap.

The Gini index at general level (Figure 3) recorded very low values during the analysed period of time, which means that the income inequality between men and women is low, yet it exists. The inequality between the groups, notably among men, contributes the most to total inequality.

**Figure 3: The Gini index**



Source: Our computations using National Statistics Institute data

#### 4. Conclusions

Both the wage gap and the decomposition of the Gini index show the existence of small wage differences between men and women, even though the light industry (especially the textile industry) is perceived by the Romanian society as being a specifically feminine area of activity.

Even though women numerically dominate this branch of activity, they have jobs that are poorly paid /less paid than men's; in addition, the companies that are active in this sector are small-sized and traditionalist.

The inequality among men is higher than among women, showing that the incomes are unequally distributed within this group because of the diversity of positions occupied.

The value of the inter-group Gini index is pretty low, showing that there is not a very big difference between the incomes obtained by the two groups of labourers (men and women). In case of the light industry, the trans-variation intensity records very low values (even zero), which means that, as an average, men earn better than women and that the income distributions on sub-groups do not overlap.

#### 5. Acknowledgment

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**Annex 1: The multi-dimensional decomposition of the Gini index (2003-2010)**

	2010			2009			2008		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
<b>Total inequality (G)</b>	0,036	0,051	0,057	0,055	0,052	0,064	0,023	0,030	0,044
<b>Contribution of the within-group inequality to the total inequality (<math>G_w</math>)</b>	0,009	0,012	0,021	0,014	0,012	0,026	0,006	0,007	0,013
<b>Contribution of gross between groups inequality to the total inequality (<math>G_{nb}+G_t</math>)</b>	-	-	0,035	-	-	0,012	-	-	0,030
<b>Contribution of net between groups inequality to the total (<math>G_{nb}</math>)</b>	-	-	0,026	-	-	0,029	-	-	0,030
<b>Trans-variation</b>	-	-	0,009	-	-	0,008	-	-	0,0002

Source: Our computation using National Statistics Institute data

	2007			2006			2005		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
<b>Total inequality (G)</b>	0,040	0,021	0,060	0,007	0,005	0,013	0,040	0,011	0,047
<b>Contribution of the within-group inequality to the total inequality (<math>G_w</math>)</b>	0,011	0,004	0,015	0,007	0,005	0,013	0,010	0,002	0,013
<b>Contribution of gross between groups inequality to the total inequality (<math>G_{nb}+G_t</math>)</b>	-	-	0,044	-	-	0,035	-	-	0,068
<b>Contribution of net between groups inequality to the total (<math>G_{nb}</math>)</b>	-	-	0,044	-	-	0,035	-	-	0,034
<b>Trans-variation</b>	-	-	0	-	-	0	-	-	0

Source: Our computation using National Statistics Institute data

	2004			2003		
	Men	Women	Total	Men	Women	Total
<b>Total inequality (G)</b>	0,039	0,023	0,051	0,255	0	0,071
<b>Contribution of the within-group inequality to the total inequality (<math>G_w</math>)</b>	0,010	0,005	0,016	0,069	0	0,069
<b>Contribution of gross between groups inequality to the total inequality (<math>G_{nb}+G_t</math>)</b>	-	-	0,034	-	-	0,002
<b>Contribution of net between groups inequality to the total (<math>G_{nb}</math>)</b>	-	-	0,032	-	-	0,002
<b>Trans-variation</b>	-	-	0,002	-	-	0,000013

Source: Our computation using National Statistics Institute data

**REFLECTIONS ON THE FINANCIAL TURMOIL****MOTOCU Marius****Ph. D. Professor, Faculty of Economics / Department Finance-Accounting-Informatics, Bogdan-Vodă University, Cluj-Napoca, Romania, mmotocu@gmail.com****PROFUMIERI Piero****Ph. D., Italy and U.S.A., e-mail: pprofumieri@yahoo.com**

**Abstract:** *The true story of 2008 has already been told too many times but it has created the sad opportunity for continuous debates on the lessons to be learned from the crisis of the financial institutions system. Panic and loss of confidence in the ability of banks, money funds or hedge funds have precipitated liquidity crisis in the institutions which, by virtue of the sacrosanct principles of non-transparent financial theory and practices, have collected money and trust capital of creditors. The return to a state of normalcy remains the objective of many future researches and it is also the aim of the following paper.*

**Key words:** financial crisis and deregulation, derivatives, bubbles.

**JEL classification:** G 15, G 18, N 20, N 22, N 23.

**1. Introduction**

The financial crisis exploded in 2008 has shown that risk is still a cause of major disruptions in the banking system in spite of all models and financial mathematic developed in order to reduce it to minimal proportions and limit its shocks in the financial and economic system. Turmoil began with a weakening of underwriting standards for subprime mortgages in the U.S. subprime, Alt-A mortgages, and other mortgage products, which were sold to people who could not afford them, and in some cases in violation of legal standards (Ludwig, 2008).

In any financial system in which institutions borrow short and lend long, the risk of a panic is always present. If creditors lose confidence in the ability of banks or money funds or hedge funds, they may rush for the exit, and precipitate a liquidity crisis in the institutions where they have put their money. This risk is amplified if the assets which the short term borrowings have financed are opaque, and if their valuation is extremely volatile. The problem was not just that mortgage loans failed, but that nobody knew how badly the RMBs and CMBs and CDO squared were, and nobody knew what the extent of exposure of their counterparties was. Financial institutions stopped lending to each other overnight, because they had no way of estimating how far the problem extended. Leverage ratios of 40 and 50 to 1 exacerbated the problem many fold (Menil, 2010). We believed that through astute policy or new technologies, including better methods of communication and inventory control, the business cycles were conquered but in fact as has been pointed out the era of aggregate volatility had come to an end.

We should instead be vocal in emphasizing the implications of current policy proposals on innovation, reallocation and political economy foundations of the capitalist system. Economic growth ought to be a central part of the discussion, not an afterthought.

**2. Economic reality and limits of theoretical representations**

Among the different models created before 2008 in the academic context the first worth mentioning is that of Diamond and Dybvig (1983). They maintain that crisis is a random event correlated with economic development. An assumption of their model is that „panic”, a rush to withdraw bank deposits under the widespread belief that they can vanish in a few hours, is a rational expectation and behavior. They disregard risk stemming from insolvency of debtors. The assumption that investments by banks are „safe” is the most serious limitation of their model which has been proved to be an error 25 five years later when banks gained free access to trade in financial markets, particularly in those „futures” (and later on „derivatives”) which represent the largest amount of fictitious and virtual capital listed in stock exchanges.

It is worth recalling the notion of „futures” and „derivatives”: any contract to buy or sell in the future a commodity or a financial asset is a first degree derivative on their present (spot) transaction. A future contract negotiated on the first one is a second degree derivative. Also „options” related to these

contracts (options to deliver or not the object of the contract) are „derivatives”. Financial mathematician consider them a commodity like any other real one (i.e. raw materials), while many „traders” involved in actual operations of financial markets consider them a „bet” or „a zero sum” game: the gain for one player is the loss of another. It so happened in 2008.

A different view, widely discussed in the literature, is that of Minsky’s financial instability. It can be summarized as follows: the financial system can operate on the basis of efficient behavior by single agents but they can cause financial instability in the economic system. This is due to the tendency to increase money supply and credit and variability of interest rates charged by banks regardless of the prime rate established by Central Banks. It follows that the behavior of banks and financial institutions is not neutral in regard to the dynamic of the real economy, namely the manufacturing and industrial sector.

Opposite to a tendency of increasing money supply is that of credit restrictions determined by individual banks according to their rating of clients creditworthy. On this, Stieglitz and Weiss (1981) have developed their own model of credit rationing. In any case banks always face a risk when making loans to new clients whose past record is not so positive to justify a riskless future. From this asymmetry originates „moral hazard” which means a transgression of the traditional professional „prudence” that all bankers should have. Actually „moral” is an attribute of religious and ethics origin which does not fit the excess risk or speculation of some bankers that can cause damages to the whole system. On the contrary a behavior is „immoral” when a reckless banker knows that he can be saved by its colleagues or by central banks or by the treasury of the state. Whether all this is a matter of semantic or financial mathematic or economic policy has not much relevance after the meltdown of 2008.

Studies of Kindleberger (2000) and Reinhart (2009) have shown that throughout economic history financial instability is the norm, not the exception. The so called „bubbles” in financial markets were present since the famous XVII eth „tulip fever” in Holland, when people were willing to pay more for a flower than for a house in central Amsterdam.

However we admit the identification of „bubbles” along the trend of economic growth and business cycles is quite difficult and debatable, but not impossible. Central banks have the pulse and barometer to test and measure the upsurge of a “bubble” through all kinds of price indexes they have and the liquidity available in the banking system. The speculation on house mortgages and „sub-prime” credits were perceived by the Federal Reserve, the B.I.S. and the B.C.E. before 2008. Whether they did not react or remained silent (first the Federal Reserve) is a matter involving the real foundation of a professional ethic as well as civil and penal responsibilities of central banks and supervisory authorities of stock exchanges. If they accept or remain silent on the „moral hazard” of single actors and banks it means that they are accomplices of the game played by speculation and „Ponzi schemes”.

The F.I.C.S. (Financial Inquiry Commission of the U.S. Senate, January 25, 2011) underlines the responsibilities of: first, Alan Greenspan’s malfeasance - his refusal to perform his regulatory duties because he did not believe in them - allowed the credit bubble to expand, driving housing prices to dangerously unsustainable levels. Greenspan’s advocacy for financial deregulation was a „pivotal failure to stem the flow of toxic mortgages” and „the prime example” of government negligence. Then Ben S. Bernanke failed to foresee the crisis and the Bush administration „inconsistent response” - saving Bear, but allowing Lehman to crater – „added uncertainty and panic in the financial markets.” Bush Treasury secretary Henry M. Paulson Jr. wrongly predicted in 2007 that subprime meltdown would be contained. The Clinton White House, including then Treasury Secretary Lawrence Summers, made a crucial error in „shielding over-the-counter derivatives” from regulation (CFMA). This was „a key turning point in the march toward the financial crisis.” Then NY Fed President, now Treasury secretary Timothy F. Geithner failed to „clamp down on excesses by Citigroup in the lead-up to the crisis;” Further, a month before Lehman’s collapse, Geithner was still in the dark about Lehman’s derivative exposure.

Mr. Bernanke and Mr. Geithner are still in their place. Why? The first and foremost responsible of this silence was financial liberalization of banks operations and international financial markets started in the early ‘80es. Already in 1989 the study of Demircuc-Kunt and Datriagiache (1989) showed that 78% of banking crisis occurred in periods of liberalization of the banking system. A more long - run study of financial crisis (Reinhart et alia, 2009) shows the upsurge of crisis since the ‘80es.

Scholars, bankers and financiers were not at all unaware of the increasing risk of the game, so that they invented new financial products to protect investors and gamblers from additional risks (they invented C.D.S. and C.D.O.).

**Figure 1: Capital mobility and the incidence of banking crises: All countries, 1800-2008**

Source: (Reinhart et alia, 2009).

Matching insurance with new risks to be covered by new insurances did not prevent the explosion of the „bubble” defined by I.M.F. (I.M.F. working papers, 2009): „a crisis of unprecedented proportions occurred under the eyes and radars of all international financial agencies”.

A statement which raises another question: what is the real power of these agencies and all supervisory authorities of stock exchanges in charge of preventing excess euphoria’s, speculation and recurrent “bubbles”?

### 3. Banking model crisis and certainty of bank assets vulnerability

The collapse of big and small banks after 2008 raises again the question of what is a bank and what should they do in economic systems which have substantially evolved from those of the last century. Banks have increased in number and with different functions all over the world. From cooperatives and mutual banks serving local communities, to microcredit for small business, to banks working on ethical principles borrowed from some religion, to those big banks involved in the great gamble of 2008. A traditional bank working in a system and for a system which is mostly engaged in production of commodities (real economy) was so described eighty years ago:

„A commercial bank is an essential and integral part of the monetary and credit machine of the nation ... The desire to protect the capital and to earn a return upon their investment for the stockholders has the effect of making the commercial banker not only anxious to extend credit but also cautious and conservative in seeking to assure that the credit so extended will be repaid. The commercial banks credit function is very definitely governed by its responsibility to meet its deposit liabilities on demand. It must not seek excessive profits by taking undue risks, and it cannot tie up funds in long term credits. Its primary function is to lend money for short periods to finance self-liquidating commercial transactions. ....The commercial bank cannot safely make loans to a borrower who lacks capital of his own or who cannot repay the loan in a reasonably period of time. Within these frameworks commercial banks render sound and constructive services to industry, trade and agriculture of the country” (Buck, 1934). This was the code of „ethic” sustained by a banker in the middle of the „ great depression“(1934), to which he added that of investment bankers: „The investment banker also renders necessary and effective services to industry, trade and agriculture of the country. He does it by meeting long term needs, providing funds for plants, equipment and working capital. He does, and should take risk of a sort unsuitable to commercial banks.....With every new issue ,however, he takes the risk that the public may not absorb all the new securities so that its own capital may be tied up for a long period of time. This last distinction between investment and commercial banking emphasizes the wisdom of the legislation forbidding investment banks from taking deposits” (Buck, 1934).

All these requirements inspired the Glass-Steagall Act (1934) and subsequent European legislation. They excluded commercial banks from participating in share capital of industrial enterprises, direct trade (with their own capital) in stock exchanges and any involvement in merging and leverage buy out of companies. This was the business of the so called „investment banks“, those big ones which have played a determinant role in the 2008 crisis. As useful and necessary as it was for that time the Glass Steagall act, it did not go too far into promoting a radical reform of the process of money creation. A more radical plan was the so called „Chicago Plan“ (1935) which envisaged the state monopoly in the creation and issue of money free of debt, thus subtracting to the banking system its source of power. The A.M.I. (American Monetary Institute) is proposing to day the same system, obviously ignored by existing financial institutions and „mainstream economists“...

Aside from the right of a state to issue money free of debt, rewriting these rules to day would require an additional and fundamental regulation: commercial banks should not be allowed to trade their own credits. Each one should keep its own loans and risks with related guaranteed and respond with its own capital. The origin of the crisis was exactly this trade of assets formally based on a „real guarantee“: the search of an immediate profit on loans with long maturity. It was exactly the opposite of what was conceived and legislated eighty years ago.

This model of banking seems to belong to the past but it was functional and responding to the needs of industry and trade when they were the leading force of economic development. Any other kind of banks, financial intermediaries, funds involved in different kinds of ventures, trade, investments and so on, are the result of financial innovations and the search for higher and higher gains in the short run.

#### **4. Financial markets - semantic expression of commodity production destiny**

As far as financial markets are concerned a few basic rules could prevent speculators from manipulation and distortion of trade from its natural foundations of demand and supply. A simple norm could bind dealers of a commodity to a substantial down payment when they undertake a future operation (ex: 50% or more of the price). This would also forbid the so called „*naked selling*“ (selling what one does not have) quite common among speculators. The German government (alone so far) has prohibited this practice on trade of government bonds in late June 2010. A second norm could prohibit buying and selling specific commodities to those who are not direct producers, processors, or consumers, be it corn, coffee, cotton, copper or any other raw material or agricultural commodity (proposition advanced by the German government in 2008). The freedom for all market operators to buy and sell whatever is traded in international stock and commodities exchanges is the cause of speculative bubbles which can affect the life of million people when the game is played on wheat, corn, rice, and main foodstuff commodities (example: summer 2008 when news were spread about the „*inevitable*“ shortage of crops in view of an increasing world population). A third norm could prohibit „*short sales*“, a technique of buying stocks and selling them right afterward for an immediate gain (a similar norm was introduced in Mexico stock exchange after the first crisis of 1982). A fourth regulation could prohibit the so called „*carry and trade*“, the practice to borrow a currency with low or zero interest and buy stocks and bonds with higher yield (example: borrowing Japanese yen at zero interest rate and buying Euros yielding 2%). This is a pure speculative financial operation which has no connection with trade or real investments. It is needless to say that it would require a control on capital movements from central banks, and this is something that financial markets do not like.

In the U.S., before the work of the Inquiry Commission of the senate, the Security and Exchange Commission has detected several misdoings, some of them subject to penal law till the end of the past millennium. With the exception of the Enron scandal, nothing irregular has been officially detected since the inception of the subprime bubble (2006). The Dodd-Frank legislation approved by U.S. Congress (2010) is still in its infancy and few regulations will be effective only in late 2012. Many others, including those on derivatives, are still to be specified in operational norms. Many „*traders*“ believe that they will never become binding for market players.

In Europe the E.U Commission issued a declaration (0ct 2010) aiming at „*ensuring efficient safe and sound derivative markets*“. The document does not raise any question on the nature of these financial innovations and their disruptive effects. „*Efficient, safe and sound*“ are a contradiction in terms until the restrictions and abolitions above mentioned will be introduced in all markets. None of them is mentioned in the document. On the contrary the philosophy of prof. Sholes (inventor along with prof. Merton of the formula to determine the price of derivatives) is fully accepted. „*The Commission recognizes the vital role of derivatives in hedging the risks that result in normal market operations.*“ Are all market

operations „normal“? So far they have spread risks to the point of a systemic collapse, but the Commission accepts them as a natural evolution of financial markets and mathematical-probabilistic inventiveness. All that should be done is to bring them under the supervision of new agencies to be added to old ones: those who did not see the bubble blowing under their eyes.

It seems that the E.U. Commission is ignoring that today problems of the so much debated „survival“ of Euro is a consequence of all those inventions and speculative moves. It is well known that Wall street (Goldman Sacks) offered its consultants to the Greek government who settled its public accounts in a way that later on led to the „debt crisis“ and its contagion to other E.U. members. This has brought to light one contradiction that now or later the E.U. had to face: a common currency without a single sovereign. On the contrary the Federal Reserve and the Treasury of the U.S. are deeply interrelated under the unofficial sovereignty of the Federal Reserve. They can run deficits, increase debts and issue more and more money without being seriously checked and penalized by financial markets. The U.S. public debt has suffered only a minor degradation from its conational rating agencies: from triple A to two AA in spite of its public and trade deficits unparalleled by any other country.

Here in Europe the sovereign has not been elected, nor will it be until each member will retain its political sovereignty, its portfolio, its wealth, its virtues and its sins. In the meantime the theater will play the comedy of a union where the richest actors are writing the text for the weaker ones. In case of a poor performance these ones can look for an exit which seems even more difficult than the original entrance. The key words of the play are: „austerity and growth“. Another contradiction that financial markets and rating agencies can exploit to their advantage to degrade some members' public debt and make it more expensive to renew it. Which means more gains for those who by it, and if it is coupled with insurance of C.D.S., another derivative, it can cause a disaster for those who detain them. They will be bound to pay the insured credits in case of Greece default, an event which so far has been avoided exactly to preserve the failure of those (always big banks) who detain C.D.S. in their accounts and creditor banks which are not insured with them..

The Euro, created by a political misunderstanding and idealistic confusion, has no sovereign: the cross of the coin has been given to the B.C.E., responsible for monetary policy but not for fiscal one. It would like now to receive also the head but no member of this fornication is willing to give it up. Will the union celebrate a formal marriage sharing the treasury of each partner or will they divorce? Politics will say.

##### **5. Financial innovation as a result of scientific research and principles circumvention**

To return to academies, it must be said that financial innovations are not the result of gamblers and speculators of the kind under trial in the U.S. Those models actually originated with „modern financial theory“ at Carnegie-Mellon and the University of Chicago in the 1950s, and since then have become a dominant element of every Wall Street operation. One of the core precepts is that there are such things as „risk-free“ investments, in which an investor's principal is 100% safe - not 99.5% safe. Usually they are government bonds, but today not all of them are rated top AAA and risk free. For example the Capital Asset Pricing Model (CAPM), a central theorem of modern financial theory, says there is a „frontier“ of optimal investments, and that investors can achieve any mix of risk and return on that frontier by combining risky and risk-free investments (or, to increase risk, leveraging themselves). Similarly, the Sharpe Ratio, used by professional investors in hedge funds and pension funds, evaluates securities and portfolios by the „excess return“ generated over a risk-free investment. That helps money managers determine whether they are paid sufficiently for their risk. In options theory, the Black-Scholes model assumes the ability to „delta hedge“ an option by buying or selling the underlying security, and borrowing or investing the proceeds at the same risk-free rate.

Finally, risk-management theory assumes the possibility of eliminating risk from portions of the portfolio, so that the Basel bank regulatory systems, for example, asses' treasury securities of Organization for Economic Co-operation and Development (OECD) governments at zero risk. That allows banks to hold unlimited quantities of treasuries, without having to allocate capital to those holdings.

If a government treasury notes are not AAA-rated, then they are not risk-free. The market may disregard this problem initially, believing that AA-rated treasuries offer adequate security, but eventually it will have to take notice, especially if treasuries continue to weaken and are threatened by another downgrade. Outside U.S. borders, Japanese debt has already been downgraded from AAA, and Eurozone countries have been threatened with downgrades because of the costs of the Greek bailout. If there are no

risk-free investments, then market actors will have to adjust their portfolio. The adjustment will be largest for those banks holding a large portfolio of treasuries. If they can't make money by borrowing at short-term rates below 1% and investing, for example, in 3%-yielding 10-year U.S. Treasuries, they will have to get off this business and play the role they're supposed to play, namely to make loans above all to small businesses.

Therefore reducing certainty on a future asset implies increasing risk for all market players. If any future event is surrounded by uncertainty, then there is no way to determine the exact future price of a „financial product”. This apparent logical conclusion has been challenged by two professors (Merton and M. Sholes, 1973) who gained a Nobel Prize in 1997 with the following motivation by the Swedish Academy:

*„...The price of a derivative depends on underlying financial instruments... Derivatives serve a highly useful purpose in society by redistributing risks to those who are willing and able to take them... In one stroke they solved the problem which had been an obstacle in pricing all kind of derivatives, that is: what kind of risk premium should be used in the evaluation. The answer given by the Prize-Winners was: no risk premium at all! This answer was so unexpected and surprising that they had considerable difficulty in getting their first articles published. But this insight proved to be to a very general and powerful method for determining the value of all kind of options and derivatives. In combination with advances in information technology this method has generated the explosive growth of financial products and markets over the past 10-15 years.”*

To add another medal to the discovery of the two mathematical financiers, A. Greenspan, then president of the Federal Reserve, in a speech at Chicago University expressed his admiration of significant developments in technology and determination of assets prices thanks to financial innovations which allow separating risks and distributing them to those more willing to take them... This transfer of risk reinforces the financial system and the economy all together. At the beginning of the new century the spectrum of financial products and services ...seem unlimited. No doubt that these innovations will offer a net advantage to the majority of American people.

Contrary to these flattering motivations a Polish mathematician (Mandelbrot) dismissed their mathematic as a formula borrowed by an early XXth century mathematician (Bachelier) which had no sense... Financial collapses are frequently due to easily observable phenomena which experts do not want to see. Like economists, also mathematicians are in conflict with one another.

Beside mathematic there is an immediate logical objection to the discovery of the two Nobel Prizes: if derivatives distribute risk, than there is always a risk that should be taken into account by those people willing to play with it. This means that these people accept to make a „bet “on the future, and if markets are made by bets they are neither „transparent nor efficient? All markets where a future commodity (or event) is traded are based on risk and uncertainty. As mentioned before, if there is no risk there would be no trade in „futures”. It is hardly conceivable a „market” where only government bonds with fixed maturity and interest are traded and the risk reduced only to price inflation: a bond of 1000 Euro due in 2020 will be always 1000 Euro: not much to gain or to loose. It is important to stress this proposition since all economists and institutions involved in financial markets keep talking and recommending transparency as the first necessary condition to make them work smoothly and efficiently.

Transparency is a word that should be abolished from the economic and financial vocabulary, since those markets exist and work exactly because there is no transparency. Goldman Sachs has been sewed by the Security and Exchange Commission because it promoted and sold subprime stocks with the recommendation and suggestion that they were going up (housing prices always go up... *buy now!!*, was the elementary technique of salesmen) whereas it was trading (betting) against the rising trend. An operation which in the words of a famous financier „was not clear to me” (G. Soros) and brought to Goldman Sachs a few billion dollars (then chairman H. Paulson). In July 2010 it was condemned to a fine of 5.5 mil \$ equivalent to two weeks of net profits for the current year.

For a strange combination the first test of Merton and Sholes theory came at the same year of their Nobel Prize (1997) with the bankruptcy (1998) of the hedge fund they promoted (Long term capital management), an event which „...*Could shake the foundation of our wealth and well beyond our borders*” (A. Greenspan, then chairman of the Federal Reserve. It is hardly conceivable how he could praise those innovations two years later in Chicago).

## 6. Electronic financialization and unpredictability of intuitive human behavior

It is doubtful, to say the least, that the introduction and diffusion of computerized programs based on this and other similar formulae has made markets more efficient. Actually they can spread and increase risks once human judgment is prevented from the assessment of what is traded: exactly what happened with the subprime bubble. Of the same opinion is the editor of „Money Morning” (a financial on line magazine) on the use of C.D.S. It is like relying on an automatic pilot when turbulences appear and require that the „human pilot” takes control of the flight. They should be abolished like all arms of mass destruction.

This problem of „algorithmic-trading” (*algo trading*, *black-box trading* or *robo trading*), along with that of „fast-trading” (in seconds) by highly powerful computers, is now discussed by the CESR (Committee of European Securities Regulators) on the ground that they are a threat to the normal functioning of markets since trading strategies can be used to manipulate them. Another admission is that the theory of games has supremacy on transparency and perfect competition. Whatever will be their conclusion, the fact remains that money involved in this kind of markets is always virtual, volatile, money.

Uncertainty and risk become the essence of money subdue to algorithms and mathematical models, to the moods of psychological reactions such as euphoria, optimism, skepticism, mistrust, nervousness, and, last but not least, the secret information on the next move of a rival competitor. This explains how a psychologist, D. Kahneman, got a Nobel Prize in 2002 for exploring „...*the psychology of intuitive believes and choices and their rationality*”. A new frontier in economic research always based on the assumption that men make rational decisions. When it is not the case, there are models also for limited rationality. Both rationales and less rationales actors are playing with virtual numbers.

The first and foremost virtual „reality” is the capitalization of stock markets. The sum of the value of all assets traded in one year gives the nominal value of that stock exchange. In 1999 the capitalization of New York stock exchange was 13.452.352 million dollars, a figure which seems to represent a stock of wealth and the source of potential revenues from those assets which have contributed to its determination. In other words it is not the stock exchange which generates money but the money that goes into it when people buy stocks and the money that get out of it when people sell them or cash dividends and interests. In spite of indexes showing upward trends, all *virtual*, the actual money-cash that get out can be less than that going into: the feedback can be negative. When this is the case that liquid money is either a subtraction from other actors’ liquidity or an injection from central banks buying securities and treasury bonds to sustain their nominal value. This seems to be the case in the present conjuncture.

It follows that even if for practical purposes people continue to talk about „*financial capital*”, it should not be forgotten that all this is a process in which different forms of money, either currencies or assets or bets on the future, are trying to reproduce themselves by trading and gaming in many ways, with different strategies and theories behind them.

## 7. Currency with cover in financial innovation and the need for certainty

Today the „old speculator” of boats full of gold, from Holland and England after the XVII<sup>th</sup> century, has become a sophisticated mathematician programming computers to invent e-money, future prices and risk aversion. Once started, the road to new discoveries was open and Nobel Prizes in economics became more and more „*mathematical*”. T. Haavelmo was the first to receive it (1989) for laying the foundations of econometric and simultaneous economic structures. Right after him (1990) W.F. Sharpe was the pioneer of „*financial economics*”, a „*discovery*” in perfect tune with ongoing developments in the real world. The theory of game appeared for the first time in the domain of „economic science” with J.F. Nash (1994) for his pioneering research on „non-cooperative games”, from which the famous „*prisoners dilemma*” has become a common reference also in other disciplines. R. Merton and Sholes (1997) have already been mentioned for their discovery of the price of a derivative. C. Granger and R.F. Engle (2002) for their discoveries of cointegration in economic trends and the use of financial econometric in forecasting markets trends and time-varying volatility. In 2005 R. Auman and T. Shelling have added a new dimension to the theory of games by revealing how conflicts and cooperation interact in the theory.

If these discoveries were comparable to those of physics or medicine which opened a new era for the prosperity to mankind, modern economists should have the key to make us enjoy today a „future wealth” created in financial markets without labor, social relations, boundaries, laws and institutions.

Unfortunately if it can be created it can also be destroyed. In this process where money is created and reproduces itself as pure money, its multiplication can be quite fast with recent technology: in a few seconds a dollar or a share bought in Hong Kong and sold in London can yield the double or the opposite. It's convenient to repeat that in this trade there are not only objective (mathematic) indicators which lead to the decision of buying or selling, but also subjective attitudes and expectations related to or determined by the psychology of market participants. Beside rational choices analyzed by Prof Kahneman, human greed and taste or preference for risk are other factors acting in the game regardless of their rationality.

In this respect abstract or virtual markets are always made by men with their different aims, expectations and illusions. Much more illusions when money - stocks, money - bonds and the rest of financial assets are produced with a mix of virtual numbers and real commodities to be traded 24 hours/24 with the assumption that this flow of trade generates its own liquidity. For Merton and Sholes this was not an assumption but the result of their formula: keep trading and you'll get the necessary liquidity to carry it on: until..? This „e-money” could be theoretically reproduced to infinity, but an infinite reproduction in itself (totally endogenous) would be meaningless. Any form of money acquires value when it can be converted into something else and finally into some tangible commodity or service that people can enjoy.

## 8. Conclusions

It is hardly conceivable that men can behave like Moliere's „Avar“ who enjoyed looking at his treasure without touching one coin and living like a poor man. Those who accumulate money in the virtual markets will soon or later need liquid money to buy some luxuries or start a foundation which will give them prestige and power. Some will also put a few billions in charity; some others will continue the game.

This evolution of money from gold as money and real wealth, later on to gold for reserve in central banks, and today as a commodity to be traded like any other one, has not reached its end with the appearance and diffusion of virtual electronic money. The clock of history does not turn back, but today gold is in high demand and silver is following. Perhaps a return to something tangible is not at all an outmoded idea for financial agents and common people.

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## SAVING OR CONSUMING: WHICH IS THE WAY TO EXIT A CRISIS? A REASSESSMENT OF THE “SAVING PARADOX”

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**Abstract:** *The identification of the factors that generate economic growth has always been central in the discipline of economics. In this respect, a critical debate has been borne around the dilemma: should public policy encourage saving or consumption? The fundamental economic policies in the modern era are designed around the primary objective of encouraging consumption. So such a dilemma is even more relevant in the context of an economic crisis. Using arguments advanced by the Austrian School of Economics, we demonstrate that public policy should at least avoid the penalization of saving.*

**Key words:** consumption, saving, public policy, crisis

**JEL classification:** E21, E32, E12

### 1. Introduction

One of the core policy dilemmas is whether public authorities should encourage consumption or saving at the level of society. Obviously, this is not a clear dichotomy as no society can give up consumption. So any society will consume but the question is how much to save? So any answer to such a dilemma must simultaneously include both consumption and saving. The core challenge is how to find the optimum mix between the two types of wealth distribution.

We argue that, after the Second World War (and even before), the fundamental objective of public policies in developed countries has been the encouragement of consumption at the expense of saving. The main policy tools – such as monetary policy as well as the policy towards the financial system – are „*consumption-biased*”. Such an approach has its origin in the theoretical argumentation advanced by John Maynard Keynes and its followers. On the other hand, alternative economists – such as the Austrian School of Economics – have highlighted the critical role played by saving in the process of economic development. Especially during times of economic crisis, the need for more „*saving-friendly*” public policy should be encouraged.

The dilemma of saving versus consumption is a classical issue of “*what is seen and what is not seen*” such as expressed by Frederic Bastiat (Bastiat, 1850). The intuitive answer would be that consumption should be spurred by public policy. In fact, as the French liberal economist argued more than one century and a half ago, the logical answer is frequently the counterintuitive one. In our case, individuals should save in order to live better. It has been termed “*the paradox of saving*” by Friederich von Hayek (Hayek, 1975, page 199). This is a lesson that, however, simple, has not been assumed by policy makers around the Globe.

### 2. Definition of saving

Any human individual who is engaged in an activity of production – be it as an entrepreneur, as a creditor or as a laborer – earns an income. „*That amount which can be consumed within a definite period without lowering the capital is called income. If consumption exceeds the income available, the difference is called capital consumption. If the income available is greater than the amount consumed, the difference is called saving*” (Mises, 1963, page 261). Such a definition is also accepted by John Maynard Keynes who, using other concepts, argued that “*we can define the income of the entrepreneur as being the excess of the value of his finished output sold during the period over his prime cost*”. According to his view, the “*prime cost*” is the sum of other types of cost, such as “*user cost*” and “*factor cost*”, which include the cost of capital maintenance (Keynes, 1964, page 53). Moreover, Keynes also argued that “*everyone is agreed that saving means the excess of income over expenditure on consumption*” (Keynes, 1964, page 61).

So such definitions are commonly accepted in the entire literature of economics. But there are sometimes different perspectives on the way such concepts are valued. Mises highlights the fact that the valuation of capital and income must be based on free monetary prices specific to a market economy

(Mises, 1963, page 491). Absent such free exchanges, any concept of capital is devoid of any economic substance. And so are the derivative concepts of income, saving and consumption. They can be defined only in a material and tangible way, which is not specific to economic thinking and cannot tell us anything about wealth creation.

### 2.1. Saving and development

The first level of production is when human individuals combine their work with raw resources from the environment in order to produce the goods they need for their survival. The entire production activity in such circumstances may be oriented towards getting those consumer goods needed in order to survive. Individuals consume everything they produce and sometimes, in rough environments, even this is not enough for surviving.

But the attempt to leave such a state of economic under-development must take into consideration the process of saving. As Mises points, „*The sine qua non of any lengthening of the process of production adopted is saving, i.e., an excess of current production over current consumption. Saving is the first step on the way toward improvement of material well-being and toward every further progress on this way*” (Mises, 1963, page 490). In order to build capital goods, that is, goods employed in the production of consumer goods, individuals have to abstain from consumption and produce goods which won't be used for immediate consumption. They will be used for producing other economic goods, be it consumer goods or even other capital goods. What individuals save at this level of non-monetary economy is, as Mises pointed, labor and land as they have to “invest” it in the production of higher order economic goods or capital goods.

Why should individuals build capital goods in order to produce consumer goods? Is saving a condition for development? First of all, the employment of capital goods makes the production of consumer goods more efficient, in terms of labor and time. Absent such an improvement in efficiency, there could be no incentive to engage in such a process. Second of all, such capital goods allow the production of consumer goods that would have not been possible absent such goods. So saving is a critical process in the development of a society through the exploration of new more efficient ways of allocating resources (which allows a better allocation of existing resources) as well as the discovery of new production processes (new technologies) that allow the production of new types of economic goods. In the language of the Austrian school of economics, this is a „lengthening” of the production structure of capital goods in that particular society.

Absent saving, a society is limited to the activity of production of consumer goods through the combination of labor and resources directly drawn from the environment. In the case that such a society already possess some capital goods, the lack of saving would mean that these latter goods are not maintained in order to keep their economic value. In time, any capital good loses his “economic value” as the capital goods lend a part of their value to consumer goods in whose production they are engaged in. Capital goods cannot be used for ever so they have a period of depreciation in which their economic value is lost.

### 2.2 Saving versus consumption

Any time an individual decides to save, he implicitly avoids consumption. In other words, by the act of saving, he avoids entering the markets for consumer goods. In consequence, any act of saving determines, *per a contrario*, a reduction in the price of consumer goods through a reduction of aggregate demand.

In a modern economy, where the vast majority of economic exchanges are mediated by money, the act of saving which takes the form of hoarding (putting aside a quantity of money) has a positive impact on the purchasing power of the monetary unit which, exactly in the opposite direction as the prices of consumer goods, experiences a pressure towards the increase in its value. Interestingly, this effect may determine to the falling nominal prices of consumer goods a rising in real prices (Rothbard, 2001, page 527).

In other words, any act of saving – including hoarding – in the present contains the grains for a future increased consumption as the increased purchasing power of the monetary unit as well as decreased prices for consumer goods will attract individuals, at one point, back into consumption. Such a perspective reassesses the role of hoarding in society, an act which has been frequently criticized as a barbarian value. In fact, any individual who hoards money allows his fellow citizens to consumer more and cheaper than otherwise.

Moreover, maybe the most important consequence of saving in the same modern economy derives from the relation between saving and investment. In a modern economy, where the majority of individuals who save do not choose hoarding, such resources are channeled through a complex set of financial intermediaries towards investment. Surplus saving units (SSU) would put a value not only on cash hoarding (or liquidity preference) but also on increased future consumption such as revealed by the time preference. In consequence, the vast majority of SSU will prefer to invest the difference between income and consumption towards ways that promise an increased future consumption. Such investment could take the form of buying stocks in a company but also of buying bonds or depositing an amount of money in a bank deposit. So what are the consequences of the act of saving which takes the form of investment?

Such a readily available capital would be contracted by entrepreneurs who want to expand their production or other consumers who want to consume more. In consequence, the act of saving would allow larger investments in capital goods or other consumer goods. In consequence, savings would put a pressure towards increased prices for capital goods and for consumer goods preferred by the debtors. If we ignore for the moment the spurring of consumption through saving (through the channel of consumer credit), increased investments would determine a modification in the structure of relative prices through a relative increase in the prices of capital goods as opposed to those of consumer goods. Such a modification would make the sector that produces capital goods to be more profitable as compared to the sector that produces consumer goods. In consequence, saving determines an allocation towards the production of capital goods and it lengthens, as Austrian economists argue, the production structure in the economy through focusing on higher order capital goods.

### 2.3 The “*anti-saving mentality*”

While classical economists had a favorable opinion on the act of saving, modern economists started to criticize the alleged benefits of this act. In fact, as Skousen argued, the discipline of economics was taken over by theorists which were called „*under-consumptionists*” and manifested a true „*anti-saving mentality*”. In simple words, such economists considered that any dollar which is saved is prevented from being spent on consumption and the consequences are exclusively negative. For them, „*increased savings reduced the demand for final consumer goods, decreased profits, and doomed capitalism to experiencing frequent economic crisis*” (Skousen, 1992, page 90). Obviously, such a perspective focuses exclusively on short term and on “*what is seen*”, that is, the immediate effect. It completely ignores the lengthier argumentation that relates saving with investment and development. Moreover, such economists reach the paradoxical situation of despising saving but praising investing.

We argue that the most important and relevant policy measures undertaken during the boom phase of the business cycle but also during contemporary financial crisis are inspired by this drive towards increased consumption at the expense of saving. In consequence, the seeds of this crisis would not be eliminated but by an approach which replaces saving as the central act in the process of economic development.

## 3. Public policies that support consumption

Taking over the anti-saving argumentation developed by lord Keynes and other “*under-consumption*” theorists, contemporary public policies have continuously stressed in the last half century the necessity to support consumption. Fundamentally, we could point to several key policy measures usually met in the arsenal of public interventionism which encourage consumption and penalizes savings:

### A. *the lowering of the interest rate by the central bank:*

Central banks have the legal authority to fix the interest rate at which they deal with the commercial banking system. In consequence, the official rate of interest has become an important policy tool through which central monetary authorities attempt to induce economic growth. According to the mainstream logic, the lowering of the interest rate induces firms and individuals to expand their production and consumption which generate a positive impact on economic activity. But it is obvious that such a lowering of the interest rate penalizes saving as:

- individuals who would have saved (as the former interest rate would have compensated for their abstention from consumption) now give up saving and choose consumption. That is, the supply of investments is decreased in society

- individuals who wouldn't have consumed as they lack present capital now take debt in order to expand their present consumption. The new higher time preference (generated by lower interest rates) allows them to engage in present consumption as the penalties for their higher time preference are lower.

*B. the infusion of liquidity in the banking system:*

If central banks would have limited their intervention to a lowering of the interest rate, the impact would have been a serious contraction on the credit market as the lower interest rate would have allowed only a part of former SSU to remain interested in supplying credit. A large number of such SSU – the marginal ones – would have left the market as the new rate would not compensate their abstention from consumption. So the lowering of the interest rate has to be combined, from the perspective of the public policy, with an infusion of liquidity in the monetary system. Otherwise, the first policy measure would not have the impact that is looked for.

But such liquidity cannot be procured through saving – which, as we already saw, is penalized – but through the artificial expansion of money supply. In this context, the additional demand for credit – the marginal demand which becomes tangible by the lowering of the interest rate – will find readily available capital. But the artificial expansion of the money supply – which is not backed by saving – cannot mean but a redistribution of the purchasing power of the stock of money in society. In consequence, such an expansion of the money supply not only punishes the future acts of saving – such as the previous policy measure – but also penalizes all the past acts of savings and especially those whose form has remained in monetary capital. The acts of savings which generated an investment in real capital would not be so much affected by this measure.

*C. the over-indebtedness of firms and consumers:*

This is a derivative effect of the first two policy measures. All the marginal debtors would be attracted on the credit market by the lowering of the interest rate and the readily available new credit generated by the infusion of liquidity. In consequence, not only that new debtors would be attracted on the credit market and be induced to get indebted but also firms and individuals already indebted would be encouraged to expand their production and consumption by further indebtedness. Moreover, in the case of firms, the use of cheaper debt is also encouraged by the tax shield that debt benefits from.

#### **4. Present versus future production structure**

Another less analyzed impact of public policies that spur consumption is the impact on the production structure in society. Obviously, when saving is penalized and the entrepreneurs that develop new ideas have difficulties in reaching out new capital – as a lack of saving – such an approach favors the present structure of capital goods in society at the expense of any new production lines that could develop through innovation. In other words, such policy measures may support present industries and firms but greatly inhibit the development of new industries and firms. In consequence, consumption oriented policies have a static approach that save the present-day production structure at the expense of any potential new production structure. It penalizes innovation and efficiency in the name of saving the *status quo*.

#### **5. The dynamics of the business cycle**

The coupled effects of the above-mentioned policy measures translates into a gap between the structure of capital goods in society – the production structure – and the real or original or natural demand from the part of consumers. Such a gap means that producers have expanded their production of consumer goods due to the increased ability-to-pay of existing consumers but also have engaged in “*lengthier*” cycles of production due to the signal offered by the new lowered interest rate.

Austrian School of Economics argues that in society emerges what is called a natural rate of interest (Mises, 1980, page 341). It is a market price for the abstention for consumption for those taking part on the credit market. The natural rate of interest is the manifestation of a social time preference in monetary form. Such a natural rate is a result of a market phenomenon, of the unhampered meeting of demand and supply of credit. Several economists highlight the dramatic impact of the manipulation of the rate of interest by the central banks in their quest to spur short term development through any means. While consumers get access to additional resources through a “*cheap money*” credit policy, they would sustain the new consumption behavior until they will consider this new ratio of consumption to saving as

unsustainable. At that moment, when such a perspective is spilled-over the entire society, individuals would start to limit their present consumption in order to pay back the previous credit.

At this moment, the consumer confidence would plummet and, in consequence, consumption would be severely reduced. The production sector – already affected by mal-investments – would have to restructure in order to meet the new demand. At this point, the recession would start as the process of restructuring means reduction of the activity of some businesses as well as the failure of others. In consequence, economic depression can never start from “*over-saving*” as “*under-consumptions*” theorists argue. What can be dramatically stated is that “*there can never be too much saving in society*” as, obviously, there can also never be a cessation in the consumption.

## 6. Measures taken in order to exit the 2007 crisis

If depressions occur mainly as a result of the policy measures described above – which all of them focus on spurring consumption and penalizing saving – which should be the best policy to exit a crisis? Maybe paradoxically, the policy measures adopted by the large majority of governments and claimed to support the economy exiting the crisis are focused again on spurring consumption.

After 2007, the main policy measures adopted by the governments of the United States of America and the member-states of the European Union – together with their central banks – have been mainly a replica of the measures adopted during the previous boom phase. They focused on further lowering the interest rate as well as liquidity provision in an unmatched amount. Moreover, the measures undertaken specifically during the crisis have put a focus on taking over the bad bank loans by the state as well as an increased government spending.

In the first case, the states bailed out the banks with portfolios of bad loans. In short, governments bought at nominal values bad loans from the balance sheet of the commercial banks (called “*toxic assets*”) in order to clear up their financial equilibrium and re-launch them as solid and stable institutions. Such an approach does not penalize either the financial intermediary for its lack of prudential behavior in granting loans or the debtor for his assumption of a risk profile that was too speculative. This is the consumer who sometimes experienced negative saving rates (he consumed more than he earned) because of easily available debt.

Second of all, the increase in government spending also is a policy that is focused on consumption. It is the common wisdom of Keynesian economics during times of crisis. Its specific objective is to increase present demand for goods in order to supply firms with business activity as consumers are not willing any more to expand their consumption. But Rothbard criticized the perspective that government spending is any form of investment. He argued that it is pure consumption (Rothbard, 2001, page 941). It usually has been financed through increasing public debt which, starting with 2011, has led in a large number of developed countries to problems regarding their own ability to meet payments.

## 7. The right public policy during a crisis

Such measures taken after 2007 both in U.S.A. and E.U. have not taken the desired results. Even in 2012, the macroeconomic conditions in all the developed economies are volatile and the initial financial crisis has developed into a sovereign debt crisis in a number of countries such as Greece, Portugal, Italy, Spain and so on. Even economic growth is undecided and the banking sector manifests symptoms of the same lack of performance. Unemployment is also high in the vast majority of Western economic powers. Which should have been the path towards exiting the crisis?

Austrian economics recommends exactly those measures that refocus on encouraging the discovery of the natural rate of interest and the promotion – or at least the avoidance of the penalization – of saving. Several economists have argued that during crisis governments should:

- avoid further indebtedness;
- avoid lowering the interest rate and eventually “*free*” the credit market;
- avoid injecting new liquidity in the monetary system;
- allowing of the restructuring process to occur in the economy, including the banking sector.

Such policy measures may have immediate social costs. But they are the shortest albeit painful way to rebalancing of the production sector with the demand. They just correct the errors made during the boom phase. In fact, maybe paradoxically, the same Austrian economists argue that depression is the period when the production sector is again tailored to suit the natural demand and the natural time

preference of the population. All such policy measures determine should determine an increase in the rate of saving in society.

## 8. Conclusions

Every government whose economy is experiencing a crisis try to offer an answer to a core dilemma in economics: should public policy encourage consumption or saving? We have argued in this paper that the crisis itself is a result of policy measures designed to expand consumption at the expense of saving. Maybe paradoxically, the public interventions designed during the crisis in order to combat the negative impact of the crisis have also been encouraging the same consumption.

We have demonstrated, in line with the theoretical argumentation advanced by the economists belonging to Austrian School of Economics, that the only way through which an economy could exit a depression is only through policies that encourage saving and the re-establishment of the rate of interest in society in accordance with the natural rate of interest. These are the only sound foundations that an economy could develop on.

Friederich von Hayek told us a very interesting story in what regards the persistence of wrong but intuitive ideas. In 1928, two economists advanced their “*under-consumption*” theory and offered a prize of 5,000 \$ for the soundest critique of it. They have received 435 papers from 26 countries that criticized their theory (Hayek, 1975, page 203). Today, their theory is however still accepted in mainstream.

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## ESTIMATION OF HUMAN CAPITAL STOCK IN THE EUROPEAN COUNTRIES

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**Abstract:** *The aim of the paper is to compare different methods for estimations of human capital stock and to estimate the human capital stock in the european countries using the retrospective method, based on public expenditures per education level and number of employed population with a certain education level. An extreme polarization of human capital stock across the european countries was found and an ascending trend of the human capital growth was identified. The positive and increasing growth rates of the human capital stock per workers in all european countries are suggesting an increasing demand for education in these countries, during 1996-2008.*

**Key words:** human capital, education expenditures, labour force

**JEL classification:** J 24

### 1. Introduction

It is generally accepted that human capital is an important determinant of the economic growth. The range of available human capital variables is very wide, capturing different aspects of human capital. Therefore, different proxies of human capital are uncorrelated, makes cross-country comparison difficult, being unable to explain income differences by the variation of human capital endowments. A good proxy for human capital have to capture not only the resources involved in the creation of human capital, in monetary or non-monetary terms, but the market value of the human capital (the value assigned to the human capital, by the market, through employment).

The aim of the paper is to compare different methods for estimations of human capital stock and to estimate the human capital stock in the european countries using the retrospective method, based on public expenditures per education level and number of employed population with a certain education level.

The paper is organized as follows: in section 2 the major approaches to human capital measurement are presented, section 3 describes the methodology of the study, in the section 4 are exposed the main findings, and the last section is dedicated to the concluding remarks and further studies.

### 2. Major approaches for estimation of human capital stock

In the relevant literature focused on estimation of human capital stock, there are three main strands: (i) methods using different proxies of educational variables, (ii) retrospective methods and (iii) prospective methods.

#### *Human capital stock and literacy variables*

One of the first approximation of human capital stock was to equate human capital to formal education, due to the availability of official statistics on education. A very large number of empirical studies were developed using literacy and formal education data for proxy of human capital. Among them, we mention: Barro (1991) and Mankiw, Romer and Weil (1992) using secondary enrolment data, and Azariadis and Drazen (1990) and Romer (1990) who rely on adult literacy rates.

These proxies have major limitations. First, literacy cannot measure the growth of human capital in secondary and tertiary education (Wössman, 2003). Second, the enrolment ratios in secondary and tertiary education can be seen as a better proxy of human capital growth. For example, a low level of primary enrolment rate could be accompanied by a higher secondary enrolment rate. Enrolment rates can be seen as a good approximation of the yearly addition to the human capital stock, being a good proxy for the growth of human capital, but not for the human capital stock.

A second proxy proposed for human capital was the 'average years of education' or 'average years of schooling', capturing the population's average educational attainment. This measure has been used in many empirical studies such as: Benhabib and Spiegel (1994), Islam (1995), Barro and Lee (2001), Temple (1999), Krueger and Lindahl (2001), and Barro and Sala-i-Martin (2004).

According to Wössmann(2003), the average years of education can be estimated in three different ways. First, based on a Perpetual Inventory Method(PIM), estimates the total years spent with formal education using sufficiently long series of enrolment data (Lau *et al.*, 1991; and Nehru *et al.*, 1995). This estimate is corrected by correcting factors such as: mortality, repeaters, and drop-outs rates, and finally divided by the number of working age population yielding the average years of education. The method is sensitive to the availability of data for these correction factors, though, which are in most cases available for a few years only and are usually interpolated by a regression. Therefore, the accuracy of the method is suspect. The second method, based on assumptions regarding the relationship between enrolment and educational attainment, is developed by Kyriacou (1991), which calculates the 'average years of schooling' from mid-1970s censuses for a few benchmark years and then uses lagged enrolment ratios to interpolate average years of schooling in the labor force for the missing years.

Using the third method, Psacharopoulos and Arriagada 1986 estimated the stock of human capital embodied in the country's labour force, based on attainment statistics taken from censuses. A drawback of this method is the limited number of censuses (once in every 10 years). Later on, Barro and Lee (1993; 2001) suggested solving this problem by interpolating the census data to obtain estimates of 'average years of education' for every fifth year. They constructed education data from census information where available, and for missing information used enrolment data and the perpetual inventory method for updating. In 2004, Portela *et al* argued that the use of inventory perpetual method for the construction of education data per country leads to systematic measurement error and they suggested a methodology correcting this error. De la Fuente and Doménech (2000) and Cohen and Soto (2007) revised and upgraded the Barro and Lee's work for a larger set of countries.

A popular way to improve the ability of educational attainment variable to capture the real differences in human capital endowment and the market value of human capital is based on a Mincerian approach. Mincer (1974) applied an earnings regression to estimate the return to schooling:

$$\ln w_i = \beta + rS_i + \dots + u_i \quad (1)$$

where:

$w_i$  and  $S_i$  are earning and the educational attainment of an individual  $i$ ;

$r$  denotes the rate of returns to an additional year of education

This equation was used by other authors (i.e. Pritchett, 2001) to estimate the human capital stock, as follows:

$$h_{i,t} = e^{r_{i,t} \cdot S_{i,t}} \quad (2)$$

where:  $h_{i,t}$  denotes the per capita human capital in country  $i$  in year  $t$ . In this equation, a country with either no educational attainment, or no returns to education, has a per capita human capital stock 1.

Regarding the rate of returns to education, Psacharopoulos and Patrinos (2004) report the rate of returns to education for a large set of countries and find a significant amount of variation in this variable.

#### *Retrospective methods*

This is a very popular method, due to the availability of data used. This method measures human capital as the sum of all costs incurred during the formation of human capital. Engel (1883) was the first to apply this method when he estimated human capital from the costs of rearing a child (Leeuwen and Földvary, 2007). His approach was extended by Schultz (1961) and Machlup (1962). A more popular application (see for example Pyo and Jin, 2000) of the cost-based approach has been developed by Kendrick (1976) who estimated the human capital stock for the United States in the period 1929-1969 by summing the tangible costs (rearing a child until age 14) and the intangible costs (health, safety, education, and the opportunity costs of students attending school) (Leeuwen and Földvary, 2007). This method has its limitations too, but it partly solves the problems associated to 'average years of education' by incorporating qualitative aspects of human capital. This approach is similar to the measurement of physical capital stock. Judson(2002) suggested to calculate per capita stock of human capital stock at its replacement stock:

$$h_{ijt} = \sum_j d_{ijt} a_{ijt} \quad (3)$$

where:

$d_{ijt}$  is the public expenditures on education per education level  $j$  in country  $i$  in year  $t$ ;

$a_{ijt}$  denotes the share of the labour force in year  $t$  with a certain level of education;

$h_{ijt}$  denotes the average per worker human capital stock

#### *Prospective methods*

The prospective method is known as income-based approach, since it estimates the value of human capital from the future (expected) earnings. This method originates with Petty (1690) who calculated the human capital of England as the difference between his estimates of the national income and property income, capitalized in perpetuity at a 5% interest rate (Leeuwen and Földvay, 2007). The modern versions of income based estimations define the (expected) value of human capital as the total income that could be generated in the labor market over a lifetime (Le, Gibson, and Oxley, 2003), human capital being treated as an investment. Dagum and Slottje (2001) applied this income-based approach to estimate of the average human capital stock of the USA in 1982.

The idea that wages reflect differences in efficiency and ultimately human capital endowment has been used by other authors as well to develop their methods. Jeong (2002), following Mulligan and Sala-i-Martin (1997), estimated a human capital index for 39 countries. He assumes that all countries have the same Cobb-Douglas type production function, and therefore the difference in the observed real wages must be attributed only to differences in human capital endowment and aggregate output (Leeuwen and Földvay, 2007). His results suggest that the human capital stock in Africa was roughly 52.3% (average of 11 countries), in Asia 66.2% (average of 10 countries), and in Europe 90.2% (average of 9 countries) of the human capital stock in the USA.

The following equation was used:

$$\frac{H_i}{H_j} = \frac{Y_i}{Y_j} \cdot \frac{w_j}{w_i} \quad (4)$$

where:

$H_i$  and  $H_j$  denote human capital stock in countries  $i$  and  $j$ , respectively;

$Y_i$  and  $Y_j$  denote aggregate income;

$w_i$  and  $w_j$  are real wages in countries  $i$  and  $j$ , respectively.

### **3. Methodology of the study**

After reviewing some very known human capital measurement methods, I selected a retrospective method to estimate the human capital stock in the EU countries, according to the Judson's approach (equation 3):

$$h_{it} = \sum_j d_{ijt} a_{ijt}$$

where:

$d_{ijt}$  is the public expenditures on education per student at education level  $j$  in country  $i$  in year  $t$ ;

$a_{ijt}$  denotes the number of employed people, in country  $i$ , with a education level  $j$ , in year  $t$ ;

$h_{it}$  denotes the average per worker human capital stock in the country  $i$  in year  $t$ .

From the Eurostat's data base were collected the following indicators: public expenditures on education per pupil in primary, secondary and tertiary education, employed population by the highest educational attainment (aged 18-64). European countries with not completed data for all years 1996-2008 were excluded.

### **4. Main findings**

As it can be seen in the Table 1, the average human capital stock per worker, in terms of investment costs, has significant variations in the European countries, from 636,06 thousand Euro in Malta to 245.219,59 thousand Euro in Germany. There are 18 countries (from the 24 included in the study) under the EU's average and only 6 are above this level. This indicates an extreme polarization of

human capital investment across the European countries. The top Member States, as level of human capital stock per worker, are: Germany, United Kingdom, Italy, France, Spain and Netherlands. In Germany, the human capital investment in the labour force is 3,8 times higher than in Netherlands and 5,1 times higher than the EU's average.

**Table 1: The average human capital stock in the European countries**

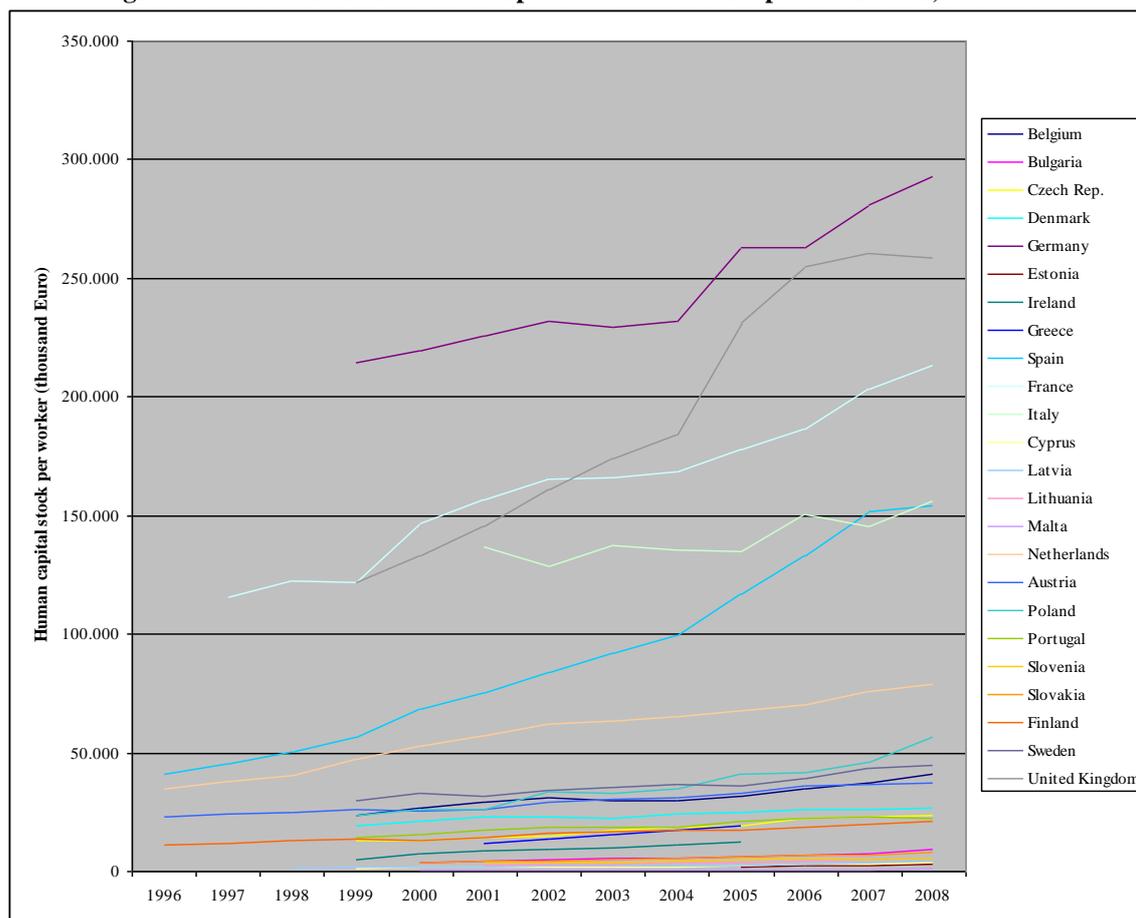
Country	Human capital stock, average for 1996-2008 (thousand Euro)
Belgium	31.545,05
Bulgaria	6.002,05
Czech Republic	17.979,37
Denmark	23.654,56
Germany	245.219,59
Estonia	2.384,46
Ireland	9.174,25
Greece	15.487,72
Spain	89.791,51
France	161.890,37
Italy	140.591,49
Cyprus	2.305,31
Latvia	2.549,67
Lithuania	3.967,17
Malta	636,05
Netherlands	64.126,62
Austria	31.126,92
Poland	36.217,51
Portugal	19.824,82
Slovenia	4.696,45
Slovakia	5.749,19
Finland	16.809,37
Sweden	36.417,23
United Kingdom	192.488,65
EU Average	48.359,81

Source: author's calculation based on the methods selected and EUROSTAT data

Investigating the relation between human capital stock per worker and the aggregate output in the European countries, the correlation coefficients Pearson are calculated. I found that the levels of human capital stock per worker are positively and strongly associated with the level of GDP and of GDP per capita in all European countries (see the Appendix). It is suggested that, generally, countries with a high level of the economic output can afford to invest more in education. But the variations in human capital stock across European countries are depending of other several factors: institutional (education systems, efficiency and effectiveness of educational institutions), governmental (allocation of public resources according to established national priorities), national and European policies on employment.

In all European countries, the human capital stock per worker increased during 1996-2008 and the trend for next years remains ascending. In the European countries situated under the EU's average level, as human capital stock per worker, its growth rate is much lower as in countries with an increased human capital investment. For example, Malta has doubled its human capital stock per worker in 9 years (2000-2008) and Spain increased its education investment costs of 3,77 times in 12 years (1996-2008).

The positive and increasing growth rates of the human capital stock per workers in all European countries are suggesting an increasing demand for education in these countries, during 1996-2008. For the years 2009-2011 there are no data available to estimate the human capital stock. The impact of the employment and jobs crisis associated with the financial crisis and recession modified certainly these figures and trends.

**Figure 1: The evolution of human capital stock in the european countries, 1996-2008**

Source: author's own calculations

There are two main effects of the employment crisis to be considered: first, people are tempted to remain in education during economic crisis, due to the difficulties related to finding a job, this is leading to an increase of the education investment and second, the number of employed people are decreasing. Both, these effects are captured by the approach used in this study to estimate human capital per worker, taking into considerations public expenditures by education level and the number of employed people with a certain education level, at a given time. This estimate of human capital stock reflects the employed human capital in the economy, at a given time.

## 5. Conclusions

The paper offers human capital stock estimations in the European countries, which are relevant to the economic and fiscal policy debate since a crucial question is the extent to which the productive human capital of Europe was impaired by the financial crisis and recession and for explanation of productivity performance across the EU countries, as human capital is a key factor of production. The paper is relevant, as well, for the measurement of national well-being, because there is a clear relationship between human capital formation and people's perceived well-being.

The theoretical approach used in the present study to estimate the human capital stock per worker takes into consideration the investment costs in education per capita and the employed population, by education attainment. In this way it is measured the employed human capital stock in the economy at a given time.

I found an extreme polarization of human capital stock across the European countries. The human capital stock per worker, measured as investment costs, is the lowest in Malta and the highest in Germany, the gap being of 1 to 386. Almost European countries are situated under the EU's average of human capital stock per worker. The levels of human capital stock per worker are positively and strongly associated with the level of GDP and of GDP per capita in all European countries. Generally, countries

with a high level of the economic output can afford to invest more in education and to valorize their human capital in higher employment rates.

The positive and increasing growth rates of the human capital stock per workers in all European countries are suggesting an increasing demand for education in these countries, during 1996-2008. It is very likely, to maintain this ascending trend, due to the fact that, during crisis, people are tempted to remain in education due to the difficulties to find a job.

Further studies are needed to analyze in detail, the effects of the job crisis in the levels of human capital stock and the impact on economic growth and well-being.

## 6. Acknowledgment

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**APPENDIX****Correlation between human capital stock per worker and GDP in the european countries**

<b>Country</b>	<b>Correlation coefficients between human capital stock per worker and GDP (1996-2008)</b>	<b>Correlation coefficients between human capital stock per worker and GDP per capita (1996-2008)</b>
Belgium	0,96	0,94
Bulgaria	0,98	0,99
Czech Republic	0,97	0,99
Denmark	0,94	0,93
Germany	0,96	0,92
Estonia	n.a.	n.a.
Ireland	0,98	0,98
Greece	0,99	0,98
Spain	0,99	0,98
France	0,82	0,97
Italy	0,96	0,75
Cyprus	0,83	0,98
Latvia	0,98	0,98
Lithuania	0,92	0,99
Malta	0,96	0,87
Netherlands	0,94	0,08
Austria	0,99	0,93
Poland	0,98	0,97
Portugal	0,95	0,81
Slovenia	0,93	0,92
Slovakia	0,98	0,98
Finland	0,97	0,96
Sweden	0,97	0,95
United Kingdom	0,89	0,96

Source: author's calculations

## THE UNKNOWN / KNOWN ECONOMIC AND FINANCIAL CRISIS

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**Abstract:** *The current paper is an attempt to look at several positive and negative aspects of the current financial crisis and past crises, as a result, a symbiosis of student ideas and macroeconomic knowledge. The research aims to look into several uncharted aspects of the crisis, and as a result, to submit several pertinent solutions for the ongoing debate of crisis management.*

**Keywords:** crisis management, banking system, globalization.

**JEL classification:** A 10, A 11

*"The horses of destiny know the path, we can only avoid a tiny rock, a ditch, but they drive onwards". W. Goethe*

Nothing of what happens is an isolated event, nothing is new on this earth, and the history of financial and economic crises proves this one time too often. The magnitude of the problem is not even that important, rather, the attitude towards it, and this makes all the difference. All this comes from the way that the situation is being accepted or not. Deep questions abound, together with major fears. One concerns the resilience of the crisis; as history and various analysis reveal (Reinhart, 2009) such a deep crisis does not last long. All economic theories respect the idea that these manifestations can not find their explanation in generalizations or their inclusion into generally viable models, considering this as a more and more complex situation, generated by various factors, in a historic, social, economic and political context. One can not establish realistic anticipations (of the duration, of risks and of effects – by counteracting them), as identical parameters lack, but having as a common trait the cyclical character of economic processes, in an age when capitalism has become the dominant economic system in the world. "The mechanism of an economy is based on three major production factors: labor, capital and natural resources". Correct but not sufficient. Crises have taught us that no possible combination of these factors can not be efficient if they are not combined with social and political factors, which include: trust, predictability and solidarity. If such a combination is absent, results are null and void or minimal, no matter how many natural resources, capital or labor would be used. There is a fatigue of the economy, a slowing down and a lack of motivation with negative long term effects".

"Capitalism means freedom of responsible choices which private entities make, considering a set of regulations. Together these two aspects work to make capitalism the most productive system of economic organization. The crisis interrupted a process of defying the laws, from clarity, coherence, fairness. Markets became more and more global and have left behind the national or regional regulations, product or institution wise, leaving the economy to be captured by those prepared to exploit this lack of regulation and the distortion from stimulus structure" (Croitoru, 2010).

"The history of civilization is a history of private and public goods, as the ability to supply private goods increased, and public needed goods became more and more complex. The history of major crises does not seem a history of losing moral values in the process of market globalization, but a history of failure of states to supply complex public goods at a global level. This explains the public debate focused particularly on market failure versus state failure to supply public goods" (Croitoru, 2010).

"We are witnessing a crisis of trust. Sometimes we look at the capitalist system in white and black, expecting it to be perfect. Now we realize it is not so. It is clear that mistakes have been made, as it is clear that such a system must be strengthened. You must criticize what you love. The good news is that for the first time in history, such a crisis did not lead to wars, but to cooperation from all the actors. It is clearly a financial and economic crisis, but which brings together, and does not tear apart. Another change is that the markets can not fix this crisis themselves. Several corrections must be made, some limits must be issued, but this is a debate which takes place and which will last. One should do more from the part of the fiscal policy, not and not the monetary one. The interdependency of central banks must be more and more treasured and the politization of such institutions must be avoided at all costs. Moreover, it would be a good idea that fiscal policies are politically independent as well in order to finally reach a

good quality concerning monetary policies. Greed always existed. Bankers will always be greedy...even Adam and Eve had their greed, no? This greed, or the inability to stop or just say "enough" is part of the human patterns. The problem is the manner in which the financial system is working. That is where the crisis began. We all believed that the system was solid as a pyramid, which really was true, only that the pyramid was upside down. I believe we will have to revise the interest concept. They raised the issue of the appalling way in which this concept was used by philosophers and mathematicians, starting from Aristotle. They all raised question marks on the appalling way in which it is formed and asked that interest should be used as few times as possible. Whereas the capitalist system is founded on the intensive usage of interest. Instead of controlling the interest rate levels, they control us. They control us and they endebt us" (Sedlacek, 2009).

The analysis of Hyman Minsky is full of relevance in this situation. "The crisis forced governments to save large financial entities, damaged social cohesion, by stressing the feeling that things are not right. And how could they be when losses of private entities are socialized (for fears of systemic risks), in a repeated fashion, and in time, population income is being eroded" (Minsky, 2008).

Nassim Taleb (the author of the black swan concept, a rare and unexpected phenomenon, which completely changes the way in which things work, which takes everybody by surprise and which can not be predicted) says a simple things, "in order to avoid black swans, catastrophic changes, for complex systems, such as the society or market, and a natural volatility must be kept."(Taleb, 2010)

The causes of the economic cycles have not been identified, but regardless of this aspect, the character is obvious even if short-termed, medium or long-termed – comprising of the two phases: expansion and recession. During these periods of turbulence one can notice the importance of the areas of economic growth – economic clusters, and financial solutions which can only be temporary, until reforms could bring the required equilibria.

The mirage of printing money to finance deficits (quantitative easing – which leads to debt accumulation) by central banks and lack of bankruptcy (which would have cleaned the system) are the factors which escalated the crisis.

Within analysis, economists are often seduced by the mathematic apparatus, and take into account a behavior of men (the treatment of reduced sensitivity to allergic factors, applied to those who suffer, by daily brain washing in various doses, via bad news seems to have created a stoic resistance) in accordance with virtual mathematic models, they evaluate numbers and not processes, sometimes with an irrationality worthy of a chimerian world, without any connection to the real one, which has become excessively dogmatic. Terms which seem new such as money or human arrogance, will resurge in the future, reinvented with more interesting labels, and "trust becomes some magic star dust which maintains investments tempting and economies moving" (Lzbeck, 2012).

If there is something that can be calculated, this thing can be done using only three main operations: incrementing an integer number, decreasing (until zero) and comparing it to zero (assuming that memory is infinite), and in this case we are dealing with an effect, not a cause.

A vision with three temporal strategies such as past: was was done wrong, present – which are the most feasible solutions in the current status quo, future: which are the measures to follow in the long run, in the situation where states have a different and unpredictable evolutions, where it remains an open question.

"In the event when only several countries make exports (Germany, Japan, China), the rest are risking to sink because of excessive commercial deficits, which can not be sustained, thus there is an attempt to export more than to import, each country wishing to push the deficit towards the others" (Lzbeck, 2012).

The world is changind its course towards a time when the role of the state will be bigger than the one of the private sector. There will be a change in economic paradigms after this crisis, by the passage from the financial sector which produce real assets.

Together with my fellow students from the Faculty of Economics in Sibiu, future economists, we have tried to identify several aspects of the causes, implications and solutions of the crisis, whilst keeping their own formulas and creating a summum. The efforts of the young have transformed within a detailed X-ray of moments past, present and future. Such ideas are revealed in Table 1, Annex 1.

**The deep cause** of the crisis was the abundant liquidity created by the main central banks and the desire of oil and gas exporting countries to limit the appreciation of the currency, an oversaturation of savings, of high accumulation rates, but also the global distribution of wealth and income towards the exporters of hard goods. Liquidity and oversaturation of savings have increased investment results. The

consequences of liquidity lead to an increase of asset appetite and large gains. A tendency towards underestimating and insufficient risk comprehension and thus, lack of vigilance, was created” (Isarescu, 2010).

**Implications** – on this background, a series of microeconomic causes, such as frantic security, cracks in the business mode of rating agencies, rational externalizations from the private point of view, but socially inefficient, an international competition for deregulation” (Isarescu, 2010).

**Solutions** – finding the methods to establish the trust of investors and of consumers. Adjusting the principles which guide the reform of the international financial system, concerning transparency, title accounting, ensuring adequate regulation for markets, firms and financial products, the insurance of financial market integrity, the strengthening of the cooperation between international financial institutions and last but not least business ethics are part of the challenges of the future. Avoiding emotional approaches and creating adequate and competent reforms” (Isarescu, 2010).

Within the analysis endeavour of this crisis, together with my colleagues of the Faculty of Economics from Sibiu, future economists, we have tried to identify several aspects concerning the causes, implications and solutions of this crisis, whilst keeping their expressions and making a summum. The efforts of the young economists resulted in a detailed X-ray of moments past, present and future. These ideas are revealed as a Table in Annex 1.

For more than two decades world economic growth and development was linked to globalization, of markets opening, both financial and productive ones, and this process hit like an earthquake with a global crisis called ”the first era of globalization”. The crisis revealed long term cracks in this globalization, linked to international governance, regulated, instability, lack of trust, in order to be linked to a world in change. History repeats itself, but in different ways, and corrections, reforms, are always welcome, as the exit from recession, the presence of crisis, forces THE WORLD to another life style! Even in the hope that we can negotiate these problems in the medium term, other problems / challenges will appear on the long term. ”Exuberant excesses” could be diminished through simple steps, but will not be enough without instruments of monetary policy and a policy of macroeconomic care. Efforts in this way must be of international cooperation, otherwise, in stead of rejoicing in global benefits we will have to assume huge costs and we will notice the uselessness of ”durable development” with all its axiologic elements. In an universe of parrallel worlds, when issues become global and the entire world is ”in a revolution” we are scarred by ancient ideas, unfit for a digital world, living in the tyranny of common sense with a crisis of men, talents and creativity.

We continue to live in a linear fashion, without seeing the fact that life is not linear, but organic, without taking human ecology into account – a unique solution and that intelligence (diverse, dynamic, distinct) is interactive and can offer value to creativity.

Within a broader sense, considering the interating disciplines, through a pluri-disciplinarian system (specific epistemology, area phylosophy, medium ranked theory, economics, mathematics, psychology, neurology) new models (an entire array of biological variables which are not traditionally included in analyses) expect empirical verification, and maybe as such we will fiind the solutions for a closer approach towards solving immediate and long term realities.

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Annex 1 – Table 1

Causes	Implications	Solutions
<ul style="list-style-type: none"> <li>- Mortgage loans;</li> <li>- Collateralized Debt Obligation (CDO)</li> <li>- credit default swap (CDS)</li> <li>- the moral guilt of the banking system versus an illusory well being</li> <li>- exaggerated appetite towards profit</li> <li>- ignorance and uncertainty concerning risk</li> <li>- inadequate corporate governance</li> <li>- concentrated financial market</li> <li>- crisis foreseen by economists</li> <li>- role of rating agencies</li> <li>- appalling activity by national and international audit systems</li> </ul>	<ul style="list-style-type: none"> <li>- starts in the US and spreads as a result of globalization</li> <li>- companies cease their activity</li> <li>- foreign investors withdraw</li> <li>- increased unemployment rate</li> <li>- wages dwindle</li> <li>- standard of living decreases</li> <li>- middle classes disappear</li> <li>- consumption decreases</li> <li>- lack of trust in financial institutions</li> <li>- austerity regime (education, culture, healthcare)</li> </ul>	<ul style="list-style-type: none"> <li>- increased consumption</li> <li>- protection of stimulus</li> <li>- decreased interests for deposits</li> <li>- development of the vital sectors of the economy</li> <li>- political union within the E.U.,</li> <li>- creation of financial stability funds</li> <li>- infusions within the banking systems to support the real economy</li> <li>- regulating economic and financial transactions</li> <li>- a different approach and consumer behavior towards economic agents</li> <li>- rationality and equilibrium</li> <li>- savings versus consumption</li> <li>- to intervene or not to do so</li> <li>- savings tax</li> </ul>
<ul style="list-style-type: none"> <li>- reduced economic growth</li> <li>- increased bank interests</li> <li>- decreased liquidity within the banking system</li> <li>- excessive debt consumption</li> <li>- selfishness, greed, speculation</li> <li>- an appalling allocation of resources (information asymmetry, the liquidity trap, deflation)</li> </ul>	<ul style="list-style-type: none"> <li>- increased degree of connectivity between banking systems</li> <li>- increased prices for fuel and food</li> <li>- decreased industrial production</li> <li>- export degradation</li> <li>- decrease of global economy</li> <li>- errors of monetary policy</li> <li>- pathology of regulation policies</li> <li>- invisible dominance war</li> <li>- dwindling of earth population</li> </ul>	<ul style="list-style-type: none"> <li>- strategy for economic convergence</li> <li>- a reduction of budgetary expenses</li> <li>- righting the wrongs of fiscal policies</li> <li>- cleansing banks of toxic assets</li> <li>- maintaining macroeconomic stability</li> <li>- creation of a global warning system for financial turmoil</li> <li>- multiple year planned investments in infrastructure</li> <li>- bridge banks</li> <li>- temporary nationalization of problematic banks</li> </ul>
<ul style="list-style-type: none"> <li>- creating a new world order of control</li> <li>- printing excessive monetary mass</li> <li>- coordinated actions between governments and central banks</li> <li>- generalized corruption</li> <li>- personnel lacking experience which are decision makers</li> <li>- lack of trust in investors</li> <li>- lack of measures of economic restart</li> <li>- small state role</li> <li>- a cyclic controlled phenomenon</li> <li>- appalling administration of public income of states</li> <li>- excessive risks undertaken</li> <li>- distorted stimulus</li> <li>- strong growth of asset prices</li> </ul>	<ul style="list-style-type: none"> <li>- global financial dictatorship</li> <li>- bankruptcy of banks</li> <li>- incapability of payment</li> <li>- GDP decrease or stagnation</li> <li>- distrust and uncertainty</li> <li>- faulty corporate governance</li> <li>- demotivation of youth</li> <li>- increased debt to relaunch economies</li> <li>- crisis of individual debts and state debts, of the democratic system</li> <li>- implications on national and international policies</li> <li>- satisfaction of primary needs</li> <li>- stopping credits</li> <li>- decrease in standard of living, protest movements</li> </ul>	<ul style="list-style-type: none"> <li>- increase of labor occupation degree with a fiscal reform based on solidarity and on the automated catalyst function of prices and profits</li> <li>- consolidation of banks, separation from toxic assets, avoidance of deflationist spiral risk</li> <li>- structural reforms</li> <li>- supporting SMEs</li> <li>- innovation, long term research and development in key sectors: energy, agriculture, IT</li> <li>- eradication of corruption</li> <li>- involvement of state</li> <li>- reduction of imports – encouraging of internal production</li> <li>- decrease of loans</li> <li>- a change in democracy – governance</li> <li>- self regulation of market</li> <li>- supporting own industries</li> <li>- worldwide conflict</li> </ul>
<ul style="list-style-type: none"> <li>- wrong mix of economic policy</li> <li>- cheap export / costly import</li> <li>- increase of the role of financial instruments with a speculative basis on the model of free and competition market economy</li> <li>- deregulation of markets</li> </ul>	<ul style="list-style-type: none"> <li>- unfit monetary policies, unfit for the moment</li> <li>- bankruptcy of financial institutions</li> <li>- increased inflation pressure</li> <li>- substantial export decrease</li> <li>- major impact on FDI on emerging markets</li> </ul>	<ul style="list-style-type: none"> <li>- reduction of fiscal havens</li> <li>- perfecting coherent macroeconomic instruments</li> <li>- democratic reform of the state</li> <li>- awakening of consumer conscience of the state</li> <li>- durable development</li> </ul>

<ul style="list-style-type: none"> <li>- wrong macroeconomic measures</li> <li>- granting excessive funds towards American and European banks</li> <li>- toxic regulation</li> <li>- distorted stimulous and moral hazzard</li> <li>- lack of comprehension due to poor intellectual preparation</li> </ul>	<ul style="list-style-type: none"> <li>- increased gap between rich / poor</li> <li>- devaluation of national currencies</li> <li>- inflation and volatile exchange rate</li> <li>- vulnerability of standard of living</li> <li>- deepening of social tensions</li> <li>- excessive debts</li> <li>- population pays the debts of governments</li> <li>- galloping inflation</li> </ul>	<ul style="list-style-type: none"> <li>- general restructuring on real and durable basis</li> <li>- counteraction of poverty increase</li> <li>- insurance reform</li> <li>- rethinking of international monetary system</li> <li>- canceling of waste, expense control</li> <li>- reduction of taxes, VAT decrease</li> </ul>
<ul style="list-style-type: none"> <li>- consumption economy</li> <li>- money abundance</li> <li>- ignoring the risks of value parts</li> <li>- world economic turmoil</li> <li>- income security</li> <li>- lack of solvable demand</li> <li>- unfit economic policy</li> <li>- corruption</li> <li>- inflation policy</li> <li>- A. Greenspan</li> </ul>	<ul style="list-style-type: none"> <li>- decrease of world trade</li> <li>- increase of money price</li> <li>- increase of external financing costs</li> <li>- financial panic</li> <li>- a blockage of the system-banks-government</li> <li>- affects currency markets</li> <li>- huge international turmoil</li> </ul>	<ul style="list-style-type: none"> <li>- investments in agriculture</li> <li>- attracting European funds</li> <li>- creating jobs</li> <li>- reduction of agricultural imports</li> <li>- increased quality in services</li> <li>- reduction of bureaucracy and of tax evasion</li> <li>- establishing trust</li> <li>- reduction of trade deficit</li> <li>- monetary cooperation</li> <li>- currency must have a fixed value</li> <li>- social reform</li> <li>- state takes over several banking assets</li> <li>- resource allocation</li> <li>- permanent income flow, from productive areas which create value</li> <li>- fiscal stimulous packages</li> </ul>

## REGIONAL ANALYSIS OF HR INVOLVED IN RDI SECTOR IN ROMANIA IN THE LAST DECADE

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**Abstract:** *The present paper present a regional analysis done on the Human Resources (HR) in Research Development and Innovation (RDI) sector in Romania in the last decade. This study is focused on the employees by categories of the activities in RDI sector. We took into account the employees from different regions from Romania. Samples data were took from Tempo online database from National Institute of Statistics from Romania, updated database in 15.11.2011 .*

**Key words:** Human Resources, Statistical Simulation Methods, Employment, Higher Education and Research Institutions, Labor Force and Employment, Size, and Structure.

**JEL classification:** O 15, E 24 , I 23, J 21 , J 24

### 1. Introduction

The role of technological research and development and regional policy gained importance over the last years. At different levels have taken individual policies measures to boost local technological potential to consider the power of regions in the last two decades. Since the 1990's, emphasis shifted to policies to a comprehensive approach based on the concept of regional innovation systems (Koschatzky, 2001). These approaches are based on raising regional innovation policy at the strategic level of individual interventions. In many cases, regions have begun to develop "regional innovation strategies", which had to be translated in various actions and measures. Across domain policy, innovation policy raises coordination problems can be tackled at a strategic level to the surface then the implementation in daily life.

Innovation is a highly interactive process, the informal institutions and implicit knowledge plays a central role. This area remains undeveloped, although policy measures were taken. At the same time, the rate of change in many areas of the economy and society require swift and agile political system. *It was proposed tasks for promoting technological and regional innovation (Koschatzky,2001):*

*1. To carefully complete the work and regional resources for development and application of new technologies (regional innovation conditions); 2. To coordinate and interconnect these resources in regional innovation networks, bringing together all relevant actors in industry, science and politics, and 3.To integrate the regional networks of national and international groups to develop production technology and by creating active interfaces and over-promotion of regional cooperation. Creation of regional innovation systems of research is now a clear policy for technology innovation (Koschatzky, 2001). Role of the regions is not passive. They have become active players in the national innovation system, as recipients of public funds (Dohse, 2007). Regions must be creative to succeed in competition inter regional. Regarding regional portfolio of tools related to innovation, we can see that they are clearly influenced by the strengths of the regions, both in terms of institutional and innovation. This observation is consistent with the most important objectives of general politics of innovation strengths to enhance technology / innovation of a regional (or national) innovation system, rather than using innovation policy portfolio of tools that the balanced regional development. Areas are usually regions with an effective regional innovation, characterized by strong institutions which are able to continuously adapt to changing framework conditions and adapt the tools of innovation portfolio. Thus, regions of strong regional players are believed to have an impact on instruments designing to support innovation in their region and possibly on a national level (Stahlecker T.et.all.,2010)*

## 2. Literature review

Based on the concept of national innovation system introduced by Lundvall in 1992, a systemic approach to innovation at regional level was first developed by Cooke in 1992 (Lundvall, 1992). Regional innovation systems can be understood as the public concentrations and private interaction, organizations, formal institutions and other organizations operating in accordance with organizational and institutional arrangements leading to the production, use and dissemination of knowledge (Cooke et al., 2004; Doloreux, 2004). Regional innovation system consists of a supporting knowledge institutional infrastructure and innovation in the industrial structure of a region (Asheim & Coenen, 2005). Regional systems are national systems in miniature, but respond to different judgments, the institutional governmental and settings that can be found at sub-national territorial. It is a distinctive feature of the concept that a region offers all the factors necessary institutions for innovation, but that it is part of a higher level, namely the national system, and must cooperate with other regional or national, in order to merge all resources in the specific area (Cooke et al, 2004). An important part of the innovation system is the regional research system which overlaps with the former to some extent, but includes aspects of research that are not in a direct impact on innovation activities (Kroll & Stahlecker, 2008). Because research creates new knowledge and improve already existing knowledge base of scientific knowledge gained through research is an important element in innovation activities. However, new knowledge also created several feedback processes during the innovation process itself (Kline & Rosenberg, 1986). This knowledge can be tacit and may be limited to those persons or organizations involved in knowledge-generating process (Polanyi, 1967), or have a non-specific and are codified and expanded regional knowledge base (Nonaka, 1994; Nonaka & Takeuchi, 1995; Niosi & Bellona, 2002). Addressing the notion of regional RDI system emphasizes the dynamic, cumulative and social RDI, process and network of relationships between production structure and institutional environment in which they are embedded. Like many territorial innovation models (Maillat & Lecoq, 1992; Mouleart & Sekia, 2003), emphasizes the importance of regional innovation system as a network of formal and informal economic and technological relationship.

In general, the concept of regional innovation systems and network approach (and many other national and regional concepts, for example, the notion of cluster) emphasizes the importance of learning in innovation and emphasizes the specific nature of tacit knowledge and its implications for spatial proximity and need to be incorporated in certain spatial contexts technological development and innovation (MacKinnon, 2002; Mouleart & Sekia 2003). Therefore, if regional research and innovation policy could be effective not only depend concrete political concept but also the ability of policy makers to coordinate RDI policy, especially against the background of a variety of governance mechanisms and layers coexist in countries with a federal constitution. The key argument in the regional innovation policy is "systemic failure" based on systems of innovation approach ((Klein et al, 2005; Edquist, 1997).

It can plot how systemic failures apply to the various actors (actors or missing) in systems of innovation. A simplified systems of innovation consists of private sector actors (business sector), public sector (universities, politics, technology institutes) and "others" (intermediaries such as banks, venture capital firms, consultants, semi-public actors) regulatory errors can usually be seen on legislation, regulation and innovation, factors causing damage, incentives or rules. Failures can be applied for public and semi actors (including innovation policy), because these actors are normally in a position to govern the enforcement. On the other hand, a strong network failure or a certain "blindness" to the new developments happening outside the region and apply specifically to companies and knowledge institutions (in part also "third parties"). Strong links to regional innovation systems can be observed primarily among actors in the business system or between knowledge and create business sector causing danger "closed network" in terms of constant repetition of action and interaction.

Systemic and comprehensive policy measures that try to increase connectivity in different elements of the innovation (Laranja et al. 2006). The objective of these measures is to achieve proper coordination and collective understanding to support interdependence and specialization in the production of knowledge in the system. Systemic targeting of policies to stimulate interactions between industries operating vertical links and horizontal between firms and knowledge-generating institutions, including the relationship between firms and between firms and other institutions. When the policy makers decide to interfere at regional level, there are various challenges in the design and effective implementation of the RDI. A main reason for this is that government regional innovation systems is becoming increasingly complex in terms of number of actors and dependencies between them. In many European countries, top-down policy design has been replaced by substantial regional autonomy (Koschatzky & Kroll 2007), as

preconditions for regional interests and political measures are taken more and more seriously. Therefore, policy coordination and governance in the form of multi-level and multi-actor became a key issue in many countries and regions in Europe (Scharpf, 1994, Kuhlmann, 2001; Hooghe and Marks 2001; Uyarra et al 2007; Loughlin, 2007). The term "multi-level governance that multi-player" refers to power made jointly by the different political actors and administrative levels. Significantly, it was defined in studies of EU Structural Funds (Scharpf, 1994), characterized by a mix of fairly complex financing mechanisms (eg, co-financing). In recent years, these activities have become rather less relevant for regional innovation policy. Features multi-level European governance are particularly relevant to policy RDI. Recent policy efforts to create a "European Research Area" responded to the need to achieve better coordination and horizontal and vertical "Blindness" to new regulatory developments outside the RDI failure in policy coherence between Member States and progress taking place in EU policy in the last two decades RDI (Uyarra 2006).

Regional foresight activities are promoted in order to support and enhance a systematic planning of future European regions. Foresight programs are often designed to influence policy, particularly in technology and innovation policy. Regional foresight processes are often a participatory approach, trying to include key stakeholders, policy makers, experts concerned and critical sources of knowledge integration. Of particular importance are the interdependencies between social, cultural, technological and economic development in the region. The forecast is based, in this case, the strategic planning and policy making horizontal. Prospective regional processes were and are made in different regions (Martin 1995).

### 3. Statistics and descriptive

Making an analysis of the Human Resources in RDI sector in the Macro Regions, Regions and Counties in Romania in the last decade we can draw some conclusions:

The study was conducted during 2002-2008 in which period, the minimum for human resource was registered in 2002 as 38433 and the maximum value of 43502 employees in 2008.

In terms of HR variation on macro regions we can conclude (as we can see in figure 1):

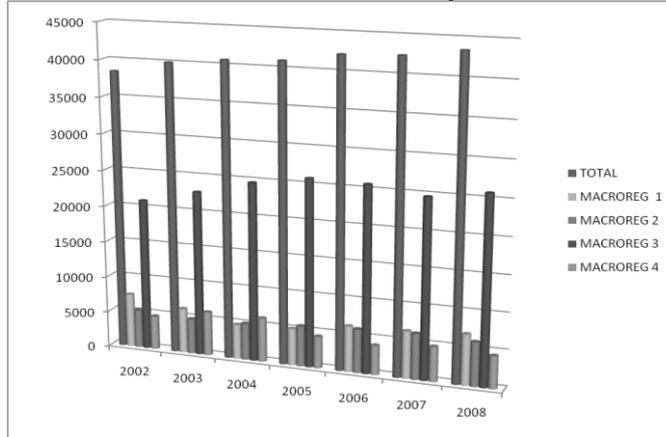
- In **Macro region 1**, the minimum value of 4810 which is 12.52% of the total was recorded in 2004 and the maximum value of 7463, which represent 17.16% of the total was recorded in 2002.
- In **Macro region 2**, HR varied between 4860 in 2003 which represented 12.65% of total 6357 registered in Romania and in 2007, which is 61% of total.
- In **Macro region 3**, the minimum value of HR registered was 20986 which is 54.60%. This value was registered in Romania in 2002. The maximum value of 25900 recorded in 2005, which is 59.54% of HR in Romania.
- In **Macro region 4**, HR varied between values: 4078, which represented 10.61% of total RU registered in Romania in 2006 and 6114 recorded in 2004, which is 14.05% of RU registered in Romania. It seems that in Macro region 3 were recorded most employees in the RDI in 2002-2008, just over 50% of total human resource registered in Romania.

Performing an analysis on the HR from RDI done on macro regions, the human resource we can draw the following conclusions:

**Macro region 1** is composed of **North-West Regions** of the 6 counties components as follows: Bihor, Bistrita Nasaud, Cluj, Maramures, Salaj and Satu Mare and **Central Region** which has the next counties: Alba, Brasov, Covasna, Harghita, Mures and Sibiu. Performing a study on a macro draw conclusions:

In the **North West region**, HR ranged from 5.65% of the total registered in Romania in 2004 and 9.53% recorded in 2008. Considering the two components of macro regions 1 from North West region, HR varied between 42.65% in 2002 from the value recorded in a Macro region 1 and 59.77% of the value recorded in a Macro region 1 in 2007.

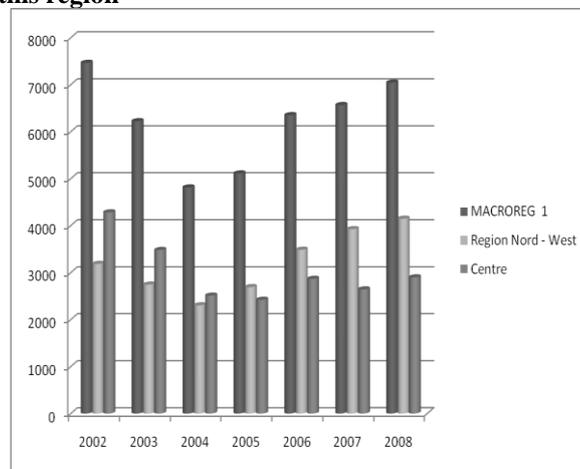
**Figure 1: HR representation from RDI sector in Romania. Analysis done on Macroregions in the last decade.**



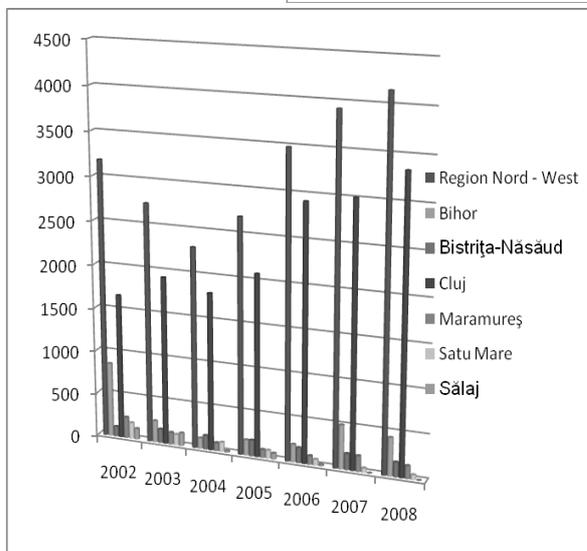
Source: Statistical Year Book of Romania 2009:  
[http://www.insse.ro/cms/files/Anuar%20statistic/13/13%20Stiinta,%20tehnologie%20si%20inovare\\_ro.pdf](http://www.insse.ro/cms/files/Anuar%20statistic/13/13%20 Stiinta,%20tehnologie%20si%20inovare_ro.pdf), Author's calculus.

**Figure 2: HR representation from RDI sector in Romania.**

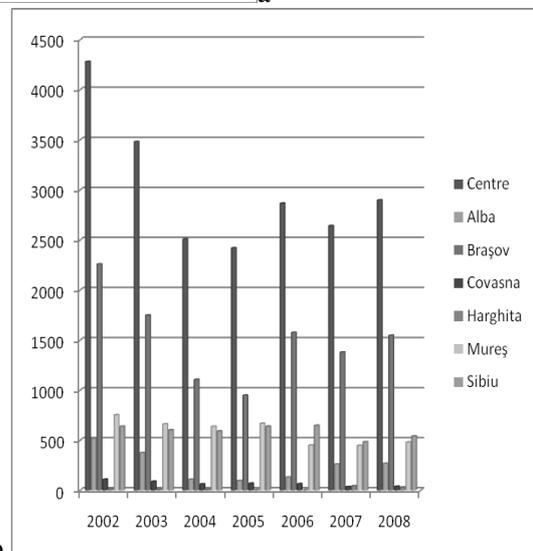
Analysis done on Macro region 1, the regions that belongs to that and counties respectively, in the last decade. a) Analysis for HR from Macroregion 1 and regions Nord-West and centre; b) Analysis for HR from Regions Nord-West and the counties that belongs to this region; c) Analysis for HR from Central region and the counties that belongs to this region



a



b



c

Source: Statistical Year Book of Romania 2009:  
[http://www.insse.ro/cms/files/Anuar%20statistic/13/13%20Stiinta,%20tehnologie%20si%20inovare\\_ro.pdf](http://www.insse.ro/cms/files/Anuar%20statistic/13/13%20 Stiinta,%20tehnologie%20si%20inovare_ro.pdf), Author's calculus.

In **Central Region** HR varied between 40.23% of values recorded in a Macro region 1 in 2007 and 57.35% of values recorded in a Macro region 1 in 2002.

Calculations were performed by county in terms of HR variation in the RDI compared to values recorded in the Macro region 1. In counties from North West region has found that maximum values for HR was in **Cluj** county. Here the values for HR varies between 22.31% in 2002 (from values recorded in Macro region 1) and 47.42% the maximum values recorded in 2008 compared to Macroregion 1.

The minimum values registered in North West region from **Macro region 1**, was found that values from Cluj . Here were found from far the largest values for HR of the North West. These values ranging from 52.31% , value registered in 2002 (compared to the value recorded in the North-West region) and 83.87%, value registered in 2006. The lowest value recorded for HR were in **Satu Mare**. In Satu Mare County the limit values are 2.47% of values recorded in a Macro region in 2002 and 5.78% of the values recorded in North-West.

In the **Central Region** of a macro region 1 is found that counties Brasov, Sibiu and Mures have RDI activity with HU recorded here. In **Brasov** County the values for HR were in ranging from 18.56% of the value recorded in Macro region 1 in 2005 and 30.24%, value registered in 2002. The compared values of Brasov County with those of the recorded values of the HR in Center Region varies between 39.19% and 54.97%, between the same years. In **Mures** County, HR values ranging from 6.79% in Macro region 1 were recorded in 2007 and 13.24% of values recorded in a Macro region 1 were recorded in 2005. 15.67% and 27.57% were the range of values recorded from the center region. Similar values for Mures and Sibiu county , where HR values ranging were from 7.34% of the values recorded in a Macro region in 2007 and 12.49% recorded in 2005, or 14.88% of the value registered in the Central region in 2002 and 26.37% of the value recorded in 2005. The minimum value was recorded in **Harghita** county, as county component of center region, where HR values ranged between 0.03% in 2006 (6 employees in RDI sector), and 0.64% in 2007 with 42 employees. These values recorded from those of Macro region 1 and region to the center are in range of 0.07% and 1.59%.

**Macro region 2** is composed of the six counties that belong to **North Eastern region**: Bacau, Botosani, Neamt Iasi, Suceava, Vaslui and the counties from the **South East region** : Braila, Buzau, Constanta, Galati, Tulcea and Vrancea.

In **North Eastern Region**, **Iasi** county has the highest values for HR ranging from 30.10% in 2003 to 49.82% in 2008, results were recorded from the results recorded in Macro region 2 and varies from 50% to 72.87% from results recorded in the North East region. **Suceava** county has the values for HR ranging from 8.05% in 2007 and 10.51% in 2003 compared with the results in Macro region 2 and varies between 11.77% and 17.46% limits to the results recorded in the North Eastern Region .In **Bacau** county the values for HR in RDI sector increased from 5.54% in 2007 to 11.61% recorded in 2004. The lowest values from the North Eastern Region is registered in **Botosani** and range from 1.28% in 2006 to 1.95% in 2003.

In the **South East Region** , **Galati** county has the highest value for HR. It varies between 14.75% in 2008 and 25.12% in 2003 compared to values recorded in Macro region 2 and can say that vary between 46.63% and 63.68% compared to values recorded in the South Eastern region. **Constanta** county records and the values for human resources in research and development were located between 7.34% in 2002 and 11.01% in 2008 compared to values recorded in two Macro region 2 , and varies between 20.11% and 34.82% during the same years compared to values recorded in the South Eastern region. The lowest values recorded in the South East region are in Vrancea county. These are between 11 employees in 2007 which represents 0.17% of values from those recorded in Macro region 2 and 0.50% from RU values recorded compared with those from South- East.

**Macro region 3** is composed of South Region with his 6 counties: Arges, Calarasi, Dambovit, Giurgiu, Ialomita, Prahova and Teleorman and Bucharest-Ilfov region with its two components: Ilfov and Bucharest.Human resource from Macro region 3 were in range of 20980, values registered in 2002 and 25900 recorded in 2005.

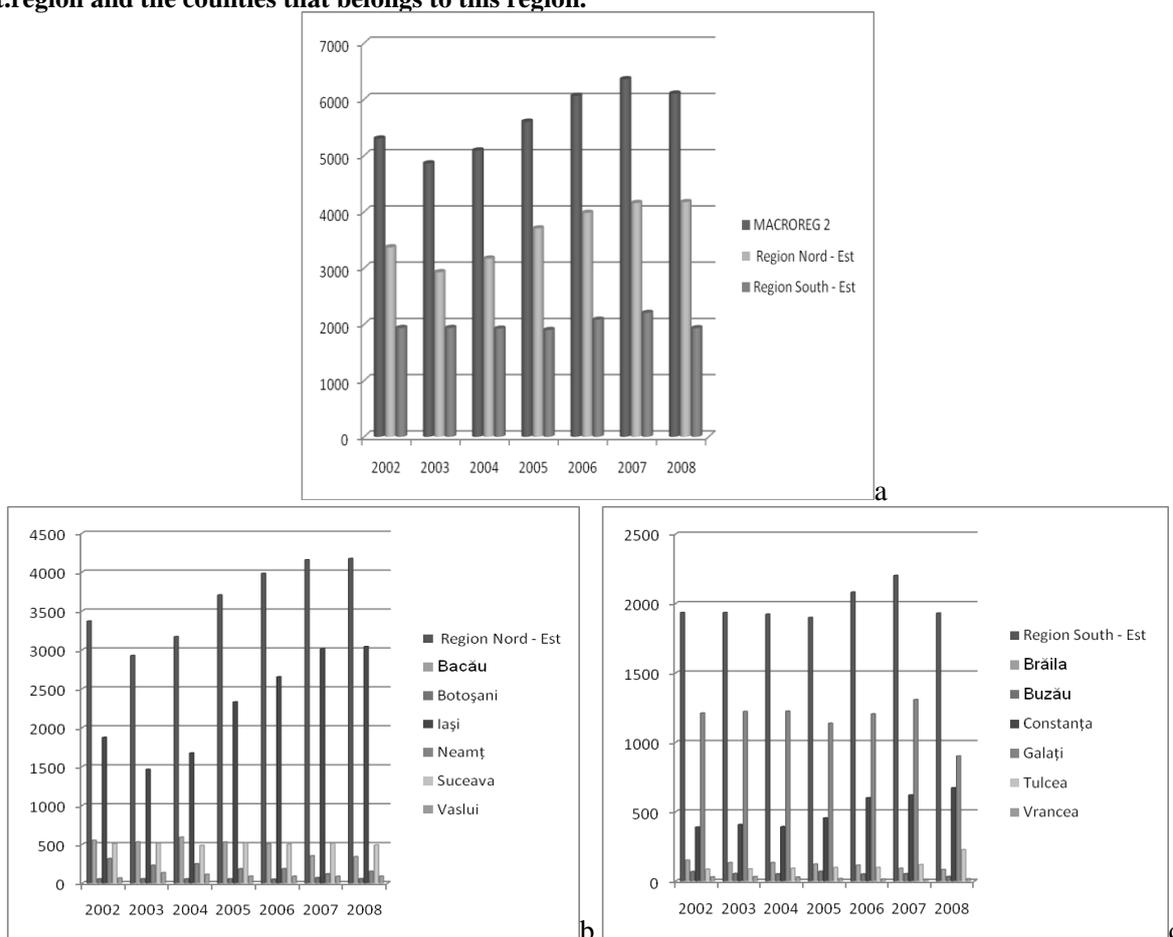
In the **South Region**, HR values ranging from 14.74% recorded in 2006 and 19.14% recorded in 2002. The maximum value for human resource was registered in **Arges** county ranges from 7.72% in 2006 to 10.54% value registered in 2007 compared to values recorded in Macro region 3 and 47.68% in 2002 and 59.57% in 2007 compared to values recorded in the South- Wallachia. It follows that the value for HR registered in **Prahova** county ranging from 3.96% in 2006 and 5.79% in 2002 compared to values recorded in macro region 3 and 24.84% in 2007 and 30.28% in 2002 compared to values recorded in the South Region. Lowest values for HR are recorded in **Ialomita** county. These values are in between 0%

(in 2002 and 2007) and 0.03% registered in 2003 compared to values recorded in macro region 3 with variations between 0% (in 2002) and 0.17% (recorded in 2003).

From **Macro region 3** are **Bucharest-Ilfov region** too. This region having the highest values for regional human resource analysis. Thus in the **Bucharest - Ilfov** the highest values are recorded for human resource in the research, development and innovation with values ranging from 80.84% in 2002 and 85.26%, compared to values recorded in Macro region 3. The maximum for the number of employees engaged in RDI sector are registered in Bucharest with values ranging from 70.49% in 2002 and 76.62% in 2005. These values were reported from the Macro region 3. Variations were recorded between 86.44% in 2007 and 90% in 2005 compared to values recorded in Bucharest-Ilfov region. The values for HR in Ilfov County ranged from 8.51% in 2005 and 11.16% in 2007 from the values reported in the macro region 3 and 10% in 2005 and 13.543% registered in 2007 compared to values recorded in the Bucharest Ilfov. Minimum values recorded here are above the maximum recorded in other counties such as Teleorman, Ialomita, Giurgiu.

**Figure 3: HR representation from RDI sector in Romania.**

Analysis done on Macro region 2, the regions that belongs to that and counties respectively, in the last decade. a) Analysis for HR from Macroregion 2 and regions Nord-Est and South Est; b) Analysis for HR from Regions Nord-Est and the counties that belongs to this region; c) Analysis for HR from South Est region and the counties that belongs to this region.



Source: Statistical Year Book of Romania 2009:

[http://www.insse.ro/cms/files/Anuar%20statistic/13/13%20Stiinta,%20tehnologie%20si%20inovare\\_ro.pdf](http://www.insse.ro/cms/files/Anuar%20statistic/13/13%20 Stiinta,%20tehnologie%20si%20inovare_ro.pdf), Author's calculus.

**Macro region 4** is composed of **South-West Oltenia region** with its counties: Dolj, Gorj, Mehedinti, Olt, Valcea and **West Region** with its counties: Arad, Caras-Severin, Hunedoara and Timis. Human resource registered were in range of 4078 recorded in 2006 and 6114 recorded in 2004.

In the **South West Oltenia**, human resource values range from 2321 employees representing 45.78% of values recorded in macro region 4 and 2841 employees representing 61.08% recorded in 2006. The maximum values recorded for human resources in the South-West Oltenia are in **Dolj** and it varies

between 33.91% in 2004 and 48.75% recorded in 2006, compared to values recorded in Macro region 4 and 74.06% in 2004 and 81.14% recorded in 2002 compared to values recorded in the South-West Oltenia. The minimum values are registered in **Mehedinti**. The values are in the range 0.04% in 2008 and 1.71% in 2002 compared to values recorded in Macro region 4 and 0.09% recorded in 2008 and 2.90% in 2002 compared to values recorded in South- West Oltenia. Between the two is **Valcea** county whose values range are from 3.03% recorded in 2004 and 4.95% registered in 2006, values were compared to those recorded in Macro region 4 and 6.61% in 2004 and 9.44% in 2008 compared to values recorded in South-West Oltenia.

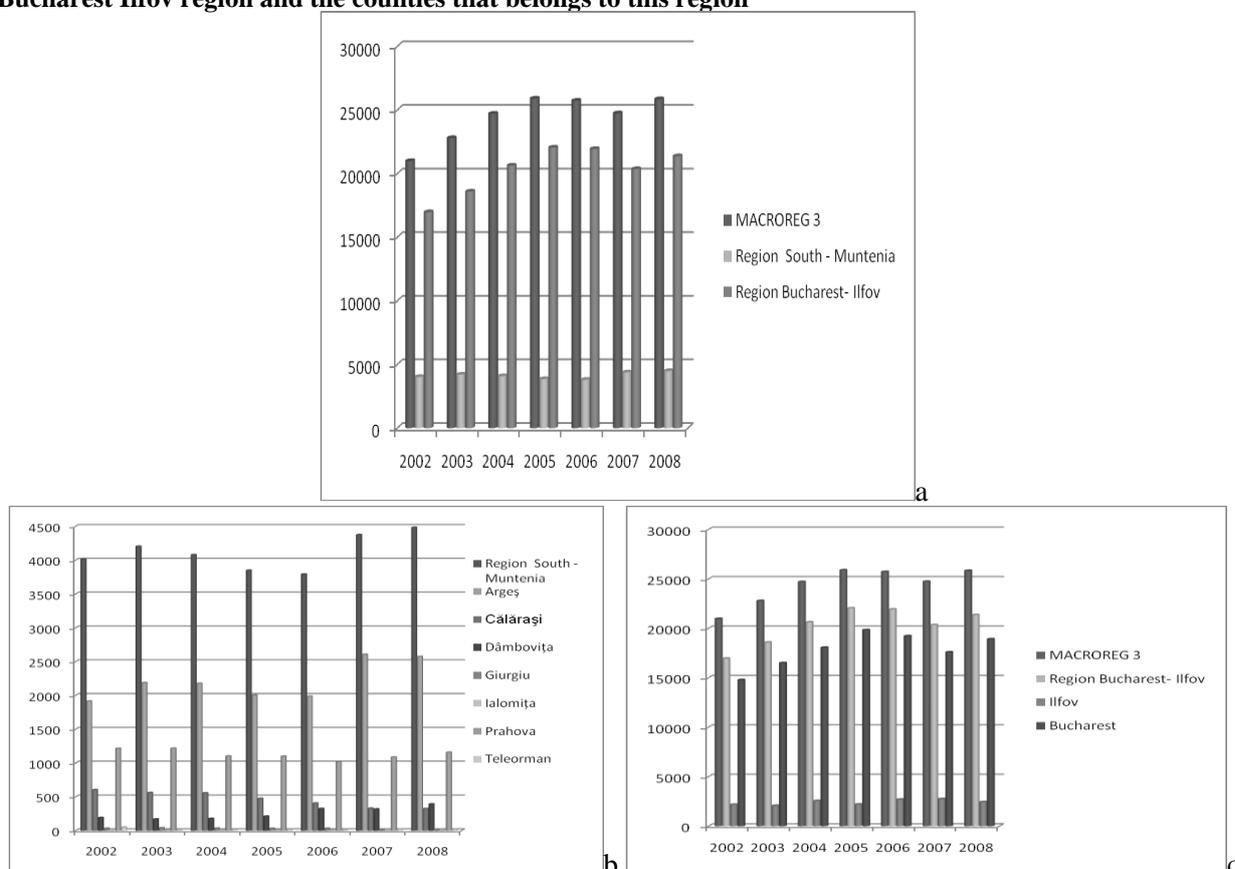
In the **Western region**, the human resource registered, varies between 38.92% in 2006 and 54.22% recorded in 2004, compared to the values recorded in the macro region 4.

Maximum values for human resource in the West Region are registered in **Timis** county. The values here for HR ranging between 883 employees in RDI which is 20.30% in 2008 and 2099 employees representing 34.33% registered in 2004. Here are the recorded values to those of Macro region 4 and 41.86% in 2008 and 63.32% in 2004 compared to the values of the Western region.

The minimum values are registered in **Arad** county and are 36 employees registered in CDI in 2006 which represents 0.81% of values recorded Macro region 4 and 1.97% of the values recorded in the Western Region. The maximum registered value is 691 employees in RDI in 2007 which represents 14.67% of values recorded in Macro region 4 and 30.24% of values recorded in the western region.

**Figure 4: HR representation from RDI sector in Romania.**

**Analysis done on Macro region 3, the regions that belongs to that and counties respectively, in the last decade. a) Analysis for HR from Macroregion 3 and regions South Muntenia and Bucharest Ilfov; b) Analysis for HR from Regions South Muntenia and the counties that belongs to this region; c) Analysis for HR from Bucharest Ilfov region and the counties that belongs to this region**



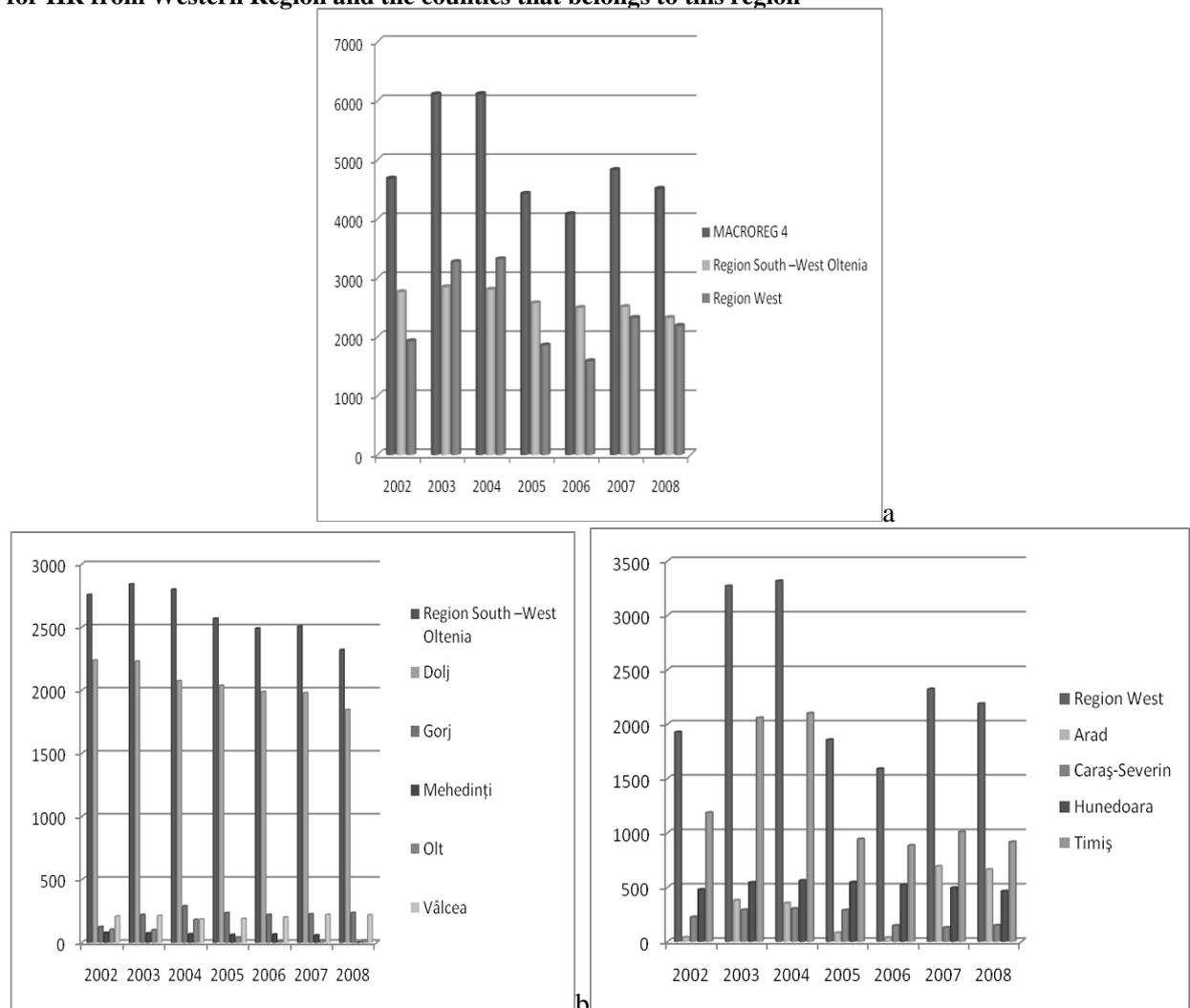
Source: Statistical Year Book of Romania 2009:

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Author's calculus.

**Figure 5: HR representation from RDI sector in Romania.**

Analysis done on Macro region 3, the regions that belongs to that and counties respectively, in the last decade. a) Analysis for HR from Macroregion 4 and Regions South West Oltenia and Western Region ; b) Analysis for HR from Regions South West Oltenia and the counties that belongs to this region ; c) Analysis for HR from Western Region and the counties that belongs to this region



Source: Statistical Year Book of Romania 2009:

[http://www.insse.ro/cms/files/Anuar%20statistic/13/13%20stiinta,%20tehnologie%20si%20inovare\\_ro.pdf](http://www.insse.ro/cms/files/Anuar%20statistic/13/13%20stiinta,%20tehnologie%20si%20inovare_ro.pdf),  
Author's calculus.

#### 4. Conclusions

Multi-level governance is key to the discussion about the important role policy can play in regional innovation systems (Cooke, 2002; Uyerra et al., 2007). Relevant regional actors could be, for example, universities, technology-oriented enterprises, knowledge-based service firms, business, government regional administration, management organizations, intermediaries (technology transfer offices, venture firms capital) or non-university research institutes. A major component of evidence-based activities, strategic information, refer to the collection, processing, analysis and dissemination of information and knowledge necessary to develop political strategies in a visionary yet realistic way. It is considered as complementary evaluation practice (IPTs, Joanneum 2002). Regional innovation policy efforts aimed most intelligent strategic foresight exercises include either regional or regional benchmarking.

We can see that in all 4-th macro regions and the 8-th regions in Romania the best represented regional area are those where are universities and research institutes too.

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## BANK MANAGEMENT STRATEGIES REGARDING THE ATTRACTION OF POPULATION SAVINGS BASED ON THE “FINANCIAL SITUATION OF THE ROMANIAN HOUSEHOLDS” POLL

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**Abstract:** *Financing economic recovery is mainly based on the household sector savings, thus anti-crisis governmental programmes should be based on rigorous knowledge regarding saving and consumption behaviours. Selective studies allow for obtaining quick and pertinent results regarding these behaviours. The present study is based on a poll designed for assessing the level of financial education and financial situation of the population, and their impact on savings and preference for various saving instruments. We conclude that, although the financial situation of the population was worsening, saving potential still exists. However, the low level of trust in the banking system determines households to keep their savings in cash.*

**Key words:** Saving behaviour; determinants of population savings; saving capacity; logistic regression

**JEL classification:** C 12, C 25, D 14

### 1. Introduction

The literature on saving behaviour is vast. Most studies highlight the considerable heterogeneity of the households' reasons for saving (Abdelkhalek *et al.*, 2009, Alessi & Lusardi, 1997, Browning & Lusardi, 1996). Other studies refer to the heterogeneity of the extent to which the households plan their savings or choose specific savings methods, such as saving plans (Fiebing *et al.*, 1999, Rehman *et al.*, 2011), and only a few take into account the various reasons co-existent during the life cycle (Lusardi, 2008).

Most recent results indicate that the heterogeneity of the households' socio-economic characteristics, of the preferences and the reasons to save is associated with the heterogeneity of the saving behaviour regarding both the amounts saved and whether they are planned (Lusardi, 2008).

For financing economic growth, the countries with reduced development level have no other chance than a sustained increase of the investment rate. In order for this objective to be viable, the financial system must be able to mobilize population savings in a much more efficient way (Dirschmid & Glatzer, 2004, Dijmarescu *et al.*, 2011).

The literature indicates a large number of reasons for household savings, most derived from two consumption theories: the Theory of Permanent Income and the Theory of Life Cycle. Among these reasons, the most invoked are the cautious behaviour, aspects regarding the life cycle, investment opportunities, preference for linear consumption, the need to accumulate resources for large purchases and the bequest reason (Abdelkhalek *et al.*, 2009).

Policy makers and development planners were long convinced that poor people do not have a significant savings capacity. The neglect of savings mobilization in poor population segments of developing countries was explained by low income resulting in a low savings capacity, since the entire income was directed towards consumption (Dijmarescu *et al.*, 2011, Farrell & Lund, 2005). On the other hand, successful mobilization of institutional savings can be ensured by the existence of demand-driven savings products offered by appropriate institutional structures. However, a broader understanding of the savings decisions of households has shown that appropriate supply can attract significant volumes of savings, even in the case of developing countries.

The microeconomic approach, through surveys or polls, allowed for the identification of those characteristics of the households that influence the saving behaviour. Some of the most recent studies (Abdelkhalik *et al.*, 2009, Kulikov *et al.*, 2007, Rehman *et al.*, 2011), have indicated a series of results, some predictable, others less predictable:

- the saving rate depends positively on regular household income, but more pronouncedly on transitory income;
- households receiving income from self-employment have lower saving propensities;
- the possession of a range of durable consumer goods, in particular cars, reduces household saving;
- taken at face value, the above results suggest that larger debts and/or debt-servicing payments reduce household saving;
- the young and the elderly appear to save more than the middle-aged;
- higher levels of education lead to lower saving.

Taking into account these results of the literature, we intend to highlight some particularities of the saving behaviour of the Romanian households from the perspective of their importance for economic recovery and financial stability of the economy.

## 2. Research Methodology

### 2.1. Research Aim

The main objective of the paper is to identify the leverages for attracting population savings in bank deposits, starting from the results of a poll realized during 1-15 October 2011 on a sample of 1800 respondents, constituted by quota sampling.

In designing the questionnaire, the following objectives were followed:

- evaluation of the financial situation of the households;
- saving capacity of the households;
- preference for various saving instruments.

### 2.2. Research Hypotheses

*H1: The saving capacity of the households is low*

As a consequence of the economic crisis, the financial situation of the households has worsened, the disposable income has decreased and, consequently, we expect a decrease in the saving capacity. It is possible that there are households that dissave.

*H2: Preference for classical financial products*

The lack of confidence shown by the population towards financial institutions determines the placement of savings in banks, considered to have a higher level of security, the main option being bank deposits.

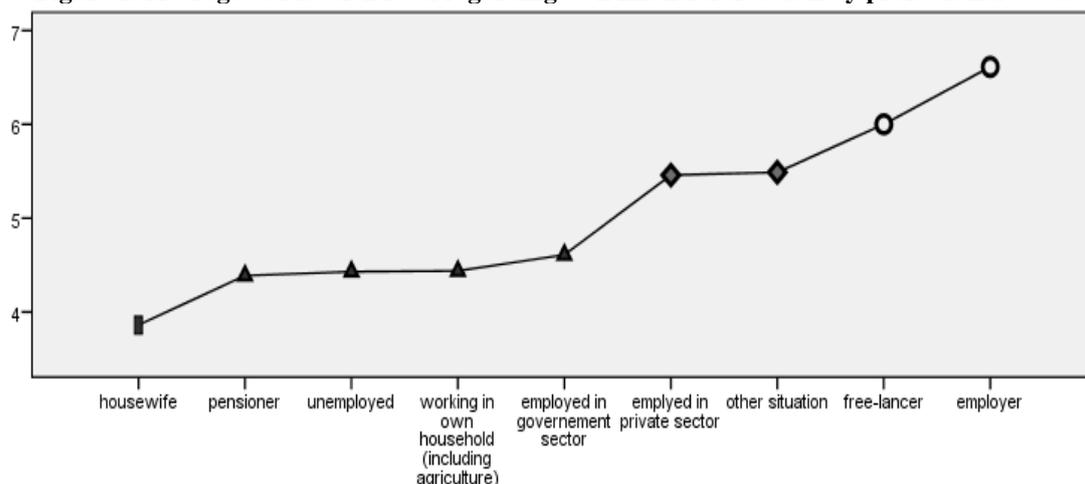
## 3. Results

### 3.1. Evaluation of the financial situation of the households

On a scale from 1 to 10 the satisfaction level regarding own financial situation is 5.01. The 42.7% variation coefficient suggests a heterogeneous distribution of the respondents by satisfaction level. Thus, we intended to identify the demographic, economic and social variables that influence the satisfaction level regarding own financial situation, leading to the constitution of homogenous sub-groups.

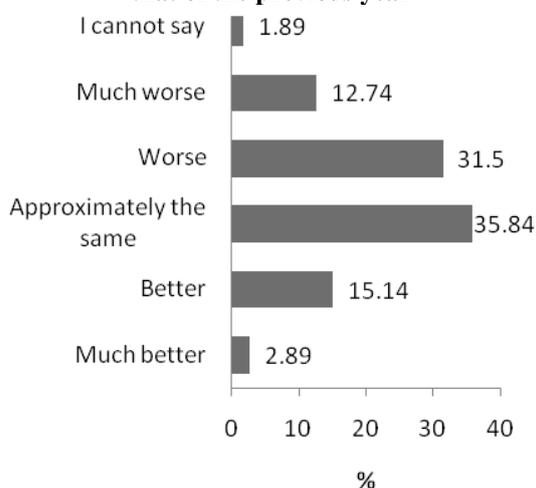
Professional status significantly influences the satisfaction level (the ANOVA results were  $F=18$  and  $\text{sig.}F=0.00000001$ ). Even though the hypothesis of the equality of the means could not be accepted, it is possible that there are homogenous sub-groups. These were identified with the help of Tuckey's Post-Hoc test (the homoskedasticity condition is fulfilled) and are presented in Figure 1.

**Figure 1: Average satisfaction level regarding own financial situation by professional status**

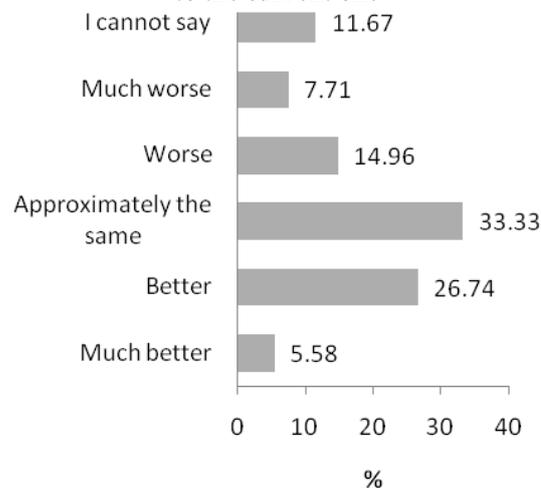


Following the effects of the economic crisis, the financial situation of the households worsened, 44.24% of the respondents declaring that their financial situation is worse than the one in the previous year. Regarding the future financial situation, we may assert that there is a certain degree of optimism, 32.32% of the respondents anticipating an improvement and only 26.67%, a worsening (Figures 2 and 3).

**Figure 2: Current financial situation as compared to that of the previous year**



**Figure 3: Anticipated financial situation as compared to the current one**



The effect of the variables with significant influence on the satisfaction level regarding own financial situation was quantified with the help of a multifactorial regression model. The independent variables of the regression model are:

- Ln (Income/pers) =where Income/pers is computed based on the cumulated income of the household relative to the number of persons in the household. Numerical variable
- Ln (Total\_Savings) =where Total\_savings represents the savings quantum, regardless of the saving method chosen. Numerical variable
- Age=age in full years of the respondent. Numerical variable
- Adult\_members=number of household members aged 18 and over
- Dummy\_Income\_Decrease=during the last 12 months the respondents incomes diminished (1 YES, 0 No)
- Dummy\_Income\_Increase=during the last 12 months the respondents incomes increased (1 YES, 0 No)
- Dummy\_Money\_Abroad=the respondent regularly receives money from relatives or friends abroad (1 YES, 0 No)
- Dummy\_Residence\_area= the respondent lives in the urban area (1 YES, 0 No)

The ANOVA test validates the regression model ( $F=90$ ) for a probability of 99.99%. The model only explains 31.7% of the variation in the satisfaction level regarding own financial situation ( $R^2=0.367$ ). The coefficients of the regression model are statistically significant for a probability of at least 96%.

### The hypotheses of the regression model

The linearity of the model. The shape of the relationship between the dependent and the independent variables is linear. The variables "Income per person" and "Total\_Savings" were transformed using the natural logarithm to make them linear.

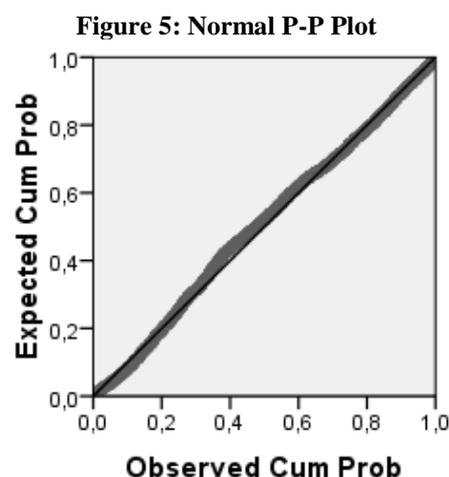
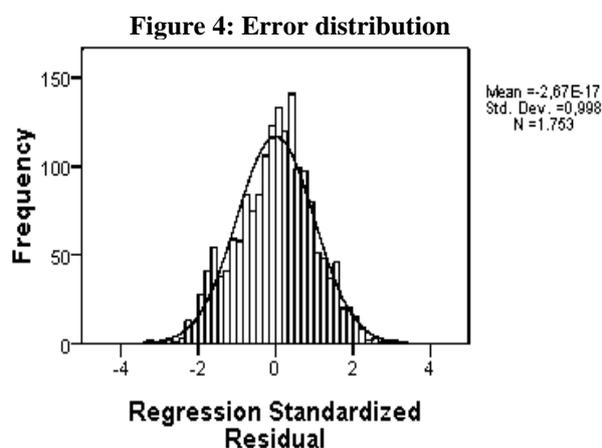
### Hypotheses regarding the explanatory variables

The explanatory variables are not random, their variances are different from zero, but defined, and the number of observations is larger than the number of parameters.

In order to check for multicollinearity we used Klein's criterion. The coefficient of determination  $R^2=0.367$  is larger than the Pearson correlation coefficients between the explanatory variables. In order to eliminate multicollinearity, we removed the variable "Number of adults in the households" in the model specification stage of the model.

### Hypotheses regarding the errors

The errors are normally distributed and their average equals zero. These hypotheses are verified, as may be seen in Figures 4 and 5. For the purpose of testing the autocorrelation hypothesis, we used the Durbin-Watson test. The computed value of the test is 1.67. The theoretical values are  $d_L=1.59$  and  $d_U=1.75$ . The computed value is within the two theoretical values, which renders the test inconclusive, thus there is a possibility that the errors are positively self-correlated. It may be that the dependent variable is influenced by other variables that were not included in the model, due to unavailability. In the second wave of the poll it will be possible to extend the observation plan in order to include other characteristics as well.



In order to determine whether the errors are homoskedastic, we began with the distribution of the errors and we noticed that the variable "Dummy Higher education" is associated with the distribution of errors. To test the homoskedasticity we used the Levene test (Pryce, 2003), checking the hypothesis regarding the equality of variances for the groups formed with the help of the variable "Dummy Higher education". The test results allowed for the acceptance of the equality of variances ( $F=2.4$ , sig. = 0.118).

### Interpretation of the regression model parameters

As we expected, income and the existence of savings have a positive influence on the satisfaction level regarding own financial situation. These give the respondents a feeling of security. We may see that the elderly are generally more dissatisfied with their financial situation.

The persons who experienced a diminution in their income during the last 12 months generally have a 0.514 smaller satisfaction level than the ones who did not experience the reduction. Similarly, those who benefited from an increase in their income are almost one point more satisfied than the rest.

A 0.503 increase in the satisfaction level is given by the security offered by the amounts received from abroad, and those from the urban area are approximately 0.248 points more satisfied than those from the rural area.

Moreover, the respondents who have higher education are on average with 0.317 point more satisfied than the rest.

### 3.2. Households saving capacity

Among the 1800 respondents, 72.7% declared that they do not own any saving fund. For this reason, the following analysis only refers to the 27.3% of the respondents who declared that they have savings. Their distribution by the amount saved indicates that more than half (55.36%) have small amount savings (regardless of the currency used), of up to 2,000 lei (approximately 450 EUR).

The savings are kept preponderantly in the national currency (89%) and to a lesser extent also in Euros (22%). The preference for the national currency is mainly given by the fact that all legal payments on Romanian territory, including salaries, pensions and social security benefits, are made only in the national currency. Secondly, and having a minor contribution, we mention the successive adjustments done by the National Bank during various periods on the monetary policy rate, in the sense of increasing confidence in the national currency and stimulating savings.

The main reasons for saving are:

- creating back-up funds for unforeseen situations (84%);
- creating a fund for supporting the family financially (44%);
- saving for consumption (holidays, durable goods).

12.7% of the respondents closed a saving account or a deposit during the last 12 months. The sum was mainly directed towards consumption for covering urgent (55.8%) or current (21.9%) expenses or for purchasing products. Only 5.2% were invested using a different instrument than the banking one.

Given these aspects of the saving and dis-saving behaviour, we intended to draw the profile of the person with saving capacity. To this end, we used the binomial logistic regression, determining the odds that a person has saving potential.

The dependent dichotomic variable is "Saving" (1 YES, 0 No)

The independent variables of the logistic regression model are:

- Ln (Income/pers) =where Income/pers is computed based on the cumulated income of the household relative to the number of persons in the household. Numerical variable
- Adult\_members=number of household members aged 18 and over
- Age\_groups=categorical variable age
- Dummy\_gender=gender of the respondent (1-male, 0-female)
- Dummy\_Credit=the respondent has a credit (1 YES, 0 No)
- Professional\_status=categorical variable

**Table 1: The coefficients of the logistic regression model**

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 <sup>a</sup>	Adult_members	,099	,054	3,438	1	,064	1,105
	ln_income_pers	,663	,091	53,609	1	,000	1,941
	Age_groups			16,285	3	,001	
	Age_groups (30;50]	,209	,155	4,130	1	,044	1,501
	Age_groups (50;65]	,330	,179	3,423	1	,064	1,392
	Age_groups (>65)	,867	,215	16,275	1	,000	2,380
	Gender(masculine)	,330	,114	8,387	1	,004	1,390
	Education(higher)	,330	,131	6,322	1	,012	1,390
	Credit(yes)	-,333	,137	5,957	1	,015	,716
	Professional_status1			25,986	3	,000	
	Professional_status1 (employee)	-1,133	,305	13,794	1	,000	,322
	Professional_status1 (free-lancer)	-,465	,432	1,161	1	,281	,628
	Professional_status1 (other situation)	-1,495	,329	20,632	1	,000	,224
	Constant	-4,882	,789	38,327	1	,000	,008

a. Variable(s) entered on step 1: Adult\_members, Ln\_income\_pers, Age\_groups, Gender, Education, Credit, Professional\_status1.

### Interpretation of the logistic regression coefficients (Table 1)

The independent variable “Income per person in the household” has a positive influence on the dependent variable. An increase in the income determines the increase in the odds of having saving capacity. If the number of adult members in the households increases by 1, the odds of having saving capacity increase 1.105 times.

In the case of the independent variable “Age”, the reference category is the “less than 30 years” age group. Even though the Wald test shows that not all the coefficients associated to the age groups are statistically significant, the variable was kept in the model because there are age groups with a significant value of the test.

The odds that a person aged (30;50] has saving capacity are 1.5 times higher than the reference age group (under 30 years). The saving behaviour is significantly different for the 65 years and more age group, even though the average amount saved monthly or the savings quantum is smaller (see Figures 6 and 7).

Figure 6: Average savings quantum, by age groups

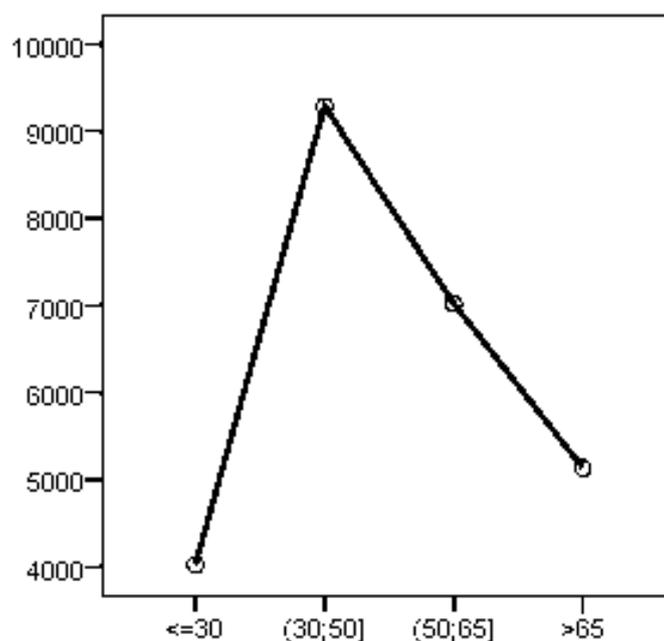
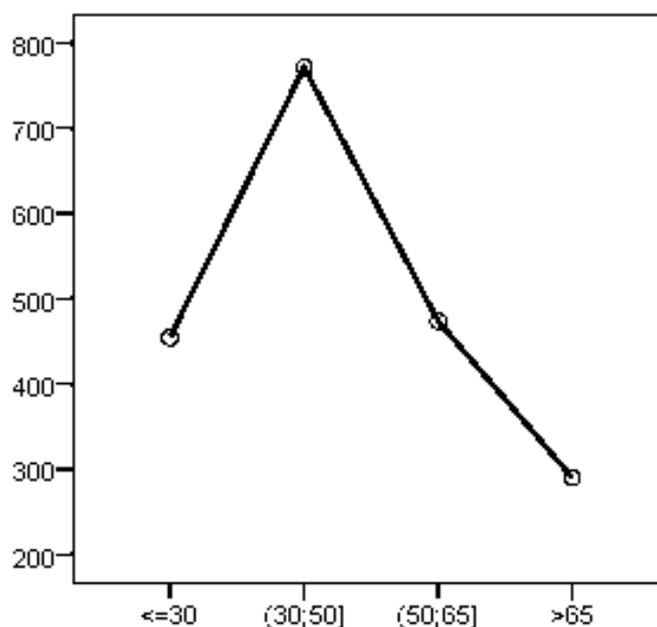


Figure 7: Average amount saved monthly, by age groups



The odds that a male has saving capacity are 1.39 times higher. A positive influence also has the education level, the odds of those with higher education of having saving capacity being 1.39 times higher than for those with medium and primary education.

In the case any type of credit exists, the financial resources will be directed towards the payment of the credit, thus the odds of saving capacity being approximately 28.3% smaller.

Regarding the influence of the professional status, the odds of having saving capacity are higher for employers and free-lancers, the other categories having approximately 70% less chances to save.

### **3.3. Preference for various saving instruments**

The main saving instruments used by the respondents are savings with the help of the banking system, about 64.5% (saving accounts, deposits, current accounts) and, in an alarmingly large proportion (61.3%) money saved in cash. The lack of financial education makes the other saving instruments quite unattractive.

The high percentage of those who prefer to keep the money “under the mattress” is determined by the lack of confidence in the banking system. Those preferring such a saving method give an average grade of 2.82 (on a scale from 1 to 5) to the banking system as compared to 3.98 given to the security of keeping the money in cash. We may guarantee with a probability close to one that the security regarding the banking system is statistically significant and lower ( $t=7.52$ ).

Regarding the profitability of savings in the banking system, this is evaluated at an average score of 2.8 points. There are no significant differences regarding the score given to the profitability between those saving through bank instruments and those who prefer to keep their money in cash.

The profile of the respondent who prefers to keep their money in cash is given by a number of demographic and socio-economic characteristics:

- *Lives in the rural area* – 42.2% of the respondents in rural area rather keep their money in cash, as compared to only 25% in the urban area.
- *Has a low education level* – 38% of those without higher education keep their savings in cash, as compared to 26.9% of those with higher education.
- *Has low saving potential* – those who have savings in banks save on average 6,575 lei, double the amount saved by those who prefer to keep them in cash (3,161 lei). The highest amount is saved by those who chose to keep part of the money in bank and part in cash (10,592 lei).

## **4. Conclusions**

### **4.1. Comparing the results obtained with those in the reference studies**

#### **Saving depends positively on the household’s regular income, but more on the transitory incomes;**

The study only registered the cumulated income of the household members in the previous month, thus the influence of the regular and transitory income could not be measured. The variable taken into account was income per person, which has a direct influence both on the saving capacity and on the satisfaction level regarding own financial situation.

#### **The households whose incomes come from free-lance activities have lower saving propensities;**

The study did not register the source of the income, but the professional status of the respondent. The analysis based on the logistic regression model showed that the odds for saving are bigger for employers and free-lancers, the other categories having approximately 70% less odds.

#### **Possession of a range of durable goods, especially cars, reduces household savings;**

The study did not register information related to the durable goods owned by the respondent.

#### **Larger debts or higher maintenance costs reduce the household’s savings;**

The study did not register information regarding the maintenance costs, but it was shown that the existence of debts reduces the odds of saving by 28.3%.

#### **Young and elderly people seem to save more than the adults;**

Regarding the influence of age, the ones who manage to save are the adults, who are still during their activity period, and the people aged 65 years and more, but to a lower extent (both regarding the total and the average monthly amount saved).

#### **Higher levels of education lead to less savings.**

The previous conclusions are not confirmed. According to the logistic regression model, the odds of a person with higher education are 1.39 times higher than the rest of the population.

#### 4.2. Validation of the research hypotheses

##### **Hypothesis 1: Saving capacity of the households is low. Hypothesis confirmed**

Following the effects of the economic crisis, the financial situation of the households worsened, 44.24% of the respondents declaring that their financial situation is worse than in the previous year. The satisfaction levels above average were registered for employers and free-lancers.

High income and the security given by the existence of savings determines the increase in the satisfaction level regarding own financial situation. We may affirm that those with higher education, living in urban areas, who benefited from an increase in their income and those who receive financial aid from abroad are generally more satisfied with their financial situation.

The age has a negative influence on the satisfaction level, the persons over 50 years being statistically significantly less satisfied than the younger and adults ones.

Only 27.3% of the respondents have savings, and their amount is low (less than 450 EUR). The savings are generally kept in national currency and mainly due to the fact that this is the legal currency for all payments in Romania.

The main reason that caused the closing of a saving account or deposit during the last 12 months was financial difficulty. The amount was mainly directed towards consumption for covering some urgent or current expenses.

##### **Hypothesis 2: Preference for classical financial products. Hypothesis confirmed**

The saving instruments used by the respondents were preponderantly the banking system products, but also the "money under the mattress", to an alarmingly high extent. The lack of financial education, the lack of trust in the banking system, as well as the bank high commissions that lower the profitability of the savings render the saving instruments present on the market little attractive.

#### 4.3. Recommendations and perspectives

The observed unfavourable evolution of savings may induce financial disequilibria both at micro and at macro levels. The saving potential exists and it needs to be attracted in the banking system (cash saving). This may be done only through the improvement of the banking system image, the launch of attractive products on the market, awareness of the bank deposit guarantee (up to 100,000 EUR) and the initiation of ample financial education programmes for the population, intelligently conceived for different socio-economic and demographic categories.

Regarding further development of the present study, the research team intends to extend the observation plan of the poll in the second wave, with the view to observe other important characteristics that influence Romanian population saving behaviour as well.

#### 5. Acknowledgements

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## SMALL AND MEDIUM-SIZED ENTERPRISES – IMPORTANT COMPONENT OF THE ECONOMIC MECHANISM IN OVERCOMING THE DIFFICULTIES OF THE ECONOMIC CRISIS

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**Abstract:** *The small- and medium-sized enterprises, one of the main components of the current economy development, represent a new challenge for the modern marketing, to which it is called to answer by adapting its entire scientific instruments to the peculiarities of these types of organizations. In the current economic and social context, small- and medium-sized enterprises play an extremely important role within the framework of the global economy in general and of the European Union economy in particular. Thus, managers within these types of organizations are frequently faced with the problem of ensuring a balance between the assumed objectives and the resources at the disposal of the organization, be it material, financial or human resources.*

**Key words:** marketing, SME, planning, management-marketing, strategic orientation

**JEL classification:** M 31

### 1. Introduction

The subject of this paper is extremely generous and poorly treated in terms of marketing science. Small- and medium-sized enterprises (SMEs) are known to be an essential factor of economic growth and development. Within SMEs the incorporation of marketing is increasingly becoming a necessity in the relationship they have with the market, thus leading to market orientation activities, a new approach provided by the marketing vision over activity management in these types of organizations.

Viewed thus, from a marketing vision, the activities within SMEs, especially the marketing ones, cannot be carried randomly. Allocation of limited resources, a characteristic of these types of businesses and objectives, which they propose to meet customer needs and maximize economic efficiency, requires careful planning and carrying them in a sequence that is executing a strategy previously assumed.

At the same time, this paper draws attention on marketing operationalization within these types of organizations, fully justifying the need for a distinct approach of this sector overall the current economic mechanism.

Marketing role and its place within SMEs derives exactly from the manner in which these types of businesses relates to the marketing environment, both in terms of internal environment components reflected by material, financial and human resources (Balaure, 2002, p. 83) and those that constitute the external environment.

SMEs that adopt marketing are able to improve their position in the target market by understanding and adapting the firm to the changes exerted by components of the macro-environment among which the demographic, economic, socio-cultural environment, natural environment, technological environment and legislative & political environment (Kotler, Keller, 2008, p 117).

Note that the political environment and policy makers especially emphasize the importance of SMEs in generating employment, where small enterprises are a central element (William, 2011, p. 92) within the economic mechanism.

Another direction in identifying and understanding the role of marketing, but also of the place it occupies within SMEs, is how they operate and the peculiarities of such organizations in relation to large companies from a broader perspective on the economic mechanism.

## 2. The importance of SMEs in the current economy

SMEs have an important role in all economies, ranking positions of suppliers, distributors and consumers in most industries. Such management and marketing skills (Nelson, Matanda, 2011, p. 334) that SMEs dispose of and their performance significantly influence the performance of large-scale enterprises (Lenartowicz, Balasubramanian, 2009, p.59).

Large-scale enterprises against small ones are characterized by a number of advantages such as economies of scale, notoriety of trademarks and firm, negotiation power with suppliers and distributors and significant power to influence price level on the market. Likewise, an important component characterizing large-scale enterprises is access to resources, allowing their development.

SMEs, in relation to these elements, face many obstacles generated by their reduced size. It appears that for many micro-enterprises, particularly those in earlier years, the business failure rate is relatively high which leads in many cases even to their dissolution. However, positive aspects are also reported, meaning that unlike large enterprises, they are often more market-oriented and more efficient than their larger rivals.

This highlights the first item in distinguishing between SMEs and large enterprises that is based on the following characteristics of small- and medium-sized enterprises (Raju, Lonial, Crum, 2011, p. 1320):

- they are more innovative, especially in the early stages of the life cycle;
- they are in greater contact with the client;
- they have increased flexibility compared to large firms.

An important element in understanding the role and features of SMEs from the perspective of the economic mechanism is the very definition of SMEs. We must also state that due to current economic developments and numerous changes of the economies within the European Union and in the context of its enlargement by accepting new members, it was necessary for SMEs to benefit from new regulations, which can lead to the removal of some of the barriers that block their development. Under these regulations falls the adoption of a new definition of SMEs.

As regards the new definition of SMEs, we must highlight how they are classified in accordance with Article 2 of the Annex to the Recommendation 361/2003/CE (European Commission, 2005, p. 35), *“The category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million.”* The need to redefine SMEs was imposed by their place and role in the economy, on the one hand, and starting with this role, by the need to support them in relation to large enterprises, on the other hand.

From this perspective the European Union considers that SMEs play extremely important role in the economy, they represent a permanent source of innovation, job creation, also providing the favourable framework for developing entrepreneurial skills.

The mentioned aspects reflect the complex nature of SMEs, the permanent preoccupation they are benefitting from and the need for a different approach from a marketing perspective. We can assert without diminishing the importance of the above aspects that quite often SMEs face market imperfections, difficulties in obtaining credits and lack of capital especially in their start-up phase.

Another side of the difficulties that SMEs are subject to derives precisely from the lack of human and material resources. This situation has the effect of limiting access to innovation and cutting-edge technology.

Therefore, supporting SMEs is one of the permanent concerns of the European Commission. The results of this initiative will be reflected in job creation, social cohesion and not least in economic growth.

The importance of defining the SMEs of the European Union derives precisely from the fact that on a single market without customs barriers it is necessary that measures encouraging this sector to constitute a common support retrieved in a new definition that meets thereby the new economic context.

The main objective of SMEs, which is based on this new approach to defining SMEs, highlights two lines of action. One is to increase efficiency and the other is expressed by elements such as achieved profits, obtained yields, effectiveness, where the achievement level of the assumed objectives came into question.

The effect of this approach is underlined by the interaction of the measures imposed by the EU and the national ones in supporting SMEs aimed at obtaining funds or at regional development.

The new definition also promotes innovation and improving access to research and development, specific regulations currently applying for non-profit development centres and universities, giving them the opportunity to contribute financially to the development of SMEs. The benefits of this approach are obvious to both parties. SMEs can count on financial support, while centres and universities are offered the possibility to apply innovation as a result of their research in various branches of economy, thereby generating new jobs and increasing competitiveness. The new definition provides clear rules on how the relations of SMEs with other investors and businesses should be valued. It also provides rules for calculating the staff indicator and the financial ones, approach that reflects in the consideration of the ability to obtain external financial support. This may be the case that financial relations between certain businesses with others that have financial resources place the first outside the previously acquired SME position.

A statement on the evolution of defining SMEs depending on the dynamics of economic development is illustrated in Table 1.

**Table 1: Evolution of defining SMEs in the European Union**

SME Criteria	MICRO-ENTERPRISES		SMALL-SIZED ENTERPRISES		MEDIUM-SIZED ENTERPRISES	
	280/1996	361/2003	280/1996	361/2003	280/1996	361/2003
Number of employees	< 10	< 10	10 - 49	10 - 49	50 - 249	50 - 249
Turnover (million €)	n.d.	< 2	< 7	< 10	< 40	< 50
Capital (million €)	n.d.	< 2	< 5	< 10	< 27	< 43

Source: Adapted after Anghel, L. D. (2004) *Marketingul întreprinderilor mici și mijlocii*. București: Editura ASE, p. 9

### 3. Particularities of SMEs

From a marketing perspective SMEs cannot use conventional marketing specific to large companies, mainly because of financial constraints and limited resources. Both material and human resources are considered, that characterize most of these types of organizations especially in the extremely dynamic current economic environment.

Characteristic elements of the marketing orientation are cited in the marketing literature as being the ones regarding customer orientation, human resources and market information, considered as key factors for SMEs success (Reijonen, Komppula, 2010, p. 31).

Compared to similar practices in large enterprises, SMEs managers behave differently when taking strategic decisions on the company but also for marketing decisions. Given these considerations we have to specify that a particular importance falls on the characteristics reflecting the activity within SMEs.

SMEs also have a variety of limitations in relation to the characteristics of the marketing practised. Among these we can summarize some that are essential, namely (Gilmore, Carson, Grant, 2001, p. 6):

- limited resources - such as finances, time, knowledge of marketing;
- lack of specialized expertise - owners/managers tend to be generalists rather than specialists;
- limited impact on the market.

In view of the overall economy, especially relative to the contribution of SMEs in the economy, the main features of SMEs can be delineated as flexibility, adaptability to market economy requirements and diversification, especially when these enterprises are meant to contribute to the modernization and development of the national economy (Mihuleac, 1996, p. 291).

Increased *flexibility* of SMEs is one of their main features. This is revealed by the completion of the initially considered strategy, following some preliminary analyses, and by the content of subsequent decisions that are founded on changes in the way of distributing both human and material resources.

Flexibility expresses the reaction of SMEs to the changes that occur subsequent to the decisions taken as well as to those expected in the economy, managers resorting to some extent to the decision ability flexibility (Mihuleac, 1996, p. 291) within these organizations.

Thus, SMEs have the opportunity to identify the nature of the changes and improve the response time to minimize possible losses, all these elements contributing to increased flexibility of the organization.

As regards the response time to eventual changes in the market, it is worth mentioning that there is an inverse relationship, meaning that, if the adaptation time of SMEs is lower, the allocated resources are more reduced.

Pronounced flexibility of SMEs also presents some essential elements that make this feature to be extremely important for them, which are summarized in a succinct way as follows (Nicolescu, Nicolescu, 2008, p. 61):

- reduced size and organizational inertness of SMEs;
- permanent contact of the entrepreneur with endogenous and exogenous relations of the continuously changing organization;
- discretionary power that the entrepreneur practically disposes of;
- organizational climate favorable to change and innovation.

Careful analysis of reputable marketing experts McCartan-Quinn and Carson, highlights major differences with regard to key features that distinguish SMEs from large organizations. According to the authors these differences are advantages available to small and medium-sized enterprises, among which the following stand out (Mc Cartan-Quinn, Carson, 2003, p. 201): high flexibility; high innovation capacity; reduced costs due to their sizes.

A global perspective obliges us to mention also the main characteristics of SMEs, which are disadvantages for them that marketers should not ignore in planning the marketing activity and in particular in elaborating the marketing policies of the marketing mix. Briefly presented these disadvantages of SMEs can be stated as follows (Motwani, Jiang, Kumar, 1998, p. 8): limited power in the market; limited capital; reduced managerial resources.

In this context generated by the limited impact in the market a reorientation of the small enterprises towards external markets is possible, but outstanding performance is found for firms that export only on one foreign market (Brouthers, Nakos, Hadjimaron, Brouthers, 2009, p. 33). Likewise, with regard to SMEs engaged in export activities it is found that the exporting country profile is characterized by dimensions such as the regulatory, cognitive and normative one (Descotes, Walliser, Holz Müller, Guo, 2011, p. 1308) that outlines the suitable framework for export activities of these organizations.

Adaptability of SMEs actually reflects the possibility of rapid reaction in response to market dynamics. Note that there is a distinction between SMEs operating on local markets, which consider short-term objectives in decision-making, while companies operating on regional and national markets or niche markets have a certain approach regarding decisions on a rather medium and long term.

It is therefore necessary with regard to the manner of drafting and adopting marketing decisions within the marketing activity planning to consider the elements of differentiation within the markets in which SMEs operate. This process is feasible because the size of SMEs allow them to easily adapt to environmental conjunctures (Mihuleac, 1996, p. 292). In some specialty papers that analyze adaptability of SMEs, it is shown to be different if you consider the magnitude of changes in status, namely (Mihuleac, 1996, p. 292): immediate adaptability; strategic adaptability; structural adaptability.

Immediate adaptability refers to the implementation of effective change, characterized by a high speed response to impulses received from the external environment, especially from the markets on which the enterprise operates.

Strategic adaptability is seen as meaning the company capacity to respond inclusively to the content and essence of the information flow.

Structural adaptability refers to the manner and nature of changes required in organizing SMEs following the receipt of external stimuli.

Diversification is another specific feature of SMEs, which places them economically in the sphere of production specialization.

SMEs, in most cases, avoid mass production, addressing different market segments, or frequently subsegment of it, parts of the market known in the marketing literature as the niche market, and offer a generous assortment trying to cover demand both in length, width and the depth of the range offered. In

the use of promotional techniques one can find that due to limited resources and in particular to the available funds much reduced in comparison with large enterprises, there is a renunciation to publicity which has a negative influence on current sales and especially on the generation of future sales.

From an older but still current perspective, small enterprises accompany publicity with a wide range of ancillary services such as maintenance services, repairs, after sales etc (Mihuleac, 1996, p. 295). The framework of achieving both economic efficiency and of social goals is thus being outlined. Particular importance is attributed to SMEs in the staffing characteristics, especially to their ability of creating new jobs (Mihuleac, 1996, p. 297), element that has an extremely valuable aspect for economic and social performance of contemporary society as a whole.

Some essential characteristics of SMEs are generated by the reduced size of these types of enterprises and by the implications for the planning and execution of activities within the firm, especially the design and planning marketing activities.

Thus, from this perspective, the structure and especially the extent of business in the economy comes in question in defining SMEs and one can ascertain that the elements that can vary from one country to another may generate some confusion concerning the clarification of the status acquired by them, of micro-, small- or medium-sized enterprise.

SMEs by how they are defined, by the wide variety of characteristics that are specific to them or by the complexity of the activities carried out, viewed in a more general scheme in terms of their size appear to be directly related to elements of economic rationality and specific behavioural values that are reflected in them.

From such a position, SMEs have a triple dimension regarding the type and characteristics (Nicolescu, 2009, p. 15): instrumental; political & social; cultural & reflexive.

The *instrumental dimension* considers the elements of economic rationality of the small and medium-sized enterprises that are reflected in their effectiveness, with direct implications for their profitability.

In *political & social* terms, the enterprise dimension on such a position appears as taking into account issues relating to decisions within the organization, where there may in more than a few cases conflicting elements that must be carefully managed.

The *cultural-reflexive* dimension primarily reflects corporate culture that is also represented in SMEs by the behavioural values of the organization. We note that this dimension has implications for the two dimensions outlined above and in particular for the performance of SMEs.

All these characteristics of SMEs lead us to the idea that the influence of marketing within them is directly related to firm size (Walsh, Lipinski, 2009, p. 574) as well as how marketing activity takes into account these features. Therefore, the correspondence that occurs between the enterprise characteristics and the marketing activity characteristics within SMEs appears as natural, reflecting a fundamental consideration that is the SMEs' position within the current dynamic environment (Murray, O'Driscoll, Torres, 2002, p. 373).

The afore-mentioned positioning, influence marketing decisions taken based on "hazard" and lead to informal marketing, spontaneous, reactive activities (O'Dwyer, Gilmore, Carson, 2009, p. 47).

SME characteristics are reflected in features of the marketing activity and thus essentially influence the planning of the marketing activity carried out both across the entire firm and within the lower levels, this issue being directly related to company size.

An important generic feature of SMEs is the adoption of new technologies. For example, due to financial constraints, they are very selective in the use of e-marketing (Gilmore, Gallagher, Henry, 2007, p. 237), which shows that SMEs need to perceive tangible benefits compared to traditional communication tools before considering the adoption and use of modern marketing tools.

The presence of some characteristics with negative impact is found within SMEs that marketers need to know and diminish so that organizations can not only survive, but efficiently develop, thus contributing to overall economic prosperity.

These specific characteristics can be suggestively reunited under the name of "weaknesses" and are the following (Nicolescu, 2009, p. 22):

- small mass of embeddable resources and reduced reserves available;
- the usually decisive dependence of their existence on one person, the entrepreneur;
- insufficient consideration of their specific interests and characteristics by the power factors;
- technical level often lower compared to large firms;
- stability and perennality more "volatile" because of previous specific features.

We note as last feature the innovation, which is a key factor that significantly improves competitiveness (Vlădoi, Mihoc, Curmei, 2010, p. 802) of SMEs as a whole and that can lead through proper use of methods, techniques and marketing tools to a new type of enterprise suggestively called "marketing enterprise" (Olteanu, 2007, p. 109). From the innovation perspective, strategic alliances stand for a novelty (O'Dwyer, Gilmore, Carson, 2011, p. 102) created between SMEs, their partners in the supply-delivery chain and customers, which can lead to increased competitive advantage organizations of this type.

Therefore the variety of these features of SMEs are of special importance, not only from the perspective of complexity of these types of organizations, but also from the one of planning their marketing activity, requiring marketers to adequately adapt the entire scientific marketing instruments to these types of organizations.

#### 4. Entrepreneurs - key factors in the development of SMEs

The activity of SMEs, but especially their performance is clearly influenced by a multitude of factors having different contributions to the development of these types of businesses. These factors have an impact sometimes critical on both the entrepreneurs and SMEs.

One can frequently ascertain, especially in the current context, that SMEs operate in a dynamic environment that generates influences by its frequent changes on the activity of these organizations. Thus a series of factors may have major influences on SMEs and to the extent that they are positive we can say that they create the prerequisites for SMEs today to represent the future seeds of large enterprises (Nicolescu, 2009, p. 20).

Of particular importance are, as influence factors on the development of SMEs, *the entrepreneur's strategic options or choices* (Nicolescu, Nicolescu, 2008, p. 62) that mainly consider the company's field or fields of operation, the B2B or B2C market, the provided goods - services, but also elements related to the organization size and structure.

From a theoretical point of view, the variety of factors that manifest an influence on SMEs largely reflect the offensive requirement of the SME concept (Mihuleac, 1996, p. 298) in a deeper penetration at both theoretical and practical level, thereby proving the special importance in understanding and particularly in its practical use. If we consider the activity and performance of SMEs in exports, there are opinions of experts that the essential factors of influence in relation to large enterprises are (Brouthers, Nakos, Hadjimarcou, Brouthers, 2009, p. 33): constraints regarding resources; adversity towards risk.

The above-mentioned factors directly affect SMEs that operate both in the industrial goods market and especially those operating on the market for consumer goods and services, a situation that is also reflected in the marketing activity. Thus, the opinion of some experts proves to be justified, according to which the influence of marketing is greater (Walsh, Lipinski, 2009, p. 572) in companies dealing with consumer goods than in firms having as line of business industrial goods. In the multitude of factors influencing SMEs an important role play the factors that impact the owner-managers.

The influence of these factors is retrieved in the development policy and business conduct in relation to the market, with effects that directly concern company performance. Following factors can be mentioned out of this perspective (Hankinson, 2000, p. 94): behaviour and lifestyle; abilities and capabilities; management methods; motivation.

As regards the correspondence between the factors of influence on SMEs and features in their marketing, in the opinion of some reputable specialists (O'Dwyer, Gilmore, Carson, 2009, p. 48), they act simultaneously and unitary in a manner reflects the process nature of the entirety of components and requires an adaptation of marketing activities within such organizations. Thus regarded, the marketing activity within SMEs requires considering as factors of influence the competitors, customers, business environment, limited resources and is heavily influenced by the decision-making process within the company, all this mechanism with a decisive impact on the planning level of marketing activity.

Components that influence marketing activity as a whole and, consequently, the marketing activity planning within SMEs, in fact encountered in marketing literature as embodied in concepts such as micro-environment and macro-environment of the company are presented graphically in a highly suggestive manner in Figure 1.

**Figure 1: Components that influence the marketing of SMEs**

Source: Adapted after O'Dwyer, Michele; Gilmore, Audrey; Carson, David (2009) Innovative marketing in SMEs, *European Journal of Marketing*, 43 (1/2), p. 48

Both the chart and the presented comment bring the “*decisional process*” in question as a particularly important factor, impossible to separate within SMEs from the entrepreneur, owner-manager.

Economy development is increasingly conditioned by the emergence of new small and medium-sized enterprises, which shows that the evolution of this process is a factor that generates increased economy performance as a whole.

Specialists assert that “*economy health*” (Nicolescu, Verboncu, 2007, p.120) is in a direct relationship with the number of SMEs established annually. The emergence and development of new enterprises is inextricably linked to the transformation of people into “entrepreneurs”, who are distinguished by their ability to initiate and develop businesses. There are many reasons that contribute in varying degrees to start the approach that the developer can have in the moment of the decision to establish an enterprise in the SME category. Some outline among these reasons, whose influence is substantial in relation to entrepreneurial activity, namely (Anghel, 2004, p. 3): the desire to do something new; the desire to obtain profit; turning into account a brand new idea; turning into account some individual skills; possibility of improving an idea already existing on the market; taking over a business opportunity already started; lucrative franchise agreement; desire for professional fulfilment.

At the same time, with regard to defining the concept of entrepreneur we may assert that in time it was characterized as innovative, creative and implementer of new ideas (Carsrud, Brännback, 2011, p. 10) in the management practice. When we refer to entrepreneurs and managers, we can mention the opinion of the distinguished professor Michael Porter. According to a comparative study conducted by it, the development of the Japanese economy is due to the fact that Japanese companies are run by entrepreneurs as opposed to North American ones, which are run by managers (Porter, 1990, p. 37).

In defining the entrepreneur there are at least three fundamental features that characterize him (Nicolescu, Verboncu, 2007, p.123): he is a producer of new things, a creator of activities in comparison to managers; he is a person with quick reactions; he is characterized with a high degree of involvement in the activity of introducing the new.

From this perspective, there are three dimensions that characterize the entrepreneur can be drawn, dimensions that are particularly important in defining the concept both theoretically and practically. These dimensions consider the following perspectives (Nicolescu, Nicolescu, 2008, p. 37): *sociological*, the values - having as essential element the powerful individualism that characterizes the entrepreneur; *psychological*, of the involvement - reflecting his/her need for self-realization; *operational* - highlighting his/her ability to act, where creativity and innovation occupy an important place.

Delineation is particularly important that can be made concerning the characteristics of entrepreneurs in relation to the characteristics of managers in the classical view and to those who have adopted the marketing concept, which considers four key issues suggestively illustrated in Table 2.

**Table 2: Characteristics of managers who have adopted the marketing concept**

<b>Crt. No.</b>	<b>Characteristic</b>	<b>Entrepreneurs</b>	<b>Managers (classical)</b>	<b>Managers who have adopted the marketing concept</b>
<b>1</b>	<b>Strategic accent</b>	On available opportunities	On resource control	<b>On the market</b>
<b>2</b>	<b>Tackling opportunities</b>	Short term, episodic	Long term	<b>Continuously on both short and long term</b>
<b>3</b>	<b>Resource allocation</b>	On short term and multiple phases	Long term, in a single phase	<b>On long term and multiple phases</b>
<b>4</b>	<b>Resource control</b>	Belonging to others, mainly by lease and loan	Own and by purchase	<b>Mainly by lease and loan</b>

Source: Adapted after Nicolescu, O.; Nicolescu, C. (2008) *Intreprinderile și managementul întreprinderilor mici și mijlocii*. București: Editura Economică, p. 39

Besides, management science in whose responsibility all these aspects enter, which consider work processes within SMEs, where the entrepreneur is the central element clearly show the lack of input provided by marketing if it was not adopted by the organization. Marketing, through its adoption by SMEs, through the correct use of specific tools, techniques and methods is called to respond to such challenges, imprinting the marketing optics (philosophy) to the previously mentioned processes, thus directing them to the market and to the client.

## 5. Conclusions

Understanding the peculiarities of SMEs is an important goal for any paper that addresses the issues of this sector. This paper has attempted, from a marketing perspective, to highlight main aspects to be taken into account in the marketing activity within these organizations.

Finally, taking into account all the aspects mentioned throughout the paper we can draw a series of conclusions with both theoretical and practical valuable content, conclusions whose synthetic formulation is outlined below.

**C1.** Definition and classification of SMEs by considering the number of employees has a special importance in planning the marketing activity. Depending on this classification, planning is differentiated as follows: “self-employed” type of enterprises and micro-enterprises that differ from SMEs; SMEs perform specific planning activities; medium-sized enterprises come close to large enterprises.

**C2.** In the definition and classification of SMEs, a particular importance for the marketing activities is considering the field of business on which the company is operating, as well as the geographical area of its market.

**C3.** Characteristics of SMEs (flexibility, adaptability, orientation towards innovation) are par excellence the characteristics of marketing-based organizations. They can underlie a planning system with similar characteristics.

**C4.** Managers of these organizations rather resort to principles than to some formal decision rules in conducting the activity in general and the marketing activity in particular. Thus placed, the decisions within SMEs have a complex nature and are found for example in how they build their own brands. Thus there is potential for SMEs that their performance to be significantly improved through effective management of the brands they hold.

**C5.** Managers of SMEs should not look at the small size as a weakness but as a potential advantage in increasing responsiveness, flexibility in relation to large enterprises. To this end, given the

limited resources available to them, SMEs can work more efficiently by adopting an enterprise resource planning system that can increase competitiveness of these organizations.

**C6.** Within the SMEs entrepreneurs play an important role in conducting the activity and implicitly the marketing activity in general and the strategic planning in particular.

**C7.** The role of the entrepreneur is reflected by the SMEs including among the factors of influence their strategic options and choices, which are a determinant of the organization planning function.

**C8.** Characteristics of entrepreneurs differ from those of owner-managers putting their mark on the planning process: strategic accent placed on the available opportunities, addressing opportunities in the short term, in an episodic manner, innovative nature.

**C9.** SMEs even if reduced in size, in terms of definition, we can estimate that they present a special variety and complexity, as well as features that have to be taken into account and whose knowledge is necessary in the context of planning their marketing activity.

**C10.** Achieving economic performance by SMEs, undertaken both by objectives at the level of the entire company and by marketing objectives, depends on the extent of successfully using the marketing methods, techniques and instruments.

All the above mentioned characteristics significantly influence the manner of conducting small- and medium-sized enterprises, which is reflected in the way of managing employees and substantiation the decision rules with which entrepreneurs operate. This difference in management of SMEs compared with large enterprises is much more evident in view of the aforementioned characteristics. All these elements are particularly important in understanding the particularities of SMEs within the framework of the market economy and the manner in which the contribution brought by entrepreneurs to the economic and social development.

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## CHINA AND THE GLOBAL ECONOMIC CRISIS

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**Abstract:** *The purpose of this paper is to examine the possibility that China will have an economic crisis in the near future. Although it experienced spectacular growth through the downturn, boosting the world economy, China adopted an extremely unbalanced pattern of growth. We analysed what are the main imbalances of the Chinese economy and we identified the implications of a possible slowdown, as well as future solutions for the Chinese policymakers. The paper offers a complete view and a better understanding of the need to implement immediate reform in order to obtain sustainable development and to avoid a deep economic crisis.*

**Key words:** China, financial crisis, Asian development model, economic growth, investments

**JEL classification:** F 02, G 01, O 11, O 53

### 1. Introduction

*What happens in China doesn't stay in China, but influences the entire world.* It is well known that in the last 30 years, China emerged from an underdeveloped country to a new economic superpower. With an average growth rate of 10 percent per year, China became the second largest economy in the world in 2010 (The Economist, 2010) and it is expected to surpass the United States and become the largest economy by 2020 (Maddison, 2007). The general opinion is that China is indestructible. While in other parts of the world, like the European Union or the United States, the governments are struggling to overcome the economic crisis' effects, China seems untouched by the financial turmoil. Moreover, it seems like the financial crisis has further raised China's importance in the world economy, as it is said to have about \$2 trillion in foreign currency reserves, especially US dollars. The Chinese governments' \$586 billion stimulus package demonstrated its determination to keep the crisis away, maintain a robust growth through the downturn. But does this mean that China is free of problems? The financial crisis posed serious questions to the Chinese government: how to effectively stimulate domestic consumption? How to maintain sustainable development? The government faces huge pressure to maintain the 8 per cent growth rate of its GDP, because failure to do so would bring huge social problems.

In this paper we analyze the main imbalances of the Chinese economy and we try to identify the implications of a possible slowdown on China and on the rest of the world, as well as future solutions for Chinese policymakers. The rest of the paper is organized as follows. Section 2 reviews the possibility of China having an economic crisis by analyzing the three main drivers of its economic imbalances. In section 3 we present some possible implications of an economic crisis on China and on other countries and we identify possible measures for avoiding the crisis. The concluding remarks are presented in section 4.

### 2. Will China have an economic crisis?

China is in certain ways unique: it is the only giant country in history that grew so fast and, moreover, it is also a communist country, where the state and not the market allocate the resources. As it is difficult to find a valid precedent, most economists and policymakers claim that it is almost impossible to estimate its future evolution. Some of them are convinced that China's „state capitalism” is superior to other forms of organization in dealing with crisis, while others sustain that this state control will not last and in the end a systemic change will be needed.

Nevertheless, I do not necessarily agree with this, as I noticed in China's evolution a certain pattern. China adopted a kind of Asian development model, a model invented by Japan in 1950s and followed by other East Asian countries. There is no agreed definition of what exactly the Asian

development model is, but generally and in a simplistic way, it implies the following characteristics (Boltho and Weber, 2009; Stiglitz, 1996; World Bank, 1993): 1) rapid growth using low wages, mainly based on exports and investments through bank financing; 2) high savings rate; 3) high external competitiveness obtained by protectionist policies; 4) major state implication deliberately encouraging certain sectors.

The model is efficient in the short run, as it generates immense economic growth, but in the end it collapses, as it happened to Japan in 1990 or to South Korea, Taiwan, and Singapore in 1997-1998. The reason is the unbalanced pattern of growth in all these countries. In order to urge massive investments, the state subsidizes certain sectors it considers more attractive. The state redirects immense sums of public money for these industries or encourages banks to lend them cheap money. In this way, a lot of money is pumped into industrialization, generating double digit growth rates. As there is no need to be profitable, a lot of resources are misallocated and this leads to bad investment in fixed assets, which are neither useful, nor profitable. In the end, this generates a wave of bad loans and the banking sector collapses. And China is not far from this pattern...

### **2.1 Growth at any cost**

At the press conference following the close of the annual meeting of China's legislature in March 2007, Premier Wen Jiabao made an astounding statement, saying: „ *China's economic growth is unsteady, unbalanced, uncoordinated and unsustainable*”. And this is remarkable for two reasons: first, because China had a growth pace averaging 10 percent for three decades and second because he was in charge of the economy for previous 5 years.

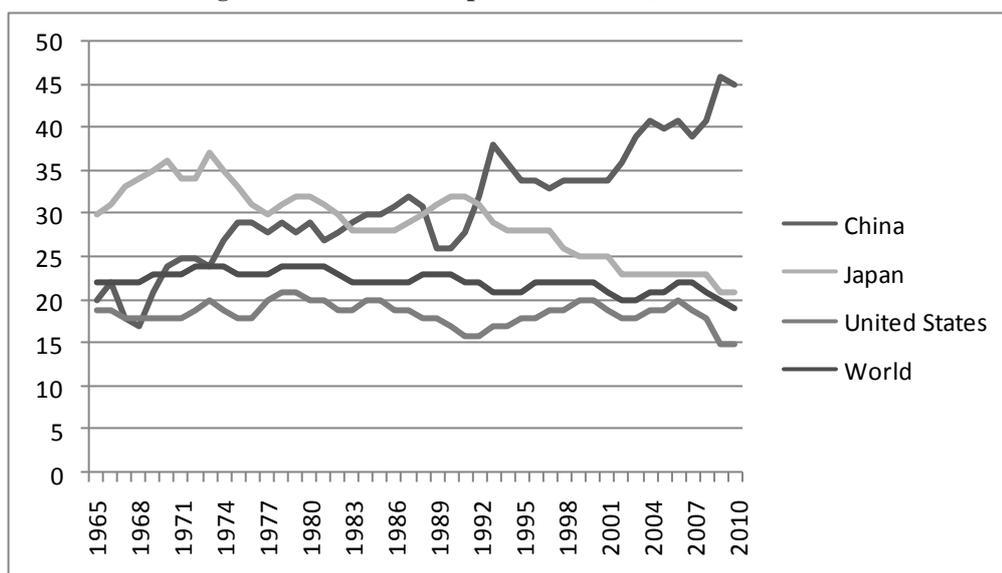
Before the current crisis, China experienced a paradoxical pattern of growth: rapidly rising inflation, combined with a huge number of bankruptcies, revealing the structural problem. China's spectacular growth had two main drivers. On one hand, there were investments, especially in infrastructure and industry. China developed important infrastructure projects such as highways, bridges and ports, which became the pillar of its development. The second driver of China's rapid growth was the export of low-end manufactured goods such as clothes and toys, obtained through cheap labour. But wages had been rising for a long time, so the returns started to diminish. In the beginning, foreign investors looked primarily to China when investing in these industries, but as labour costs continued to skyrocket, they started to leave China in favour of cheaper places like Vietnam, Bangladesh or Sri Lanka.

As China's economy is slowing down, it is almost generally agreed that the booming years are coming to an end. Growth rate already slowed down to 8.9% in the last quarter of 2011, going below double digit. In March 2012, premier Wen Jiabao sent a shockwave through the global economy when lowered the country's GDP growth target for 2012, to 7.5% from 8%. Moreover, the latest five-year plan targets 7% annual GDP growth (Bloomberg, 2012). By doing so, the premier acknowledges that the effects of the economic crisis are also felt in the Chinese economy, but also that the country's growth model has to be changed.

But in reality, there is no sign that Chinese economy will slow down to 7%, or that the government will allow this to happen. Even the latest performance, of 8.9%, was well beyond the government's target, but not enough for the Chinese leadership. The central bank has already started to loosen credit by lowering the reserve requirements for banks in December 2012, a measure which may add approximately \$55 billion to the financial system (Bloomberg, November 30, 2012).

### **2.2 Misguided investments**

Between 2003 and 2008, China experienced superheated growth, relying on heavy government-directed investment financed by state-run banks. The investments were mainly headed towards constructions and acquisition of capital equipment. But this rapid growth was based on an extremely unbalanced pattern of development. Investment as a share of GDP was sustained at over 40 percent (see Figure 1), while household consumption fell to only 36 percent of GDP (the remainder went to government consumption and net exports). (Bergsten, Freeman, Lardy and Mitchell, 2009) The high rate of investment has been driven partly by the state banks offering low interest rates, as well as there being low prices for complementary factors of production to physical capital such as land and energy.

**Figure 1: Gross fixed capital formation (%GDP)**

Source: World Bank

After the current financial crisis began, there were significant declines in residential investment and private investment targeted on export markets (China Watch Report, 2009). In order to maintain growth at the same pace, China responded with the world's first major stimulus program, which was largely dedicated to infrastructure projects. The package would finance public transport infrastructure, affordable housing, rural infrastructure, environmental projects, technological innovation, health and education, and rebuilding areas hit by disasters (such as areas that were hit by the May 12, 2008 earthquake, primarily in Sichuan province).

But in this way, China's economy became even more reliant on investment. It is estimated that in 2011, investment represented over 54% of the country's GDP (CIA World Factbook). There are economists who claim that the level is not so high, considering the fact that China is a large developing country which needs a lot of investment in buildings and infrastructure in order to catch up the developed countries. And the argument can be correct. The question is not if the level is too high, but if the investments are made in the right direction. Especially after the implementation of the stimulus package, when investment had to be made so rapidly, it is suspected that a lot of poor investment decisions were taken. For example, the country is investing hundreds of billions in high-speed railways even though ticket prices are beyond the reach of most Chinese, while many major Chinese cities do not have subways (Schuman, 2012).

An important part of Chinese investments are directed towards real estate. Whenever an economy is flooded by excess liquidity, the prices of assets like real estate and stocks rise. Excess money has to go somewhere. When the amount of liquidity is exceptional, the rise of asset prices is similarly exceptional. It is estimated that millions of apartments and thousands of other investment properties are empty, the market being already saturated. Massive new projects are still under construction and this new wave of completed units that will be dumped on the market in 2012 and will probably create major turbulence in the housing sector and perhaps the economy. The government is now ready to intervene, as some fundamentals, such as price-to-income ratio is extremely disproportionate. An average apartment in a Chinese city is 8-10 times the average income, while in 2005, during the US housing bubble, the ratio was 5.1 (Deloitte, 2012). Property prices had already decreased in the last three months of 2011 in the largest 100 Chinese cities, after Beijing has taken an array of steps including introducing a modest property tax and raising mortgage rate and down payments (Deloitte, 2012).

Even worse, much of the investment in China is being financed with debt. Huge amount of new loans appeared on bank's balance sheet, especially after the adoption of the stimulus package. Bank loans increased by 22% year-on-year in the first quarter of 2009, quite notable in a period of considerable financial de-leveraging in the rest of the world (Petri and Plummer, 2009). A number of commentators have noted that banks cannot possibly be doing serious risk and return evaluations for the vast quantity of loans they have approved, causing an impressive portfolio of non-performing loans in the future. It was

already reported that the government has ordered banks to roll over the \$1.7 trillion of loans owed by local governments (Financial Times, 2012).

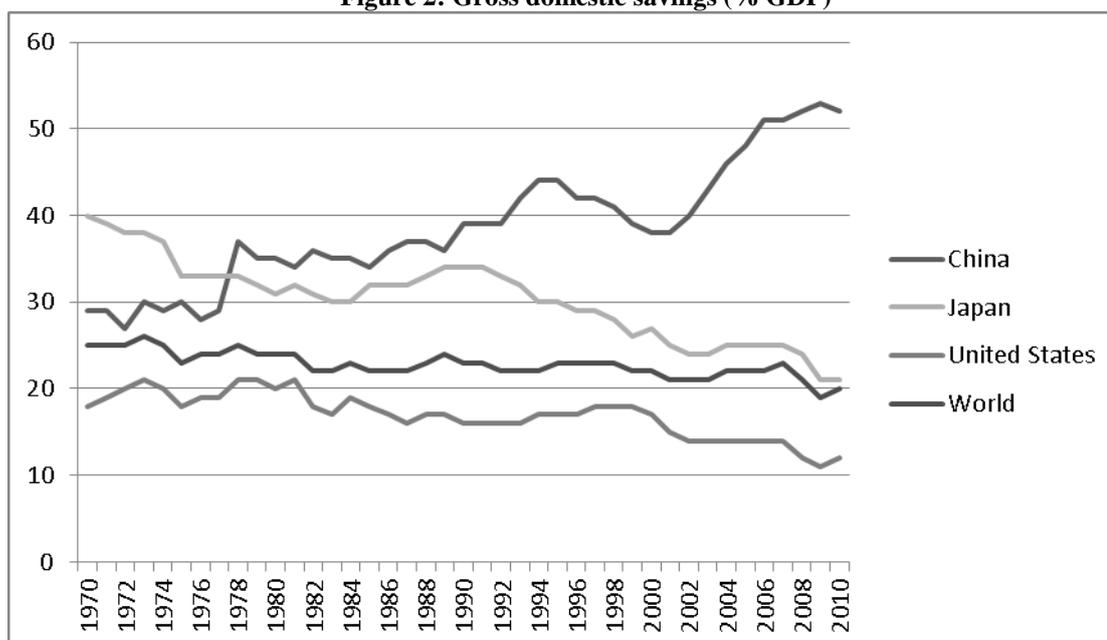
It is quite obvious that there are signs of a crisis. Excessive, misallocated investments leading to a property boom, financed by debt and state intervention, this is a pattern followed by other countries which adopted the Asian development model. The economy needs to rebalance away from investment and exports to a more consumption-driven growth model with a primary focus on quality of growth, not high rates at any cost. But until now, all the measures that had been taken only managed to push China even deeper into the Asian development model, which is, as I argued before, the road to crisis.

### 2.3 High level of savings

The high and rising aggregate saving and thus the low and declining share of consumption in the GDP constitute a central feature of the Chinese economy and have long been a topic of discussion. In fact, when it comes to Chinese savings, scholars refer to it as “the savings puzzle”. One popular theory relates the high level of saving rate to cultural values, as Chinese people are known to be thrifty. But little evidence exists, and moreover savings rates in Japan, country that shares similar values, have fallen significantly as the countries developed (see Figure 2). Other theories hold up much better, including the effects of demographic change, income uncertainty and undeveloped consumer credit markets (Modigliani and Cao, 2004; Chamon and Prasad, 2010; Yang, Zhang and Zhou, 2011).

The main cause of this disproportion is considered to be the need to “save for a rainy day” due to the historically high burden of private health and education spending and the under-developed social protection system. As individuals have to bear a large share of the costs, people feel they have to save almost 50% of their income to cover these expenses, as well as to self-insure against uncertainty, especially regarding future health and pension needs (Time, 2012). If the government would assure adequate medical and social security, people would be less motivated to save and consumption could increase. As Barnett and Brooks (2010) noticed, 1 RMB increase in government health spending would be associated with 2 RMB increase in urban household consumption (or equivalently, 2 RMB decrease in savings). Total (household plus government) consumption could thus increase by as much as 3 RMB depending on the extent that government health spending takes the form of consumption instead of transfers.

Figure 2: Gross domestic savings (% GDP)



Source: World Bank

### 3. Possible implications and future solutions

The majority of the economists claim that China's impressive growth through the downturn somehow rescued the rest of the world. In all the major regions, the share of imports coming from China

currently stands at about 10%, with the exception of East and South Asia, for which it is 15%. China is a global presence, penetrating all world regions (di Giovanni, Levchenko and Zhang, 2012).

As a major commodities importer, a slower China would likely mean lower prices for oil, iron ore, copper and other raw materials, reducing growth in many emerging markets, especially from Africa and South America. China is also an important partner for the United States, so a slowing China will also hit the American economy. Since China is the main trading partner for most countries in Asia, a slower China would drag down growth across the region, and thus dampen overall global growth. Robertson and Zu (2010) suggest that China has had a strong positive impact on growth in the world economy, but particularly in Asia. The study shows that growth in China raises GDP in the United States by about 3% over the decade, while gains to Japan and other East Asian countries are much larger at 13% of GDP. In other words, if China's GDP growth rate declines, just about everybody will feel it.

Moreover, a slower growth rate while maintaining the actual economic model could lead to rising unemployment and social unrest, which could pose serious threat to the actual political system. An 8% growth rate is considered by the majority of China's policymakers as the minimum at which the unemployment can be held under control. A solution for lowering the pace of growth, while maintaining full employment, would be to encourage the service sector, instead of the manufacturing sector.

But a slowdown is inevitable and also desirable, in order to obtain a healthier, more balanced growth. The actual growth model is creating distortions which could lead to a crisis in the future. Investment levels are too high, especially in the property development sector. Rising costs, especially labor costs, are affecting China's export competitiveness, another engine of the country's growth. Huge amounts of probably non-performing loans is placing the health of the banking sector at risk. China needs to shift to a different growth strategy, one based less on investment and exports and more on domestic consumption – the much-promoted “rebalancing”.

The government has options for helping to shift the economy from an investment driven model to one fueled by consumer demand. China should make increasing household consumption its top priority. The most effective way to boost consumption is to increase household income, but the Chinese government should also employ more fiscal resources to provide social welfare, such as education, health care and social safety nets, which could significantly reduce the uncertainties in household expectations about future income and expenditure. Second of all, the Chinese government should not over-rely on maintaining export growth, because declining external demand, rising local wages and soaring protectionist pressures will weaken any measure by which exports are stimulated. Alternatively, China should promote employment by developing the service sector which is labour-intensive, just like the export sector. Overall, we consider that it is time for China to move ahead on politically difficult, painful reforms that could lay the foundation for sustainable growth in the future.

#### 4. Conclusion

The global financial crisis is both a tough challenge and a precious opportunity for China. Although China seemed untouched by the financial crisis, maintaining a robust growth through the downturn, it is more and more obvious that the growth pattern is extremely unbalanced and unsustainable on the long run. During the last decade, China seems to have adopted a series of excesses that characterize the so called Asian development model. Its spectacular growth relied on two major drivers: export of manufacturing goods obtained through low wages and fixed assets investments financed with debt. In the same time, consumption gradually decreased and savings rate became high and still rising. All these elements pose serious pressure on Chinese leadership to carry out structural adjustment, unless serious crisis threatens one of the biggest economies in the world. A slower economy could impact China by rising unemployment and social unrest, but also other countries from Asia to the United States. Still, a slowdown seems inevitable and Chinese leaders should implement a series of reform in order to boost consumption and decrease the enormous level of savings. One method would be to provide social welfare such as health and education and release these costs from households' disposable income. A second method would be to move the accent from exports and investments to the services sector. All in all, both economists from around the world and Chinese policymakers agree that such reform could lay the foundation of a sustainable growth in the long run.

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## LIBERAL CAPITALISM VERSUS STATE CAPITALISM

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**Abstract:** *After the 2008 financial crises, people's confidence in liberal capitalism started to fall. In this context, an alternative and vigorous system emerged, state capitalism. There are different types of state capitalism, which extend from the autocratic model of China to a more liberal model of Brazil. In this paper I have presented the advantages and shortcomings of China's state capitalism, a country that has become the second world power. The future political system seems to be the one that will find the right balance between the economic institutions that generate wealth and the political institutions that regulate and redistribute it.*

**Key words:** liberal capitalism, state capitalism, private property, state owned companies

**JEL classification:** A 19

The fall of the Berlin Wall, in 1989 marked the end of communism as a viable system. Its flaws were obvious for many decades, but after 1989 hardly anyone could defend it. For a while, it seemed like the defeat of communism meant the undisputable victory of capitalism, especially in its American form. At the beginning of the 90's, Francis Fukuyama declared the „end of history”, defined the democratic market capitalism as the final step in the evolution of society and declared that mankind is inevitably heading towards this direction. Was Fukuyama right, or is it possible for history to surprise us even more?

Until the financial crisis of 2008, the capitalist system thrived for many years. Its society proved to be a formidable machinery of making money. Defenders of capitalism pleaded that this is the functional structure of a civilized society that favors people who use their energy and talent effectively. They have the chance of earning more and live better, or climb the career ladder according to their worth. In other words, it is a natural stage that mankind needs to reach.

After Ronald Reagan became president, the Neoamerican model gained traction in the economy. This was dominated by liberal methods, reduction of taxes and employees protection, privatizations, the freedom of entrepreneurial spirit in the private sector etc. A higher and immediate profit, maximization of individual interest, systematic preference for short term objectives and a lack of trust in any collective project, this is how Michael Albert described the Neoamerican model in his book “Capitalism against Capitalism”.

The basic pylons, on which the concept of liberal capitalism relies on, are: private property, liberalism and democracy. The capitalist society is considered to be the free men's society, which starts with and relies on private property. Private property is a source of liberty, efficiency, innovation and not least a way of distributing power. “The individuals must find their own way towards happiness; the state is not responsible for this. The negative effect of the paternalist programs affects the structure of the society by loosening the family bonds, reducing the motivation for work, savings and innovation, reducing the accumulation of capital, and limits our freedom.” (Friedman, 2009, p. 184)

Liberalism was a subject of theoretical dispute, being in a permanent process of transformation. It represents the essence of capitalism and it is based on the free market concept, by promoting the free initiative and competition, and limiting the state's influence. The ultra-liberals believed that a higher influence of the government in the economy will replace progress with stagnation and restrain variety that is so important for economic progress. „Our only way of building a better world, depends on the possibility of raising the general level of wealth. The only thing that the modern democracy will not tolerate without heavily struggling is the need to substantially lower the living standard in time of peace and economic stagnation on a long run” (Hayek, 2006, p. 51)

Unlimited freedom is impossible to guarantee in the society we are living in, so an intelligent and minimalistic enforcement is needed. Modern economies and societies need to implement economic policies in order for the public goods to be provided adequately, and the negative externalities to be prevented or limited; this demands public sectors to work properly on the bases of free allocation of resources and on a vibrant economic competition.

Even though capitalism didn't always meet with democracy, in time, liberalism and capitalism became compatible with democracy and they relied on it. Democracy as well as capitalism contains a set of rules that prevents the exertion of absolute power, seeking individual freedom. In an autocratic system, people can be tempted by the power they hold, and can exploit their privileged position. „The separation of the economic objectives from political ones is a guarantee of individual freedom. The substitution of the economic power with political one, so frequently demanded, means the substitution of a power that is always limited, with one that seems overwhelming and inescapable. The economic might as an instrument of political power, generate a level of dependency that has an uncanny resemblance to slavery.” (Friedman, 2009, p. 165)

The advantages of these ultra-liberal measures were obvious for over two decades, leading to a period of economic boom in most of the world. Taxes and social spending were reduced and the process of deregulation was increased, forcing the state to pull back, in order for the market to release the creative energies of society. From 1980 to 2008 (the period of liberal capitalism) USA had a sustained economic growth, but accumulated debts at an alarming pace. When Reagan came to power, the federal debt was approximately 900 billion dollars but in 2008 it climbed to 10 trillion dollars.

It is possible that the date of September 15<sup>th</sup> 2008, the day Lehman Brothers collapsed, to be for the market fundamentalism (the belief that free markets, acting in their own law, may assure economic growth and the society's prosperity) what the fall of the Berlin Wall was for communism – the end of the American capitalism. Today there are just a few people who insist that the market can regulate itself and that society can rely on the rational behavior of individuals, in order to work honestly for the benefit of everyone. (Stiglitz, 2010, p. 351)

After the biggest financial crisis since the Great Depression, the world looks very different. The US government was forced to resort to Keynes's economic model in order to save the country's economy. The Keynist policy contains a series of measures implemented by the government such as: tax reduction or increases of public spending in times of recession, in order to raise the global demand and turn on the economic engine. As soon as the economy recovers in a durable way and reaches the phase of expansion, the government raises the taxes and reduces public spending. By doing so, the state will be able to pay the debts accumulated in the phase of recession, and help the budget find its balance. (Foreign Policy, 2012)

To prevent the banking system from falling, FED bought participations to a lot of banks and financial institutions, so the contributors became owners of a significant part of the banking system. More over, FED offered massive and cheap loans to some financial institutions and economic agents. The state also helped householders in 2008 to refinance their loans with mortgages backed by the state, in order to prevent foreclosures.

In 2009 USA approved a very elaborated and expensive plan of revival and reinvestment called the American Recovery and Reinvestment Act, whose first objective was to maintain and create jobs. The state took measures of protecting the sectors which were the most affected by the crisis, and invested massively in infrastructure, education, health and green energy; it elaborated programs to raise consumption, and also reduced taxes etc. (Roubini, 2010, p.277)

These drastic measures adopted by the American government generated huge expenses paid by the American people. The banks' private debt was turned into public debt, so from the largest creditor of the world, USA became the largest debtor of the world. The trust of the people in USA's economy and government fell dramatically, and more and more people consider that the existing capitalist system is not suitable for the world we are living in. The present crisis of the liberal capitalism coincided with the emergence of an alternative and vigorous system, called state capitalism, whose remarkable success sparked great interest.

The concept of state capitalism is common in economic literature, and a strong supporter, Adolf Wagner (1837–1917) regarded state capitalism as a solution of compromise between competitive capitalism and socialism. Adolf Wagner foreseen a system of redistribution of wealth between the classes of society, with the help of the fiscal system, meant to stop people from gaining too much wealth. In his opinion, the state had an essential role in guiding the economy, hoping to bring together the major objectives of individualism and socialism. He sought to defend private property and individual initiative, and integrate the citizen and his activities into the general movement of the social mechanism that he was part of.

According to Wagner's opinion, the state is the central element in the effort of bringing together individual interests with social ones, present interests with future ones, private initiative with public ones and of integrating citizens into the nation. The influence of the state in the economy is not absolute but

relative; it is not static but dynamic, adjusting according to the level of development and the problems that appear in time and space. The German professor concludes that the influence of the state is higher in the civilized nations that advance. Nationalization of some sectors of the economic activity (transportation, public utilities, banking or social insurance system), and the introduction of the state's monopoly over tobacco, government administration of railways, social securities, and the respect of private property, the honesty of contractual procedures, budgetary redistribution etc. were considered by the German economist to be elements of social justice, stability and effectiveness. (Popescu, 2009, p. 632-633)

In comparison with the previous type of state capitalism, which appeared from rescue measures and nationalizations between the Second World War and 1980, state capitalism has new features. The present state capitalism is a system in which governments, democratic or autocratic have a significant influence in the economy, by gaining control of companies or by giving loans or privileges to private companies. There are different types of state capitalism (just as there are different types of liberal capitalism), which extends from the autocratic model of China to a more liberal model of Brazil. The main characteristics of the state capitalism specific to the 21<sup>st</sup> century are as follows: (The Economist, 2012)

Firstly, the countries which have a powerful system of state capitalism enjoyed a faster comeback during the financial crisis of 2008-2009. The large emerging economies, where state capitalism is present, such as China, India, and Brazil were capable of avoiding severe recession, partly thanks to the government's ability to assure resources through the banks and holding companies owned by the state. The other cause resides in the state's preference for stability and risk aversion defined during the years before the crisis.

Secondly, the present state capitalism is a system in which the governments realized that profitable enterprises owned by the state make the state stronger. This way, even if the big state-owned companies have two objectives: social and political, their profitability became a key target. The large state-owned companies don't have the state as the only shareholder; they are listed at the stock exchange and have big institutional investors that monitor their activity. (The Economist, 2012)

This means that the problems associated with state property (lack of commercial orientation, lack of initiative and political influence in the corporations' management) were partly eliminated. Big state enterprises compete at an international level, follow international standards and have a professional management. By this model of participation, worldwide governments have the right to benefit from funds in key industries without having to worry about running the companies. These are led by professional managers who are paid for the results they bring, and generally are not named by politicians.

Another important aspect is related to the state's patience as an investor, its capacity to focus on long term investments, instead on the short term ones. So, instead of focusing on simple measures of cost reduction which could generate short term benefits, the state is willing to wait and invest in projects with a long maturity and fewer social benefits on a short term, but large social and economic benefits on a long term.

A last argument regarding the role played by state capitalism in economy is the development of the so called "national champions" which reached top positions on an international level. National champions are private companies which receive privileges from the government, more often loans with favorable terms and taxing protection. National champions reached this dominant position due of their ability to compete with the private multinational companies, and in some cases because of their capacity to innovate. (The Economist, 2012)

State capitalism is a system where the state dominates the market's activity for a political purpose, and China is the best example. For state capitalism to receive the credit it deserves, we must look at China's three decades of success. The interest is focused on China rather than on any other country, partly because of the country's abilities to keep the crises at distance so far. Another reason has a lot to do with the key role it played in keeping the global economy working, while the West was passing a period of stagnation, and partly because China is not a democracy in comparison to Brazil, South Korea, Russia, India etc.

China released a large number of companies in the private sector, but maintained control on the strategic ones. The government controls the most powerful companies, including China Mobile, with 600 million clients, and the energetic giant Sinopec and PetroChina. (Bloomberg BusinessWeek, 2012)

The Chinese state is the biggest shareholder in the country's 150 biggest companies and guides thousands more. It shapes the overall market by managing its currency, directing money to favored industries and working closely with Chinese companies abroad. (The Economist, 2012)

The state capitalism's supporters say that this economic system brings the best of both worlds: the entrepreneurial spirit of the private sector with the stability that comes from the government's backing. At the same time, we can see China opening towards the developed world, the foreign investments, and its concern on international marketing issues, know-how from the West etc. China produces a new generation of leaders which have earned MBAs in Western business schools and a vast experience in managing global companies.

Having a fifth of the globe's population, and being the second world power, China is beginning to play a very important role. A communist state from 1949, the year when Mao Zedong took the power, China suffered a lot of transformations in time. Awaken from the deep sleep in which the Maoist socialism threw it, and faced with serious problems, having an impetuous need for a substantial economic growth in order to feed 1.2 billion people, the Chinese Communist Party initiated a reform program in order to assure its prosperity.

China united, together with Hong Kong and Macao, offers us today the picture of a hybrid with a communist leadership, but with oases of capitalism between. These free zones, situated especially in big harbor-cities became places of great attractiveness for foreign investors, because of what they found here: political and social stability, a permissive legislation that allows businesses to expand and a continuous dynamic of macroeconomic indexes. Today China is not a socialist or a capitalist country; it uses a market economy in a socialistic policy and makes small but safe steps towards an economy opened to liberal values. The result of this Chinese mixture it is called market socialism. China has developed its own way, in time, step by step. (Pohorta, 2000, p.143-144 )

For the rest of the world China seems to be unstoppable. Starting with 2000, the annual growth rate of the GDP stayed above 8%. It became the world's second largest economy in 2010 and it is playing an important and influential role in the global economy. China uses its economic power to insure its access to natural resources, having reserves of 3 trillion dollars. Economy is the science of limited resources: USA have spent a lot of money in order to build the most powerful military force of all time, whereas China can offer a part of its hard gained money, for the natural resources that it needs in order to keep its industrial engine running.

With a large part of its foreign reserve, the Chinese government bought titles of debt issued in other countries, especially state bonds and American mortgage titles. It applied this strategy in order to keep its own currency cheap and the exports competitive. However, there is the risk for USA to start printing money in order to cover the debt, so the countries which gave loans in dollars, including China, to wish to recover the money placed in USA, and so, the dollar is in the danger of falling. (Roubini, 2010, p. 418). Inside China's borders it grows the reluctance to give further loans to the American government because the gains remain low and the risk is high. However, for China the alternative to sell its American titles would lead to a new rise of the national currency against the dollar which will cause great prejudice for the Chinese exports competitiveness.

It seems that China has a tough decision to make: if it gives up the dollar it ends up with huge losses on its reserves and exports; if it keeps the dollars it postpones its reserves losses but the adjustment must be made someday. Nowadays China offers supplier loans- offers money to the ones that buys its products. China can start offering loans to other countries in the world (as it already started doing) or give loans to its own citizens. There are alternatives – China can invest in real assets in America, but when it tried doing so, it faced resistance. An example is the attempt of buying Unocal (a company consider to be of national interest) an oil company relatively small, whose assets were all over Asia. Although USA is apparently open to investments in different fields, it has protected a lot of industries critical for national security against foreign investments, and this risks to shatter the fundamental beliefs of globalization. (Stiglitz, 2010, p. 367-368)

China and other emerging economies want to replace the dollar with a currency that is more stable and resistant to crises and collapse. State investment funds, such as China Investment Corporation started to avoid USA's government securities and are now focusing on investments with a higher yield, starting with hedging funds and mineral resources extraction. (Stiglitz, 2010, p. 431)

It seems like the China's currency –remimbi or Yuan- is the obvious candidate to replace the American dollar, as few other currencies are serious competitors. China resembles the way USA looked like when it came to power: a big surplus of the current accounts, the biggest exporter in the world, a

small budgetary deficit and has a smaller debt in comparison to other countries. It has already taken some subtle initiatives to contest the dollars supremacy. Such as, it allowed the Hong-Kong's financial institutions to issue China's public debt denominated in Yuan, a crucial step for promoting the Yuan in the neighboring countries and upgrade the international status of the Yuan. At the same time, China took other measures to strengthen its monetary power: it mandated some of the commercial partners to issue their invoices in Yuans. If the Yuan earns a broad acceptance in the bookkeeping of the international companies, the dollar may see its status threatened as the currency reserve.

It is possible for the Chinese to be reluctant to see the Yuan becoming the most important currency in the world in the near future. If this will happen, the exchange rate should be more flexible allowing the Yuan to grow much more than it already did, and so, the competitiveness of the Chinese exports will be affected. Moreover, will have to apply some reforms that they may not want: for example total convertibility of its currency. China should accelerate its internal financial reforms and start issue higher quantities of debt denominated in Yuans. Even though the Chinese want their Yuan to play a bigger role, they don't seem to hurry in seeing it become the world's reserve currency. (Roubini, 2010, p. 435-436)

Having considerable funds in the last years, the investments made by China rose in a spectacular manner. Outside the borders of the country, the investments in Africa's infrastructure overcame the ones made by the World Bank plus the ones performed by the African Development Bank, and the ones USA made seemed insignificant. China's influence is felt in many other sectors: commerce, resources development, building new companies, and even in agriculture. The African countries are eagerly asking for Beijing's help and not Washington's. Besides Africa, China's presence is felt in Latin America, Asia, Australia, wherever resources are present. (Stiglitz, 2010, p. 358-359)

In many sectors, China overcame USA, not just because of the low salaries paid to unqualified workers – in many other countries the unqualified workers receive smaller amounts of money. China combines a high level of savings with a better educated working force, and massive investments in infrastructure with production at low costs. Having modern logistics it is able to deliver huge quantities of commodities that consumers all over the world desire.

Despite the remarkable achievements made by China so far, it still has a long way until it will overtake the USA's GDP and even a longer one until it will come close to the USA's revenue per capita. Even though it is the second largest economy of the world, the majority of its population is poor.

State capitalism in China and in the rest of the world has several limitations. Firstly, the state owned companies are less efficient than their private competitors, but because they use cheap capital and benefit of political favoritism, they manage to throw aside the private Chinese entrepreneurs. And so, incapable of competing with the giants backed by the state, they take their talent and abilities in other countries, costing China a vital source of innovation and energy. (BCC News, 2012)

Secondly, the creative destruction is a process that gives the liberal capitalism a self-regulatory dynamism. As industries die, the workers, the resources and ideas that once founded these industries are free to recombine in new forms and produce new goods and services in order to meet the consumer's demands. The Chinese state fears creative destruction, because in a state capitalism, the state's officials will be held responsible for the raise of the unemployment, which can cause negative reactions.

Thirdly, the state capitalism it is not properly equipped for innovation. In order to compete at a global level, the Chinese leaders know that they will have to develop their economy through technological development. State's officials cannot allocate resources as efficiently as the market forces can. (The Economist, 2012)

In economies where the success of the businesses depends on the government's favors, there is always the danger of corruption. Companies will find more or less subtle ways to gain these favors. A good example is China where the corruption is a well known characteristic of the system. Although China had a rapid economic growth, it could develop even faster if corruption would be eliminated. (Baumol, 2009, p.64 )

Another problem that China is facing is that the saving rates are very high, but the consumption spending is relatively low. This is partly caused by some structural constraints: China does not have a social safety net and it lacks a solid system of consumption crediting. Only 36% of China's GDB comes from consumption, whereas in USA the percentage is over 70%. As the internal consumption is too big in the USA, in China it is too low. For now China's survival and growth depends on the cheap exports to USA, exports that are financed by the selling of American debt to China. This exchange is a threat on the long term interests of China.

Moreover, China reacted to the crises by increasing government loans. State owned banks received indications to give lines of credit and massive loans to state owned companies in order to make them hire more workers, produce more goods, and raise their stocks. The problem is that China has an overcapacity in these sectors. Thanks to the boom of private and public investments China benefits now from an infrastructure that exceeds its level of development, and so there is the risk that many of the loans will not be paid at their maturity. Another problem that China is facing is the fact that the country is growing at two different paces: the urban areas on the coast that depend on the exports, advance faster than the rural areas from the central and western part of the country. (Roubini, 2010, p. 478-479)

In order to adapt to the new conditions of the market and fight against the limits that it is facing, China recently approved at the National People's Congress the 12th Five Year Plan (2011 - 2015).

The Five Year Plan (2011 – 2015) comes at a time when the need to rebalance toward a more domestic demand-led, service sector-oriented pattern of growth is stronger than before, partly due to the less favorable global outlook. The Plan has set five main objectives: (World Bank)

- Maintaining stable and fast economic growth, with a focus on price stabilization, more job creation, improved balance of payment, and higher quality of growth.
- Achieving major progress in economic restructuring, with higher share of household consumption and the service sector, further urbanization, more balanced rural-urban development, lower energy intensity and carbon emissions, and better environment.
- Increasing people's incomes, reducing poverty and improving the living standards and quality of life.
- Expanding access to basic public services, increasing the educational level of the population, developing a sound legal system, and ensuring a stable and harmonious society
- Deepening the reforms in the fiscal, financial, pricing and other key sectors, changing the role of the state, improving governance and efficiency, and further integrating into the world economy.

Today it is generally accepted that the adjustment of the economic processes can be done by two mechanisms:

- on one side, the competition mechanisms of the free market
- on the other hand, the institutionalised mechanisms of the state

Theory and especially practice proved that the two types of mechanisms are not incompatible, but complementary in setting the proportions of the real economy. Furthermore, it has been proven that the capitalist state's intervention does not block, limit or inhibit private initiatives, but they stimulate and emphasize them. (Popescu, 2009, p. 884-885)

Karl Marx was the first economist who saw the capitalist system as unstable and inevitably predisposed to crises. Marx warned that the capitalist system is doomed to perish and will be inevitably replaced by the socialist system; so far, the history didn't confirm his predictions. The future of this century – if it will be dominated by liberal capitalism, state capitalism or another form of leadership that nobody is expecting, will be determined by the political system that finds the right balance between the economic institutions that generate wealth and the political institutions that regulate and redistribute it.

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## IMPACTS OF ECONOMIC RESTRUCTURING ON LABOR MARKET. CASE STUDY: BRASOV, RAMNICU SARAT AND CAMPULUNG

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**Abstract:** *The economic crisis that has been installed globally in recent years, was manifested differently in Romania. Our country didn't finish the transition process from a planned economy to a super market economy. For a good understanding, is needed to study entire post communist period. After 1989, the transition process which crossed the country from a planned economy to a super market economy has meant a constantly changing industry dynamics and hence the occupational profile of the population in all areas of the country regardless of population size and level of economic development. The main processes that have led to changes in the industrial profile of the cities were economic restructuring and privatization in most cases completed by deindustrialization and economic decline. Labor market developments reflecting changes in the economy after the restructuring and privatization, the market felt: loss of job security, reduction of employment and a significant increase in unemployment. Workforce both in quantity and quality ratio is dependent on economic development and the evolution of the total population.*

**Key words:** economic restructuring, deindustrialization, privatization, labor force, employees

**JEL classification:** A12

### 1. Introduction

After 1989, the transition process which crossed the country from a planned economy to a super market economy has meant a constantly changing industry dynamics and hence the occupational profile of the population. Restructuring and privatization are two essential components of the transition to a market economy, two fundamental components of economic reform.

Analysis of the transition to a market economy started in Romania in late 1989, can not be separated from the labor market analysis, reflecting the general state of economic and demographic situation. Restructuring and privatization processes have played an important role in the shaping of labor market characteristics.

"The labor market is facing economic space in which holders of capital freely, as buyers (demand) and owners of labor, as sellers (supply), in which the labor price mechanisms (salary), free competition between businesses, labor supply and demand adjust (equilibrate)" (Pert, 1991, p. 3)  
Labor market developments since 1990, reflecting changes in the economy after the restructuring and privatization, the market felt: loss of job security, reduction of employment and a significant increase in unemployment.

The labor market in human settlements, fulfills multiple functions of economic, social, educational and formative politics.

The labor market area is to distribute labor in relation to the size and structure of labor demand. Economic literature identifies the labor market functions: to facilitate the production of goods and services that work to distribute rewards. The role of productive capacity of the labor market appears to provide a meeting between labor and means of production. Labor market, the distributive function sets the wage and income allocated to each undertaking. The labor market fulfills a social function, as it provides jobs, according to economic needs, provide social protection of unemployed and monitors working conditions and safety, etc. Formative educational role, is explained by the influence of education

on labor, increasing efficiency, mobility and flexibility of its structure. Politics is of particular importance for the labor market because it determines a well functioning. (Mocanu, I, 2008).

## 2. Theory and methodology

The basis of studying this topic is represented by procedures and specific technics for the analysis-Geography, the synthesis, the inductive method, the deductive one, the comparison method (a parallel between economic characteristics of the socialist era and transition period was tested). The data was collected from the real life and from the county and local institutions and was used for drafting the graphic and cartographic areas.

## 3. Study area

The three towns studied have distinct characteristic features but are similar in the way in which the public school system has followed its course as determined by the economic development. The county town of Brasov is the seat of the local government of the Brasov County, situated in the centre of Romania, the seventh largest town and among the most dynamic urban centers of Romania. The district town of Ramnicu-Sarat lies in the Buzau County, the third largest county of the South- Eastern Development Region of Romania, after the Tulcea and the Constanta Counties, being the second largest town of the Buzau County, after the county town Buzau, the seat of the local government .The district town of Campulung is the second largest town of the Arges County, the economically best developed county of the Southern Development Region, Muntenia.

### 3.1. Industry dynamics in Brasov, Ramnicu Sarat and Campulung municipalities

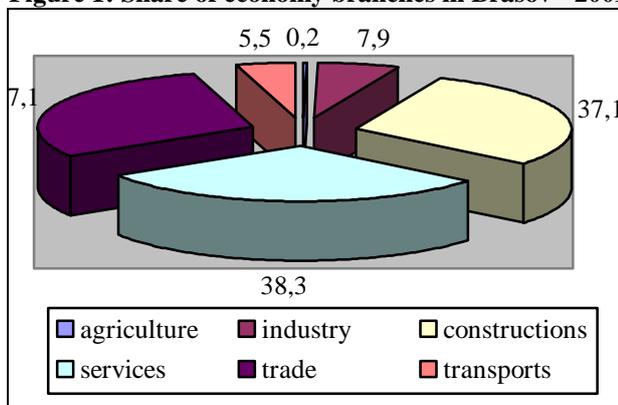
By 2008 Brasov economy is on an upward trend, the most prolific period was 2000 to 2008. During this period increases in accentuate especially in services, but in some industries. Jump feels spectacular wood processing industry. The raw material is domestic production of wood, favored by large forest areas in the county of Brasov hear about, but also in neighboring counties.

Other industries that have been on an upward trend belonging to food industry, due to increased consumption in this period. Romania's economic policy has encouraged consumption in all areas, which led to increased productivity in all sectors that create products for people.

Looking at the sectors of the economy is noted that in 2009, there were a total of 34 companies in the agriculture, 940 companies from manufacturing, construction employment in 1273 companies, 4422 filled with trade companies, 4561 companies and 660 companies occupied with employment services with transport. If we were to make a comparison with 1990 is an increase in the number of companies registered with the Trade Register and a decrease in the number of employees in these companies.

Share of economic branches has changed radically in the period of transition. In 1990, occupies 56% of total industry Brasov economy. At the end of 2009 the share of industry in Brasov economy was 7.9%.

Figure 1: Share of economy branches in Brasov - 2009



Source: statistical data processing

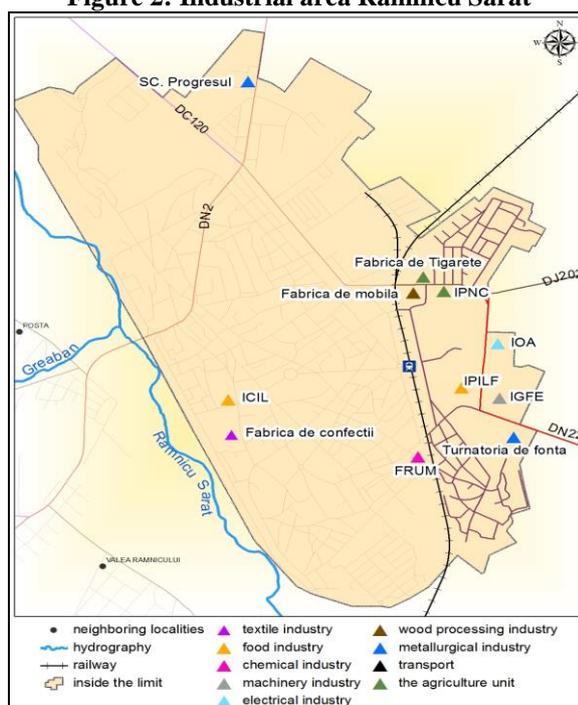
According to the schedule above, services are those that dominate the economy of Brasov. In this tourism industry plays an important role, with a large number of companies that have the main activity is tourism. Of the 4530 companies employed the services, 691 companies engaged in tourist activities, 15%

of all available services. In the branches of economy, tourism takes a percentage of 5.8%, being a small percentage compared to natural and human potential of the area.

The second is trade, the dominant retail. The two branches of national economy exceeding 60% by weight of Brasov economy. Thus, we conclude that the tertiary sector is the dominant economy of Brasov. Suffered a major setback construction after 1990 managed to revive only after 2005. Today, amid the collapse of industry, the number employed in trade companies came in third place among the branches of economy Brasov. At the opposite end are companies involved in agriculture at a rate of 0.2%.

The industry in Ramnicu Sarat was affected by massive restructurings that generated a decline translated in deindustrialization. The causes of the industrial decline are multiple, out of which we mention: lack of an open market, reduced productivity, reduced modernization and technology, the Governmental policies before and after restructuring, the incapacity of the town to attract capital investments. The most evident tendency of the town was a continuing decline. Currently, the restructuring and deindustrialization determined the apparition of the Brownfield type sites with different functionality stages, the majority being under exploited.

**Figure 2: Industrial area Ramnicu Sarat**



Source: statistical data processing

Ramnicu Sarat city has currently a private owned economy. The main problems arise from the difficulties of selling the products on the internal and external markets. The most important economic agents from Ramnicu Sarat that bring Buzau county on an important place of the national economy are FERMIT Inc. (brake armatures) and ELARS Inc. (assembly organ parts for electro-technique).

Heavily dominated by industry prior to 1990, mainly machine building industry, the economic structure of the area Campulung depression, underwent profound changes during the period that followed, registering negative effects on both productivity and employment rates.

Mismatch between the components of economic reform, the restructuring measures implemented which proved to be inefficient, low efficiency and competitiveness, high energy consumption are just some of the causes that led to economic decline of the industrial sector became the main branch of generators of unemployment.

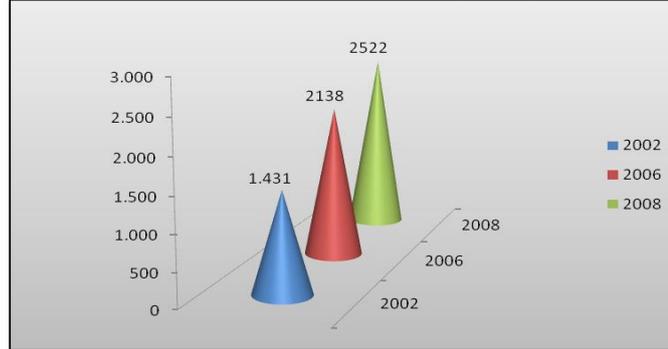
Simultaneously with the decrease in the number of former state enterprises, has developed private sector, vital for the functioning market economy, by the positive constant number of small and medium enterprises.

So in 2002 if 1431 traders operating in 2006 worked in 2138, their number exceeded 2500, in 2008. Least developed tertiary sector before 1990, showed an upward dynamic, thanks to new

possibilities for diversification of economic profile, with significant weight in business and sales, finance banking, insurance, consulting, telecommunications, education.

High and growing share of trade held in the town economy is supported both by companies engaged in retail trade and wholesale, retail market is provided by shopping malls and supermarkets such as Lidl, Penny Kaufland.

**Figure 3: Number of economic activity in Campulung city (2002-2008)**



Source: statistical data processing

**3.2. Labor market characteristics Brasov, Ramnicu Sarat and Campulung municipalities**

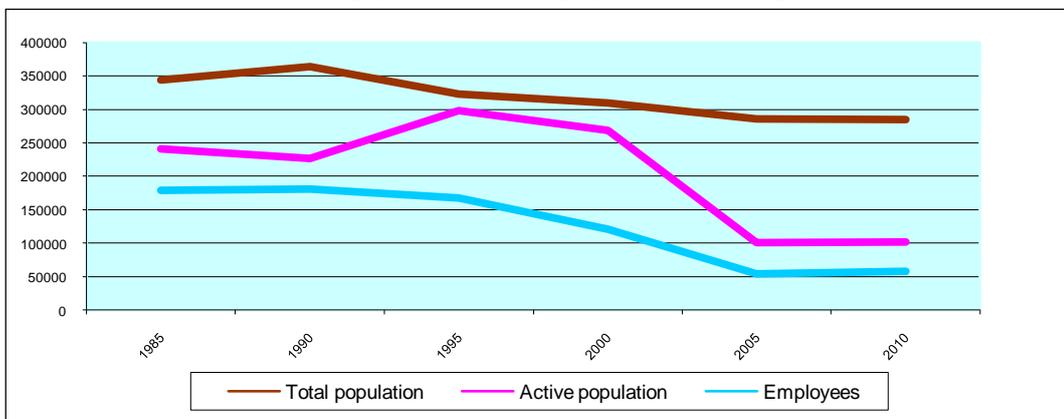
In relation to society or specific economic system, the population is a double aspect: total population-the consumers of goods produced in the economy and population (part of)-the production of goods and services. We divide the total population or the economically active population and inactive population producing or consuming one. Population is a subsystem of the system created both the demographic and economic exchange and is subject to the labor market.

The evolution of the labor market is more dynamic in urban areas, especially in large cities of Romania. Brasov is among the cities active in this regard.

After 1990 the economic situation of many enterprises Brasov unstable oscillations allowed the evolution of these demographic indicators. A sharp downward curve is the active population, which during 2000-2005 showed a reduction of over 150,000 inhabitants. This is due to an aging population. Decrease in employment was due to the closure of state-owned industrial enterprises, the city's economy and change in structure resulted in massive migration of labor.

During 2005-2010 is characterized by increased number of employment as a result of direct investment in the city economy. Brasov market penetration of foreign investors, the INA Schaeffler or Autoliv Inc., allowed increasing the supply of jobs and labor absorption while specializing in engineering industry (figure 4).

**Figure 4: Total population, active population and employees in Brasov**

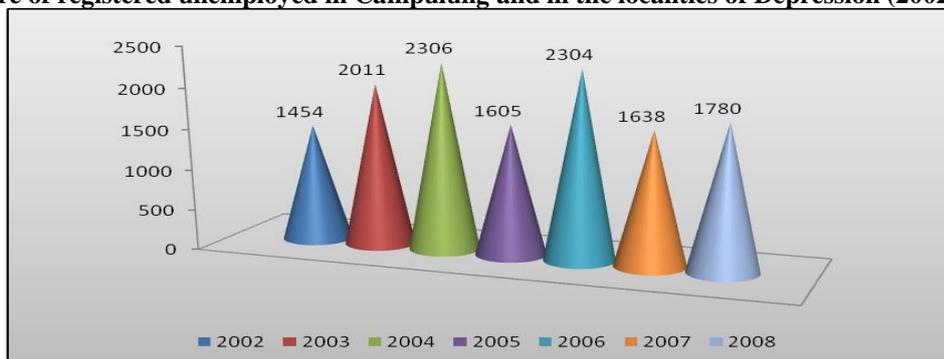


Source: statistical data processing

Analyzing statistical data collected, by Campulung, there was a decrease by 57% the proportion of people employed in 2008 when the average number of employees in economy registered was 11,052, compared to 1991 when their number was 25,507.

By reference to the years 2002-2008, the number of employees in 2002 was 13780 in Câmpulung, ie 15738 in depression, compared with 11052 in 2008 and 12590 in the city throughout the area (figure 5). Analysis of statistical data reflecting significantly higher amounts of inactive volume, relative to the active category.

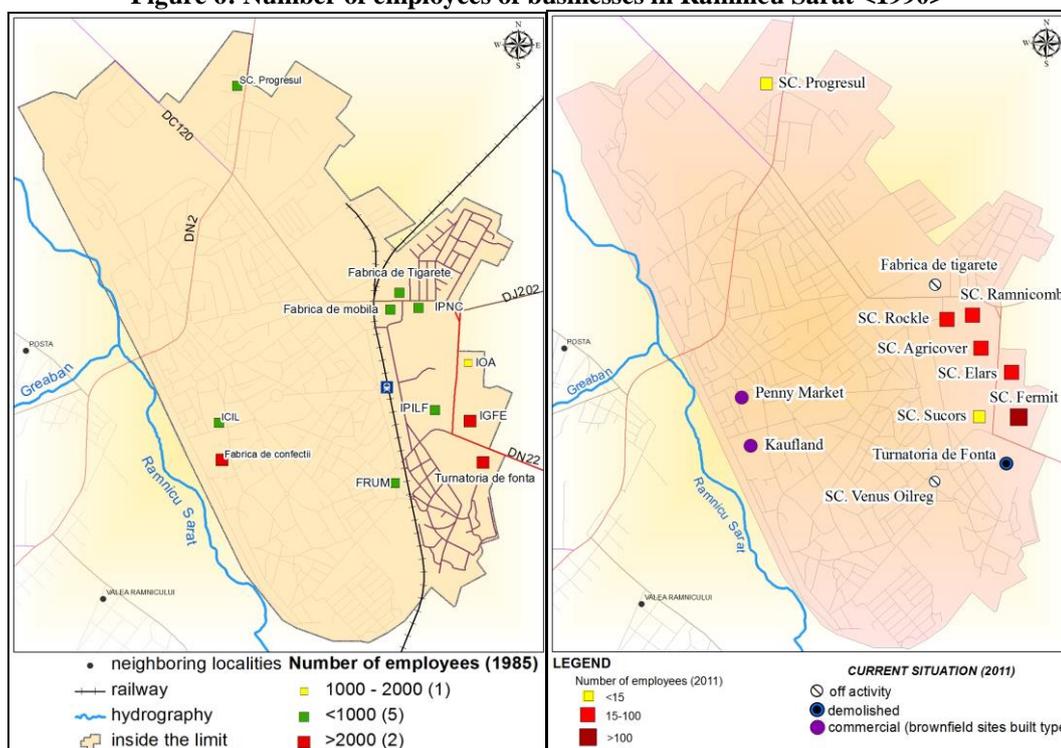
**Figure 5: Share of registered unemployed in Câmpulung and in the localities of Depression (2002, 2008)**



Source: statistical data processing

Dynamics employees in the period 1991 - 2009, shows how to adapt to changes arising ramnicene economy after 1990. Throughout the period 1991 - 2010, evolution of the number of employees has seen a decrease of 60, 5% (from 15,396 people employed in 1991 to 6074 people in 2010) (figure 6). This development indicates a pronounced downturn in the economy and level of industrialization

**Figure 6: Number of employees of businesses in Ramnicu Sarat <1990>**

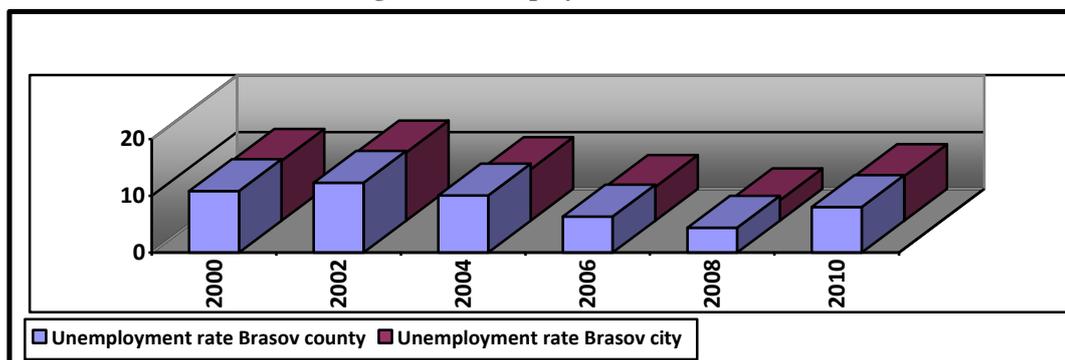


Source: statistical data processing

The general trend remains downward total population, assets and employment. Absorption capacity of the labor market is implemented in the employment rate of employment and unemployment also. Obviously, the employment rate of labor is higher, unemployment is lower and vice versa. Although all labor categories were affected, most unemployed workers from among, as a result of the restructuring of industrial activities.

As big city, Brasov is a pole of attraction for investors in all areas of activity, which is why unemployment has been low compared to other cities. Compared Brasov county, there is a higher unemployment rate during the years 2000-2003. After this period the unemployment rate remains consistently below the county to which it belongs.

Figure 7: Unemployment rate in Brasov



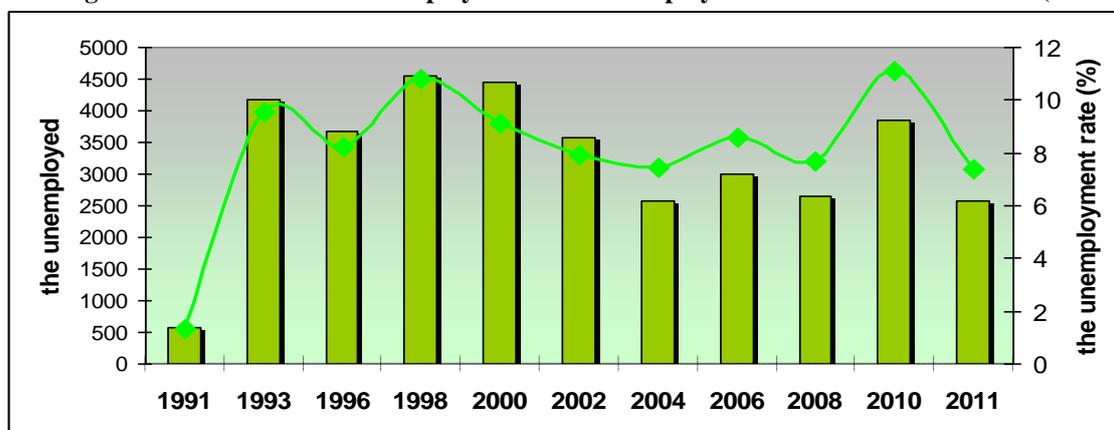
Source: statistical data processing

As shown in the chart above, the unemployment rate in Brasov, was very low during the years 2006 - 2008, which justified the high absorption of labor both in emerging industries and in other branches of the economy (figure 7). Year 2010 is characterized by an increase in unemployment due to the occurrence of the international economic crisis.

On the other hand, the supply of jobs has changed radically in the post-communist transition period. Total number of employees registered in the municipality of Brasov increased slightly by 1.4% during 2000-2002. The largest share of employees in the municipality in 2002 was recorded in manufacturing (42.8%), followed by trade (14.1%).

The unemployment from Ramnicu Sarat, is a phenomenon closely connected to the industrial, postindustrial and economical development being generated by the impact of deindustrialization/restructuring and privatization. The number of unemployed persons referring to the active population (16663 persons) represents approximately a third (31,4 %). The unemployed persons aged over 35 represent about two thirds of the total number of unemployed persons. The value of the unemployment rate has increased from 3 % in 1991 to 10,8 % in October 1999 and respectively to 12,2 % in February 2000, according to ANOTP. Watching the statistic data from ALOFM. Ramnicu Sarat we see that between 2005- 2010, the rate of unemployment increased from 8,17 % to 11,06 % (figure 8). In all the years in Ramnicu Sarat registered unemployment rate was above the county share.

Figure 8: Evolution of the unemployed and the unemployment rate in Ramnicu Sarat (1991-2011)



Source: statistical data processing

From Campulung, restriction of productive activities, followed by Aro factory closing, the combination of fiber and mining centers, the imbalance in the labor market supply and demand, lack of correlation between the structure of training and employment, socio-demographic characteristics, with small volume of foreign direct investment in production have resulted in direct location on a slope rising

unemployment. Investments mainly in the commercial and services, slow increase in productive employment, professional single qualification, unattractive salaries, are other causes that maintain the percentage of unemployed high. The volume of unemployed in the city was only 5% lower in 2008, but 22% higher in the entire complex, compared with 2002.

Economic crisis on the labor market made after 2008, the share of unemployed in rural depression, increase the values of concern, the employment rate of female population is much lower compared to the other category.

#### 4. Conclusions

Workforce both in quantity and quality ratio is dependent on economic development and the evolution of the total population.

Urban economic restructuring period analyzed, the main feature is the increasing number of firms, mostly privately owned, state-owned companies closing or privatizing them and decrease the number of employees in all fields. In big cities, such as Brasov there is a dominance in the economy of services, unlike small towns, for example Ramnicu Sarat, where the share of tertiary sector is slightly lower.

Changes in the economy after 1990 due to restructuring and privatization process, is reflected in the industrial sector by reducing activity and even closure of many businesses that led to the emergence of such Brownfield areas.

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## AN INSTITUTIONAL APPROACH OF THE BUSINESS ENVIRONMENT QUALITY. A COMPARATIVE ANALYSIS

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**Abstract:** *Especially in the last decade there is a tendency in the academia to acknowledge that the incentives derived from social institutions strongly influence the quality of entrepreneurial activity. Therefore, depending on the institutional framework that governs our society, the entrepreneurial efforts might be oriented towards productive market activities or towards rent seeking activities. The aim of this paper is to explain the way in which institutional framework determine alternative patterns of entrepreneurial activity and economic progress. We use valuable and trustful empirical evidence to illustrate the inextricable relationship between institutions, entrepreneurship and economic performance.*

**Key words:** institution, entrepreneurship, private property, rent-seeking

**JEL classification:** L 26, O 42, P 12, P 14, P 26

The integration of institutions in the body of knowledge of mainstream economics is relatively new. Especially in the last decade there is a tendency in the academia to acknowledge that the incentives derived from social institutions strongly influence the quality of entrepreneurial activity. Therefore, depending on the institutional framework that governs our society, the entrepreneurial efforts might be oriented towards productive market activities or towards rent seeking activities. The historic evidence shows the economies which stimulate entrepreneurial activity focusing on market demands are highly successful in producing wealth. Creating the appropriate incentives to motivate entrepreneurs is under these circumstances the main condition for economic progress. In the institutional economics approach this means to create a set of institutions to be able to attract entrepreneurial efforts towards generating wealth and economic progress.

Even if, as stated above, entrepreneurial activity involves individual action within a dynamic and collaborative system, the concepts of „entrepreneur” and „entrepreneurship” are wrongly incorporated in abstract mathematical models. In consequence, the role of human action and individual’s estimations tend to be replaced by mathematical calculations of „production functions” which ignore the importance of time, uncertainty, and entrepreneurial risk.

In order to understand correctly the economic role played by entrepreneurs in society we consider being important to clarify some important aspects. Therefore, by the term entrepreneur we understand the “capital owner” who is motivated by obtaining profit and assuming the inherent risks of this process (Marinescu et al., 2007, p. 111). He acts in the context of the market conditions and therefore is constrained by its dynamic and competitive process.

The entrepreneur establishes the use of production factors, but he cannot do this by not taking into account the market laws, and is thus determined to satisfy the consumers as much as he can (Mises, 1966, p. 269). The entrepreneur’s profits depend on consumers’ vote for his products against others. Hence, consumer’s reaction to entrepreneurial efforts is the only way to identify profits from losses. The entrepreneur is the owner who decides the use of his resources, his success or failure depending on their correct estimation of the uncertain evolution of the market preferences. The entrepreneur’s function is to decide the resource distribution in the production process. No matter the nature of his activity, the outcome will show invariably the same function: serving the interests of its consumers. The entrepreneur

is the main character in the market economy. Entrepreneurship allows people to keep up with the permanent changes in the conditions of the market.

Entrepreneurship cannot be considered outside private property, market laws and consumer choice. There are no entrepreneurs outside the free market. In consequence, entrepreneurship cannot exist in a centralized economy. The reason is the two types of economic systems are utterly incompatible with each other.

Therefore, the volume, quantity and intensity of entrepreneurial activity represent the consequences of certain favorable economic and social conditions. The institutions, the „rules of the game” in our society (North, 1990, p. 11), are those which direct the efforts of its members. This is why all the „players”, organizations, will act according to the rules generated by the institutional arrangement. The entrepreneurs themselves are players and can only marginally change these conditions. There is a strong relationship between institutions and entrepreneurship, and the theoretical coordinates will be explained further in this article. We will start by using the institutional approach to demonstrate that incentives included in the institutional structure essentially define the quality and intensity of entrepreneurial activity.

As Baumol (1990) shows, the institutional structure and evolution define and modify the entrepreneurial activity and its intensity. In order to favor the entrepreneurial activity, these institutions - both formal and informal - must be configured according to the private property order, to be stable and quite predictable in time.

What makes the entrepreneurship an essential factor in that the economic progress is not its innovation ability or the so called „entrepreneurial spirit” but mostly the institutional arrangement which manifests itself in the entrepreneurial activity. Otherwise we couldn't explain how this spirit could be brought to life when its manifestation doesn't meet the expectations (e.g. economic progress) (Baumol, 1990, p. 894). The entrepreneurship is the key factor of economic prosperity. But it is also possible for the institutional structure to deter entrepreneurial efforts when it sets people free from the market's conditions. This transformation of the entrepreneurial activity from stimulant to obstacle happens because the institutional arrangement decides the rules of the game. Ignoring this fact would make it difficult (if not impossible) to explain why some countries get rich and others remain poor.

Based on this reasoning, the ultimate factor of performance deficit is not the entrepreneurship's deficiencies by itself, and it rather has institutional nature. Baumol (1990, p. 894) shows that entrepreneurship is always present in every economy, and undoubtedly plays an important role in expanding it but „entrepreneurs can turn into parasites that actually cause damages to the economy. How the entrepreneur acts at a certain moment depends on the rules of the game – the rewarding system of that economy”. Under these circumstances, the different dimensions of progress of some countries cannot be considered as consequences of entrepreneurial success or failure as long as the entrepreneurship (seen as the ability of individuals to create and discover opportunities of profit) exist in every society no matter people's culture or race.

This is why we will try to emphasize the main conditioning of entrepreneurship and therefore of the economic progress: *the institutional arrangement* prevails in every economy. The rules of the game, controlling market relations, necessarily direct the efforts of the players. Undoubtedly, innovation is one of the most important determinants of economic progress. But if we analyze further, we will observe that innovation process is strongly influenced by the incentives emerged from institutional structure. This is why in some countries like USA, England the rate of innovation is bigger than the innovation rate in other countries like Romania, Bulgaria, even France. This means that the actions of entrepreneurs will depend entirely on the stimulants offered by the formal and informal institutions. Frederic Sautet (2005) identifies three types of entrepreneurial activity according to the nature of formal rules: (a) productive, when incentives are oriented to productive activities; (b) evasive, when incentives are oriented to ignore and brake the rule; (c) destructive, when formal rule are not stable or they are manipulated by individuals in order to gain profits and political privileges.

Two institutions are crucial for manifesting productivity and a performance-oriented evolution of the entrepreneurial activity: *the property rights and the supremacy of law* (Boettke, Coyne, 2003, p. 15). It is not by accident that these institutions are the foundation of the whole institutional arrangement of the market economy. We can definitely state that no matter what would be considered a decisive factor for stimulating economic performance, it could not produce the desired results in the absence of the private property rights. The formal institutions of the market economy should have as their main purpose defining and imposing property rights. These institutions function as the main incentive of entrepreneurial

activity and as a mean of decreasing uncertainty, and eliminating the arbitrary of government decisions. *The supremacy of law should not be mistaken for excessive legislation* (Marinescu, (coord.), 2007, p. 65). Apparently paradoxical, in order to establish the supremacy of the law there is no need for excessive regulations. What one must understand by the supremacy of law is the respect for property rights. There can be no law in the absence of property rights and the other way around. In the absence of these institutions, the uncertainty which would fall upon the entrepreneurs would be much too big for them to risk investing their own resources for the consumers' benefit. Best scenario considered, they would make efforts to initiate activities meant to transfer the risk over the private property of a third person, by *rent-seeking* for instance.

The theoretical aspects mentioned above are favorable to a better understanding of difficulties that Romanian business environment have to cope with. One of the most serious difficulties that impede the investmental process is legislation instability which confuses and destimulates entrepreneurs. We can add also the perpetuated changes in tax burden levied on business and work. In such conditions, running a market oriented business plan becomes more costly and difficult to implement in Romania.

As long as economic freedom decreases, many entrepreneurs could decide to reallocate resources towards rent-seeking activities. This attitude is not accidental at all. Romanian companies tend to be interested in identifying various ways of gaining government privileges such as: tax credits, subsidies, financial postpones etc. Usually, these privileges are accompanied by an increase in fiscal burden on the others agents and individuals. Therefore, now becomes easily to understand why entrepreneurs prefer to "invest" in satisfying the bureaucrats' preferences rather than consumers' ones. The mix of excess of regulations, the tax burden and extended bureaucracy has distorted allocation of resources in the economy. As we all know, the economic calculation is depending on the functioning of market forces which guide private entrepreneurs in the allocation of factors of production. Once again, we observe that the main character is the entrepreneur.

In Romania, the fiscal regime that a medium size company has to deal with is very harsh. According to World Bank survey (2011) on the attractiveness of business environment, an entrepreneur from this category should pay or retain 113 different taxes. A similar report shows that in 2007 there were "only" 89 taxes to pay. Furthermore, for the same period, there are necessary 222 hours to fulfill the specific legal procedures to prepare documentations for tax on profit, VAT and social security contributions in comparison with 202 hours that were necessary four years ago. This ratio between tax burden and the gross profit is about 44 percent, meaning that the medium size company's owner is forced by the state to give up to about half of what he gain.

**Table 1: The evolution of business attractiveness in Romania during 2007-2011**

<b>Business environment in Romania</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Ease of doing business (rank)	48	47	55	56	72
Paying taxes (rank)	134	146	149	151	154
Enforcing contracts (rank)	37	31	55	54	57
Registering property (rank)	123	114	92	92	70

Source: World Bank, Doing Business Report, 2007, 2008, 2009, 2010, 2011 [www.doingbusiness.org](http://www.doingbusiness.org).

**Table 2: The most attractive countries – business environment -**

<b>Country</b>	<b>Ease of doing business</b>	<b>Paying taxes</b>	<b>Enforcing contracts</b>	<b>Registering property</b>
<b>Singapore</b>	1	4	12	14
<b>Hong Kong</b>	2	3	5	57
<b>New Zealand</b>	3	36	10	3
<b>USA</b>	4	72	7	16
<b>Denmark</b>	5	14	32	11
<b>Norway</b>	6	27	4	8
<b>United Kingdom</b>	7	24	21	68
<b>Korea Rep.</b>	8	38	2	71
<b>Iceland</b>	9	35	3	11
<b>Ireland</b>	10	5	62	81
<b>Romania</b>	<b>72</b>	<b>154</b>	<b>56</b>	<b>70</b>

Source: World Bank, Doing Business Report 2012, [www.doingbusiness.org](http://www.doingbusiness.org), 2011.

The figures from above illustrate the deficiencies that Romania faces in order to provide an attractive and healthy business environment. These constraints and limits are perpetuated and amplified by

an ever-growing bureaucracy despite the recently cuts in public spending and personnel. For Romania, the lowest scores in World Bank rankings are for issues like taxation and property rights registration. According to the same survey, in order to register a specific property is required 8 procedures which take about 26 days in contrast with the top ten countries with the most attractive business environment for 2010.

It is also very interesting to analyze the negative correlation between corruption and business environment attractiveness and economic performance.

**Table 3: The relation between corruption perception and economic performance**

Country	Ease of doing business (rank) (Doing Business Report, 2012)	Corruption Perception Index (rank)
<b>Singapore</b>	1	5
<b>Hong Kong</b>	2	12
<b>New Zealand</b>	3	1
<b>USA</b>	4	24
<b>Denmark</b>	5	2
<b>Norway</b>	6	6
<b>United Kingdom</b>	7	20
<b>Korea Rep.</b>	8	43
<b>Iceland</b>	9	13
<b>Ireland</b>	10	19
<b>Romania</b>	<b>65</b>	<b>69</b>

Source: World Bank, Doing Business Report 2012, [www.doingbusiness.org](http://www.doingbusiness.org), 2011; Transparency International, Corruption Perception Index, 2011, [www.transparency.org](http://www.transparency.org).

Once we understand the nature of public sector and its continuous tendency to expand, we could easily explain why an entrepreneur needs so many authorizations and why it has to spend so much time in order to get them. Every newly emerged public agency will add new documents, rules and taxes that business environment has to deal with. There is no preoccupation for a cost-benefit analysis to identify the social utility for this organization. One of the most present responses is the unofficial payments, bribes and corruption. From the bureaucrat's perspective, the more difficulties in obtaining one authorization or another, the bigger amount of unofficial payments.

The natural consequences generated by the excessive bureaucracy could modify entrepreneurs' behavior into two patterns: (a) the (directed or indirect) costs of dealing with bureaucracy are greater than the estimated benefits and the investor should reconsider or abandon his business plan; (b) the entrepreneur accept and obeys to the "bribe" rule in order to continue its activity.

In conclusion, we strongly believe that the business environment is characterized by an institutional and economic framework of constraints and incentives which significantly influence the patterns the entrepreneurs will follow: market vs. politics. Both economic theory and historical evidence demonstrate that innovation and pro-market entrepreneurial activity are fundamental for economic progress. Thus, further research in the field of the quality of business environment should firstly take into account and then identify the specific institutional barriers that alter creativity and entrepreneurial efforts to satisfy consumers' needs. The predictable consequence for removing those barriers will be the emergence of a strong and dynamic private sector and with a large autonomy from political forces.

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## THE SIMULATED COMPANY – AN ESSENTIAL TOOL FOR A SMOOTH TRANZITION TO WORKING LIFE OF STUDENTS IN ECONOMICS

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**Abstract:** *This study presents the project (POSDRU/90/2.1/S/63442) which is developed by four Romanian universities and financed by the European Social Fund. The main objective is to prepare the students transition from school to the active life for 3840 students through the creation of an integrated inter-regional network of simulated virtual companies, in which they will develop their professional capabilities. Our research is focused on the halfway evaluation of the results through survey method. The results obtained showed that the project's milestones were fulfilled. Over 80% of respondents considered that information received during their participation to project activities was useful in preparing their future careers.*

**Key words:** e-learning, simulated company, develop professional skills, integration to working life

**JEL classification:** A 23, I 20, M 10

### 1. Introduction

This article refers to research conducted as an inter-university project, based on co-operation between students, and students and teachers in simulated companies. This type of teaching activity aims to develop and consolidate professional skills and capabilities among students in Economics. Also, the project should be seen as a link between academic and company environment.

We are presenting some of our results within a day of reflection organized by a group of researchers whose work is to obtain, on the one hand, the collaboration between several universities and, on the other hand, between academic environment and labour market. Starting from our experiences, we intend to reflect together on the implementation of various projects in which students from several universities are interacting and training for active life.

### 2. Context

During the last years, the world economy is going through one of its worst recessions since the 80s. The strains in financial markets have increasingly affected the real economy. Thus, the industrial production contracted at the end of 2008 in most OECD countries (Figure 1) and this trend seems to continue. (OECD - Economic Reforms Going for Growth, 2009). The GDP is following the same path.

At microeconomic level, one of the most severe effects of the financial crisis in Romania was the drastic reduction of companies' budgets for developing new competences and capabilities for their employees. Even worse, such a decision affects the performances of rather young employees.

A study commissioned by the National Trade Union Bloc - one of the largest unions in Romania – showed that in 2011, 10% of the population failed to keep the job, much more than the percentages recorded in the previous years – 8% in 2009 and 7% in 2010. Of these, about one quarter (2.4%) changed their jobs, while the other three quarters became unemployed or inactive. The report which concerns us most refers to students. More than half of students who graduated are becoming directly unemployed or inactive.

This alarming study showed us the action directions that the educational system in Romania has to tackle: to offer to students the market most requested competences and aptitudes in order to be able to find quicker a job and to better perform at work.

**Figure 1: Industrial production in OECD countries**



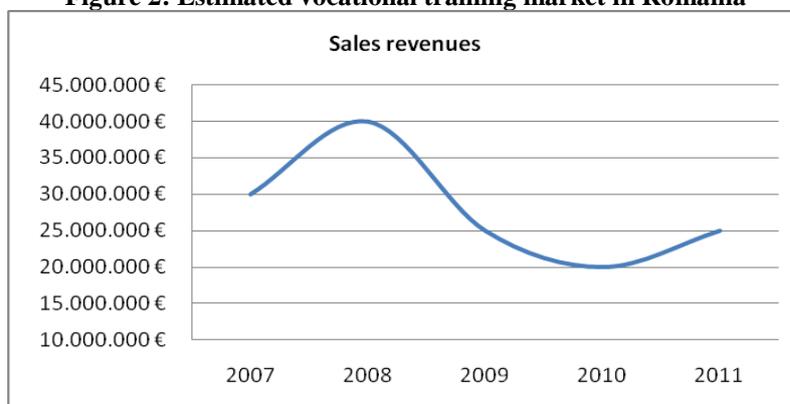
Source: Eurostat and OECD Economic Outlook No. 84, Vol. 2008/2

The professional training market, which boomed in the years 2007-2008, passes a rather difficult period. One of the most pessimistic scenarios for 2012 is the reduction by half of the professional training market, while the optimistic scenario foresees a 25% decrease in turnover of companies in the sector (Figure 2).

The Lisbon Strategy requires each Member State to focus on three issues: attract and retain more people in the labor market, improve adaptability of workers and enterprises, and increase the investment in human capital through better systems of education and training.

Given these new paradigms to which the Romanian economy has to adapt, the professional training market undergoes two simultaneous phenomena: it narrows and it transforms itself. Previously, courses were quite theoretical, rather long and exhaustive. The crisis not only has changed the way courses are designed - the focus is now on the practical aspects - but their number decreased significantly. Also, employers' expectations have changed as well. Thus, they expect that employees join the companies together with a number of skills and abilities developed during their passage throughout the Romanian educational system. (Oniga, 2009)

**Figure 2: Estimated vocational training market in Romania**



Source: adapted from [www.fin.ro](http://www.fin.ro)

The specific requirements are more complex and require from the job seeker side a continuous preoccupation to develop new skills. Today the companies are looking for better prepared students, not only from the academic point of view, but also able to adapt quickly to an increasingly sophisticated labour market.

The crisis changed also the recruiting process. Now, the companies are looking for recruiting young employees not only highly educated but already trained through previous experiences or programs, disposing already of the competences requested by the market and by the company itself and therefore ready to produce benefits to the company. The crisis showed that the Romanian companies are more and

more reluctant to invest money in training and this is even more obvious for younger employees. Therefore, the challenge for us was to cover this gap through virtual business environment software simulation. The project partial results clearly demonstrated the technology's business value to the educational process. That education value varies from developing simple team working aptitudes to negotiation competences; from business analysis, decision making process to business modelling.

In the spirit of this initiative, Real Access to the labour market through the simulated company is a project funded by the Operational Programme Human Resources Development (HRD) 2007-2013, in the key area of intervention (DMI) 2.1 - 'transition from school to work ', which aims to better prepare young students (undergraduate and graduate) to the expectations of future employers. The project - POSDRU/90/2.1/S/63442 - was developed by the University Ovidius of Constanta, the Bucharest University of Economic Studies (BUES), University A. I. Cuza of Iasi and West University of Timisoara being project partners.

The simulated company represents an accurate image of a real company. It follows the organizational structure of the real companies participating in this project. For Bucharest students, the companies selected were: the Romanian Commercial Bank, the Accor Group – Bucharest Nord Ibis Hotel and Asined.

Students move over various departments throughout all stages of business simulation and are led by teachers, tutors and representatives from the mentioned companies. Students take business decisions and understand the impact of their decisions on the overall performance of the simulated company. In addition, they have the chance to discover an affinity for the specific work of each department, thereby gaining some career guidance. As in a real company, the continuity of the case is ensured by shifting the management of the company from one group of student to the other groups.

For students in economics, the virtual business environment — computer-simulated business competition in which virtual companies interact and compete with one another via software simulation— offer a collaborative tool that has a number of possible uses, from simple decision making process analysis, business KPI understanding to student new competences development.

### **3. Project general objectives**

Computer simulated business technologies have an impact on new models of education in Economics. „Instructional design frameworks must be adapted to purposely integrate student interaction using technology tools. This requires using flexible models that allow designers to begin at any given point in the process, anchoring the use of technology on collaborative instructional strategies that lead the student toward achieving the desired learning outcomes” (Beldarrain Y., 2006, p.143)

The project's objective is to create an integrated inter-regional network of simulated companies, which develop professional skills and promote the integration to working life of 3840 graduates (of the four partner universities) through a partnership between universities and the business community. The final goal is to prepare graduates with the most required skills by Romanian employers, so they can find work easily and perform to the employers' standards, from the first day of work. Secondly, the project could be seen as a business modelling process in which students are expected to understand how the market forces are working and the impact of their decisions on the company's results. Business model simulation represents also a source of future value. The students learn to rely on new technology business solution for simulating new process or even an entire novel activity system. They discover that the business simulation can sometimes be translated into a competitive advantage.

This business simulation was developed to form professional skills specific to students in Economics, in order to better prepare them for the transition to working life. The simulation software - TOPSIM - recommends companies that operate in competitive environments, in different business sectors, according to the students' areas of interest. The software analyzes the decisions made by each simulated company and through a series of reports (e.g. sales, market rates, brand image, staff incentives, etc.) offers to the students all the tools they need in order to take correct decisions. In this way, students apply theoretical concepts and understand their practical interpretation in real life company. Another objective of the project is to develop teamwork and negotiation aptitudes, the simulated company being a complex system in which goal conflicts inevitably arise and must be taken into account.

### **4. Learning Objectives**

The virtual education or the learning through new technologies assistance can be seen as a response to the need of developing skills and aptitudes for better adapting process to the active life for

students who would otherwise not be able to participate in a real company in such a training program. Besides the main objective of the project which could be resumed to prepare the students to the active after school life by developing their capabilities in order to be competitive on the labour market, some other important learning goals are followed through the simulation of a virtual business environment:

- Recognize the economic environment of the company;
- Understand the business and the outcomes of their business decisions;
- Developing teamwork abilities and group dynamics;
- Simulate management process;
- Recognize the role of the strategy to ensure the sustainability of the company;
- Interpret the key performance indicators and their implications for understanding the process of future decisions;
- Taking measures to correct wrong decisions.

This simulation represents a realistic model of a competitive environment and provides participants with a fast and safe tool for understanding market forces and the implications of their decisions on the company's business records.

A simulation obviously cannot reproduce reality in its entire complexity. For pedagogical reasons and because of the complexity of the simulation, simplifications are necessary to avoid losing sight of the essence and delay the learning experience. Nonetheless, the TOPSIM software is extremely complex and manages to capture – simplifying, of course - the competitive market forces.

#### **5. The use of quantitative analysis in order to assess satisfaction of students of the Academy of Economic Studies of Bucharest after the completion of two modules (halfway milestone)**

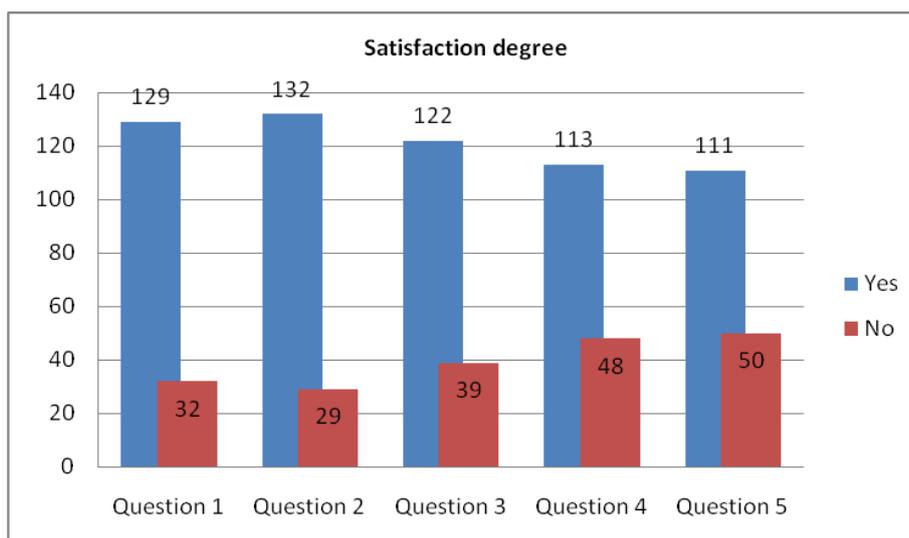
The project began in early 2011 and until now 528 students from the Bucharest University of Economic Studies (480 students and 48 master students) took two of the four modules of the project. Each module is followed by 264 students divided into three areas: banking, tourism and international trade. Another 528 students from BUES will be formed up to the end of the project.

To assess the degree of satisfaction of students of the Bucharest University of Economic Studies who went through the first two modules, we used the method of quantitative analysis by surveys. At the end of each module, each student was asked to fill out a questionnaire, designed to check the extent to which overall objective has been accomplished and to identify lessons learned. The results will be used to improve the activity of the remaining two modules.

Our case study is limited to the analysis of the satisfaction of the 528 students of the Academy of Economic Sciences, which were surveyed regarding their opinions after the course of a complete module of the project. We used five questions with two response options (Yes / No) to assess the degree of satisfaction:

1. Do you consider that the information you received during this module are useful in the future professional life?
2. TOPSIM software and the simulated company asked from you a good teamwork. Do you consider that you have learned what a teamwork means?
3. Do you consider that you're better prepared for work in real life?
4. Do you envisage starting your own business?
5. Do you feel better prepared to start your own business?

We received 161 questionnaires filled out correctly. Data collected through the first two modules, which involved 504 students, are presented in Figure 3.

**Figure 3: Satisfaction of students**

Analyzing the results obtained after the completion of two modules, we can conclude that the project objectives were achieved. Over 80% of respondents considered that the information received during their participation in project activities was useful for their future professional life. A large majority of the students (82.5%) believe the project has helped develop their teamwork skills and 76% believe they are better prepared for working life.

However, project activities have been successful to a lesser extent with regard to developing entrepreneurial skills among students. Thus, 70% of them think about opening their own business after completion of their studies. In the same proportion, only 69% think they are better prepared to start their own business.

## 6. Conclusions

At the middle of the project, we can define the conclusion more like lessons learned which will be implemented during the second part of the project:

- The success of the first two modules is encouraging. The virtual business environment simulation is a valuable educational tool for students in Economics. The main added value for the student preparation for the active life is the possibility offered to take business decisions in a safe manner, to test it and to understand the results obtained;
- The project is a tool to link the theoretical knowledge to the practice. The theoretical concepts are illustrated into business implications;
- Nonetheless, the project registered lower success rates in developing entrepreneurial skills.

Further efforts should be deployed in order to understand if this goal is too ambitious for the project objectives and resources or we have to set up other complementary tools (such as training programs, conferences, entrepreneurs meetings).

## 7. Acknowledgement

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## THE QUALITY OF LIFE AND THE INFLUENCE OF NON QUALITY ON CONSUMERS

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**Abstract:** *Quality of life decreases from year to year and one of the reasons is the access to poor quality products in many situations affecting health and safety of consumers. In this category the impact on quality of life are part and counterfeit products, becoming more present and more diversified. In order to determine, quantify and analyze the level of domestic consumer perception of the phenomenon of counterfeit goods, we used a random statistical research. Lack of primary or secondary national statistics on counterfeiting and identify the factors qualitative (perception) imposed this type of observation.*

**Key word:** quality, consumers, originality, protection

**JEL classification:** E, H, I, O 3

### 1. Introduction

In scientific knowledge, the survey method is fundamental. H. Poincare said: "*Our weakness does not allow us to embrace the whole universe and we have to break it into pieces*". Indeed, events and phenomena of nature and society are too numerous, too complex and too varied to allow a total observation. We are obliged to resort to scientific research division, in which general truths out.

In same line, research by sampling presents many advantages to a total of a corporate research. These benefits are noted when:

- ✓ total statistical research involves spending too much;
- ✓ total research community takes a long time;
- ✓ and qualitative factors can be sized by attributes;
- ✓ registration by personal responses to open questions.

Random surveys, obtaining results of survey indicators, which allow estimation of the parameters used to characterize the entire population.

Any market research based on an objective which is usually set just to study to reach a decision on a phenomenon.

In substantiation of this work *overall goal* is to study the phenomenon of counterfeiting public opinion.

The present research has both primary and secondary objectives, as follows:

The *primary objective* of this study involves the *collection and determination of the magnitude of counterfeiting phenomenon* among domestic consumers.

In category *secondary endpoints* we watched :

- ✓ definition of counterfeiting;
- ✓ degree of identification of counterfeit products;
- ✓ purchase frequency of these categories of products;
- ✓ purchased counterfeit product category;
- ✓ purchase deliberate / accidental;
- ✓ the most common locations where such products are found reason for purchase;
- ✓ factors determining the existence of counterfeit products in Romania;
- ✓ characteristics of counterfeit products;
- ✓ knowledge among the population of organisms involved in limiting the phenomenon of counterfeiting the national and regional level;
- ✓ degree of confusion created by counterfeit products;
- ✓ public opinion on the existence of counterfeit products market;
- ✓ price influence the decision to purchase or counterfeit products;
- ✓ estimate the main parameters to see whether there are links between different variables;

- ✓ statistical test variables to see whether the initial forecast coincides with the final

Define the hypotheses is a very important step, given that these assumptions must be checked. Hypotheses indicate directions to be made analyzing the information collected.

Hypotheses in the study *of perception and determine the magnitude of counterfeiting phenomenon* among domestic consumers are:

- nearly 60% of consumers think of counterfeiting as products manufactured / sold illegally to a brand name established;
- at least 60% of consumers have bought counterfeit products;
- more than 75% of consumers have purchased counterfeit clothing and acts knowingly;
- 50% of counterfeit products are found in public commercial networks;
- 60% in the consumption of counterfeit goods is caused by the living;
- 70% of consumers think that counterfeit products deceive people;
- 50% consider that counterfeit products affect holders of trademarks as established;
- degree of fraud in the internal trade of counterfeit products is over 50%;
- 60% of products are purchased counterfeit clothing.

## 2. Defining the population

The portrait consumer research subject is common yet strictly determined. This is part of the socio-professional categories, both urban and rural, of both sexes, with heterogeneous purchasing power, the groups of age between 20 years and 65 years.

The data studied were automatically recorded and centralized database eSurveysPro.

The inclusion criteria:

- people working in Bucharest-Ilfov region;
- specialists - people who have studied the direct tangent;
- knowledge who can identify the phenomenon of counterfeiting;
- natural and legal persons are willing to participate in the study;

Exclusion criteria:

- people who have completed at least half of the survey.

Unable to determine the regional representativeness of the sample and to validate the questionnaire responses it was necessary to segment specializes in this field. Variation analysis of research data will allow finding the representativeness of the sample.

## 3. Data collection method

To achieve the objectives set questionnaire was posted on an international site, by writing in Romanian <http://www.esurveyspro.com/Survey.aspx?id=da0c1dbb-63ef-4982-ac43-61104d5bbc36> where questions and responses was a limitation of the respondents.

In essence, the questionnaire, were used predominantly closed questions, except questions 14, 15 and 16 which are open questions. Questions 2, 4 and 9 are dichotomous questions (with simple options to two or three different response). Questions 1, 3, 5, 8, 12 and 13 are multiple choice questions and questions 2, 4, 6, 7, 9, 10, 11, 17, 18, 19, 20, 21 and 22 are questions with response unique.

Indicators used in research analysis are those of a random number distribution can be grouped as:

- frequency indicators: absolute  $n_i$ , relative ( $n_i^*$  %) și cumulative  $F \uparrow$ ;
- indicators of central tendency: average  $\bar{x}$ , median (Me) and module (Mo);
- indicators variability: amplitude variation (Ax), individual deviations ( $A_{\bar{x}}$ , linear standard deviation  $\bar{d}$ , root mean square deviation ( $\sigma$ ) (standard deviation), dispersion ( $\sigma^2$ ) and coefficient of variation ( $v$ );
- indicators of asymmetry ( $C_{as}$ );
- correlation coefficients / concentration / diversification ( $r_{y/x}$ ).

The questionnaire was accessed by 190 people, of which 186 responded to at least one question. This share is more than 2.1% non responses for accuracy therefore processing for analysis and interpretation we considered only the answers to each question also consider eliminating non answers.

And if variants / multiple responses in question have reported frequencies of the characteristics of 186 respondents.

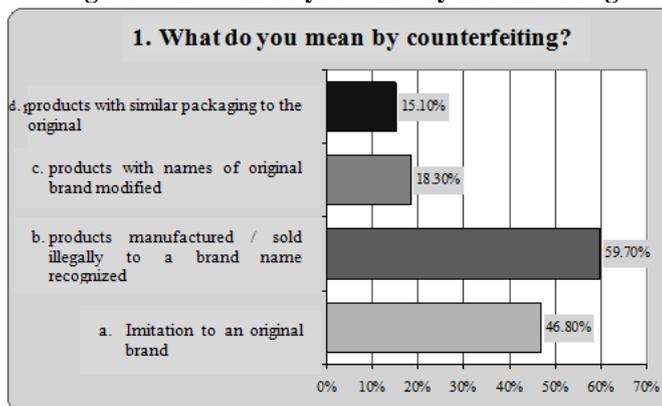
**4. Analysis of survey results**

✓ The first question on the definition of counterfeiting homogeneity of the series is identified by two terms / variants: "products manufactured / sold illegally to a brand name recognized" - 59.7% and "imitation of an original" - 46.8%.

The term " products with names of original brand modified" was found only 18.3% respondents, and "packaging products like the original" - 15.1%.

It concludes that the vast majority of subjects combined with the illegal production of original imitation of established brands.

**Figure 1.1.: What do you mean by counterfeiting**



✓ In terms of respondents' perceptions approximately 70% of counterfeit products identified "fake product" that can add and share of 18.3% unsure. Therefore the phenomenon of counterfeiting is very large domestic market and the maturity of the interviewee gives certainty of this response.

**Figure 1.2.: You or your family members have purchased counterfeit products**



✓ When asked "If yes what type of purchase counterfeit products?" answered only those who admitted having purchased counterfeit products (126 people) and percentage of 67.7% of total. Thus we conclude that industrial goods are the subject of infringing process.

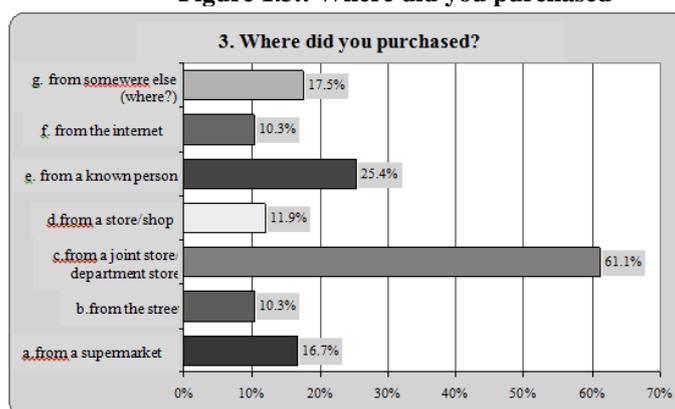
Possible answers	No. Pers.	Structure %	Rangul
a. clothing	98	77.8	1
b. shoes	73	57.9	2
c. food products	16	12.7	8
d. alcohol	20	15.9	7
e. cigarettes	20	15.9	7

Possible answers	No. Pers.	Structure %	Rangul
f. appliances	22	17.5	6
g. cosmetics	48	38.1	4
h. electronics	31	24.6	5
i. clocks	50	39.7	3
Total	378	-	-

✓ To the question "You have acquired knowledge that was not original?" Identification confirmation counterfeiting (see question 2) is found in the same proportion of over 70% of respondents. The percentages show that a significant portion of the subjects are aware of purchasing a counterfeit product.

✓ Given that most of the counterfeit products are sold in a legal character organized (with tax receipt) can also serve as a justification to purchase such products, although most consumers are aware of their illegal nature and quality doubtful.

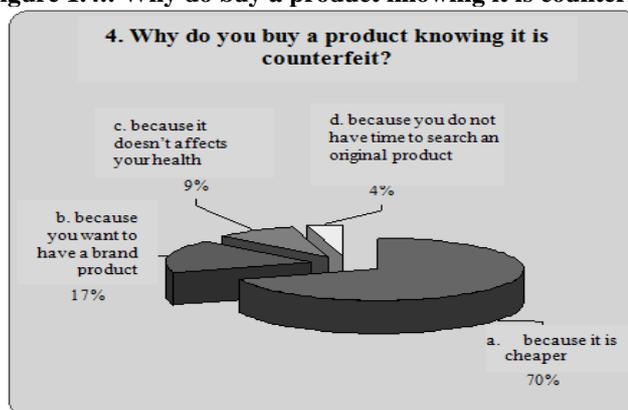
Figure 1.3.: Where did you purchased



✓ From a total of 160 respondents to the question "Why do you buy a product knowing it is counterfeit?" For 70% primary motivation for buying a counterfeit good is low price, "attractiveness" to the brand product is considered only 16.9%. A counterfeit is labeled harmless for 9.4%, and lack of time or the residence motivates only 3.8% of respondents.

It explained that the choice of products is purchased based on price and their similarity with the original products, but due to high prices are not available to the population. Therefore internal socio-economic factors (level of living and quality of life) is the main reason the consumption of counterfeit goods.

Figure 1.4.: Why do buy a product knowing it is counterfeit

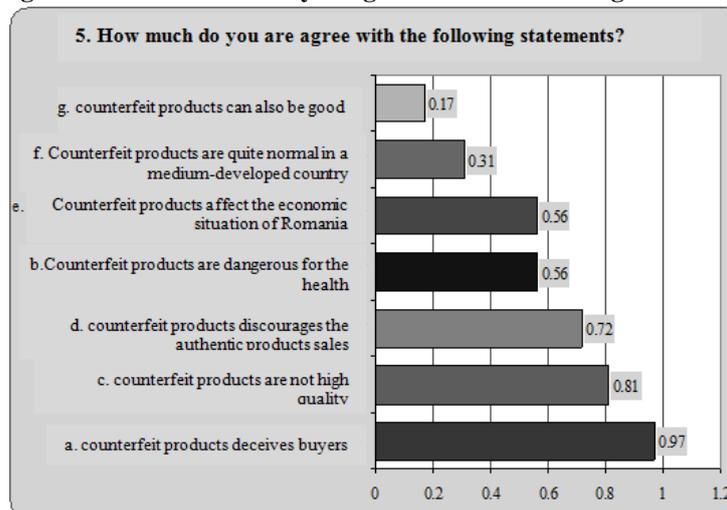


✓ Question "Counterfeiting in Romania is encouraged by?" confirms previous claims by a share of 84% who identified low living standards. Another aspect is caused by legal issues- 20.43%. The insignificant difference is the following: " original product from domestic market does not match with original from EU market "- 16.67% and" small difference between the quality of an original and a

counterfeit product "-14.52%. Very common among domestic consumers are saying "what sells on the EU market does not correspond with what is sold on our market".

Possible answers	No. Pers.	Structure %
a. legislation	38	20.43
b. standard of living	156	83.87
c. small difference between the quality of an original and the quality of a counterfeit product	27	14.52
d. original product from domestic market does not match with original from EU market	31	16.67

Figure 1.5.: How much do you agree with the following statements



✓ This question intended to characterize counterfeiting. For accurate processing, variants conferring response were given a mark on a scale from -2 (strongly disagree) to +2 (strongly agree).

Modal values occurs more frequently in the attribute "In general agreement "-characteristics were therefore properly selected and there is a high degree of homogeneity per anasmbul characteristics.

Latter is somewhat a form of "flattery" domestic consumer it impossible to claim an item as expensive.

✓ To view the whole hierarchy of assessments on the "qualities" counterfeit goods, we see that moral issues are perceived somewhat like the vast majority of respondents. The economics of counterfeiting overrides and appreciated according to respondents is that they exclude the possibility that a counterfeit product have considerable quality. ,

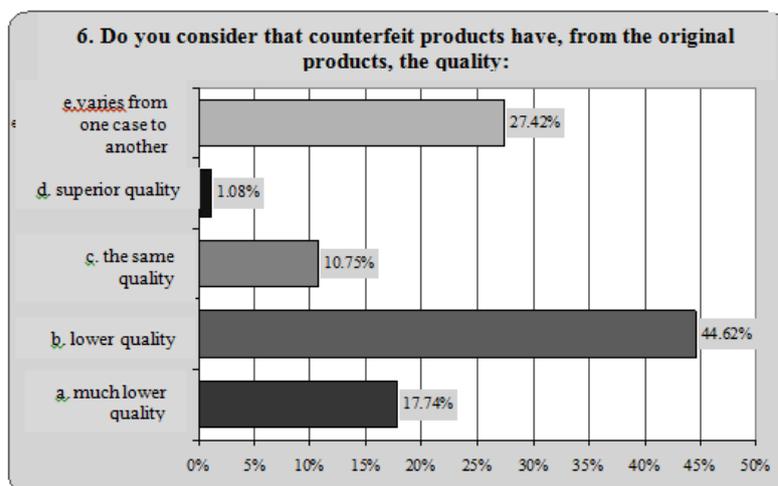
✓ The degree of deception with such products is very high, about 70%, of which: 48% admitted that they had been cheated, 21% are unsure and only 31% say strongly otherwise.

This certainty, affirmative or negative, shows maturity and ability of respondents to appreciate a false product.

Possible answers	No. Pers.	Structure %
a. yes	86	48.04
b. no	56	31.28
c. I do not know	37	20.67
<b>Total</b>	<b>179</b>	<b>100.00</b>

✓ Most of the respondents (62.36%) considered counterfeit products as having a low quality from the original product, although as noted previously, 70% buy them because the price affordable, even though they may be dangerous for health of consumers (35 variants "strongly agree"). Their attitude is further proof that the standard of living, low, pushing consumers to such adverse events to themselves.

Figure 1.6.: How do you rate the quality of counterfeit products



✓ Choosing an optimal definition of counterfeit products highlighted that, on the responses that more than half of respondents (51.08%) considered them products whose appearance differs somewhat from the original and ¼ notifies that do not belong right owners of these marks. As lower quality is acceptable and therefore paid by consumers from buying process.

Possible answers	No. Pers.	Structura %
a. product whose appearance is identical to the original, but with lower quality	72	38.71
b. products whose appearance is identical to the original and works just as well	8	4.30
c. products whose appearance differs somewhat from the original - some letters from the product name or the company producing the product are changed, emblems manufacturing companies are slightly modified and so, and usually have lower quality than the original	95	51.08
d. products are not made by its owner	46	24.73

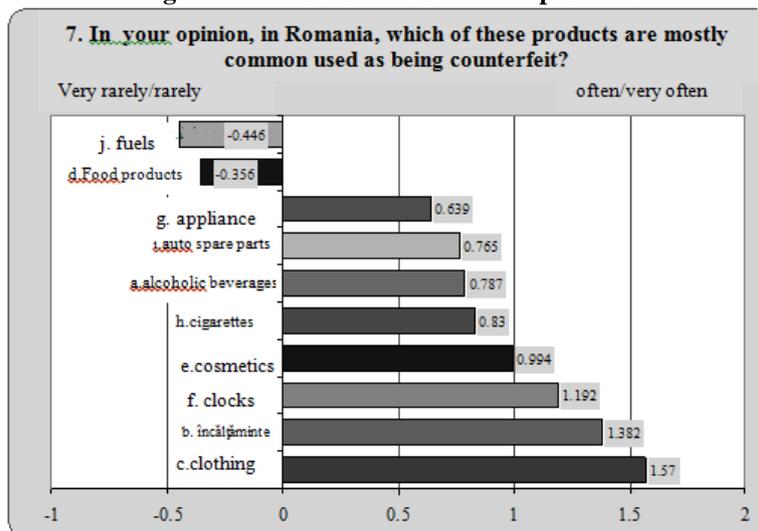
✓ In terms of the frequency with which certain categories are found on the market of counterfeit products, consumers, through answers given have made the following classification:

- clothing (110responses "very often")
- shoes (97 responses "very often");
- clocks (92 responses "very often")
- cosmetics (72 responses "very often");
- cigarettes (67 responses "very often");
- alcohol (55 Answers "very often");

Answered options	Very rare (-2)	Quite rare (-1)	Quite often (1)	very often (2)	Total answers
a. alcoholic beverages	21	14	79	55	169
b. shoes	6	7	60	97	170
c. clothing	2	3	57	110	172
d. food products	40	54	55	11	160
e. cosmetics	14	19	66	79	178
Answered options	Very rare (-2)	Quite rare (-1)	Quite often (1)	very often (2)	Total answers
f. clocks	13	10	57	92	172
g. electronics	21	26	68	54	169
h. cigarettes	16	24	64	67	171
i. automobile spare parts	10	30	75	51	166
j. fuels	43	54	50	10	157

Results are conclusive as the fraudulent acts of counterfeiting are for products that can sell in any place (even without a arranged space - exhibitions, stands, vendors, etc.), being products that can be stored without additional costs, and food due to high perishability are not "tempting" for counterfeiters, and less the fuel that are subjected to strictly manufacturing and marketing.

**Figure 1.7.: Most often counterfeit products**



✓ Correlating question 3 "... what type of counterfeit products would you purchase" we can identify the demand for goods, with question 12 "... which of the following categories of products are most often found to be counterfeit?" - considered supply of goods, we can determine the intensity of the relationship between the two factors.

The rank correlation coefficient proposed by Spearman get value:

$$r_s = 1 - \frac{6 \sum d_i^2}{n^3 - n} = 1 - \frac{6 \cdot 14}{9^3 - 9} = 0,883$$

The rank correlation coefficient of 0.883 Spearman shows a direct link, the strong intensity between demand and supply of counterfeit goods. Thus we conclude that the present domestic "calls" counterfeit products.

✓ The open question on the indication centralization / nomination of authorities involved in combating counterfeiting, was noted with regret that the majority (over 90% of respondents) are not aware of such institutions. 44 organizations have been set in which 24 international and 20 interne. There is an organization with significant, only 6 times indicated OPC (internal) and the five times - Anti network (external).

In conclusion, given the insignificant percentage of organizations identified, indicating a low level of public information by decision-making institutions on combating counterfeiting. This education / information poor usually generates a false impression that the domestic market is "uncontrolled" by local / national. The question on occupation of respondents was also open to confirm responses expertise.

✓ You can see the variety of occupations and sample heterogeneity. This sample was based on a wide range of activities and preferences.

Occupation	Number of persons	Structure
Student	28	17.1
Economist	34	20.7
Engineer	11	6.7
Teacher	18	11.0
Public servant	15	9.1
Data base administrator	7	4.3
OSIM examiner	2	1.2

Occupation	Number of persons	Structure
Lawyer / attorney	7	4.3
Financial / banking	16	9.8
Other activities	26	15.9
<b>Total</b>	<b>164</b>	<b>100.0</b>

✓ In terms of school level 84% higher and 15% secondary, result for holding the answers as being knowledgeable, mature and not random.

Answered options	Number of persons	Structure %
a. general studies	2	1.12
b. average studies	27	15.08
c. higher education	150	83.80
<b>Total</b>	<b>179</b>	<b>100.00</b>

✓ Overall we can see that most replies belong predominantly to persons 44 years - 67.28%, so that it can be concluded that the respondents are young people, have a high degree of information regarding the subject matter through questionnaire.

Answered options	Number of persons	Structure %
<b>a.</b> Under 24 years	<b>71</b>	39.89
<b>b.</b> 25-34 years	<b>50</b>	28.09
<b>c.</b> 35-44 years	<b>31</b>	17.42
<b>d.</b> 45-54 years	<b>14</b>	7.87
<b>e.</b> 55-64 years	<b>7</b>	3.93
<b>f.</b> 65 years and over	<b>5</b>	2.81
<b>Total</b>	<b>178</b>	<b>100.00</b>

✓ The sample consisted of respondents from both urban and rural areas. Although the weights are far away, it is noteworthy that all concerned counterfeiting residence.

✓ If identifying factors previously analyzed (age and area of residence) had an uneven distribution in terms of income distribution is normal. The average monthly income of respondents is 1706.8 lei / pers. Of statistically fit as a national representative value in the average gross income is 2315.99 USD.

✓ A final factor in case identification is sex. From this perspective questionnaire was completed with different shares, 65.19% are female and the remaining 34.81% - male.

## 5. Conclusions

Determinants of product quality, production area, and are most often used in fraudulent practices for production of counterfeit starting point is the partial replacement, at best, some of the raw materials or materials or the use entirely of other commodity-grade and low cost.

In recent years counterfeit products hardly differ from the original, due to investment in technology required to achieve them. Counterfeiting can kill notoriety business' image and a brand in a very short time.

Although copying is considered by some people as a form of recognition of the value of a stolen identity of a counterfeit product known mark and consumers while missing many expectations: comfort, confidence and personal safety, the impact of counterfeiting on consumer protection is obvious. For this reason I believe that a major concern of society is the protection / protection of individuals from any abuse and here I mean particularly harmful counterfeit products and their effects on consumers.

In ancient times counterfeiting aimed especially luxury goods (works of art, paintings, jewelry), now, this phenomenon has grown a lot and affects almost all categories of products, goods and services. Therefore, it requires a database of aggregation that quantify this phenomenon, but equally important is its control through consumer education.

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## ROMANIA IN THE YEARS 2000. DEMOGRAPHY AND EMPLOYMENT IN THE REGIONS OF DEVELOPMENT

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**Abstract:** *The present research highlights the fact that the human factor is an essential premise for economic growth and development of a region. Our research analyzes the economic and social disparities among the regions of the country, mainly during the last decade. The recovery of such disparities requires a lasting process; subsequent to the clear orientation towards European capitalist structures there was a shift towards a territorial division of the country on pragmatic considerations, allowing a more efficient financing of all regions. In this regard we pursue a comparative analysis of the human factor and its component, namely the employed population in the regions of development in Romania.*

**Key words:** regions of development, Romania, demography, employment

**JEL classification:** E 24, J 11, J 21, N 34, O 52, R 58

### 1. Introduction

The regionalization of the territory determined by the different evolution of spatial economic structures results from the practical purposes related to the need to find the most appropriate territorial and spatial frameworks in order to guide the processes of economic development.

The criteria on which the regions were set up are of economic, social-political, historical, and ethnic nature. Romania has experienced a regionalization in history, taking into account the historical provinces. But in time they reflected strong unity manifested through language, culture and religion. (Malița 2010, p. 96 – 114)

In connection with religion, it can be indeed identified a unity between the various historical provinces population, however it should be noted that within the Carpathian Arc, the Catholicism was much more common while orthodoxy was in rest the majority. Along with the engrossment of government by the Communists the only official Church remained the Orthodox one (perhaps because of the Soviet influence).

This fact had negative repercussions that were felt including recently, in the 1990s, when it started the process of property retrocession confiscated by the Communists.

In Romania, during the years of communism, specific measures were taken for the development of the various regions of the country, in order to reduce and eliminate the economic and social disparities. It may be observed that the division of the Romanian territorial administration of 1968 had a clear purpose to facilitate enhancement of the population's control, but disregarding this issue it was also pursued a development of every county. If during the interwar period it may be considered that the development of each region was made on the basis of each territory's potential, later, as a result of the massive industrialization decision (based in heavy industry, metallurgical) emphasized was the autarchic development of each area or/ and region.

We must consider the fact that Romania began the industrial revolution much later than other European countries (Olaru 2001, p.68), so the gap in comparison with the Western countries was great, but there were significant differences within regions at national level. Also, the interwar period cannot be regarded as a period during which the state recovered some of the gap towards the West (Romania was able to shift from an agrarian country to an industrial-agrarian country, while the capitalist States had an industrial economy).

It is certain that the interwar period led to a recovery of the existing gap between the provinces of the country because it has pursued the development of business on the principles of a market economy, which had regard to the cost-benefit relation. After the Communism, all actions and activities had to be called in the theme of achieving the objectives established by the State which regarded, in particular, the functioning of the macro-economy.

One of the decisions with negative influences, at least social ones, was to displace the peasants in urban areas for the construction of a new working class, while the old and authentic artisans were sidelined.

Desiring to detach from the Soviet Union, which wanted Romania to develop the agriculture in the Communist regime considered that was prepared a secondary ranking position and went to the intensive industrial development. Numerous factories and plants were created from the textile industry to the metallurgic plant. In the early 1980s, when Romania was in a desperate search for financing, the International Monetary Fund asked to pay greater attention to the agricultural sector.

It can be appreciated that those were major causes of the social and economic heavy situation in post-revolutionary Romania.

The Occidental model promotes individualism and communism supports collectivism. Thus, under capitalism people are taught to assume risks, while in Communist Romania avoiding risks was promoted. Moreover, there were situations (in administration we can state that it was something widespread, pervasive) which was not related to performance. (Gallagher 2010, p. 101)

This was the situation from which Romania started for the integration into European structures. Therefore, more socially and economically were to be done. The population was used to work without giving a certain risk with regard to work. It was supposed to be granted.

In order to serve the possibility of development, the European Union claimed regionalization on economic grounds, to be consistent with the principle of subsidiarity (the distribution of power at primary levels). In 1997, a green paper of regional development was published. It was realized by a Danish company specialized in problems of decentralization. It was revealed that the 41 counties are too small to act as a channel for backing pre-accession funds (Moianu 2002). It was noted that it was very important to strengthen the regional infrastructure for bringing about economic and social development in order to compensate for the negligence of the last decades. The regions of development were established by the association of counties at a higher level and are named after the geographical location within the territory of the country (Table 1).

**Table 1: Developing regions and macro regions in Romania**

NUTS I	Macroregion I		Macroregion II		Macroregion III		Macroregion IV	
NUTS II	North West	Center	North-East	South-East	South Muntenia	Bucharest Ilfov	South-West	West
NUTS III	Bihor	Alba	Bacău	Brăila	Argeş	Bucureşti	Dolj	Arad
	Bistriţa Năsăud	Braşov	Botoşani	Buzău	Călăraşi	Ilfov	Gorj	Caraş-Severin
	Cluj	Covasna	Iaşi	Constanţa	Dâmboviţa		Mehedinţi	Hunedoara
	Maramureş	Harghita	Neamţ	Galaţi	Giurgiu		Olt	Timiş
	Satu Mare	Mureş	Suceava	Tulcea	Ialomiţa		Vâlcea	
	Sălaj	Sibiu	Vaslui	Vrancea	Prahova			
Teleorman								

The status of these regions is unclear, they are not an extension of the Government, nor can they be considered NGOs. In the 2000s during the period of economic growth it is considered that there has been a recovery of economic disparities towards the average of the European Union (Mureşan 2008, p. 419-448; Murgescu 2010, p. 476).

The determining factor for economic activity is the work factor. Therefore, we observed a regional analysis of the employed population in the period considered to be the one in which the post revolutionary Romania had a sustained economic increase.

## 2. Demographics of Romania's development regions

It is necessary to distinguish between human factor and working factor in achieving economic growth. Human factor that can be considered rather to be represented by a given territory, but can represent a prerequisite for the economic growth, the work factor represented by the population is the determinant of the economic growth and employment in a given period of time.

The evolution of the economic phenomena and processes as well as the complexity of the demographic developments is decisive for the population of a country. Demographic conditioning, although less visible, is extremely important towards implications. The structural demographic mutations are registered at total population level and are integrated both in the supply and in the demand for manpower. Thus, the numeric and structural change and the demographic ageing influence the level of the active population and of its components: the employment and the unemployment. Romania's population is constantly decreasing. There are several causes. A valid general issue at European level is the ageing of the population (\*\*\*, The Regional Operational Program, p. 13).

After the borders opening in the 1990, there has been a migration on ethnic criteria. This concerns in particular the emigration of Saxons and roaches from Transylvania and Banat.

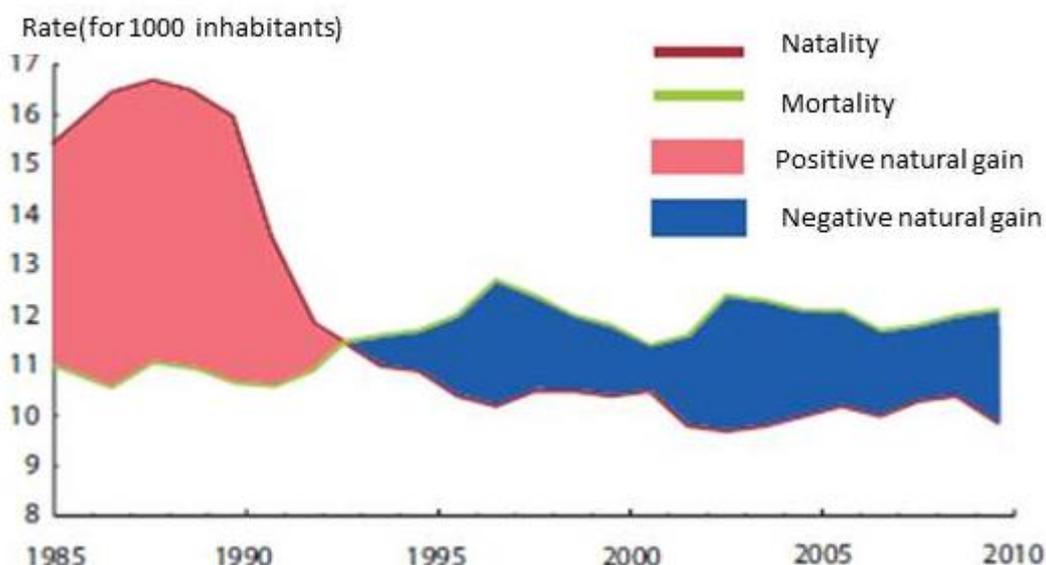
Massive emigration was less evident in the major cities of the regions concerned, but very strong in the case of smaller municipalities (cities, villages, municipalities, small and medium-sized enterprises). During Ceausescu's period it seems that about 12,000 of German ethnics were annually leaving to the Federal Germany after the agreement signed in 1978 by which the Germans were obliged to pay 10000 West German marks for every German who was left to go. In 1989 there were about 200,000 in Romania and it was estimated that half of them permanently left in 1990 (Ionescu 199, p. 32). After having borne with stoicism, the Mongol invasions of Turks, Tatars starting with the year 1183, there seems to be a mixture and the misfortunes of the Communist regime has left a deep shade of disbelief in the chance of a better life, free and autonomous. As a teacher from Sibiu appreciated, a torn building can be rebuilt, but a corrupted population with a faulty mentality, of 40 years can no longer be changed (Gallagher 2005, p. 103).

Subsequently, the external migration has been enhanced by career opportunities and improved remuneration for the job-offer abroad. On the other hand, the phenomenon of emigration to Canada and the US definitively is constantly about 2000-3000 people per year while permanent emigration (keep in mind official data) and for the temporary work has reached worrying proportions. The highest level of migration is recorded in the regions like Bucharest-Ilfov, Centre and West.

At national level, a major problem is the decline in population, due to the negative natural rise and due also to the negative balance of foreign migration. In Figure no. 1, it is noted that immediately after the year 1990 there was a negative natural rise.

The birth rate remains the only part of the population movement which can be influenced with effective results, given the conditions that on short and medium term foreign migration and mortality cannot be expected to significantly contribute to the reduction of demographic decline in Romania. According to the 2011 census data the comparisons are made with the demographic situation in Romania of the 50s and the 60s of the last century. In the 50s there was an important issue, the negative trend of the demographics that began to manifest itself in 1957, and in 1966 came to equivalent values with the depopulation of the country (fertility index has reached 1, 9, while its value in order to ensure an exchange of generations with a natural increase of 2.1 is zero). On the 1<sup>st</sup> of October 1966 was issued a decree 770 that forbid abortion, with a few special exceptions. Since then and until the fall of the regime 11000 women died because of clandestine abortion (Ionescu 199, p. 32). On the 8<sup>th</sup> of October 1966 was issued another decree which greatly complicates the divorces. So, in 1967 the fertility index (3.5) was highest in entire the Communist period of Romania.) (Gallagher 2005, p. 103)

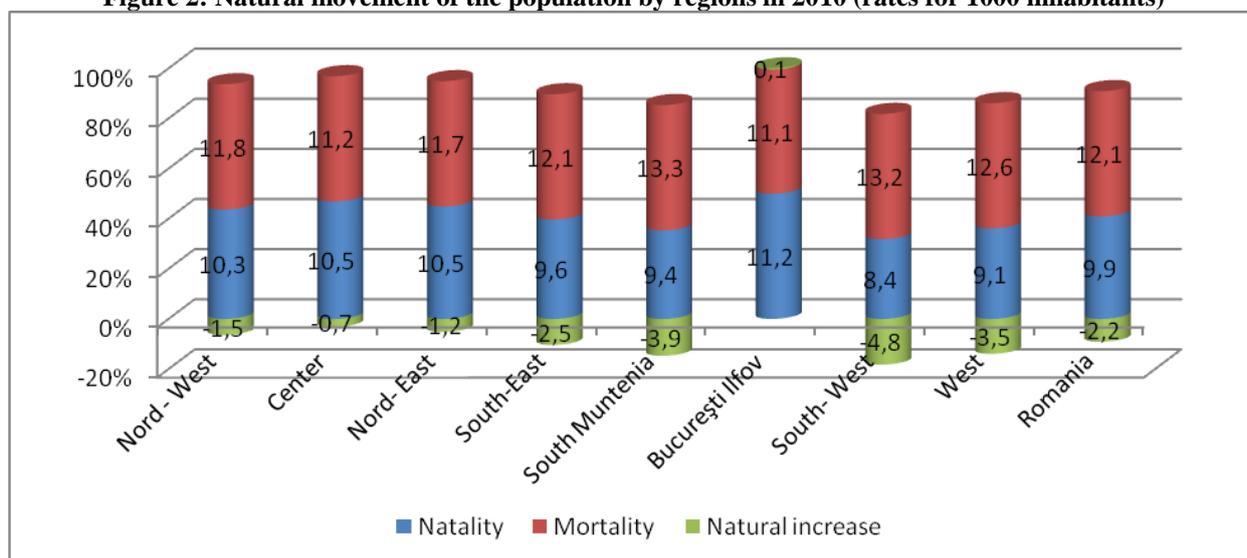
**Figure 1: Birth rate and mortality dynamics of the population in Romania (rates for 1000 inhabitants)**



Source: \*\*\*, Romania in numbers 2011, [www.insse.ro](http://www.insse.ro), consulted on the 21<sup>st</sup> of March 2012;

The birth rate, the death rate and the natural ascend of the population at regional level are shown in Figure 2. In Figure 2 is noted that in seven of the 8 development regions was recorded a negative natural growth, the only exception being registered in North Eastern region where the birth rate exceeds mortality and in 2 of them (North East, Centre) it is very small.

**Figure 2: Natural movement of the population by regions in 2010 (rates for 1000 inhabitants)**



Source: Graph realized on the basis of the dates from *Romania's Statistical Annuary 2011*

Age structure of the population carries the imprint of specific demographic ageing process, primarily marked by lowering the birth rate, which has led to reduction of the absolute and relative of the young population (0-14 years), and the increasing share of older population (60 years and over).

The distribution of population by age groups is relatively similar in the eight development regions (Table 2).

**Table 2: Structure of the population by age groups in developing regions**

Region	Total	Age groups					
		0 – 14 years		15 -59 years		60 years and over	
		2000	2009	2000	2009	2000	2009
<b>Total per country</b>	100,00	18,3	15,12	62,92	64,97	18,81	19,91
<b>North-East</b>	100,00	21,0	17,65	60,87	63,48	18,11	18,87
<b>South-East</b>	100,00	18,5	14,94	63,37	65,39	18,15	19,67
<b>South Muntenia</b>	100,00	18,0	14,75	61,04	63,28	20,93	21,97
<b>South- West Oltenia</b>	100,00	18,2	14,45	61,36	63,71	20,88	21,84
<b>West</b>	100,00	17,5	14,13	64,08	66,08	18,44	19,79
<b>Nord-West</b>	100,00	18,8	15,48	63,58	65,41	17,64	19,11
<b>Center</b>	100,00	18,2	15,42	64,41	65,60	17,37	18,98
<b>Bucharest-Ilfov</b>	100,00	13,9	12,43	67,22	68,45	18,87	19,12

Source: own calculations based on data from \*\*\*, Regional Statistics, [www.insse.ro](http://www.insse.ro), consulted on 17.12. 2011

From Table 2 it can be seen that the segment of population up to 14 years old declined along with the expansion of the population aged over 60. The ageing process of the population will exert a negative influence on the economy as a whole, as the number of inactive population will cripple, in sense of burden, social-security, and implicit to increase the excess of charges. The South Muntenia and South-Vest Oltenia regions are facing with a phenomenon accentuated by ageing of the population, with the largest part of the segment over the age of 60 (21,97% respectively 21,84% in 2009), expecting to be an amplification of this trend. The highest share, gravity in the young population segment is recorded in the North-East Region (17,65% in 2009, declining to 21,0% in 2000) (however, after 1990, when all the other areas registered a negative birth rate, in this part of the country the situation was exactly opposite), the lowest in the West region (14,13% in 2009 compared to 17.5% in 2000), however over the rate 12,43% in Bucharest-Ilfov region.

### 3. Regional disparities regarding employment

In any country the economic growth is desired by the government, in order to achieve the social well-being and the determining factor in obtaining of this growth is the work factor. Also the economic growth (regional one) is that which can economic unify the regions.

The privatization and restructuring of the Romanian economy has had a significant effect on the labor market, leading to significant layoffs and to the emergence of the phenomenon of unemployment. The novelties in economy have limited the employment opportunities.

In Romania, the situation of employment and in the main development regions for the period 2000-2009 is shown in table 3.

In Table 3, it is observed that the reduction of employment was a phenomenon that has occurred in all the regions of the country, sharply differentiated in size and depth from one region to another and had as its main concern the restructuring of the industrial sector.

The main causes of this dynamic were: the general economic decline, with the decline of industrial production, particularly in terms of the narrowing of the internal market and the loss of important segments of the external market, the failure of macro stabilization policies and the delayed privatization, the decline of investments and the inappropriate restructuring of some non-effective economic agents, the low mobility of labor in the territory and due to professional reasons, as determined by the international economic environment (\*\*\*, The policy on labor market and employment, p. 15).

**Table 3: Employed population in the period 2000-2009 (%)**

Region	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Romania</b>	100,00	99,35	87,87	87,77	87,15	87,04	88,63	89,00	89,74	88,53
<b>North-East</b>	100,00	100,26	85,95	86,31	88,87	88,19	86,36	88,61	86,07	85,66
<b>South-East</b>	100,00	98,03	87,88	89,01	87,19	86,89	89,54	87,5	85,95	85,28

Region	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
South-Muntenia	100,00	99,41	85,69	85,69	84,14	83,97	85,33	87,17	86,39	84,06
South-West Oltenia	100,00	101,09	84,48	83,93	81,04	81,36	81,05	80,19	79,75	79,14
West	100,00	97,80	88,24	87,91	87,14	86,59	89,56	91,76	87,33	86,06
North-West	100,00	101,97	88,38	87,62	84,66	84,88	86,94	87,09	83,49	81,42
Center	100,00	99,82	91,86	90,97	87,66	88,28	91,14	89,98	88,46	85,79
Bucharest-Ilfov	100,00	94,29	94,39	94,08	99,90	99,90	106,23	105,71	104,03	105,04

Source: calculations made on the basis of Romania's Statistical Annuary 2007, 2008, 2010

Foreign capital has been concentrated mostly in the regions of Bucharest-Ilfov, West, North-West, and Center, which has had a positive effect on labor markets of this regions, the creation of permanent qualified workforce and business development services (Mihăilescu 2011).

The structure of employment by main activities of the national economy is presented in Table 4.

**Table 4: The structure of occupied population of national economy by main activities**

Institutional sectors	Agriculture			Industry and constructions			Services		
	2000	2009	2009/2000	2000	2009	2009/2000	2000	2009	2009/2000
Years									
Romania	43,90	29,09	-14,81	25,70	30,01	4,31	30,4	40,90	10,50
Nord-East	57,60	48,20	-9,40	19,70	20,71	1,01	22,7	31,09	8,39
South-East	46,80	26,50	-20,30	21,00	31,30	10,30	32,2	42,20	10,00
South-Muntenia	49,20	32,60	-16,60	25,20	32,66	7,46	25,6	34,74	9,14
South-West Oltenia	59,00	47,09	-11,91	20,20	23,16	2,96	20,8	29,75	8,95
West	38,60	19,02	-19,58	27,10	41,23	14,13	34,3	39,75	5,45
North-West	42,00	27,18	-14,82	26,90	31,27	4,37	31,1	41,55	10,45
Center	31,20	15,56	-15,64	37,60	40,96	3,36	31,2	43,48	12,28
Bucharest-Ilfov	5,80	1,54	-4,26	35,00	25,05	-9,95	59,2	73,41	14,21

Source: Romania's Statistical Annuary 2007, 2008 and 2011

It was observed that during the period from 2000 to 2009 (Table 4) the employment in agriculture has been declining trend in all regions of the country, at the same time with an increase in the share of employment in the service sector. The largest decline in employment in agriculture shall be recorded in the regions of South-East with 20,30% and South-West with 19,58%. In these regions is observed the share of employment increase in services and industry. In the West region, in 2009, the employed population accounted for over 40% of the total population of the region with significant proportion in industry and the tertiary sector.

The development region of Bucharest-Ilfov has a structure of employment in the major economic sectors similar to that of the older EU Member States, meaning a low proportion of the employment in the agricultural sector and facing an evolving downward trend and a high proportion in the service sectors. However, it should be kept in mind that in the region we are dealing with two completely different entities: the municipality of Bucharest and Ilfov County, which gives the region a very non-homogeneous structure from the point of view of employment in the major sectors of activity.

The characteristic of the employed workforce in the South-Muntenia is the fact that a substantial proportion of it works in agriculture (49,2% respectively in 2000, 32,6% in 2009), the difference being almost equally divided between industry and building sectors (25,2% in 2000, 32,66% in 2009) and services (25,6% respectively 34,74%).

Over the period of 2000-2009, the employment in the region of North-Western enrolled on a declining trend. The decline of heavy industries of the region, in which the vast majority of employees from among men and reductions in staff of light industry led to the decrease in the number of jobs among both women and men. However, on the other hand, the continuing development of the field of construction and the services' sector in the region has led to the creation of new jobs for women and men.

Of the eight development country regions, half are based on agriculture, with weights of all of the regional employment ranging between 30% and 48%. North-East region, which is the poorest, contributes with 15.2% to total employment of the country, holding at the same time, the highest participation of employment in agriculture, of 48,20%.

The analysis of the population's employment rate highlights the significant presence of another phenomenon on the economy as a whole. In the period 2000-2009, the employment rate in the eight development regions is presented in Table 5.

**Table 5: The rate of employment in the development regions of Romania during 2000-2009**

Years	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Romania</b>	63,6	62,9	58,0	57,8	57,9	57,7	58,8	58,8	59,00	58,6
<b>North-East region</b>	67,1	66,4	60,1	59,9	62,4	61,5	60,1	61,3	60,5	60,6
<b>South-East region</b>	60,8	59,9	55,3	55,8	54,7	54,7	56,4	54,7	55,3	55,4
<b>South Muntenia region</b>	64,7	64,0	58,2	58,1	58,1	58,1	59,6	60,5	61,1	60,1
<b>South West Oltenia</b>	69,1	69,5	61,8	62,0	59,9	60,1	60,1	59,3	60,0	59,9
<b>West region</b>	62,2	61,2	57,6	57,1	56,9	56,6	58,7	59,6	59,3	58,6
<b>Nord-West region</b>	63,4	64,0	57,8	57,2	56,1	56,0	57,1	57,0	56,4	55,2
<b>Center region</b>	59,8	59,6	55,9	55,2	53,9	54,2	56,0	55,1	56,6	55,1
<b>Bucharest-Ilfov region</b>	60,0	56,7	56,9	56,5	59,7	59,4	62,9	62,4	63,3	63,8

Source: INSSE, Regional statistics, www.insse.ro, consulted on 22.12.2011, \*\*\*, Romania's Statistical Annuary, 2010

According to Table 5, the occupancy rate of the population in Romania remained at a relatively constant level during the period 2000-2009 (58%), scoring a slightly downward trend, but standing at a lower level compared with the average employment rate in the EU-27 (64.6% in 2009) (\*\*\*) - The Annuary 2010). This decline of employment correlates with available jobs and the phenomenon of temporary migration for the employment abroad.

At regional level, the employment rates above the national average are recorded in the less developed regions: North-East, South Muntenia and South-West Oltenia, caused by high rates of employment in agriculture. The regions of Bucharest-Ilfov and West record the employment rates above the national average, but in this case due to the much higher and diversified job offer.

Also in the case of the Bucharest-Ilfov region, the industrial decline gradually after the '90 led to the loss of numerous jobs and the closure of inefficient companies emphasized the decrease of industrial employment and its migration towards the third sector.

In the context of the current crisis, the major problem both for Romania and for the European Union as a whole is that of employment. Accordingly, even if not at the same level, the labor resources decreased, i.e. the population of working age (15-64 years).

In this context, the limited resources, the work would have been possible to improve their employment. In Romania it had been observed that the changes increased in the occupational structure respectively in employment reduction in agriculture and the growth of the one in construction and services.

#### 4. Conclusions

Long-term demographic trends will affect both the educational system, for the purpose of reducing the number of pupils and students, and the expansion of the demand for health services and social protection. Ageing of the population in rural areas of Romania fuels economic disparities with regard to regional development, meaning that employable people prefer internal to migrate to urban areas.

Certainly there are the grim economic signals on the future of many villages in all regions of the country. The perspective is more daunting for less developed areas as youth from these places are prepared and often forced to emigrate in search of economic conditions and social by default. For

example we take into account the example, in the South of Oltenia is expected, because of the climate change phenomenon of desertification appear to reduce drastically the number of jobs in agriculture (basic trade of the inhabitants of the area in question). Also the mono-industrial regions, particularly for coal, will have much to suffer; however all of these on the development of large urban centers. Unfortunately, in Romania the diffusion capacity of growth benefits from the growth poles to the periphery is very small. Let us not forget that decades in Romania have been argued extensively program deployment of manpower from villages to cities without giving an insight into how little optimism rural population outside links with the cities.

The gap between the levels of development of the various regions are the result of differential with endowment of their natural and human resources, as well as the relatively specific development (economic, technological, demographic, social, political, cultural) that have shaped the development of history. This led to the dominance of agriculture as an economic force in regions where climatic conditions were favorable, the heavy industry in the areas in which resources were found for iron ore and coal to the branches concentration of the service sector in administrative centers.

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## EUROPEAN ECONOMIC CRISIS, RUSSIA AND THE QUEST FOR ENERGY SECURITY

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**Abstract:** *The rationale of this research goes into the origins of the economic and political cooperation from a different way of economic thinking, hence the professional interest on bringing again into the light the concept energy security and the viable solutions to its quest. A familiar account of the present energy security issue underlines the collapse of confidence between rich raw resources countries and the countries which are not rich, but huge consumers. Nor were these problems of recent origin; they were rooted deep in time into the complicated relations between states, in the economic and political tensions that date back many years. Continuous growth, especially of BRIC countries, overheated the world economy and gained steam because of financial crisis of 2007 and the sovereign debt crisis which menaces European Union to take it out of the economic scene of the world. Considering the evidence analyzed in this paper work, this approach of energy security through Russia's key role in the Europe future, puts forward new highlights of economic thought.*

**Key words:** energy security, political equilibrium, free market, risk of energy crisis, commanding heights

**JEL classification:** B 20, N 45, N 40, N 70, N 74, N 75, O 13

### 1. Methodology. Current stage of knowledge over security energy

The methodology of economic doctrines and of the present paper are supported by a scientific apparatus of genesis of the doctrine, the filiations of ideas, perpetuity and genuinely. We have analyzed the energy security issue for European Union from previous articles and books which preceded and sustained the equilibrium of energy between states and the implication to market participants and the free market principles. The main two approaches our methodology is based on are:

- Retrospection: economic doctrines are a theoretical output of spontaneous perfection of economic ideas but could be as well a result of a natural selection of founding theories. The surviving theories make the proof of their value adapting best to the theoretical challenges.
- Prospection: economic doctrines are analyzed after the manner they improved economic theoretical background, according to their perpetuity and especially owing the power of changing reality and mentalities through ideas.

The methodology guiding this paper is comparative and qualitative.

In the new global economy, energy security has become a central issue for economists, who have already integrated the concept within economic policies and strategies for sustainable growth.

#### **BRIC and the oil industry – “Norway vs. Venezuela”**

In the history of the last twenty years, great emerging countries – BRIC – has been thought of as a key factor in energy security. The balance of world energy production equilibrium has several shares as it follows:

- USA, Canada, Mexico, Europe, West of Russia – 27% in 2007 to 18% in 2025
- Saudi Arabia, Iraq, Iran, Angola, Nigeria, Venezuela, Caspian Sea Area– 50% in 2007 to 61% in 2025

The other main three great emergent economies of the world, along Russia, are struggling to compete on energy market just as follows:

**Brazil** – supported by a young and growing population, free market, innovation and a raw resources bonanza, Brazil discovered in 2007 a huge ultra-deep below-the-salt field in its territorial waters, making Petrobras one of the most important state-backed oil companies from the market. Brazilians expect this would generate wealth on a scale that could transform Brazil's economy. Before the below-the-salt finds the Brazilian total proven and probable reserves were 20 billion barrels. Conservative estimates for these new oil fields are around 50 billion barrels, a huge field taking into account that this means a little less all proven oil reserves from the North Sea. Over enthusiastic Brazilians expert expect a real amount of oil about three times more, hoping to maintain a rate of extraction success of 87-90%, even the rate of success of digging at such a deep is between 20-25% as world average indicator. By 2020, Petrobras expects to extract almost 5 million barrels a day from Brazilian fields, from whom 40% provided by below-the-salt fields. Saudi Arabia and Russia are the two largest world oil producers with around 10 million barrels a day (Yergin, 2011).

*Caeteris paribus*, from the 11-th-largest producer, Brazil should be in 2020 in the top five. Despite its proven reserves potential and the geostrategic independence derived from here, ultra-deep drilling projects have been risky ever since and Brazil will suffer from a major drawbacks:

- Capital absorption, detouring funds from other worthwhile investments or commanding height of economy

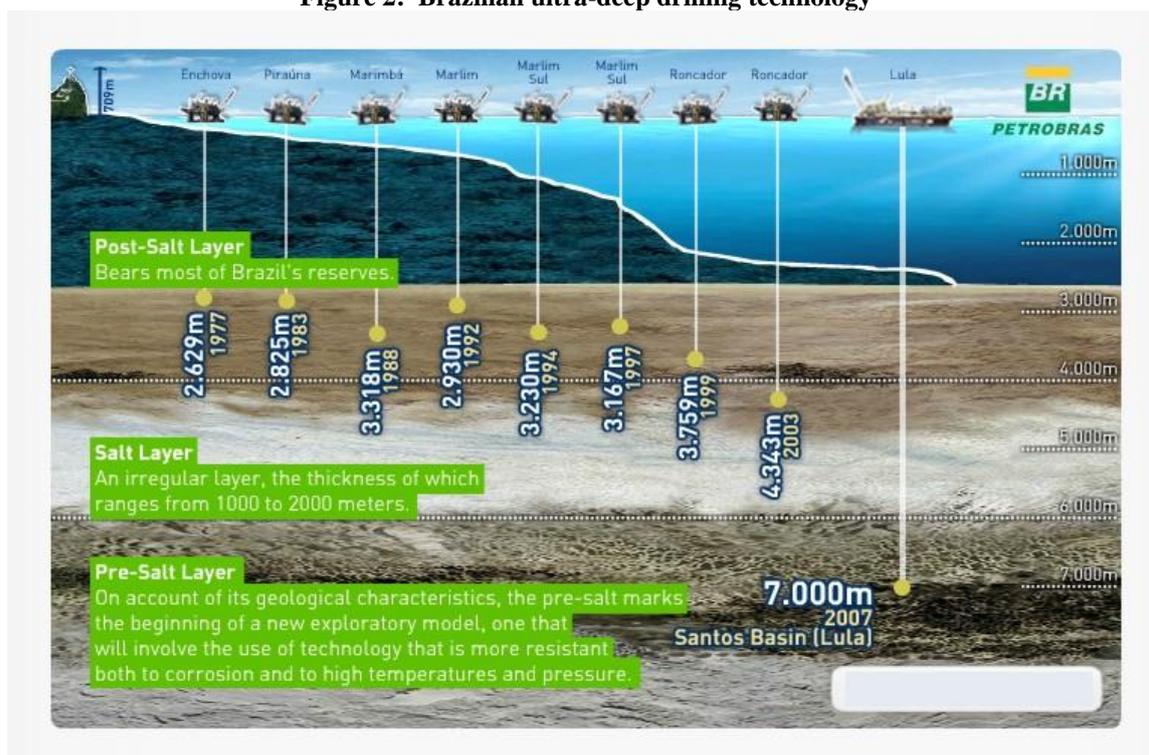
**Figure 1: Brazilian marine oil fields discovered in 2007**



Source: (The Economist, 2012)

- Dutch disease, when oil exports will be consistent with a dangerous incentive to pushing the currency to a high level where other industries become less competitive for export
- Reform fatigue, structural economic tasks which government fail to achieve

Figure 2: Brazilian ultra-deep drilling technology



Source: (Petrobras, 2012)

The issue of ultra-deep drilling projects has been a controversial and much disputed subject within the field of Brazilian energy strategy, because implies both exploration risk and development risk. Without proper management, new oil reserves could easily turn into an oil-bonanza, with Dutch disease, corruption and waste of funds. It won't be reach any Norwegian wealth, but a Venezuelan economic chaos. Despite the 25,4 billion dollars trade surplus in the first ten months of 2011, Brazil counts too much on revenues on oil not yet explored (Yergin, 2011).

**India** – The issue of energy security has grown in importance in the light of recent economic growth and the quest for major role of counter candidate to Asia's supremacy. Concerns have been raised by several relevant bodies about the poor India's energy security. Viewed as a principal opposing force to China's expansive growth, India also suffers from major drawbacks:

- Poor security energy
- Corruption
- Poor infrastructure
- Huge wealth gap
- Caste systems and endemic social classes gap

India's most important commodity is coal. In line with economic growth from the last twenty years, demand for coal-fired electricity has constantly increased. Oil and natural-gas reserves are poor, but India has the world's 5-th-largest coal reserves. Despite of this status, concerns have been raised by several relevant bodies about the usual gripes of a huge emergent economy:

- Blackouts, the system cannot provide all the amount of electricity customers require during peak hours
- Insufficient grid development, hence the 300 million customers out of electricity area

Another major hit point on India's energy strategy agenda is hydroelectric dam issue, but they provide only 14% of India's power, whereas in the 1960s their share was 50%. The principal matter would be harnessing Himalayan Rivers, but China intends to do the same.

Nevertheless, India is still able to develop renewable energy, for the country has plenty of sun and wind. Without this niche, India will probably lose some steam, because is not digging fast enough in order to meet its demand for coal. Massive imports from Australia come to complete its huge growing industry, but by the year to March 2017 domestic coal production will meet only 73% of demand. Coal

prices have been soared since 2009 with almost 50%, hence the doubt that India will eventually become unable to import to fill a huge gap of almost 300 million tones of coal (Yergin, 2011), (Claes, 2001).

**China** – In 1993 China became net importer oil. In 2010 became the world's biggest consumer of energy, hence its interest in international acquisitions on oil market. The past decade has seen the rapid development of Chinese oil industry in many countries through direct foreign investments or economic agreements, based on the formula oil for infrastructure. Despite its state capitalism, China underpinnings arguments for foreign policy was the full collaborative programs with countries where Western partnerships were traditionally at high risk or simply banned. Over 10,000 Chinese workers were sent in Sudan. Good contacts have been established with Russian important companies, such as Rosneft and Transneft, and the most impressive, China made deal with Iran in order to develop parts of the North Azadegan oil fields. China National Petroleum Corporation is one of the most important companies which won contracts in Iraq, and Industrial and Commercial Bank of China will lead a consortium that will finance the main natural-gas pipeline from Iran to Pakistan. One of the most favorite foreign economic policies is oil for infrastructure. Using soft loans, Chinese workers and Chinese companies, China provides poor countries with schools, hospitals, roads and any other infrastructure requirements. China has extended its diplomatic ties with Africa and Middle East, in a successful attempt to rebuild the Silk Road. But the leading role of China in Asia's balance of power is the communication channel with Iran. Every time United States and European Union imposed sanctions to Iran, China objected to sanctions, despite the fact that Western sanctions deserved it well. Chinese long-held opposition to sanctions is a diplomatic tool which finally proved efficient when 20% of Iranian oil exports were refused by European Union. China will eventually buy the entire surplus, but at discounted price. Energy security has been for a long time a priority in the schedule of foreign policy. Along with common oil ties, China and Iran developed longstanding commercial relationships, hence the interest to maintain a reliable and historical friendship. The underpinning argument of Chinese support to Iran is the menace of the blockade of Hormuz Strait. This will lead to a surge in the oil price, the last thing China would want to endure. Nevertheless, China makes a complicated geostrategic game, because too much support for Iran would eventually embody the confidence of Iran over its forces and possible allies, and could raise pulses up to dangerous level. It is becoming increasingly difficult to ignore the leading role of China on Western-Iranian cold war, therefore on the future price of oil and on the energy security (Tertzakian, 2006).

## 2. A synopsis of the main energy facts of European energy status-quo

Russia is an important component in the European energy system, and plays a key role in what European call energy security and the dependence on Russia. Had European economists and politicians paid more attention during economics classes during university, it would have been better understanding for great classical economists' principles, such Adam Smith and David Ricardo. A customer is not dependent on a supplier, if he is able to spot it on the market. The problems arise when the customer doesn't know where to buy what he is looking for, therefore there is no milestone in the fear of Russia's status of European main hydrocarbons provider. Western European market is not dependent on Russia; it would have been dependent on whoever the provider of raw resources would have been. But yet again, economics doesn't rely on such principles of dependence on one state, which it has been already known as a great exporter. A customer looking for something is not more dependent on the supplier, than the supplier is on the customer. After all, he wants to sell what other people are looking for. European are thinking too much on politics instead on economics, and too much of past time politics, unfortunately.

Energy security is an important share of a bigger picture, the economic security, which relies on the following components:

- Food security
- Financial security
- Commercial security
- Energy security

Energy security has different meanings for every major energy market participant:

- To US: lower dependence on Gulf oil producers
- **To Europe: ability and agreement with Russia to provide requested amount of oil and gas**
- **To Russia: free access to another markets**
- To China: foreign direct investments in oil fields from Africa

- To Venezuela: lower American intervention

Energy market is a hot point of economy. The same raised pulses are to become from the very region where Nabucco pipeline is about to start: Kurdish Administration Area. Kurds are spread on a vast area including Turkey, Syria and Iraq. The only state in turmoil is Iraq, therefore if Kurds will finally push their fight for independence, Northern Iraq is probably the most place which could face the same faith of Kosovo. Peace rather than energy security is the most important issue when it comes to oil and national independence. If not, geostrategic risks along with oil fields lead to drawbacks once again: Terrorism, Political turmoil, War, Piracy, Bad management, human disasters, Energy gun menace: owner-exploiter-producer-transporter- distributor-consumer. Natural risks should also be taken into account:

- Hurricanes, earthquakes, floods
- Limited resources
- Climate changes (Băhnăreanu, 2008)

Figure 3: Iraqis oil fields in 2012



Source: (The Economist, 2012)

Figure 4: Gas pipeline routes in 2011



Source: (The Economist, 2011)

Excepting Norway, in 2007 Europe has 50% dependence on imports. Once again, the quest for European energy security is not related especially on Russia, but on the fact that Europe alone is not able to provide resources to meet its own demand. As a matter of fact, not only Russian resources are not at all

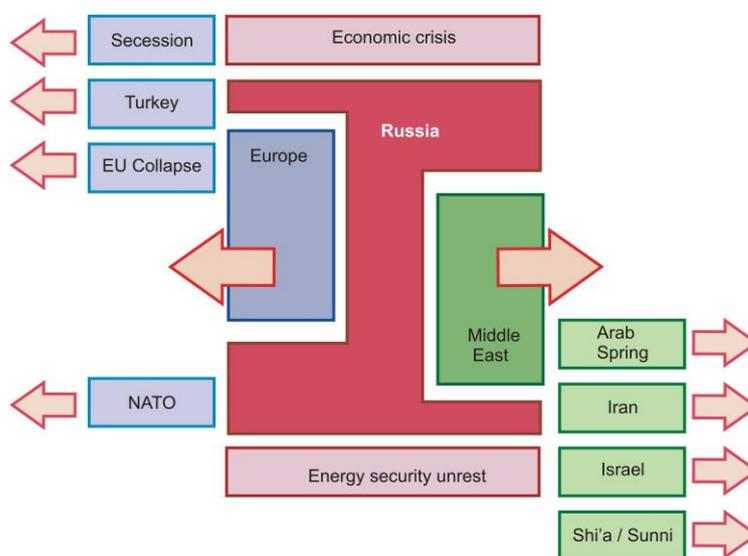
the source of European unrest, but they could be the very solution of this problem. Avoiding with ostentation Russian oil and natural-gas, Europe will manage harder the gap of 15%: in 2030 the import dependence will be 65%.

European Union is expecting to launch an impressive project, the Nabucco Stream, to gain access to Iraqis oil via Turkey, a NATO state and an old European ally. Should everything goes well, oil from Northern Iraq, area of Kurdish administration more precisely, will be pumped via Erzurum and Ankara to Sofia, then transiting Romania and Hungary to Austria, in the Central Europe. Having Nabucco full operational, Interconnector Turkey Greece Italy (ITGI) and Trans Adriatic pipeline would provide oil to Southern Europe. Nevertheless, Europe is facing now bigger problems that its future energy security. Nabucco Stream is just is the phase of blueprints and depends of Turkey willingness to consider itself the same reliable NATO ally. Last years Islamic fundamentalism sounded louder, and without a secular democracy – which Turkey still is – the project will be jeopardized. But the main oil fields will remain in Kurdistan, even if there is no state with that name. This will make Iraq to remain an unstable country, and the European energy security to stay poor. Never mind the Gulf area and the Middle-East problems, Europe will import some of their problems via Northern Iraq oil (Belkin, 2008).

### Russia's key role in the balance of energy security

Nabucco Stream is not viable, at least for the moment, while European ask themselves even there will be a European Union in the future years at all. Sovereign debt crisis is a closer problems then future European energy security, hence the risk of Nabucco Stream failure. The solution to European energy security is a full collaboration with Russia, because it is weird that European politicians and economists failed to accept the fact that neighboring the biggest country from the world, with biggest proven natural-gas reserves, with huge oil reserves and production-export infrastructure, should be one of the most important European strategic and economic advantages over other zones worried by their energy security.

Figure 5: How is Europe seen from the energy security perspective



Source: (Authors)

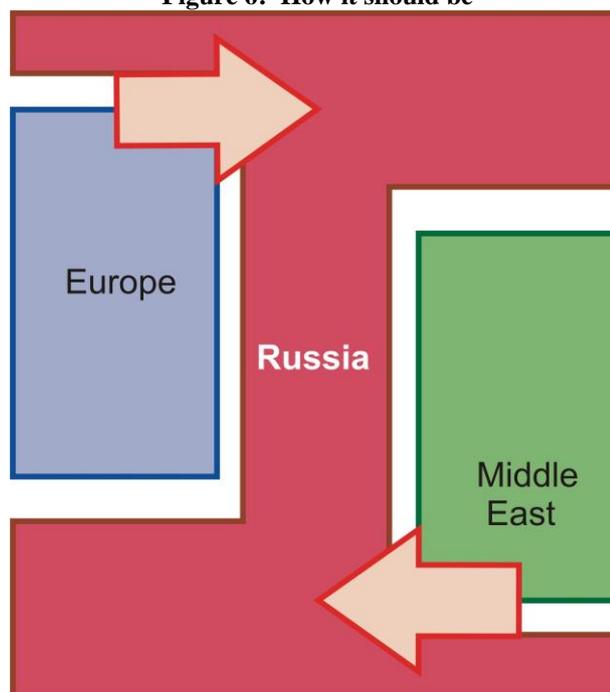
Europe is not fighting only to control the sovereign debt crisis, after the world's last financial crisis, but four other important issues:

- Secession
- Turkey statue as NATO member, secular democracy and future European Union member
- Collapse of the Union
- Uncertain NATO statute as defense alliance whose main primary goal, to defend Europe of the communist invasion has ceded to exist for long time already

On the other side, should European affairs go well, the Middle-East tensions would eventually set European major drawbacks because of:

- Arab spring

- Iran ambition of becoming nuclear power
- Israel security and the longstanding confrontation with Arabs
- Shi'a/Sunni every day worse emerging conflict

**Figure 6: How it should be**

Source: (Authors)

Russia can not provide energy security to European Union unless European Union does want it. The only viable project in order to provide oil and natural-gas to Europe is Nord Stream, so far, which will cross Baltic Sea from St Petersburg to Germany, the main engine of European Union. South Stream is also an alternative, but it implies several risks, depending on the Romanian and Hungarian governments' attitude, therefore Russia would eventually choose to transit former Yugoslavia republics via Italy. Nevertheless, Russian-German cooperation is at high status, hence the Nord Stream viability. As usual, Germans proved to be the wisest Europeans, understanding the Russia's key role in the equation of energy stability and security. The rest of Europe should take into account the following scheme:

- Full scientifically and economical cooperation between UE and Russia – especially in the fields where Russia is advanced: nanotechnology, IT, aviation, raw resources extraction and production, military research. This cooperation will lead to:
  - access to European market for Russian resources exports
  - access to Russian market
- Partnership with NATO in order to secure strategic routes of oil and gas
- A common European Union-Russian market for oil to provide on one side underpinning reasons for Western Europeans rest and, on the other side, to transform Russia in one of the most important market participants of Europe energy security future.

### 3. Conclusions

Economic cooperation is not chess, where either no one wins, or only one winner takes it all. Anti-missile shield of NATO alliance against Iran neither will provide nor solution to current economic crisis nor better cooperation with Russia, because it is hard to believe that Iran would have anything at all to gain bombarding Europe where are sent 20% of its oil exports. China, probably the next first world's economy, and the current most important creditor of United States, the biggest world's economy, would also not have anything to gain letting Iran to become more aggressive than its statements. Cooperation and better understanding of European common challenges, turning the views to future, not to past, will bring people closer to solutions for the future energy security. Economic crisis could be an opportunity for European Union to remember that Russia is also a European country, and European problems will

probably be better solved by a European country. For Romania, current economic crisis should be seen as an opportunity to fuel interest among both Romanian and Russian drain of confidence and lack of trust for better cooperation between two countries which should have shared more friendship than they already had.

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## THE ECONOMIC CRISIS AND THE STATE OF ECONOMICS

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**Abstract:** *The assessment of the current status of economics must take into consideration the intellectual and historical context. Such an approach enables the understanding of the causal relationship between the evolution of economic ideas and theories and the major financial and economic crises.*

*The current impasse of economics is caused by the inability of the dominant theory to identify the forces that contribute to the destabilization of the economic system and to provide adequate solutions.*

*Economic crises are essentially crisis of ideas. The impact of the orthodox economic theory on the global crisis is indisputable and requires considerable theoretical and methodological efforts to reform the economy.*

*Change of vision, openness to a non-conformist thinking, realistic and practical approaches represent fundamental dimensions of a deeply humanistic economic science.*

**Keywords:** metaeconomics, utopian economy, free market ideology, economic myth, standard economy .

**JEL classification:** F 29

### 1. Introduction

In order to understand the status of modern economics, we must address the issue of economic theory. The conditionality relations of its attributes and effectiveness must point out that economic theory is not a natural given, and its concepts and constructs are the result of human thought. Therefore, the minimal methodological requirements entail the establishment of methods used to befittingly reflect the reality, the context of the evolution of economic ideas and their relation with the events.

Many controversies and disagreements were roused by the process of clearing up the connections between ideology and causal relations and the economic crisis, as well as by identifying the validity and falsity conditions of the economic theories. However, the validity limits are difficult to challenge, and the same thing happens with certain symmetry in the rise and fall of theories and the influence over political decision makers to justify their decisions.

There are always different types of ideas within a debate. Sometimes, it is surprising to remark the swiftness with which some theories are enforced and become leading theories both in national policy and in “networks” promoted by international bodies. The assessment of the success or failure of economic theory must take into consideration the criteria used. When the result of applying prescriptions to some economic theories is appreciated in the light of a limited test, economics may be a great success. In the case of a very general theory about what is happening within society, the inclusion of intellectual values with ideology is more than evident. Thus one can explain the possibility of alternative theories that result from similar economic and political realities. However, the analysis of events and their consequences is achieved considering the existing economic theories. The test for an economic theory or model consists of their usefulness rather than whether they are true or not.

Economic theories are considered to be metaphors and models and not realistic descriptions. (Skidelski, Wigström, 2010, page 6).

The skill of the economist is in deciding which of many incommensurable models one should apply in a particular context. Major difficulties arise when theories are faced with unknown territory.

The scientific method requires, first, that economic theories to be built in line with reality. At the same time, in order for a theory to be relevant, it is necessary for events happening in the real world to be perfectly possible in that theory. If the theory interferes with the behaviour of the economy, reforms designed based on such behaviour will result in negative consequences.

### 2. Economy, economic policies and ideology

There are different views on the interaction of theory with economic policies. If economic policy is treated as the effect of some rational decisions, disagreements arise on the relevance of economic theories and their role in providing legitimacy and scientific support for solutions proposed to decision makers. The existing relations between the economic theories of scientists and the economic policies used by the government generate controversial debates. Radical views argue that the objective of economic policy is not to implement economic theory and the politicians' most significant problem is not represented by a better implementation of the results of economic theories. For the supporters of this orientation, economic policy is not the expression of justice or truth of an economic theory. In contrast, we find those who argue that economic theory remains relevant for economic policies (H. Minsky, 2011, page 569), and theorists' reflections are converted into decisional results. In some cases, different economic theories can become politicized intellectual arguments for political parties. The theoretical economist is involved in developing economic theory, and economic policy does not always appear as a simple implementation of the economic theory. Decisions are not taken based only on theory (J. Sapir, 2011, page 65), but in close connection with numerous other factors. The idea that economists are able to directly guide the policies in the name of the "scientific law" is considered to be illusory. The relations between theory and action are more complex and interwoven. Economic policies can be based on economic theories, but they can be influenced by the ideology of political decision makers, as well as their moral and ethical beliefs. Thus, the policies on deregulation constituted the consequence of some economic and political "forces" - interests, ideas and ideologies (J. Stiglitz, 2010, page XVII).

Capturing the role of economic and political variables in substantiating and implementing the economic policies requires a complex analysis to elucidate the role of doctrines and practical reasons. Which one are determinants: the economic theories or the political variables? The doctrines or the practical reasons? Therefore, it is called for the identification of the degree to which solutions to economic problems are the result of the implementation of economic research or the dominant ideology.

Scientifically, there is no good or bad economic policy, but effective or ineffective instruments meant to help in achieving a given objective. The configuration of an adequate economic policy is the result of political debates. Also, economic performance does not constitute the exclusive result of the "iron laws" of the economy. The political and economic framework of the economic reforms is evident and the political variables have a decisive impact on the characteristics and directions of the economic policies.

The disguised attempt to mask the relations of economy with politics intensifies the difficulty of highlighting the similarities and differences existent in economic policy. Thus, the conjunction of capitalism with democracy made possible the identification of various common elements within the economic practice of developed countries. Likewise, the particularities in the organization of capitalism and labor, combined with those in the organization of the political system have generated significant differences in the economic policy.

The interaction between democratic governance and the market economy, the extent to which politics and economic theory share the same ideology, the congruence of the political and economic systems, as well as the scientific knowledge and the dominant ideology, proved to be essential factors of the effectiveness of economic policies advocated in the post-war period.

The role of ideology in economics and its impact on economic decisions remain controversial. Ideological stakes have played an important role in the evolution of economic thought and in the expression of its various theories. However, ideological determinism did not prove to be superior to economic determinism. On the one hand, the identification of the same thought mechanisms surprisingly appears in theorists with different intellectual formation, and on the other hand the intellectual myopia of many experts in Economy whose ideological assumptions ignore the reality, as well as the prevalence of ideology within the international economic and financial community. The perspectives on the role of ideological solutions to economic problems are various. Olivier Blanchard dismissed the idea that Economy was driven by ideology and supports its pragmatism, while J. Stiglitz argues that economics has been replaced too often by ideology. The limits of knowledge underlie the distinction between ideology and science (Joseph E. Stiglitz, 2003, page 351). The triumph of ideology over science is sometimes declared categorically: the shift from the Economy impregnated with methods of natural science to an Economy dominated by ideology, PostKeynesian is more ideology than science (R. Solow), at least in the case of Macroeconomics, it all comes down to ideology (Dinu, 2010, page 266).

The advocates of political bankruptcy assert that ideologies are outdated and that they continue to exist, but in a sweetened form and we are currently go through an era of triumphant pragmatism (M.

Laine, 2009, page 32). In the same spirit, T. Blair said that the twenty-first century will be a struggle for pragmatic ideals and not ideological dogmas.

Economic theory and ideology are more impetuously accused of the genesis of the current economic crisis. Ideology plays an important role in formulating theories and it designates a priori beliefs of the theoretical economist that results from its value system. Although economists step aside from the scientific research, their tendency to accept the ideological assumptions as hypothesis is more than obvious.

Economy has a particularity in relation to other social sciences: ideology can lead to the emergence of absurd theories and rationalizations (Guerrien B., 2007, page 27). Such fact represents further proof that the greatest enemy of truth is not “the lie” but “the beliefs”. The dangerous interaction between economics and political ideology led to the emergence of some ridiculous doctrines of the efficient market, rational expectations, etc. which monopolized the thinking of governments, regulatory institutions and business world (A. Kaletsky, 2010, page 6).

Within economics, approaches are based on different visions of society which depend to a large extent on the social philosophy and associated value systems. Are economists not interested? Clearly, they are interested. It is impossible for them to detach from political and ideological criteria, as long as the choice depends on the core values, as well as on the theoretical and practical experience.

Therefore, ideology inspires political and economic action. However, economic doctrine cannot be separated from political doctrine. Generally, political doctrines outrun the institutional and economic reforms. Liberalism asserted as school of economic and political thought and monetarism represented an economic ideology with a political potential. Although it is sometimes suggested, it should be noted that economists have provided theories that were pure ideology. The relationship between ideology and the requirement for rigour has not been sacrificed.

In economics, significant changes occurred in the ‘70s because ideological and methodological trends were operating in the same direction (Backhouse, 2010, page 151).

Due to the economic failure, new theories and political movements emerge. During this period, the need to develop new theories based on free markets is widely perceived. Orientation towards the free market solutions is due to awareness that non-market planning and regulation have failed. Thus, the Reagan “revolution” Reagan aimed at the execution of the restoration process for the traditional conservative values and the free market. In this respect, the impact of New Right on economic theory and policy is evident. Political revolution in the U.S. and England would not have been possible without a parallel revolution in economic thinking. In the aftermath, the conservative economists have decided to ignore the historical reality and to favour the simplifying processes of the ideology of market fundamentalism. Starting the ‘80s, the idea that markets are self-regulating and efficient starts to prevail not only in conservative political circles, but also in academic circles. Economics is dominated by a small group of economists from the top departments of the University of Chicago, Stanford, Harvard, etc. who set directions for development of new ideas and economic theories. A. Greenspan, one of the most famous promoters of neoliberalism, expressed his total confidence in the market’s ability to create stability. In his view, free market ideology represents more than a set of opinions: it is a well-developed and all-encompassing way of thinking about the world (J. Cassidy, 2009, page 6).

The predilection of the modern economic theory for unjustified and simplifying assumptions allowed politicians, regulators and bankers to believe that stability is automatic, involuntary unemployment is impossible, and efficient markets can solve all economic problems. One should notice the pace of the neoliberal precepts penetrating public policies, turning into leading ideas both in the national policy, as well as in the way of thinking of the international regulatory agencies.

The contemporary economic researches have been made based on deductive analysis established on the concepts of balance, rational behaviour and expectations.

“Truths” spread by the free market ideology are based on narrow visions and prefabricated concepts. The efficient market hypothesis represented a truism by the ‘70s, and the axioms of rationality of perfect competition and individual were dominant. These ideas have generated the “neoclassical” paradigm and an intellectual movement that has monopolized the economic thinking. They were not presented as theories, but as hypothesis: national expectations hypothesis, efficient markets hypothesis, etc. The rational, efficient and natural use of magic words by Nobel Prize laureates provided a large audience to the dominant economic paradigm. The main reason why economists have adopted an unrealistic view of the world consists of its political implications. National expectations and the “natural” rate of unemployment have demonstrated that the government’s efforts to control and lead the economic

cycles and unemployment were futile and counterproductive. Also, efficient markets “have shown” that the government’s solely constructive role in economy was to deregulate and privatize. Such conclusions were expected by politicians and business leaders in order to validate Reagan and Thatcher reforms (A. Kaletsky, 2010, page 179).

The ‘90s marked the concern for the consolidation of the neoliberal message and its association with the new discourse on globalization. At the same time, is marked the conjunction of neoliberalism with the new financial model of growth, whose dominant feature was the deregulation of financial markets. Enforcing the priority of the financial circuit stimulated the emergence of “financialization”, which reinforced the boom of the ‘90s.

Conventional theories conclude that finance helps in stabilizing the economic fluctuations, contributes to the effectiveness of capital allocation and provides the financing needs of the real activities. The ardent advocates of laissez-faire in finance enforced the theories that promote the efficiency of financial markets. These theories become the dominant doctrine and they were based on implausible assumptions regarding the behaviour of investors and speculators.

After two decades of neoliberal strategies, the conservative political project is seriously implausible. The realities of financialization have invalidated the rhetoric based on the efficient markets hypothesis. There were no scientific grounds for the hypothesis that markets were efficient (Stiglitz, 2010, page 243). The malfunctioning of markets in situations characterized by asymmetric information constitutes one of the greatest discoveries of economic theory in the last decades (Skidelski, Wigström, 2010, page 69). The process of dismissing the archaic beliefs revealed that markets are not self-creating, they are not self-regulating and self-stabilizing and they represent a fallible coordinator of the economic activity. (D. Rodrik, 2011, page 22).

The assessment of the present status of economics must be based on the prevalence of theories which, according to a significant number of economists, led to serious errors in economic policy. Legitimately, it is considered that the current global crisis is the result of free market ideology. Therefore, the state of crisis is representative for the popular theory which is dominated by dogmas, myths and ideological obsessions. The ideological approaches to the detriment of scientific ones, the process of enforcing the neoliberal hegemony and the free trade as economic ideology, the ideological obsession on “liberalization”, the tendency to canonize certain laws of capitalist economy conjoin with the hostility directed to political authority and maintaining antistatist rhetoric.

The speech based on a simplistic ideology is omnipresent. The argument according to which the state is ineffective is based more on ideology than science, and market dichotomy – the state represents an abusive simplification. Ideological dogmas embedded in the public conscience are associated with myths which characterize the utopian economics. Economic myth represents the false perception of a phenomenon which is common to many economists (P. Bairoch, 1999, page 6) or denotes a deeply held belief or idea which may or may not be true. The dominant myth of academic economics is represented by the competitive market and inefficient government. In addition, there is also the myth according to which the private activity is more efficient than public activity, the rational agent myth and the myth of the natural tendency of an economy towards full employment (Backhouse, 2010, page 182).

The dominance and persistence of theories based on false and simple assumptions determined economics to alter its status of scientific discipline and to become the biggest supporter of free market capitalism.

The economic crisis triggered in 2008 increases the doubts on the validity of the standard theory and indicates the collapse of the intellectual foundations of neoliberalism, the loss of credibility and the failure of a selective economic ideology.

### 3. Conclusions

Recent history has shown an increase of concern for the reform of economics as a result of periods of increased economic turbulence. For that matter, major financial and economic crises have had a decisive impact on the transition of capitalism and economics.

All crises are bound to be idea crises. There are always different types of ideas in debates. Their importance and power of influence are considerable. The insufficient comprehension, but especially the encouragement of some obsolete doctrines may represent important obstacles to world prosperity. (P. Krugman, 2009, page 219).

The dilemmas of overcoming the current crises have increased the critics’ acerbity towards economics and economists. The accusations aim mostly to the inability to prevent crisis and to provide

solutions. Believing that economics is the main culprit for crisis triggering must determine the process of rethinking the attitude towards such branch of science. Very often we witness criticism from individuals who trivialize this subject. Inability or lack of comprehension of the complexity of the economic problems turns into a tendency to discredit and attitude of challenging economics.

Opinions on the status and scope of Economy are various. Some consider economics as a relatively facile subject compared to the higher spheres of pure science. Others evoke enigmas and mystery in relation with functioning of economy, with the transition from boom to bust and vice versa. Obviously, it would be a mistake to tend to exonerate and to elude the role of inadequate economic ideas and theories in the triggering of the crises. But the concern must be not so much to identify the culprits, but rather the need to hope for a veritable revolution of the existing theoretical framework.

The failure of the old vision over the economy based on ideological dogmas, assumptions and false dichotomies reveals a deep gap between reality and the thesis supported by the dominant economic science. The emergence and persistence of some erroneous thesis and ideas, as well as economists' appetite for their acceptance and promotion, are due to multiple and complex situations. There are many criticisms which concern important issues. The current economic science is immune to value judgments, it lacks morals and is characterized by a reductionist, analytical, and mathematical model-based approach (T. Sedlacek, 2012, page 533).

Paradigm of standard economy is brought into discussion again. A change of perspective represents a remarkable shift within the intellectual climate and it requires the rethinking of the foundations, a complex innovation process, massive restructuring, as well as a new methodology.

The process of setting up an agenda for reforming the Economy is subject to the extent of how prepared it is to begin a new era. Such a thorough reassessment requires the development of new tools of thinking, which theoretically represents a complex and difficult effort. Conditionings are multiple: identifying means to choose a different path, a theoretical vision able to explain instability, establishing the theoretical framework of the reform within a dysfunctional economy, foreshadowing an alternative theory, etc.

The beginning of a new era for economics involves the elimination of resistance to change, the stimulation of debates and a plea for pluralism. Economics has always been and will remain the place where debates happen. The new vision based on which the processes, values and economic institutions will be redesigned from scratch will lead to giving up many prior assumptions about economic life.

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## THE SOCIAL ISSUE OF EMPLOYMENT IN NICOLAE GHIULEA'S THOUGHT

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**Abstract:** *Professor Nicolae Ghiulea was one of the most important representatives of the cooperative doctrine of the interwar period and was well-known for his prestigious academic career. He filled several administrative and social leading functions and had a rich publishing activity in the areas of statistical theory, social economy, cooperatives and sociology. This article sets out to present aspects of the employment issue of the early 1900s in Nicolae Ghiulea's thought, as exposed in one of his books entitled „The social matter of placement”. The author signals the weak points of the placement organization in Romania, observes the situation in other countries and proposes measures to solve the issue.*

**Key words:** employment, labour, placement office

**JEL classification:** A 14, B 31, J 20, J 40, N 34, Z 13

### 1. Introduction

The issue of labour market organization was facing great difficulties at the beginning of the 20th century. Nicolae Ghiulea dedicates an entire paper to this problem, to its causes and its solving attempts. He uses statistical data and laws from different developed European countries in order to reveal how the situation was being managed internationally. The paper aims to provide guidelines for organizing and conducting a viable placement service.

The early 1900 found Romania with a deficit in the labour chapter. One explanation could be given by the accelerated development of the industry which exceeded the formation of an appropriate working class. Ghiulea, however, believed that the real reason was the disregard of the two sides of the labour problem, namely the industrial education and the placement of workers. The problem was particularly acute because, paradoxically, thousands of Romanians were starving because of lack of work, but, in the same time, the country was receiving tens of thousands of immigrant workers each year. The question could be simply stated: the employer didn't know where he might find the workers he needed, while the worker didn't know where he could find work.

A rational organization of work placement would have partially solved the agrarian problem as well. The appropriation was not sufficient to end the turmoil of the village life, because the seasonal nature of agriculture remained an issue. A policy on agricultural labour organization and an adequate placement service for the agricultural workers would have driven peasants towards the industry during the winter, raising their moral and economic condition. The placement problem had been raised in some Romanian laws but in an incomplete manner, and the attempts to resolve it had been slow in coming.

Thus, the purpose of Nicolae Ghiulea's paper is to show what is meant by placement problem, which are the principles and the rules governing the modern organization of placement, and to propose a placement organization system in Romania, mainly for the industry workers.

### 2. Nicolae Ghiulea's view upon the social matter of placement

Work is, like any commodity, subject to the law of supply and demand, and the exchange of any units or values takes place in a market. In this case we are talking about labour market or labour exchange. Important to note is that labour market extends only to those groups of employers and workers who may come into contact, who are aware of the quantities of available workers and jobs and who are able to conclude a transaction.

Nicolae Ghiulea defines the placement operation as follows: any exchange of work on a specific payment in cash or in kind, made in a labour market by means of direct contract between the worker and the employer, by means of an interested or disinterested intermediary, or by means of a labour exchange office.

The labour issue is, economically speaking, a matter of exchange, but Nicolae Ghiulea's paper treats it socially, because the social issue of placement is both an economic, a legal, a political, and an ethical issue.

The main cause of lack of work is, of course, the imbalance between supply and demand. A complete organization of labour exchanges, of placement services, would balance the two quantities, providing enough jobs to those wishing them and enough workers for the employers. Placement services can not fully solve the labour problem, but can provide transparent information on job availability and personnel.

For the safety of both parties, exchange of work must be done on open, competitive markets, and the employment contract should be public. Work should be exchanged only in organized national or international public markets, in order to meet all social needs of workers and employers, so that the placement will be made completely independent of foreign economic and moral interests of the persons concerned in this exchange.

The free play of competition ups the price of labour of those with remarkable skills and special knowledge which determines the benefic effect of industrial education encouragement and the desire to improve the technical knowledge of elite workers. The benefits are mutual. The employer has the safety of hiring a qualified worker, and the worker can choose the employer depending on the offered working conditions. Moreover, the improvement of workers raises the standards they demand at employment, offering superior working conditions to all.

Nicolae Ghiulea sets the placement problem as follows: to determine which is the most appropriate form of placement organization for the entire labour market to be satisfied in a fair and disinterested manner, according to the economic and ethical interests of workers and employers, and the economic, political and ethical interests of society.

Professor Ghiulea shows that the different categories of workers (apprentices, industrial workers with or without craft training, farm labourers, servants) require different approaches to the problem of placement. Thus, taking them in order, he stops first at placing disciples. Apprenticeship, born in the guilds, is the most popular form of vocational education. With the development of the big industry and the abolition of crafts though, the apprenticeship institution began to decline. Through the freedom of any worker to become an employer disciples became craftsmen's competitors, and the latter no longer had any interest for apprentices to learn the trade. In addition to this, the disciples were attracted by the big industry, where the working conditions are superior, but the requirements more complex. In those times, Romania was dealing with a crisis of trades education and a poor distribution of young arms between the various production branches.

The problem with placing disciples was in fact the choice of trades. The economic chaos did not allow the young to guide themselves in choosing the profession on their own, and therefore there was need of state support, indebted to organize an advisory service. The model was provided by Germany, the only country where early organizing of such services had satisfactory results. The steps to be taken into account concern the knowledge of local economic conditions and the situation of the distribution of labour on trades, the knowledge of physical and intellectual requirements of each job, making propaganda among primary school graduates to embrace careers in trades, and lastly, medical examination and recommendation of an appropriate vocation in accordance with the student's physical abilities.

The organization of apprentices placement did not bring the expected results. This can be easily explained given the decline of the small industry and the development of the large-scale one. Young people were moving less and less towards trades, and some were even completely abandoned. The author is still of the opinion that the serious organization of guidance and placement services of young arms in the small industry could have more significant results, which would have an impact on all economic conditions.

The problem posed by placing workers with craft training is the most complex, because it can not leave room for chance, but it must be made in accordance with the requests made and the places offered. Here we are dealing with specially trained workers, aware of their skills and the desired job's requirements. Placement offices' mission is even more difficult as they need to coordinate the available places with the occupation and qualification of each worker. In addition, skilled workers rightly require some stability in the workplace, provided through a long term contract. What would ease the burden on placement offices would be the increased opportunity for workers to change job or job specialization. Here, workers need to have a general industrial culture, an education received in vocational schools which is superior to apprenticeship, and a moral and material responsibility of employers in case of lack of work. Considered important in organizing the placement offices of qualified workers is the participation in their management of both the representatives of employers and of workers, for equality in rights.

Placing unskilled workers on the other hand raise fewer problems. The commitments between employers and workers are usually of short duration, the placement's subject of these workers is confined to the immediate satisfaction of job offers. But unskilled workers create different problems. Their increase should be discouraged because the job offers may become insufficient. In this respect, young people needed to be guided towards learning crafts.

Further on, the problem of placing agricultural workers is closely linked to the important social and political problem of rural exodus. This is caused by the attractiveness of city life and the lack of land. The peasants' migration to cities is not the sole cause of labour shortages in agriculture that exists. This is compounded by lack of medium ownership and the industrialization of agricultural work. The seasonal nature of agriculture and the introduction of agricultural machinery reduced the need for human arms, pushing the peasants to leave their households, taking the path of cities or even going abroad. The result is disturbing and raises the problem of placing agricultural workers: shortage of workers as compared to the job vacancies in agriculture. This issue requires resolution in two directions, namely the placing of indigenous workers and, on the other hand, the importation of foreign workers, which requires special attention in terms of national labor protection. In the latter case it would be necessary to organize an international placement service that would regulate emigrations and immigrations, dividing labor force equitably between the needs of industry and agriculture in different countries.

The last issue of placing concerns the servants. Being a more delicate issue and having special needs, the placing of servants was always mediated by professionals, who knew the employers' requirements and afforded to exploit both the employer and the worker. So the problem of placing the servants became the problem of paid placement offices. The fight to be given was against speculation and for the organization of public placement. In Romania, placing servants was a police matter. Servants were constantly under police surveillance because of their job's nature which brings them intimately close to their employers, but this was degrading and demoralizing to the workers concerned. The solution that the author proposed was the establishment of such public placement offices which would not charge fees, and by carefully selecting servants, would eliminate surveillance operations.

Following his work, Nicolae Ghiulea shows, in ascending order of complexity, the most significant forms of placement. The classification begins with a division into three groups: direct placement, placement by intermediaries and public placement. In turn, the three main categories include several forms of workers' placement. In the direct placement category falls the direct request (ie personal supply), the camaraderie (recommendation by friends), placing the ad (in windows, in different places or in newspapers) and the placement in markets (meeting venues, fairs or circles). Then, when placing is achieved through intermediaries, it may be commercial or free. The commercial one may be conducted by mediators and brokers (intermediaries that speculate on both the employers and the workers) or by paid placement offices (where speculation is the most acute). Free placement on the other hand includes mutualist associations' placement offices (which had insignificant results), placement offices of charitable companies (viewed with suspicion by employers), corporate and union placement offices (where the workers sell their work themselves), patronal placement agencies (mandatory for all organized employers), placement offices of corporate craftsmen (with a modest development), mixed placement offices (set up by employers and employees together) and labour exchanges (which are free recruitment agencies, established by private initiative, funded by the state, under the control of public authorities and headed by a joint committee). Finally, the placement made by public authorities is formed of municipal, county, regional and provincial employment agencies (created by private initiative or by special laws), other public placement offices (organized by the chambers of commerce and industry, by the agricultural chambers and by other public institutions), national employment agencies (state established by national law and organized uniformly, linking all municipal and regional offices), federals of public placement offices (can fulfill the role of an uniformly organized national service and are of two kinds: provincial and national; their funds come from the offices' contributions, donations and subsidies from public authorities; they have a major economic importance) and international employment agencies (there were only a goal, but would represent international unions with the role of balancing the general labour market, and would make the connection between public offices of various countries).

In presenting the various forms of placement organization, Ghiulea showed a clear preference for public placement offices, explaining that placement, for social peace and normal and fair regulation of the labour market, should be neither in the hands of employers nor in the hands of the workers, but it should be a public office, with full management and control, both from the working class and the class of employers.

The lack of jobs was at the end of the 19th century - early 20th century one of the most researched social issues. Closely related to this is the placement problem. The extensive research in the field have brought to light new trends, new principles and governing rules of placement, making it the most important social institution. On the other hand, because of "The international association for fighting against lack of work", this became an international institution. Therefore, Nicolae Ghiulea devotes an entire chapter exposing the principles and rules governing the organization of the modern placement service.

According to the author of „*The social matter of placement*”, the principles underlying modern placement refer to the following:

1. Placement must be organized and open to the public – direct placement can no longer be used effectively and fair, there is need of a placement service available to all, well organized and adapted to the requirements dictated by the modern economic life.
2. Placement must be as specialized as possible – organized by categories of workers and occupations.
3. Placement must be fair – respecting the principle of the Danish public office ("To obtain every employer the best employee and every worker the job for which he is, for now, better qualified") and avoiding interference of charitable feelings.
4. Placement must be impartial – it must not be a social weapon and should not be involved in the struggle between capital and labour. In conflict situations (strike or lock-out) placement services can operate, but must make known the existence of a conflict.
5. Placement must be paritary – the principle of joint management. The management and the supervision must be entrusted to a joint committee composed of employers and workers in equal numbers, with the obligation to receive an impartial president, that is a person who is neither a worker nor an employer.
6. Placement must be free – placement is a public service and must be maintained by the state.
7. Placement must be voluntary – the placement service must not be forced, but offered, although, in order to balance the labour market, it is preferred that the placement has an engrosser and binding character.
8. Placement must have a commercial management – placement must use new means of propaganda and publicity, must be led by specially trained people, must use modern technology and the simplest, fastest and cheapest management forms, inspired by the management records of commercial enterprises.
9. Placement must be centralized – there is need of a wide system of permanent links between the center and the offices from various localities.
10. Placement must be a public state institution – founded and led the state, able to achieve balance between supply and demand of labour in order to ensure happiness throughout society and provide complete and serious statistical material.

The rules governing the modern placement are divided into three categories, namely the rules on organization, the rules related to service functioning and the regulations of the financial issue. Referring to the first set of rules, established by the state, the placement institution must have a large, unitary and centralized organization. Through an extensive network of local offices, the placement service must meet all requirements at all times of the national labour market. Moreover, the public placement service should be in close relations with similar organizations in neighboring states in order to cover the lack of workers where felt. In what the leadership is concerned, the state must lead this service in régime, must support it and control it itself. Also, the placement service requires paritary administration and a neutral president, officials able to run the office in a commercial spirit and an adequate local, plus a range of complementary services.

The second set of rules should provide a precise and uniform continuous operation, based on a technical system as simple and convenient as possible. Nicolae Ghiulea covers three systems that can be used in the operation of an employment agency, namely: the lists and registers system, the records system and the mixed system. All three systems are designed to keep data of interest (about employers on the one hand and the workers on the other) to facilitate the work of officials. In the placement process, in accordance with the principle of equity, managers take into account primarily the physical and moral qualities of individuals that are better suited for the vacancy, then the economic and social circumstances of those who require work, and finally the registration order. As operating rule of the placement service it is of utmost importance to organize a proper statistics covering the number of requests, tenders and placements, which must be centralized at national level.

Finally, regarding the financial question, the rules to follow refer to types of expenditure incurred in the operation of placement offices, and their funding sources. The key areas in which is spent are

maintaining the local, providing communication services and transport, purchasing office supplies and staff payment. As sources to cover these expenses we have the grants from the village, subsidies from the province, county or region, subsidies from the state or other public authorities and other sources such as donations. Covering these costs must fall in order of importance according to the benefits the authorities draw from the service, in charge of the village, county, province or region and state. The village would be entitled to bear the most costs, but they should be distributed fairly to the other sources as well, mainly the state, which could provide considerable assistance at least for the first installation of the placement offices. Subsidies of the authorities may, for example, be based on the work of the office and number of placements made, ie proportional to the obtained results.

Nicolae Ghiulea provides examples of some European countries in chapter six of his work, showing the role of governments of various countries to organize placement. The emphasis is placed more on the issue in Romania whose presentation extends beyond public placement service. The author begins by stating that the placement situation was almost everywhere poor. The lack of links between the different forms of placement and the diversity of their management rules could not give the possibility to know, at some point, the labour market situation for balancing supply and demand. The placement organization existing at that time was unable to remove the crises caused by lack of employment, to solve the middle classes problem and to properly regulate the labour market. Ghiulea believes that much of the blame belonged to governments of the states that had not understood the importance of public placement service organization, leaving it on the hands of privates. It is imperative that the state should intervene, and among the ways to do so may include: regulating commercial placement, subsidizing free placement, organization of placement granted to workers and employers by special laws, allowing municipal, county and provincial governments to organize free and open to the public placement services, or public placement organization through a special law.

The author exposed, as I already mentioned, placement service organization patterns of several developed European countries: Germany, Sweden, Switzerland, Austria, Denmark and England. Thus, Germany gave the example of organizing municipal offices, Sweden was characterized by organizing distinctive departmental offices and by achieving an almost perfect placement system, Switzerland excelled at placement enactment, Austria recorded an intense work of industrial corporations' placement offices, Denmark had a good, national and centralized public system, which took into account the new trends and had a public office in Copenhagen with outstanding results, while England boasted the most improved system of national public placement existing until then.

In Romania, there had been almost nothing done in the placement organization field. However, from the little that was done, Ghiulea extracted a few ideas on servants' placement, private placement, labour exchanges, charitable societies and placing agricultural workers. Thus we see those few points gained in this field and the mistakes that needed to be fixed.

So, placing servants in our country was monopolized by law, as there existed an official placement service. Placement offices were under the governance of counties and villages' prefects and under police supervision. But the monopoly principle was violated, because private offices of servants were tacitly tolerated. In addition, public service disadvantages consisted of mismanagement and excessive bureaucracy.

The placement of craftsmen and factory workers in Romania was regulated by law as well. Craftsmen were placed after the order of entry and the service was offered with a fee. The management was the responsibility of a secretary and had the same bureaucratic character as in the case of servants' placement offices. The secretary was only obliged to provide the employer with records or to display the names of the available workers, without making any efforts to search for the best available workers for the employers or the most suitable jobs for the craftsmen. Nevertheless, the advantages of this service were that there was a vast system of publications that informed the public about the existence of the employment agencies and the conditions required, and the fact that it placed apprentices also. A subsequent law gave the responsibility of organizing the placement service to corporations, but corporations didn't do anything about it. It would have been a pity to lose this opportunity to establish a free, centralized, paritary, modern public placement service, which was able to meet our labour market's needs, believed Nicolae Ghiulea.

In terms of labor exchanges, in 1902 there was created in Bucharest an office of work transaction, called Labour Exchange, in order to mediate requests and job offers from the country and contribute to the technical and economical education of the craftsmen. This exchange benefitted from subsidies from public authorities, but not in sufficient amounts. Its leadership belonged to a director, the monitoring of

achieving goals to a unparitary committee and the offered services were completely free. Workers would sign up at the secretariat, were passed in a register of proposals and received a "permanent registration card". Employers seeking workers were also entered in the register of applications. The exchange made addresses to workers, through which it offered them a job, and employers, after they hired the workers, were required to submit a response coupon that was meant to keep track of the placements made. The results of the Bucharest Labour Exchange were not satisfactory due to lack of interest from employers that still preferred workers' personal offers, and then due to inappropriate management procedures of the service. A particular case presented the Labour Exchange in Sulina, which was actually a mutualist association that included all workers in the port and operated the placement service among its members.

Philanthropic placement societies had a low action, only two of them standing out through their activities, "Culture and women help" for female placement, and "The General Society of Patronage" for prison liberated placement. The latter company addressed also to abandoned children, to whom they taught crafts and who they helped in finding a job. Other philanthropic companies were the "Work" Charity Society, the "Princess Mary" Welfare Society and the "Young Workers" company, all addressing the needs of women.

The last question concerning the placement organization in Romania refers to the farm workers. The organization of placement in this area must stand by the principle of state organization and ensuring of the service, and the principle of centralization, although it is very difficult to achieve. The year 1911 brought a law on organizing farm workers and provided a regulation in this regard. Placement was not free, there were fees charged to employers, but not to workers. The results of this organization were of minor importance, the system did not work, because it was not centralized and placing agricultural workers remained an open question.

### **3. Conclusions and propositions**

At the end of his paper, Nicolae Ghiulea offers a plan for the organization of the placement service through corporations, because although there was a law that compelled corporations of craftsmen to set up a placement service, there was nowhere provided the rules of organization or operation of such a service. What the author highly recommended was a service which would have successfully taken the place of national placement organization, but only as a temporary solution. That plan, broadly, was as follows: in each village, where there was a corporate department, there must be established a placement office, and in every locality where there was a section of the corporation, there must be appointed a representative of the placement. In addition, in the capital city, there must be established a central office, which was meant to keep all the other offices connected. A multiple centralization would have been even better, assuming that counties were grouped into regions that each had a regional office, and then, regional offices should be centralized to the office in Bucharest. These offices were only for corporate members, but it was recommended that they addressed to the other categories of workers that were not part of a corporation as well. Placement offices should be headed by well-trained officials, who were appointed and paid by the state, and would use as places of work for the time being the corporate headquarters, and after the development of the institution there should be build special places for these services. Also, there must be strong links and effective communication between different offices to cover in the most accurate and timely manner the applications and offers throughout the country. Then, as high costs do not allow a very wide specialization, it is necessary for each office to provide at least four basic services for placement of industrial workers: placing apprentices, placing qualified craft workers, placement workers without skill training, and finally, placing women. The service operation would be based on a list or record system, while using postcards as a way to notice if the office proposed placements were made or not. Although the placement service would not be mandatory, the indispensability of these offices could be reached. For the good of the institution, it was naturally required an extensive propaganda, in order to popularize it among workers and employers to gain their confidence and become the unique way of interceding between the labour market transactions.

In general, the placement service would have to be guided by the principles and rules of modern placement: to be open to all workers members of corporations or not, to be fair, to be impartial, to be optional, to be free, to be conducted in the commercial spirit, to be centralized, to be held after the modern industry's requirements, to be led by trained clerks, to employ in operating a system of records, to use the fastest means of communication, to obtain statistical data with care.

In addition to this, the service must be managed by a joint committee and to be under the supervision and control of the Central House which was able to complete this service. The benefits of

organizing a serious placement service were indisputable. In addition to raising the morale of workers and the villages' prestige, the economic situation of the poor class would improve and workers were estranged from public assistance. Therefore, when the Central House would decide the organization of a public placement service, it would certainly be supported morally and materially by the village. The state was also expected to contribute to subsidies in the installation and operation of labour placement offices.

In a nutshell, modern organization of placement would create closer ties between workers and employers. Impartial and state guaranteed, the employment contract would have a higher moral power and would ensure the accomplishment of the commitments in good faith. Then, the propaganda made to these services might attract disciples to embrace professions and strengthen the middle class. Furthermore, the control and supervision conducted by the placement offices would ensure a good treatment received by apprentices in workshops and factories. Labour market would be more intensely regulated and economic crises would be avoided because of a fair distribution of arms amongst the jobs existing in the industry, made by a committee of guidance and distribution carefully composed of specialists. In addition, the medical examination of apprentices conducted at entry into trades and the guidance according to the physical qualities would ensure a careful selection which would raise the value of skilled workers. Also, placement offices would ensure that every worker would be included in the corporation of which he must be part of and benefit from insurance. Regarding the latter issue, the insurance, there must be given a special attention to the organization, besides the insurance against lack of work caused by illness, disability or old age, of the insurance against lack of work caused by social phenomena exterior to the individuals, such as economic crises, fires or abundance of labour.

Always preoccupied with the social issues, Nicolae Ghiulea addresses them with courage and devotion, looking to find solutions especially for the poor and the middle class. The times in which he lived brought many difficulties to his conationals and to the whole humanity. People were socially challenged and needed guidance. The first world war itself was enough to unbalance society and economy worldwide. The placement organization issue is only one of the matters he takes in hand, making, in my personal opinion, well-founded remarks and offering pertinent advice.

#### **4. Acknowledgements**

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## INDUSTRIALIZATION: AN ITINERARY RUINED BY EXTRA-ECONOMIC FACTORS

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**Abstract:** *The evolution of Romanian industry develop in the years after 1944 and until 1989. How about afterwards, during the transition from a socialist economy of Eastern European type to a generically defined market economy, when it failed to achieve socially desirable results, namely during the period 1990-2010? What was the actual content of the process and what was actually achieved? In 20 years, how did the extra-economic factors influence-especially the political and social ones-a process, namely the industrialization, which had proved an undoubtedly positive experience around the world? These are the questions this paper aims to answer.*

**Key words:** Industry, Motivations, Population, Food, National Wealth, Durable, Sustainable.

**JEL classification:** B 15

”There are two things which we must learn from experience: first, we must correct a lot, second, we must not correct too much” (Delacroix)

From the Scotsman Adam Smith to the French noble Saint Simon, from Francois Quesnay the doctor (except the promotion of sterility of the industry concerning plus product) to the Austrian Carl Menger, from the British J.M. Keynes, to the Romanian Mihai Manoilescu, from the American Milton Friedman to the Japanese Saburo Okita—industrial development, and in particular, the development of a nations industry, of an economic community, from a global perspective – was and is revealed as a fundamental factor of great progress, both economically, as well as socially and culturally. [1]From the industrial revolutions until present day, and also in the future, industrialization was imposed by the markets, by consumption, by people, with their needs and expectations, by patrons and managers with their hopes of profit, by consumed experiences, by a present with perspectives as well as perspectives which can become a promising present. Not only peace imposed industrialization, but war too, not just certainties, but also uncertainties, not just normal situations, but catastrophic ones. Many times, industrial development or industrialization – a continuous and intensive development – was and will be synonymous with the development and evolution of civilization. Not just the secondary sector follows this trend, but also the tertiary and quaternary sector, durability and sustainability. An industrial world means an informative world, a globalized one, the ”one world or nothing” kind of world, to which the great Albert Einstein made reference. Most times, when we speak of industrialization, ”poverty goes out the door”. Several small corners remain, but most times this is how it happens. The brilliant ”European Dorsal Axis” and the rich America, the emerging Chinese as compared with most of Africa and part of Asia reveal not only cultural differences, but differences in labour, turnover, industrialization.[2]

There are, unfortunately, extra-economic factors, guilty interests which have deteriorated, often sensibly, such trajectories, distorting senses, crushing equilibrium, generating turmoil and sadness. Tens and tens of millions of papers are being written – studies, books, articles, with this subject...but as how did this complex process unfold within a state of economic turmoil, as interesting, as the Romanian landscape was? The starting point in our examinations is, somewhere in the middle, after the Second World War, making incursions, however, in history, then and now, as well as showing the perspectives which reveal themselves with a nimbus of uncertainty.

On august 23<sup>rd</sup>, 1944, Romania left the war against the Soviet Union and joined the Allies in the struggle against Nazi Germany. From Romania`s perspective this is not just a political and military act, bound to the bloodiest confrontation the world has ever seen. The geography of the country – a famous researcher of this field, the scientist and member and former president of the Romanian Academy, SimionMehedinți, mentioned, often, that ”the history of Romania is its geography” – the circumstances of the start and unfolding of the Second World War, the collapse of the traditional alliance system until 1940, the Riebbentrop – Molotov pact, and mostly, the understanding of the 3 major powers – the U.S., Great Britain and the U.S.S.R., concerning the future status of the states which joined the fight and their sphere of influence, will determine, each in its own way, the post-war destiny of Romania, of this Latin, yet Balkan country. ”100% , here, soviet influence”, was the verdict of the heavyweights. In spite of

”insurance” concerning the freedom to act and think, for the people, concerning freedom of choice, by their own will, their political and economic regime”, once the autumn of 1944 settled in and, after that, in Romania there was a process of increased change according to the bigger neighbour to the East.

Through ample political and economic modifications – which did not take place in Romania alone, but in all East European states, in which the Soviet Army contributed to the banishment of Germans – Czechoslovakia, Poland, Bulgaria, Hungary, Albania, Yugoslavia, D.G.R – thus found silence, under ample military and political pressure, of our market economy on the trend of ”socialist development” (a la soviétique). The support pillars were the creation of a unique party, dictatorial not through its members, but by its leadership, low in numbers but powerful, and Soviet bound. The support pillars were the restraint, until extinction, of patronage initiative, the stronger and stronger grip on the control of the economy through the building and functioning of a strict plan, with the power of law, etc. and the development model in industry, agriculture, commerce, transportation, will be the soviet one.[3]

Talking particularly about industry, the ”Lenin industrialization plan” will be followed, based exclusively on the primordial development of producing production means for the production of production means, then producing production means for the production of consumer goods and only in the end, pretty shy, to produce the actual consumer goods. Thus resulted an overdeveloped quantitative industrialization, pretty far from an inconsiderate market, and a constant lacking of goods and goods of inferior quality. The reason for the existence of an underdeveloped Romanian industry, largely defined by the production of raw materials rather than complex goods, the requirement that ”labour men must sustain such a development for their own benefit and not for the benefit of bourgeois capitalists” weighed heavily in imposing a propaganda and a practical Lenin model for development. Of course, all this was skilfully used against the former governments of the country and against patrons, of people anchored within the concept of private ownership, the serious lacking of the Romanian capitalist system, such as degree of illiteracy, the grey life for most, and social gaps. This was a rotten system which carried the sign of the peripheries, but also of relations imposed by great trusts and corporations, relations in which, more than once, the industry and the economy were losing, not gaining.[4] Moreover, in this last sense, the Soviets, by using ”Sovroms”, practice used until the 1960s, in industries such as petrol, mining, cement, concrete, harvesting, transportation, energy, uranium and others, have literally robbed the country of great wealth, often at ample dimensions, as compared to the previous regime.

Yet all this time revealed a full side of the glass. This fact being decided in circumstances decided by centralized decisions, by the ”development dictatorship” in a primary form, by ample crowd mobilization – and not without result – towards the achievement of general targets which were locally important, from promises and the presenting of objectives and hopes revealed as optimistic as possible, although often without a real correspondent. One can still say, without decisive counter arguments, that a general industrialization can be noticed. Of course, citizen resistance to this ordeal does not go unnoticed, in the attempt to modify concepts and mentalities, the atrocious dictatorship in the country, arrests of opponents, not just political ones. Only those who suffered heavy years of communist prison can understand the brutal searches, the arrests without grounds, persecutions generated by ”files”. [5] The prison keepers were in minority? Many of them were not Romanian. Unfortunately, many of their sons are today’s ”terminators” for our economy, as their parents were to us. We still mention that many lazy, ignorant, fanatic, activists, found themselves in management positions, the so called scourge of the regime. Of course, not all leaders were the same... [5]

Considering more elements of number imprecision, we can still state that between 1950 – 1965, in the West the famous ”les trentesglorieuses” have begun – fixed funds, in industry, have increased 2,2 times over, and exterior trade, in which the industry had a major saying, almost exclusively with the Soviets, increased 4,8 times. In spite of ”leakage” towards the U.S.S.R. through the payment of ”war reparations” and through Sovroms, which existed in all areas of the economy, as a result of the creation and development of several mixed Romanian-Soviet companies, the economy boomed. For example, the ”23 August plant”, the ”Republica” factory or the ”Tractorul” factory in Braşov, followed by companies within the light industry – many weaving factories, textile factories, shoe factories, etc. the national welfare somewhat increased. And this was felt by the majority of the population. One must however consider the limits of the ”hegemony”. The U.S.S.R. and the attempt to ”Russify” the country. Of course, the terrible ”political terror” ensued, where tens of thousands of people perished in prisons, while, on the other hand, various social targets were presented to the poor [6], as promise of a new life, under socialism.

An ample process of alphabetization followed – part of the population of pre-war Romania were illiterates – an ample process of urbanization, of course in medium and low terms of comfort for the

inhabitants of future cities. Already functioning in a world of two parallel and opposed systems – the capitalist and the soviet socialist one – it becomes clear that propaganda was decisive. To some extent, it was a "school of economics". Already, gaps between the performance parameters imposed by the West were being felt. The quantities, the market, the efficiency, the profit and industrial and economic structures could not cope with the intrinsic isolation of the country, which was in a "socialist concentration camp" and felt its toxic, brute, primary effects. "National communism", to this extent, and the modification of social and political relations in a regional, European and world scale will change this.[6]

...The development of the economy and of industry did not only begin when Nicolae Ceaușescu came to power. The process began sooner than that, during the 1960s, through a declaration of the Romanian Communist Party, which revealed that national independence and sovereignty, mutual advantages and not mingling within internal affairs were paramount.

And the close moment of the summer of 1964, when the concept of "socialist integration" through the reunion of different countries, as an advantage of the U.S.S.R., of Czechoslovakia and of the German Democratic Republic, began to be promoted during academic publications of such countries. Romanian economists severely criticized such an approach towards the economy. This would be no capitalist system concerning private property, rather, integrating the system of private property within a socialist soviet system, which would be the guiding line for the creation of factories, and plants. Full loyalty was a prerequisite. Here, the state is not so desired by the individual; rather, the individual must behave in such a way that he is desired by the state. Let us also underline the tremendous sympathy which the West offered Romania at the time...

Many of the ideas and theses thus promoted, on the grounds of a general strategy which began to become very practical, found their birth in the ideas of national patriot economists of the 19<sup>th</sup> century. Be they bourgeoisie with financial potential, and willing to make a name for themselves, be they socialists under the influence of socialist concepts which roamed Europe around 1830 – 1840. "Romanian industrials" such as Al.D.Xenopol, P.S. Aurelian, MihailKogalniceanu, Laszlo Kovary, but also C. DobrogeanuGherea, the Nădejde brothers, PanaitMușoiu, ȘtefanZeletin. "Today, nations without industry die of starvation, are weakened by those who possess it and make them pay dearly for it", wrote D.P. Marțian, ideas stated by all of the above. And Manoilescu, promoting national industry with an opening towards the world, bringing the concept of labour productivity into discussion wrote the famous words "tell me not only what you buy, but also with what you pay, so that I tell you if you buy cheap or pricy". He set national protectionism in another light. Sticking with the mentioned thinkers, we can reveal theses in a systemic manner - to the possibilities of the development of the national industry, to a concrete, state supported program, to create the application of this concept. The advantages of industrial and agricultural development were underlined, for the general economic progress, the world and European experience in this field, and the risks which they brought. Such concepts were then taken over by the political factor in supporting the strategy during the 60s, particularly after 1965. But what ideas could be thus revealed?

Behold the thesis of high accumulation, materialized in ample industry investment programs, social, economic, cultural investments, the ones needed to promote several modern branches of the industry, to high parameters of productivity and technology. Environment protection, very "fashionable" at the time, was an issue. Other such endeavours? The thesis to support economic efficiency through labour. The one concerning the continuous recycling and reconversion of the labour force and the creation of required institutions, thus reorganizing Romania. The intensification of Romania's relations with developed states, contracting credits from abroad, and so on. Both the development of Romania was a key element, as well as its opening to the world, on the basis of economic principles through the European Union, and included in the broader perspective.

Within the action of new factors, generated and determined particularly from the mentioned national perspective during 1962 and 1963, several elements revealed themselves to stimulate the progress of Romania's industry. These factors also contributed to the weakening of the Communist regime here. They were: a) political amnesty initiated by the pressure of international institutions, and subsequently continued by national institutions, which created social openings, b) the official requirement of diplomas for studies, in order to occupy top positions within the economy or industry.

Another factor revealed itself, however. On the grounds of Romania's increased relations with the West, the control of "security institutions" intensified. Contracts with foreign companies and their finalization were not only closely monitored, but also stamped by officers of security. There were two types of plans, within the industry: the "deliveries for exports" plans, concerning productive companies, in

a direct contact with external customers. These companies were the so called "merchants". In this last area, the mentioned supervision was more than noticeable, it was complete and direct. So external relations concerning industry had such a sign, but resembled market economy. There was increased subjectivity, and the raw material – goods circuit was often sluggish. There was a certain fear of change. When simplification was requested by specialists and researchers, the official refuse was thorough.

After the revolution, such monopolies were also used, a situation which created many rich men nowadays. This was an un-economic factor, after 1990, but also the one which guided the changes after December 22<sup>nd</sup> 1989 and gave birth to the hidden economy.

But let us come back. What results did we obtain after 1960 and which was their array? Again , under the sign of some calculus errors, we reveal that although 1965 was considerably better than 1950, during 1965-1980, fixed industrial funds, increased 3,5 times (compared to 2,2 times, mentioned before) and foreign trade, based on industry, increased 7 times (4,8 times in the previous 15 years). National income increased 4 times in the mentioned period, more than 75 % better than the time span during 1951 and 1980. A sensitive, yet noticeable increase in qualification of the labour force was noticed.

On the basis of this industrial power, agriculture, transportation, construction, urbanization increased, bringing us closer to developed states. Not just in a scriptural way, but in the pockets of the population. Technology credits, from the West made their mark, they increased national industry competitiveness. A 5 year plan included a 5% inflation rate – and it was doable. A million jobs were created as a result of economic growth, most of them in industry, but also transportation, commerce, etc. these were years of positive progress concerning the economic and industrial interest.

However, we were facing a centralized economic system, far from market rules, clear regulations, and this slowed it down quickly. In spite of "pink" political documents, the situation was far from being so. As the past and present reveal, lies and corruption play their part, as the megalomaniac ambitions of the ruling family of Romania amplify. "the ugliness of the imposed ideology" reveals itself. The political system, more and more ignorant, obtuse, not only pulled down industrial and economic performances, but was cancelling all prior efforts. The precipitation in paying the external debt of circa 15 billion USD slashed the development equilibrium, as well as the standard of living for the population, and life became grey, lacking perspective. We were dealing with a dramatic lack of economic mobility and with a sudden drop in social standards...

...Which lead to the victorious Revolution of December 22<sup>nd</sup> 1989. The uncertainty that followed, the collapse of the former pro-soviet socialist system, and the confrontation of our industry with harsh market economy rules, the promotions into key sectors of the economy and management positions of unqualified personnel, made the transition period a very unpleasant one. Anyway, the passage from capitalism to soviet socialism in 65 years, and then coming back to it and towards a market economy is a process which generated and generates, through its very movement, through its components, strong obstacles, loss of energy and speed...

In these days, so full of political and social turmoil, even ethnic turmoil, in these days of persistent crisis, from the void of questions that arise, concerning the complicated situation of the Romanian economy, an economy with acute existential issues, we have selected several questions which unfortunately, repeated themselves during the last 20 years or so to which we have tried to find an answer. These are:

- a) Why did our industry end up the way it is, the same as agriculture and many other areas?
- b) How were and are public funds consumed, including credits which generated external debt, considering that the results of spending these amounts of money were not noticeable, in a certain increase of production or services, not to mention pensions and social welfare?
- c) Why did the deciding factors amputate salaries, pensions and welfare support way beyond the subsistence threshold of people? I strongly believe we have no coherent economic motivation for this. Let us elaborate.

We will not go into the specifics of numbers, as I am a macro-synthesis economist, a job earned through contest, thus I could notice them , reveal them, analyze them and draw conclusions. I offer, however, two key points. The first one, launched by professor Nicolae Belli[7], prestigious researcher within the National Institute of Economics and professor Iulian Văcărel.[8]

He proves that losses within the Romanian industry, that the transition of the Romanian economy, was done un-accordingly, via destruction, corruption, national hemorrhagic on all levels, for the benefit of the mighty few, has exceeded the great losses of the national economy, during both the World Wars in which it took part. The second key point is a quote from a recent paper by academician Dinu C. Giurescu,

which mentions that in 20 years, as a result of destruction and corruption, "the entire industrialization endeavour of Romania in the 20<sup>th</sup> century was cancelled. Such a destruction[9] of its own industry is unique in Europe, if not the world." In my own studies, I have published thousands of numbers, substantial considerations which reveal such quotes. And then, from where jobs, decent salaries, if enterprises, companies, most of the times wrongly privatized, have been demolished, erased from the face of the earth, even though they had contracts, so markets, both internally and European? Those who decided as such have not been able to stimulate, to manage the encompassing of Romanian production within a global one. We can do nothing without production and jobs. I have been saying it for the last 2 decades. Harder times than these will come, and they will last. Without a serious analysis of what we lost during the last 22 years: how did it come to this, how did the country become polarized by a rich elite, a rare middle class and scores of the poor? Who is to blame?...And after that, what can we do? Yet still, any civilized state is a social state. It must offer a good protection for its citizens. Otherwise, its existence does not make sense. Why are things as such here?

Let us further reveal that the banking system belongs to foreign banks up until 90 %, with all the consequences of profit repatriation. That privatizations are taken into account by state owned companies which will amplify the dramatics of it all. That we are about to lose, to some "fat commissions" and to often suspect foreign trusts, the few natural resources which we still have and which belong to us, rightfully, as national heritage, as well as other riches confiscated from their national owners, often making other misfit citizens rich beyond belief. The necessary measures reveal themselves in a different way than revealed. We must activate the national interest in a classical manner, we must diminish corruption, regardless of the level, deciders must step out of their own personal sphere of interest, where practice revealed they are soundly engulfed, and serve the country. In accordance with great leaders of Romania as well as Europe. Did gen. De Gaulle build a great fortune, or did he allow the people of France to prosper? Did Jean Monnet or Konrad Adenauer think of their own benefit or did they dedicate to the greater goals of their countries? Obviously, the latter. Are these not examples? There are many, the issue is that honesty prevails, that truth dominates and eliminates lies, that modesty and devotion replace corruption for the common good, to cancel the rotten emphasis and supreme care for one's own benefit.

The answer to the second question is in complement with the first. Ergo, several times, borrowed money revealed much higher costs than the respective investment, than even abroad. They were put in investments which were quite dubious at a given moment, often far more expensive and poorly executed, which undoubtedly leads to political relations. Privileged wages in sectors of low social output, particularly when we are E.U. members and there is no war? This does not work so well. There is no doubt that there was prudence with the I.M.F. concerning negotiations, which is well, in fact the I.M.F. being, after all, a bank, which lends money and then tries to gain through interest. The lacking of the fund in places as Argentina [10 and 2], states from South East Asia, disgruntlement in Europe. Of course, the issues of the Romanian economy are not solved by the Fund, but by our authorities. It is clear to understand that we cannot become speculative, such as great bankers, and that "the light at the end of the tunnel" can only be represented by work and activities as such, productive investments which create jobs, public policies with a social gain. If money would have been spent accordingly, if the issue of budget earnings would be put on the table, within political debts, the possibilities would be endless. [8]

For pensions, money could not be spent – as people say – as conditions throughout time, changed, and the contributions for social insurance of current retirees were 8-9 times bigger (see life expectancy in Romania) as compared with consuming them through pensions. And then, how come we do not have money for these people, which worked so hard for the country's evolution? Pensions are a right by heritage, they cannot be amputated. Of course, in a logical way, pensions from special lists did not have to decrease the general pension levels in Romania. If they have money, then all is in order. If not, changes are being imposed.

External loans which go into paying wages and pensions for state workers? The argument does not resist a background analysis, as in all the countries of the world, state workers, in exchange for their salaries, offer a socially useful service, which is covered by income to the state budget. That such income was or is not normal, this is a matter of little importance, particularly for state workers in healthcare, education, culture, social workers. Actually, education, healthcare, culture, are and must be fundamental vectors for the nation's evolution. Which means that you cannot reduce administrative costs, as well as such costs. While here, we must mention that when you govern a country, you cannot amputate beyond the subsistence limit, otherwise, there is no one left to govern. Government addresses to the living and to the future, not to the deceased, by literally killing them.

...one often recalls the world financial and economic crisis. In my well confirmed by practice opinion, it has three main components. Ergo: a) a crisis of paradigm, meaning the philosophic idea of an economic system, a system in search of new energy and technology, b) the speculation crisis, much to widespread as compared to what speculation should be within a normal economy. Meaning that, without cancelling production, without becoming a substitute of production – a thing which does not last in the medium or long term, fact proven by the world economy; c) the transition crisis, adequately illustrated in Bulgaria and Romania. A transition which solved far too few issues raised by the crisis itself. Such a crisis began here after 1990 and continues up to this point. The engines of economic growth, presented until 2008 – meaning credits, often granted without the necessary backing, the real estate sector which suffers of the same illness, money sent home by Romanians working abroad, these sums stimulate imports and not national production – thus proving artificial.[2]

How do we exit the crisis? We need a long term strategy, which lacks, and only by valuing certain market niches, national production will get better. That production, those services which can create jobs, consumption, thus increasing development, standard of living, and thus, progress. So, an effective issue is the promotion of personnel, in all areas and field, where performance, appreciation, international visibility – in a context of integration and globalization – are paramount. Beyond any family or political connections. Failure to do so, promotes only the artificial. Do we have such models to follow? Yes, but we must not copy them blindly, rather, adapt them here, ergo avoiding a big mistake. What the illustrious Freud, the father of psychic analysis said, applies to economics "there is no illness, only ill people". Each makes the disease in its own way; its symptoms and thus therapy differ from a patient to another. Of course, the patters are the same, but the treatment must be personalized.

Models are dominated by interests, as any economic relation, and nothing else. 1800 years ago, in 212 A.D., the Roman emperor Caracalla [11], the son of the famous Septimius Severus, issued a decree granting Roman citizenship to all the inhabitants of its empire, regardless of their province of origin, of course, except slaves. One could say: a visionary, foreseeing the effects of globalization and communities. Only half right. Caracalla issued the decree because many subjects, not Roman, only paid local taxes. And how "Rome" required more money, more funds for its great projects, he used this way, of Roman citizenship for all, to attract wider resources. Such an example is viable to the European Union today...

Another major issue now, in question marks: national wealth. Why don't we calculate it anymore? Overall, and in its components? We have correct technological models – created by the brilliant researcher Lucian Turdeanu, the son-in-law of a former 40s minister and politician, volumes which, even if they were signed by a former communist prime-minister of Romania (often, it appears as he did not even read them), were conceived by great economists. Most of them have now gone to a better place. But I believe it is good to use what they created, not waste it. It would be a considerable research. After my non-scientific calculus, we have lost, in the last 20 years, almost half of our national wealth, through "ordered bankruptcy", destruction in agriculture, the drastic reduction of stocks and structures of education, culture, healthcare, for the population. To look forward, it is well to know where we are. Anyway, we need critics, contesting, but also, great constructors.

Of course, much could be said still. However, I am thinking of closing my argumentation with several examples from the history of countries from the European Union, examples which reveal their brilliant nature to find solutions to whatever situations, but also revealing the limitations of deciding factors. England, 1695, they included the "window tax". Ergo, you had a window, you would pay a tax. The poor population was unable to pay, obviously. Many Englishmen have walled up their window since. We have our own examples: cow taxes, bee tax, smoking tax, but instead of encouraging, they destroyed...yet still; France, 1807, Napoleon issues the decree of Milan – he was trying to create the blockade of England. No European state could trade with the Albion. And what do English merchants do, in order to speculate? The stack the English harbours in the idea that Napoleon will soon be defeated, and then they could invade Europe with their stocks. Bad idea, it took Napoleon 7 years since to loose, and the blockade of goods meant the blockade of capital, with difficulties on the entire production cycle. And when trade finally became free [2], European and French merchants, did not have enough resources to import, were exhausted, which generated one of the first European crises. Yet another experience to think upon...

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## COMPETITIVENESS AS DETERMINANT OF FOREIGN DIRECT INVESTMENTS IN CENTRAL AND EASTERN EUROPEAN COUNTRIES

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**Abstract:** *The objective of this paper is to examine the impact of competitiveness on the location decision for foreign direct investments (FDI) in seven Central and Eastern European (CEE) countries. We compose a competitiveness index based on three indicators of the European Commission scoreboard for macroeconomic imbalances and the GDP per capita. We report a positive relationship between the competitiveness indicator and FDI. Therefore, we develop an attractiveness matrix that ranks the CEE countries according to their competitiveness in 2000, 2007 and 2010. We find that after the crisis, the FDI are moving towards the most competitive destinations.*

**Key words:** foreign direct investment, competitiveness, Central and Eastern European countries, economic crisis, attractiveness matrix

**JEL classification:** C 43, F 21, H 12, O 5

### 1. Introduction

The positive and substantial economic impact of FDI on the economic development of a country is strongly developed and argued in the literature. FDI facilitates growth, promotes technical innovation and is responsible for the transfer of know-how. Therefore, the race for FDI is not new. Moreover, the crisis revealed that the entire Europe needed a fundamental change of the economic paradigm, towards investments, as major pillar. Public and private investments were found to be the key to overcome the crisis, for their capacity to create jobs, to enhance revenues and finally to boost economic growth. The race for FDI is tougher than ever, as the investments' contribution to the economic recovery is vital.

In this context, the role of the state in creating the appropriate framework for attracting FDI is strongly emphasized in the literature. Market forces cannot substitute for the role of governments in enhancing institutions' quality, in developing infrastructure or setting the taxation level. The state has to build a sustainable basis for further attracting FDI and to increase its performance in order to succeed to retain the inward FDI flows.

At the same time, the European Union (EU) membership means a common effort in achieving economic development. Still, the EU countries were found inadequately prepared to face economic turbulences that took the size of an economic and financial crisis. EU instruments were outdated or too weak to reinforce growth. Therefore, new measures were recently adopted in order to enhance economic responsibility, such as the economic and fiscal surveillance for checking as soon as possible for macroeconomic imbalances that could lead to disasters.

The equation of economic growth is constructed today on competitiveness. The crisis revealed that the lack of competitiveness determined some prestigious Euro Area member states (the PIGS: Portugal, Italy, Greece and Spain) to strongly skid from the right economic path. Simultaneously, the countries not yet members of the European Monetary Union must accumulate real progresses in term of competitiveness in order to come closer to the performance of the Euro Area core.

It is strongly argued today that competitiveness is vital for enhancing the economic growth that leads to rising of the living standards particularly in the small opened economies dependent on a great extent on FDI. At the end of 2011, the European Commission launched an Alert Mechanism report for the prevention and correction of macro-economic imbalances. Ten indicators are composing the indicative scoreboard, designed on two pillars: the external imbalances and competitiveness and the internal imbalances. We notice three indicators from the first pillar that check for the competitiveness of a country: the Real Effective Exchange Rate (REER), the export market shares and the nominal unit labor costs (ULC). In this context, the meaning of competitiveness for the European Commission is associated

with increases in living standards, while the involuntary unemployment stands at the lowest possible level (Rodriguez et al., 2012).

The objective of this paper is to examine if the degree of competitiveness of the seven CEE countries which have not yet joined the Euro Area, based on the indicators set by the European Commission for macroeconomic surveillance, is attractive for foreign investors and if the increase of one country's competitiveness is determinant for inward FDI growth. We develop a competitiveness index based on the three competitiveness indicators and the GDP per capita in the seven EU countries. We decided to analyze these countries taking into account their future accession at the Euro Area. We check for correlation between our competitiveness indicator and the inward FDI per capita and finally we develop an attractiveness matrix that ranks the CEE countries according to their competitiveness. The paper examines the evolution of these countries' competitiveness since 2000 and seeks to identify the changes determined by the crises in their attractiveness. The aim of the paper is to assess the quality of the European Commission indicators as determinants for FDI.

The rest of the paper is organized as follows. In section 2 we provide a brief review of the literature. In section 3 we present our data and methodology. Section 4 is dedicated for discussions of the results. Section 5 concludes.

## 2. The theoretical framework

There is a wide literature on FDI determinants. Starting with Dunning who establishes the eclectic paradigm (also known as the OLI model) and emphasizes the role of the location factors in the host country for attracting FDI, the literature was extended and the empirical approaches were adapted to one country or region specificity. Still, the traditional drivers of FDI location patterns, such as market potential, GDP growth rate or labor costs remain of a vital importance. They indicate the preference of foreign investors for dynamic and flexible regions and with a large market potential. Mottaleb (2007) states that countries with a larger GDP per capita are the ones attracting more FDI. A strong positive relation between GDP and FDI is also found by Dabla-Norris et al. (2010).

Still, the theoretical studies on competitiveness and FDI are very limited in number. The term lacks a common agreed definition. Rodriguez et al. (2012) state that competitiveness is often associated with the relative prices between countries or the differences in productivity, while the OECD considers it to be a country's ability to sell its products on international markets. Anastassopoulos (2007) develops a study for assessing EU countries' international competitiveness and the FDI inflows. The meaning assigned for competitiveness is very wide. The author uses the International Management Development data to proxy for competitiveness and takes into account variables describing the economic performance, the government efficiency, the business efficiency and the infrastructure.

Rodriguez et al. (2012) develop an overview of the usual competitiveness indicators. These range from the relative inflation developments between countries, relative wage developments, relative developments in unit labor costs or the world export market shares to the Global Competitiveness Index or Doing Business Index, complex indicators constructed based on surveys and interviews in each country. The main advantage of the last two indexes is that the business environment perspective is strongly taken into account, to which rationale economics is added.

For the European Commission, competitiveness is connected to increase in living standards or the economic evolution in correlation with the rest of the countries.

The measures of "Six-Pack" that entered into force on December 2011 establish a new set of rules for the economic and fiscal surveillance that strengthens the Stability and Growth Pact. The Six-Pack is practically a legislative package meant for ensuring fiscal discipline that contributes to the stabilization of the EU economy and to the prevention of a new crisis. The new European Commission rules represent the most comprehensive reinforcement of economic governance in the EU and the Euro Area since the launch of the European Monetary Union 20 years ago. One of the main issues of the Six-Pack is the establishment of an early warning system regarding macroeconomic imbalances, based on 10 indicators. Three indicators out of ten are expressing the competitiveness level: the REER measured as the HICP deflators relative to 35 industrial countries, the export market shares and the nominal ULC. The failure in complying with the recommended corrective action based on the 10 scoreboard indicators is sanctioned with fines of up to 0.1% of that country's GDP.

In this context, the loss of competitiveness is associated with structural rigidities, lack of flexibility in case of shocks, inefficiency on the labor market.

There is no paper until now to take into account all the three indicators as determinants for FDI. Still, there are studies where the indicators, separately examined, indicate a strong correlation with the FDI inflows.

The REER is identified in the literature as an important indicator for assessing one country's global competitiveness. Kucserova et al. (2009) consider the REER as the most suitable price competitiveness indicator. According to the European Commission, the REER is a better indicator for competitiveness as it offers a more comprehensive and a larger overview of the global price pressure on domestic producers than the relative production costs, as it accounts for broader price developments (European Commission, 2012b).

The REER final value is calculated starting from the weighted average of a currency's exchange rates versus other major foreign currencies based on the value of the country's trade with its most important trading partners as its weights, and is converted into a single index using a base period (a base year serves as a reference point in time). Further on, the above indicator (the nominal effective exchange rate) is adjusted to incorporate inflation rate differences (Lin and Pan, 2006). The first step of the REER formula allows the possibility to measure the global appreciation/depreciation of a currency. The last step enables to assess if the international competitiveness is affected not only by the exchange rate, but also by domestic and foreign price movements, as the REER also incorporates inflation rate differences. Therefore the growth of the REER means a loss of competitiveness, while a depreciation of the indicator is equivalent to an improvement in a country's competitiveness. Lederman (2011), in attempting to determine the effects of exchange rates on trade flows and their impact of FDI, establishes that REER devaluations tend to raise FDI and therefore a negative relationship is established between the two variables. Still, the elasticity of the coefficient is relatively low.

Usually, the ULC and the REER are together employed for assessing one country's competitiveness, as they allow a comprehensive assessment of the cost/price competitiveness developments. The reasoning for using the two indicators together has been strongly argued in the literature (European Commission, 2012a; Rodriguez et al., 2012).

The attribute of South Eastern European countries is the low level of labour costs. It is known in the literature that foreign investors are cost sensitive. Bevan and Estrin (2004) study the FDI determinants in CEE countries. Their result evidence that ULC are among the most influential factors for investors in Western countries which locate in the south eastern part of the Europe. The negative relation indicates that FDI flows are greater in countries with relatively lower ULC.

ULC in the host country are indicated to be used as they allow investors to assess the possible investment location based on real costs. The indicator ensures investors that a lower wage is not compensated by reduced labor productivity or by an overvalued currency (Bevan and Estrin, 2004).

The labor market conditions expressed through the wages and the labor productivity have been widely addressed in literature. In constructing a comparative index of FDI attractiveness, Pantelidis and Nikolopoulos (2008) found that their wage rate index, composed by the labor cost, labor productivity, labor force and skilled workforce, is one of the most influential host country determinants for FDI. Their analysis is conducted for the EU member states for the period 1976-2004. Bellak et al. (2010) use both labor cost and labor productivity. In motivating the use of labor cost as a determinant for FDI, the authors explain that this indicator reflects partially the extent to which the FDI location is driven by efficiency considerations. The authors find a significant negative impact of labor costs on inward FDI, but a lack of significance in the case of labor productivity for their sample, which includes USA, six old EU member states and four new EU member states in Central and Eastern Europe over 1995-2004. Botric and Skuflic (2006) also identify a significant and negative relation between labor costs and FDI in seven South East European countries between 1996 and 2002. As the wages level is defining the labor costs in their study, it can be assumed that FDI are sensitive to inexpensive labor.

Export market shares, as an indicator of the competitiveness, measures for the performance in the international trade. It also captures the structural losses in competitiveness: even the exports are not declining, the loss of shares of export market might be caused by a growing rate lower than the growth rate of the world exports (European Commission, 2012a). At the same time, exports and particularly trade openness are strongly identified in the literature as determinants for FDI. Singh and Jun (1995) found that the exports are a significant determinant of FDI in the countries where the FDI flows are high. Analyzing the literature until 1995 and based on their empirical research, the authors state that export orientation is the strongest determinant of one country's attractiveness for FDI and link this to the rising complementarity of trade and FDI flows. Cho (2003) also notes that both developed and developing

countries have resorted to export generation and performance in order to accomplish the FDI performance requirements. Bevan and Estrin (2004) identify the same positive and strong relationship between FDI and international trade conducted between the EU countries. Janicki and Wunnava (2004) state that openness to trade continues to represent one of the important determinants of investments in the EU. Dabla-Norris et al. (2010) also identify a positive relation between bilateral FDI flows and bilateral trade.

### 3. The data and the empirical specification

Our analysis assesses the attractiveness for FDI in the case of seven EU countries in CEE (Bulgaria, the Czech Republic, Latvia, Lithuania, Hungary, Poland and Romania), not yet members of the Euro Area, at the beginning of the decade, in 2000, and before and after the economic crisis, in 2007 and 2010. We check for the capacity to attract FDI by enhancing one country's competitiveness. Therefore, an attractiveness matrix will be developed based on the competitiveness index, constructed as a composite measure from four sub-indices: the REER, the export market shares, the ULC and the GDP per inhabitant.

Our dataset are annually expressed and covers the period from 1995 to 2010. We obtain the data for the REER from the Directorate General for Economic and Financial Affairs indicator database on Price and Cost competitiveness. The REER data is based on consumer price index deflators versus 36 industrialized countries. The ULC are the nominal unit labor costs in the total economy, measured as the ratio of compensation per employee to the real GDP per person employed. Initial data are expressed as the average of national growth rates weighted with current values in Euros and are obtained from the Ameco database. The export market share is measured as the value of one country's exports as percentage of total world exports. Data are obtained from the United Nations Conference on Trade and Development (UNCTAD). We use the Eurostat database for the GDP per capita values, expressed in purchasing power standards (PPS) per inhabitant.

As the data are differently expressed and do not offer a common basis for analyze and evaluation, we will process the data in order to obtain, for each sub-index, a maximum value of 1, indicating the highest level of competitiveness. Therefore, for each series of data, in each country, we calculate the ratio of the value recorded in each year in the best value obtained for that country during 1995-2010. Finally, we design the composite competitiveness index ( $I_C$ ) by aggregating the four sub-indexes, based on the rule:

$$I_C = (I_{REER} + I_{ULC} + I_{EXP}) * 0.5/3 + I_{GDPC} * 0.5 \quad (1)$$

Where  $I_{REER}$ ,  $I_{ULC}$ ,  $I_{EXP}$  and  $I_{GDPC}$  are the indexes obtained after data processing.

Practically, the index expressing the GDP evolution forms half of the total  $I_C$  weighting based on the influence between FDI and GDP stressed in the literature. Equal weighting is used for computing the rest of the three sub-indexes, as there is no significant difference as compared to the results obtained by factor analyses (Groh and Wich, 2009).

As the variables composing the competitiveness index are scarcely employed in the literature, we will firstly check for the degree of correlation between the competitiveness index and the inward FDI inflows during 1996-2010. We quickly scan if the two data sets, the competitiveness index and the inward FDI flows, are related and how strongly. We use the Pearson product moment correlation coefficient function that return a correlation coefficient closer to +1 if a positive linear relationship is found between the two variables, as we are expecting.

We further continue with the econometric analysis. The hypothesis established is that countries with a high level of competitiveness are more likely to attract FDI inflows. Using a pooled model of the analyzed countries, we test if the competitiveness index influences FDI and if we can use it as a determinant for FDI. Our empirical framework consists of data collected for the years 1996 to 2010. We use the linear form in the regression as the data are annually expressed and only a reduced number of observations is at our disposal. At the same time, another advantage of using the linear form is that it allows results to be expressed in percentage terms, with a 1 percent increase in the independent variables leading to a certain percentage change in the dependent variable.

The empirical specification of the relationship between FDI and competitiveness is described by a simple regression equation:

$$FDI^t = a + b + cI_C^t + u \quad (2)$$

Where  $a$  takes different values for each country as it expresses the intercepts for each country,  $b$  is the cross-section specific constant,  $c$  is the coefficient of the independent variable and  $u$  is the error term.

The dependent variable in the analysis is the inward FDI flows defined by UNCTAD, expressed in US Dollars at current prices and current exchange rates. The independent variable (X) is, in our case, the competitiveness index mentioned above.

A similar approach is used by Pantelidis and Nikolopoulos (2008) in investigating Greece's FDI attractiveness compared with other EU countries. Still, their analysis stops in 2004. Bulgaria and Romania are not taken into account, and the study focuses mostly on Greece in trying to identify the differences in attractiveness. A strong point of their paper is the econometric model developed for assessing the significance of the variables used for creating the attractiveness index. A much comprehensive study is developed by Groh and Wich (2009). This time the authors design a complex FDI attractiveness index, meant to rank 127 countries according to their appeal for foreign investments. The paper lacks an econometric model, but the index construction is carefully described. The variables used are identified in the literature as strong FDI determinants. One of the results indicate that the ranking obtained mostly correspond with the ranking offered by the Global Competitiveness Index developed by the World Economic Forum.

#### 4. The empirical results

A common evolution of the most part of the EU member state and also specific to the CEE countries was the growth of the wages over the level of productivity. This was translated into a loss of competitiveness, to which a continuously REER appreciation was added, meaning an increase in the price competitiveness relative to the main trading partners. Still, an improvement of the CEE countries was the gain in the export market shares, understandable by the EU accession. The GDP per capita also had a favorable path, until the impact of the recent economic crisis.

We calculate the competitiveness index based on specification (1) and test for the degree of correlation with inward FDI flows.

The Pearson correlation coefficient, applied for checking the strength of the relationship between the competitiveness index and the FDI inflows for each country during 1995-2010, indicates a positive correlation in all the seven cases, as expected. Still, there is a strong positive correlation in six cases out of seven, but small correlation for Hungary. Poland proves the strongest correlation between the two variables, closely followed by Bulgaria and Romania. As the result regarding Hungary is inconclusive for our study, for the rest of the analysis we will refer only to the remaining six countries.

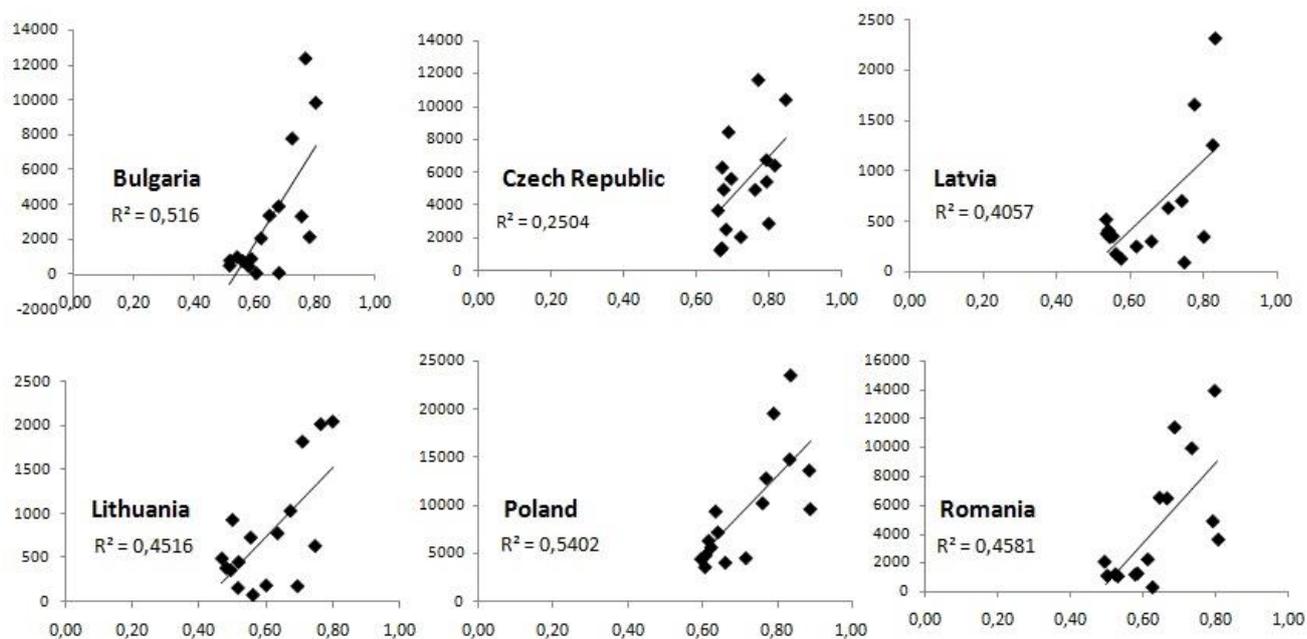
**Table 1: The Pearson coefficient of correlation**

Country	Pearson Coefficient
Poland	0.735
Bulgaria	0.718
Romania	0.676
Lithuania	0.672
Latvia	0.636
Czech Republic	0.50
Hungary	0.203

Source: Authors' work

We further check for correlation between the two variables and found that a competitiveness index closer to 1, showing a higher degree of competitiveness, is responsible for higher inward FDI flows in each of the six countries, as indicated in the figure above (Figure no.1).

**Figure 1: The correlation between each country competitiveness index and inward FDI inflows**



Source: Authors' work

The result of the pooled model reinforces the results obtained up until now. The cross-section analysis in the six countries points to a strong relationship between the inward FDI inflows and the competitiveness index. The coefficient is significant at 20% level. We use different intercepts for each country. The cross-section specific constant includes all the differences found in a country that are not included in our model and reports the average value of the intercept for all the countries in the sample.

Each line that marks an individual countries give the country's intercept as a deviation from the overall average, expressed by the cross-section specific constant.

**Table 2: Regressions results for Ic as determinant for inward FDI flows**

Variable	
Ic	19241.71
t-stat	5.97*
Constant	-8788.60
t-stat	-4.01*
	*significant at 20% level
Bulgaria-C	-460.65
Czech-C	149.63
Latvia-C	-3410.37
Lithuania-C	-2158.88
Poland-C	4950.52
Romania-C	929.74
No. of observations	90
R <sup>2</sup>	0.62
Adjusted R <sup>2</sup>	0.595
Durbin-Watson	0.989

Source: Authors' work

As the empirical results are sustainable, we create the attractiveness matrix based on the competitiveness index.

**Table 3: The attractiveness matrix**

Rank/ Year	1	2	3	4	5	6
<b>2000</b>	<b>Czech Rep.</b> 0.67	<b>Poland</b> 0.64	<b>Bulgaria</b> 0.54	<b>Latvia</b> 0.54	<b>Romania</b> 0.50	<b>Lithuania</b> 0.48
<b>2007</b>	<b>Czech Rep.</b> 0.85	<b>Poland</b> 0.84	<b>Latvia</b> 0.83	<b>Bulgaria</b> 0.77	<b>Lithuania</b> 0.76	<b>Romania</b> 0.73
<b>2010</b>	<b>Poland</b> 0.89	<b>Romania</b> 0.81	<b>Latvia</b> 0.80	<b>Czech Rep.</b> 0.79	<b>Bulgaria</b> 0.78	<b>Lithuania</b> 0.75

Source: Authors' work

The Czech Republic ranks first in the competitiveness matrix both in 2000 and 2007, while Lithuania and Romania are the laggards. The lags between the countries are started to narrow until 2007, taking into account that the Czech Republic, Latvia, Lithuania and Poland are joining the EU and Romania and Bulgaria are preparing to take up the EU membership. Actually, all the analyzed countries are increasing their competitiveness score but at a different pace until 2007, the first year before the crisis. The strongest gain in competitiveness during a decade is obtained for Romania, with a 0.31 points increase of its competitiveness index, followed by Lithuania and Latvia, that increased their score with 0.27, respectively 0.26 points. If the rankings are almost the same in 2000 and 2007, with minor change of places, the impact of the crisis can be noticed in 2010. The competitiveness matrix sees a different ranking, with Poland and Romania taking the lead. The convenient path followed by Poland in terms of competitiveness during 2007-2010 can be associated with its fine capacity to overcome the economic crisis. In case of Romania, the increase of the export market shares had the major influence in increasing its competitiveness. Latvia and the Czech Republic faced some competitiveness difficulties due to appreciations of the REER and the crisis unfavorable impact on GDP per capita.

Still, how attractive were these countries for FDI in this period? According to our competitiveness matrix, Poland should be the leader in attracting FDI in 2010, which is confirmed by the inward FDI flows in 2010 (Table no. 2).

As expected, there is not a perfect overlapping of the two tables, pointing firstly that there are other strongest FDI determinants, such as the market size or the macroeconomic and political stability. Secondly, the recent economic crisis is known as a "confidence crisis". The sharp decrease of investments in Europe and mainly in the CEE countries was primarily caused by the investors' lack of confidence, which is difficult to be proxied by a statistical variable.

Two major differences can be identified between the competitiveness matrix and the inward FDI inflows ranking: the first one is the Czech Republic, the second destination for FDI in 2010 but the 5<sup>th</sup> in terms of competitiveness. The discrepancy is explicable by the history of investments in the Czech Republic: since 1995, FDI surpasses 1.3 billion USD, while Romania struggled to assert as an attractive destination for foreign investors. The second discrepancy regards Latvia and Lithuania. A part of the explanation is that Latvia's competitiveness index has a stronger decrease in 2010 as compared to 2007, while Lithuania maintains almost the same score and a relative stability even is ranked the last in terms of competitiveness. Moreover, the decrease of Bulgaria inward FDI ranking can be explained by the decrease of its competitiveness index.

**Table 4: The ranking according to the inward FDI inflows**

Country/ Year	1	2	3	4	5	6
<b>2000</b>	<b>Poland</b> 9,445.31	<b>Czech Rep.</b> 4,985.21	<b>Romania</b> 1,056.75	<b>Bulgaria</b> 1,016.28	<b>Latvia</b> 413.03	<b>Lithuania</b> 378.87
<b>2007</b>	<b>Poland</b> 23,560.76	<b>Bulgaria</b> 12,388.86	<b>Czech Rep.</b> 10,443.82	<b>Romania</b> 9,921.47	<b>Latvia</b> 2,322.34	<b>Lithuania</b> 2,015.01

Country/ Year	1	2	3	4	5	6
2010	Poland 9,681.29	Czech Rep. 6,781.45	Romania 3,573.30	Bulgaria 2,170.20	Lithuania 629.46	Latvia 349.50

Source: UNCTAD

## 5. Conclusions

Based on a narrow and precise definition of competitiveness described by the European Commission scoreboard indicators at which we add the GDP per capita, we establish a competitiveness index that can be used as a benchmark for assessing one country competitiveness and its evolution. The empirical analysis establishes the competitiveness indicator as a determinant for FDI. In other word, competitiveness influences FDI.

EU member states, at least those that are not yet members of the Euro Area, have a powerful policy instrument for tackling attractiveness for foreign investments: an increase in competitiveness is followed by an increase in FDI and vice-versa. The present paper also takes into account the major event faced by the CEE countries in the last years, the economic crisis, and examines the competitiveness and FDI paths during these difficult economic conditions. We found that the FDI flows follow the competitiveness trend. Still, we must keep in mind that the decrease in FDI inflows during the crisis was determined by the investors "crisis of confidence".

Given the fact that our competitiveness index is correlated with the inward FDI flows, we have created a competitiveness matrix that allows identifying the major trends of FDI. According to this matrix, after the crisis the foreign investments tend to track the most competitive destination.

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## KEY FACTS ABOUT MOTOR GASOLINE EXCISE INFLUENCE ON ROMANIAN REAL ECONOMY

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**Abstract:** *Continual rise in fiscal pressure, at least on average, rise apparent through rise in tax quotas, affects, invariably, both real economy and taxpayers. This can be easily observed in the midst of taxing the consumption of a strategic good such as gasoline (in fact, unleaded gasoline – chosen here because it is a ‘typical’ good for the effects an increase in its price prevails on real economy). These effects must, therefore, be quantified with accuracy, in order to obtain, at least, adequate estimations, proper to be utilized for correcting fiscal policy, inclusively in the benefit of real economy.*

*In this paper, we made use of mathematical apparatus centered on the efficiency loss of the tax index, used to compute negative effects causes, or consequences, of fiscal policy from the perspective of an expansionary fiscal policy exerted on gasoline consumption (e.g. on producing, on selling, sqq.).*

**Key words:** loss, elasticity, excise, market, price

**JEL classification:** C 51, D 01, D 04, D 24, E 21, E 27

### 1. Introduction

Fiscal authorities frequently explain rises in tax quotas by saying the budget is in need of financial funds, nuisance for whose removal it cannot be designed anything but an increase in fiscal pressure. Moreover, there is another argument, explicit or implicit, according to which economic growth receives a new

What is certain is that, resulting from either an introduction of a tax or a rise in a tax quota (or quotas, if that tax is a more complex one, so as to distinguish between taxpayer and taxpayer), what is obtained is the effect of an increasing – increase developed with more or less speed, on one side, and with a given amplitude – marginal cost a firm must take care of, while marginal revenue cannot increase substantially, even in the long term.

Efficiency of taxed economic activities is, therefore, algebraically, reduced in the same time in which fiscal pressure grows, affecting, directly, of course, those (taxed) economic activities, and indirectly real economy; both former and latter will evolve in a ‘tunnel’, whose ceiling lies precisely *under* optimum efficiency level. On the other hand, however, a real economy – and especially its management, whatever that might consist of –, trying to successfully outgo an economic crisis, desperately needs to use an economic and financial tool with which all (or almost all) negative (adverse) effects of an ‘emergency’ – or ‘reformist’ – fiscal policy can be accurately computed.

Adverse effects of a fiscal policy designed in the direction of achieving continuously increasing levels of *financial* efficiency – i.e., at any price paid by real economy, taxpayers, or both – are quantified by an index dubbed (as well as the sum of these adverse effects) *efficiency loss of the tax*; as, shall we say, ‘spearhead’ of many an accomplished study, among which we can recognize the tome put forth by McConnell, Brue and Barbiero (2003), this index proves, if, somewhere, whatever index can prove anything, that fiscal policy, even if is alleged to be ‘accelerated’ for welfare to ‘accelerate’, if it does not contributes to expansion in taxpayers’ incomes can only attain a decline of, or an extermination of, economic growth – respectively, in the short term, especially in the case of (unleaded) gasoline taxation, it can arrive at concrete, at least potentially negative, and surely accurately quantifiable, effects.

## 2. Efficiency loss of the tax index

For this paper to determine quantification algorithm of efficiency loss of the tax would be, perhaps, asking too much, and surely for the purpose of this paper, is not necessary, unlike a simple statement of this formula, which is as follows (where  $P_{\text{eimp}}$  stands for efficiency loss of the tax value,  $I_{\text{mp}}$  represents (relative) variation of tax quota value, in other words value of additional (fiscal) revenue,  $\eta_C$  is demand price elasticity,  $\eta_O$  is offer price elasticity,  $Q$  stands for (variation – that is reduction – of) total output – i.e. at its equilibrium value – and  $P$  market clearing (= equilibrium) price) (McConnell, Brue, Barbiero, 2003):

$$P_{\text{eimp}} = \frac{1}{2} \cdot \frac{I_{\text{mp}}^2 \cdot Q}{P} \cdot \frac{\eta_C \cdot \eta_O}{\eta_C + \eta_O} \quad (1)$$

In order to apply this formula to dynamics of Romanian real economy, as it is influenced by (unleaded) gasoline consumption, we need actual values of these variables; to begin with, we need – and, fortunately, we possess them – actual values for demand price elasticity and offer price elasticity, respectively. More precisely, the values for demand price elasticity, as disclosed by literature estimates, are the following ones (we underscore the fact there are two quantified values, a short term one and a long term one) (EPA, 2006):

- ❖  $\eta_{C(\text{benzina})}$  (in the short term) = 0.20
- ❖  $\eta_{C(\text{benzina})}$  (in the long term) = 0.70.

On the other side, the values for offer price elasticity, concerning unleaded gasoline, having the same origin, are as shown below:

- ❖  $\eta_{O(\text{benzina})}$  (in the short term) = 0.04
- ❖  $\eta_{O(\text{benzina})}$  (in the long term) = 0,24.

Here it is necessary to state that, in this paper, we do not have the aim of quantifying actual *precise* values of efficiency loss of the tax for Romanian market, and Romanian real economy, respectively, for a given year, but only desire to – which goal is not the least important of them all – outline the relationships of dependence and interdependence existent between efficiency loss of the tax value and values of  $I_{\text{mp}}$ , (variation of) total output and market clearing price variables (Gregory-Mankiw, 2009, p. 179). Thus, using both values for demand price elasticity and values for offer price elasticity we obtain values for amplitudes of these relationships, in the short term and in the long term.

## 3. Efficiency loss measurement in the short term

In the first case we obtain value for amplitudes of these relationships, which exist inside dynamics of (*unleaded*) gasoline market, dynamics unfolded in a (rather) reduced span, in other words in the short term – so short, relatively, that non even either gasoline producers (and sellers) or gasoline consumers will be able to adapt their activities to the rise in (unleaded) gasoline price. As a result:

$$P_{\text{eimp}} = \frac{1}{2} \cdot \frac{I_{\text{mp}}^2 \cdot Q}{P} \cdot \frac{0,20 \cdot 0,04}{0,20 + 0,04} \Leftrightarrow P_{\text{eimp}} = \frac{I_{\text{mp}}^2 \cdot Q}{P} \cdot \frac{0,004}{0,24} \Leftrightarrow P_{\text{eimp}} = \frac{I_{\text{mp}}^2 \cdot Q}{P} \cdot 0,017 \quad (2)$$

This simple calculus can yield quite a great deal about connections existent between value of efficiency loss of the tax and values of additional (fiscal) revenue ‘pumped’ into state budget through introduction, or raising of a tax quota, and – more or less as a result, too – of the equilibrium price.

First detail to be observed is the fact efficiency loss of the tax, loss sustained by real economy, is, algebraically, proportional not to the amplitude of the increase in value of excise quota (excise levied on unleaded gasoline quota, in this case), but to the square of this amplitude, on one hand, and to total output amount concerning this merchandise, on the other hand. In the same time, however, efficiency loss of the tax is inversely proportional to dynamics sustained by market clearing price, and, resultantly, is dependent and interdependent on all these variables combined, up to a ratio of 1.7% of their resultant, and quantitative, impact.

Some pieces of reality become, at first glance, from all these calculations, obvious. Maybe the most important of them is that, in the short term, and using in our computations not the value of ‘additional taxation’ ( $I_{\text{mp}}$ ), that is the positive difference between the newer, bigger excise (quota) value of the older, smaller one, in the role of the most powerful impetus able to play havoc with real economy and state budget alike, but that very value *squared*, even in these conditions, nevertheless, for real economy and state budget unleaded gasoline consumption (production, selling, sqq. inclusively) is, in the

short term, a very successful business – though not necessarily so for gasoline consumers, that is for people, and not firms.

People, unlike firms, are, one might observe in order to compensate the lack of negative consequences which, in short term, should be put up with by companies (firms), and, of course, even less so by state itself, not, downright disadvantaged, but twice disadvantaged (it might be said, in other words, they suffer from a ‘squared disadvantage’) (Gwartney, Stroup, Sobel, Macpherson, 2006, p. 262):

- a) firstly, rise in excise quota produces, at least in Romania, a price increase – it increases with a larger amplitude than that of rise in excise level (i.e. quota value);
- b) it must not be forgotten people, unlike companies, ultimately bear consumption taxes, so this type of excise too.

Anyway, it is almost – but not entirely – useless to underscore the value of this effect (obtain, one should not forget, in the short term) on state budget – which, in Romania, is funded, mostly, based on indirect taxation –, from a financial perspective; almost, but not entirely, useless: state budget is mainly funded with a larger amount of financial funds than before the rise in excise quota, and without producing substantial damage to real economy. From this angle, everything seems to be in good order.

#### 4. Efficiency loss measurement in the long term

But, as in geology, in the realm of indirect taxation present is not key for past – in our case, vice versa. Vice versa, due to the fact dynamics of real economy and, a result, of state budget are, in the long term, not convergent with the dynamics, in long term, of the same phenomenon. And, as is universally known, both from economic literature and from everyday life, consumers, even gasoline consumers, adapt to a continuous rise in price, usually through the reduction of consumption.

The quantification of efficiency loss of the tax obtained in the long term supplies the following result:

$$P_{\text{cimp}} = \frac{1}{2} \cdot \frac{I_{\text{mp}}^2 \cdot Q}{P} \cdot \frac{0,70 \cdot 0,24}{0,70 + 0,24} \Leftrightarrow P_{\text{cimp}} = \frac{I_{\text{mp}}^2 \cdot Q}{P} \cdot \frac{0,084}{0,94} \Leftrightarrow P_{\text{cimp}} = \frac{I_{\text{mp}}^2 \cdot Q}{P} \cdot 0,089 \quad (3)$$

Here too some facts can be taken for granted – in the good sense of the word. One certain fact is that value of efficiency loss of the tax, in the long term, compared to the same variable’s value in the short term, is much higher, of course both in what concerns real economy and state budget; this value, as well as in the short term case, proportional to square of increase in value of unleaded gasoline excise quota, and to total (unleaded) gasoline output amount, and inversely proportional to price value (i.e. market clearing price’ dynamics), is likewise (inter)dependent on these variables’ combined effect up to a ratio of 8.9% of their quantitative impact

In other words, efficiency drops, after excise quota increases, by almost 10%, result which not only seems, but actually is a lot; (unleaded) gasoline consumption diminishes due to objective causes, specifically because (unleaded) gasoline consumers are able, in the long term, to adapt to the rise in price (McConnell, Brue, 2004, p. 153). What is certain, in these respect, is those consumers cannot adapt as much to this changing economic conditions as to cease, in its entirety, to consume – e.g. to buy – (unleaded) gasoline.

Adaptation can be realized in a single way, materialized in two procedures, chosen at wish, but not all two simultaneously – through which certainly both real economy and state budget lose some of the initial efficiency they were benefiting from –; procedure whose main quality is to underline the fact consumer’s budget, impossible to expand in the long term *ad infinitum*, is relatively restraint and must be managed to cover many needs, not only those related to (unleaded) gasoline purchase.

Thus (Gwartney, Stroup, Sobel, Macpherson, 2006, p. 261):

- (1) the consumer will reduce its (unleaded) gasoline consumption, while consecutively conserving amplitude of the other expenses;
- (2) the consumer will reduce consumption in all sectors, except from gasoline consumption.

But, naturally it must be noted there is another negative consequence of a rise in (unleaded) gasoline excise quota: this growth determines a rise in gasoline price, and, therefore, a rise in prices of many goods and services, products for whose manufacture gasoline, in general, is used. In other words, prices of (practically) *all* products will rise.

Real economy losing efficiency, state budget will receive, *caeteris paribus*, revenues smaller than those received before the rise in excise quota, tendency maintained with (or without) effect produced by subsequent rise in fiscal pressure. This happens on account of the fact in the case of (unleaded) a higher

excise quota has a multiplying effect, expanding the impact already produced, in ‘microeconomic fashion’, on real economy in *all* its components, and disturbing its entire (relationship) network.

## 5. Conclusions

Firstly, the analysis heretofore allows us to formulate a rather – maybe – surprising conclusion: in the case of unleaded gasoline, a rise in fiscal pressure does not affect (too much) economic growth, and state budget, at least in the short term, and more or less so in the long term – which most surely is *not* real when this situation is faced by consumers, exclusive of companies, by people, in general.

In the long term, efficiency loss of the tax may be, for real economy and for state budget alike, bearable, but this is a completely different story for consumers (exclusive of companies – taking into account just ordinary people). We want to say if real economy’s production capacity it out of harm’s way, for example in the long term, long term dynamics of *selling capacity* (here we must include relative diminution of consumer’s budget and relative compression of aggregate demand itself, this being the unavoidable result of the former) will certainly be.

Therefore, our future paper must clarify, first and foremost, if and, once concluding there is at least a distant possibility of such a negative possibility being materialized, of what particular amplitude a gradual increase of excise quota, excise levied on (unleaded) gasoline consumption, will manifest itself harmful, to a larger or smaller extent, to real economy, or state budget, compared to effect which are brought out by a sudden increase of excise quota. Then, it is most useful to find if it is possible, in practical terms, following a rise in (unleaded gasoline) price, to obtain, directly or, more probably, indirectly, a drop in fiscal pressure.

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## APPLICATIONS OF CHAOS THEORY IN TURBULENT FINANCIAL MARKETS

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**Abstract:** *The recent turbulences in global financial markets demonstrated that the market mechanisms are not sufficient understudied and there are necessary new approaches with a better capability to treat the effects and the impacts of such a high volatility. The aim of this paper is to present the possibilities to use R/S statistics, instruments to deal with persistence/, anti-persistence and fractional noises. A comparative analysis between Hurst processes, random walk/ Brownian motion processes permits the understanding the treatment of "memory effects" measuring new financial markets qualities, persistence and anti- persistence.*

**Key words:** chaos theory, turbulent financial markets, R/ S statistics, fractal markets hypothesis (FMH)

**JEL classification:** G 10, G 01, G 19, C 40

### 1. An introduction to the R/S analysis

The determinism and the hazard haven't been able to coexist simultaneously, though the complexity induced the existence of determinist and random events combinations and whose interactions generated difficult behaviours in the analytical way.

The complex systems couldn't be specified by standard Gaussian statistics, which represent the axiomatic basis of the quantitative approaches. Within the central limited theorem, the accumulated effect of a high number of independent and identically distributed events (abbreviated by IID) has been normally distributed at a pinch.

The IID hypothesis is restrictive, since multiple interactions that induce complex dependencies between events have been noticed. The new research approaches able to solve these issues have been based on the fractal sizes, methods of commensuration, the R/S analysis (Resizing of Scale), the Hurst coefficient (abbreviated by H) and the dynamics persistence characteristics.

Concerning the non-parametric R/S approach (Hurst, 1951; Mandelbrot, 1972), the differentiation between random and non-random systems, the persistence or trends and the cyclic feature are allowed.

Let the series  $\{X_t\} t=1, \dots, n$ ,  $\overline{X}_n = \frac{1}{n} \sum_{i=1}^n X_t$  meaning the average on  $[1, n]$  intervals and the cumulated value of deviations towards the average

$$X_{t,n} = \sum_{i=1}^n (X_i - \overline{X}_n), t = 1, \dots, n \quad (1)$$

We define now the  $R_n$  distance:

$$R_n = \max_t \{X_{t,n}\} - \min_t \{X_{t,n}\} \quad (2)$$

By normalizing with the standard deviation  $S_n = \left[ \frac{1}{n} \sum_{t=1}^n (X_t - \overline{X}_t)^2 \right]^{\frac{1}{2}}$  we achieve the resizing of scale

$(R/S)_n$  and the equivalent of a Brownian motion of unitary dispersion, respectively.

Within the Hurst formulation we emphasize:

$$\left(\frac{S}{R}\right)_n = cn^H \tag{3}$$

where  $c > 0$  is a scale constant and  $H$  is the Hurst exponent or in the logarithmic representation  $\log(S/R)_n = \log c + H \log n$ . (3')

**2. A simple algorithm of (R/S)<sub>n</sub> statistics determination**

Let us consider the data series in  $\{y_t\}$ ,  $t=1, \dots, N$  meaning data established as logarithmic rates:

$$X_t = \log \frac{Y_{t+1}}{Y_t}, t = 1, 2, \dots, N - 1 \tag{4}$$

The algorithm is the following:

1. We divide the set of data  $(N-1)$  in  $K$  subsets,  $n$  data for each of them, meaning  $n$  is a divisor of  $(N-1)$ ,

$$n = \frac{N-1}{k}, N > 10, k = 1, \dots, K \tag{5}$$

For each subset  $k=1, \dots, K$ , we calculate the average on that interval, meaning:

$$\overline{X}_k = \frac{1}{n} \sum_{t=1}^n X_{t,k}, k = \overline{1, K} \tag{6}$$

where  $\{X_{t,k}\}$ ,  $t = \overline{1, n}$  represent the data included in the partition  $k=1, 2, \dots, K$ .

We calculate the cumulated values  $\{X_{i,k}\}$ ,  $i = \overline{1, n}$  of the deviations values from the means  $\overline{X}_k$ , on each interval of partition  $k = 1, \dots, K$ :

$$X_{i,k} = \sum_{t=1}^i (X_{t,k} - \overline{X}_k), i = 1, \dots, n; k = 1, \dots, K \tag{7}$$

2. For each interval of the partition,  $k = \overline{1, n}$ , we define the distance  $R_k = \max\{X_{i,k}\} - \min\{X_{i,k}\}$ ,  $i = 1, \dots, n$  (8)

3. The standard approach of each sample of periods  $k=1, \dots, K$ , is

$$S_k = \sqrt{\frac{1}{n} \sum_{t=1}^n (X_{t,k} - \overline{X}_k)^2}, k = 1, \dots, K \tag{9}$$

4. We rescale the distance  $R_k$ , by normalizing with the standard deviation  $S_k$  and we calculate:

$$\left(\frac{R_k}{S_k}\right), k = \overline{1, K}$$

The mean value for all  $K$  intervals is:

$$(R/S)_n = \frac{1}{K} \sum_{k=1}^K R_k / S_k \tag{10}$$

5. If all the previous calculations have been processed for the smallest  $n$ ,  $n > 10$ , of the divisors set, we pass to the following value  $n$  from this set, and we remake the calculations.

6. We build the linear regression between  $\log n$  as independent variable and  $\log(R/S)_n$ .

**3. A comparative analysis between Hurst processes, random walk/ Brownian motion processes**

Let the  $(p,d,q)$  representation of the „random walk” process:

$$X_t = X_{t-1} + \varepsilon_t \tag{11}$$

where  $\varepsilon_t$  represents „the white noise” of  $E(\varepsilon_t) = \mu$  mean and dispersion  $\sigma^2$ .

The  $X_t$  variable represents the number of steps taken at the initial moment  $t = 0$  up to the moment  $t$ ,

$$X_1 = \varepsilon_1 \text{ cu } X_0 = 0$$

$$X_2 = X_1 + \varepsilon_2 = \varepsilon_1 + \varepsilon_2$$

$$X_t = X_{t-1} + \varepsilon_t = \sum_{j=1}^t \varepsilon_j \tag{11.a}$$

The mean and the dispersion are:

$$E(X_t) = \sum_{j=1}^t \mu = \mu t \quad (12)$$

$$E(X_t - \mu t)^2 = \sigma^2 t \quad (13)$$

In this way, the random process of the motion is non-stationary in mean and dispersion, and the process transformed by differentiation  $\Delta^d$ , meaning  $y_t = \Delta^d X_t$ , of  $d = 1$  and  $\Delta = 1-L$ , where  $L$  is the delay or lag and thus,  $y_t$  is stationary in both mean and dispersion.

$$E(y_t) = E(\Delta X_t) = E(\varepsilon_t) = \mu - \text{constant} \quad (14)$$

$$E(y_t - E(y_t))^2 = E(y_t - \mu)^2 = E(\varepsilon_t - \mu)^2 = \sigma^2 - \mu^2 - \text{constant} \quad (15)$$

The Brownian motion as particular Wiener process of null mean and dispersion one:

$$dw_t = z \sqrt{dt} \quad (16)$$

where  $z \in N(0,1)$  is a Gaussian random variable, of normalized distribution.

The Wiener homogeneous process corresponds to the linear evolution in time, mean and dispersion:

$$m(t) = mt, \sigma^2(t) = \sigma^2 t \quad (17)$$

and its distribution is:

$$\Delta W(t) \sim N(m(t-\tau), \sigma^2(t-\tau)) \quad (18)$$

As consequence, the Brownian motion  $w(t)$  has the following distribution:

$$\Delta w(t) \sim N(0, t-\tau), \text{ where } \Delta w(t) = w(t) - w(\tau) \quad (19)$$

Therefore, the distribution function of the Brownian motion is:

$$Fw(X) = \Pr((w(t) - w(\tau)) < X) = \frac{1}{\sqrt{2\pi(t-\tau)}} \int_{-\infty}^x e^{-\frac{z^2}{2(t-\tau)}} dz \quad (20)$$

with the mean  $E(w(t)-w(\tau)) = 0$  and the standard deviation  $D(w(t)-w(\tau)) = \sqrt{t-\tau}$ .

#### 4. The R/S analysis and “memory” measuring of the financial markets processes: persistence and anti-persistence

The Hurst processes with  $H \in (0,5;1)$  emphasize a long term memory (what happens today will affect the future dynamics of the process). In markets, there is an invariant on time scale (daily changes from now on are correlated with future daily changes; all weekly changes are correlated with the future weekly changes and the same for those monthly, quarterly or annual). These are persistent processes and the data are positively correlated: an evolution on an increasing trend will continue with probability higher than on an increasing trend. The dynamic processes of  $H \in (0; 0,5)$  are called anti-persistent and reflect a negative correlation of events: after an observed growth of high probability, a reducing will follow.

The persistence coefficient  $C = 2^{2H-1} - 1$  expresses the correlation between the past, current and future progress of the process analyzed  $\{X_t\}$ , depending on different incremental values  $\Delta t$  in time; therefore, it reflects the invariance feature on time scale, being a measure of long time memory effect power, interval measured on multiple time scales.

The following situations could be emphasized: if  $H = 0,5 \Rightarrow C = 0$ , and therefore the  $\{X_t\}$  data are non-correlated, are independent and the process is random; if  $H \in (0,5;1) \Rightarrow C \in (0,1)$ , meaning that data  $\{X_t\}$  are positively correlated, the series being persistent and shows “the Joseph effect” (presented above, as “the Joseph profession”); if  $H \in (0; 0,5) \Rightarrow C < 0$ , meaning that events are negatively correlated, series being anti-persistent; when  $H = 0 \Rightarrow C = -0,5$ , the series is extremely volatile.

#### 5. The fractal Brownian motion and the R/S analysis. Turbulences, anti-persistence and dynamics volatility

As concerns the  $H = 0,5$ , the Hurst processes are equivalent with random walk type processes, with Brownian motion processes. As regards  $H > 0,5$  fractal Brownian processes exist. Turbulences have been noticed on the markets, and quantitative correlations with the markets volatility have been looked for. Turbulences signify a cascade phenomenon, of energetic transfer from one large scale to a narrow and fragmentation scale or self-similar division (Kolmogorov, 1941; Kida, 1991; Schmitt, 1992). The

volatility is an inverse process, of amplification that generates long term memory processes.

The cascade turbulences can be represented by the logistic model:

$$x_{t+1} = \alpha x_t (1 - x_t), \quad x_t \in (0,1) \quad (21)$$

In the literature (Schwert, Schiller, Peters, 1994), the volatility can be appreciated by  $\ln(V_n/V_{n-1})$ , where  $V_n$  signifies the standard deviation of the price index logarithm.

$$V_n = \frac{1}{n-1} \sum_{t=1}^n (L_t - \bar{L})^2 \quad (22)$$

$$\text{with } L_t = \ln(P_t/P_{t-1}) \text{ and } \bar{L} = \frac{1}{n} \sum_{t=1}^n L_t. \quad (23)$$

The volatility has high peaks, very pointer and of large basis. The turbulences emphasize jumps within the standard deviation, discontinuities of first species, therefore an infinite variant of the fractal distribution of frequencies, which correspond to steady distributions of Levy and Cauchy type, or in general, to fractal Pareto – Levy distributions.

## 6. Persistence, anti-persistence and fractional noises

### 6.1. The white noise and ARCH and GARCH non-linear models

The self-similar frequency distributions, characterized by a high peak around the mean, and a basis larger than the normal distribution could be approached as ARCH (Auto-regressive Conditional Heteroscedastic) type processes:

$$x_t = \sigma_t \cdot \varepsilon_t \quad (24)$$

$$\sigma_{t+1}^2 = c_0 + c_1 \cdot \varepsilon_t^2, c_j \in (0,1] \quad (25)$$

where  $\varepsilon_t \in N(0,1)$  is a white noise, purely random process  $\varepsilon_t$  of null mean  $E(\varepsilon_t) = 0$  and dispersion (usually normalized)  $\sigma^2 = E(\varepsilon_t^2) = 1$ , Gaussian distributed  $\varepsilon_t \sim N(0,1)$  with  $c_0, c_1$  constants (typical values:  $c_0=1, c_1=1/2$ ).

The dynamics  $\{x_t\}$  is generated by a non-noticeable  $\{\varepsilon_t\}$  of white noise  $\varepsilon_t \in N(0,1)$ , applied to the variable standard deviation  $\sigma_t$ , the dispersion estimated for the following moment being under linear conditions of the noise square  $\varepsilon_t$ . The non-linearity induces amplified effects of the variations, having as consequence the high peaks, well pointed and a large basis of probability frequency distribution.

Bollerslev (1986) introduced the autoregressive GARCH dependency within the dynamics:

$$x_t = \sigma_t \cdot \varepsilon_t \quad (26)$$

$$\sigma_{t+1}^2 = c_0 + c_1 \cdot \varepsilon_t^2 + c_2 \cdot \sigma_t^2 \quad (27)$$

(of typical values  $c_0=1, c_1=0,1, c_2=0,8$ )

A non-linear correspondent of the ARIMA (Autoregressive Integrated Moving Average) model illustrates the IGARCH model (Integrated GARCH), where the integration applied parameter  $d$  is  $\Delta = 1 - L$  (with the lag operator  $Lx_t = x_{t-1}$ ) can be applied in accordance to the integer or fractional ARFIMA (p,d,q) (Hosking, 1981) models. The FIGARCH (Fractional Integrated GARCH) is useful in shaping the fractal markets.

Testing the linear stochastic models of Box-Jenkins (AR(p), MA(q), ARMA(p,q), ARIMA(p,d,q)) types on markets do not emphasize the Hurst effects of persistence, since the short term memory is filtered. As regards the non-linear ARCH and GARCH models that cannot be filtered, no memory effects are emphasized on long term, but persistent marginal values over a signification threshold can be seen. Though, the markets are characterized by the Hurst exponents, where  $H > 1/2$ , and thus a long term memory in returns appears; the volatility is an anti-persistent process of  $H > 1/2$ . From this reason, passing to a new theory of fractal markets imposes new research instruments: the fractal analysis and the fractal Brownian motion, by the fractional Gaussian noises experiments (Mandelbrot, Wallis, 1969).

### 6.2. White noise and coloured noises: brown, pink and black

A random walk expressed in a continuous Brownian motion is represented under the form of some “white noise” type processes ( $\varepsilon_1 + \varepsilon_2 + \dots + \varepsilon_n$ ), process denoted as “brown” noise and established by

the accumulation of the white noise. These noises are characterized by the Fourier power spectrum, calculated by Fourier transform (the log-log graphics, meaning the coordinates: frequency logarithm on the abscissa and the spectral power logarithm on the ordinate). The slope of curve  $b$  is denoted by the spectral exponent:

- a) for the white noise,  $b=0$ , the Fourier power spectrum is independent by the  $f$  frequency;
- b) for the brown noise (meaning the Brownian motion), the spectrum exponent is  $b=2$ , meaning that the brown noise is correlated with the  $f^2$  frequency, meaning that the scale factor  $(1/f)$  is a square.
- c) if  $b \in (0,2)$ , we meet a pink noise, of  $1/2$  scale factor. The pink noise is a feature of the anti-persistent processes ( $H < 0,5$ ), and it is used for shaping the turbulences (especially within the  $b \in (1,2)$  spectrum), and in shaping the markets volatility (Kida, 1991; Schmitt, 1992). Mandelbrot (1982) postulated that noises on  $1/f$  scale (therefore, the pink noise) represents the sum of a high number of stochastic relaxation processes, which are carried out on many various differences, but equally logarithmic distributed.
- d) The black noises occur for  $b > 2$ , which reflect behaviours of long term memory. In consequence, the Hurst of  $H \in (1/2, 1)$  are black noise processes, for which  $b \in (2,3)$ , and therefore persistent.

### 6.3. The Schroeder model of pink noise simulation

Noises of  $1/f$  scale frequency can be represented as the sum of a high number of stochastic relaxation processes, of various frequencies represented in a logarithmic graphic.

Mandelbrot took into consideration the Weierstrass fractal function:

$$W(t) = \sum_{n=0}^{\infty} \frac{1}{a^n} \cos(b^n \omega t), a > 1, b > 1 \quad (28)$$

Schroeder (1991) proposed an iterative simple model of generating a pink noise (or  $1/f$  noise) for the generation of complex interactions:

$$x_{n+1}^{(i)} = \rho_i x_n^{(i)} + \sqrt{1 - \rho_i^2} \cdot \varepsilon_n, x_0 = 0, \rho_i \in (0,1) \quad (29)$$

$$y_n = \sum_{i=1}^T x_n^{(i)} + \varepsilon_n \quad (30)$$

where  $\varepsilon_n$  signifies a white noise process type  $\varepsilon_n \sim N(0,1)$ .

In the Schroeder relationship, the first term is a AR(1) process, which includes an infinite memory, but is persistent on only short time; the second term is a random shock and its coefficient is in inverse ratio to the correlation coefficient of the first term; thus, as the AR process is running more powerful, the weaker will be the random shock effect; but., by the iterative process, the random shocks enter, by the AR process, within the content of the infinite memory processes:

$$x_n = \sqrt{1 - \rho^2} (\varepsilon_{n-1} + \rho \varepsilon_{n-2} + \rho^2 \varepsilon_{n-3} + \dots + \rho^{n-1} \varepsilon_0) \quad (31)$$

Since the process  $\{y_t\}$  generated signifies a pink noise, of  $H < 1/2$ , this will be anti-persistent (the random shocks will proceed over the AR component, reducing the persistence).

### 6.4. Black noises and the persistence

The Brownian motion is based upon a strong restrictive hypothesis, meaning the Gaussian distribution as static structure, starting from the idea according to which the superposing of a high number of errors will be Gaussian distributed, in accordance to the central limited theorem. Hurst discovered that most natural phenomena do not correspond to this hypothesis, and this observation has lead to generalization of Brownian type motion, when variance of modifications in the dynamics of a process is not proportional to time's square, but proportional to a  $2H$  power:

$$V(t - t_0) \approx (t - t_0)^{2H} \quad (32)$$

In this way, we induce a standard deviation proportional to  $H \in (0,1)$  power. As regards,  $H \in (0,1)$ , we find the Brownian type motion behaviour. There is no effect of memory, as in the situation of  $H > 1/2$ , when the black noises characterize the persistence or  $H > 1/2$ , when the pink noises reflect the anti-persistence.

The generalized Brownian motion of  $H > 1/2$  generates an effect of memory, to any time scale. The statistical analysis on stock exchange indexes has imposed the formula modification, which describes the generalized Brownian motion, during the interval  $(t_0, t)$ :

$$w_t - w_{t_0} = \varepsilon_t (t - t_0)^H, t > t_0 \tag{33}$$

where  $\varepsilon_t \in N(0,1)$  is a white noise.

The equation of fractal Brownian motion (MBF) includes the effect of infinite memory.

Let us consider  $w_H(t)$  the MBF process of  $H \in (0,1)$  index.

$$w_H(t) = \frac{1}{\Gamma(H + \frac{1}{2})} \cdot \left[ \int_{-\infty}^0 (|t - \mathcal{G}|^{H-0.5} - |\mathcal{G}|^{H-0.5}) dw_H(\mathcal{G}) + \int_0^t (t - \mathcal{G})^{H-0.5} dw_H(\mathcal{G}) \right]$$

MBF motion makes a distinction for only the long term memory, by trends and cycles that occur; this is not happening for sudden discontinuities denoted by drifts, signalized by frequencies distribution, by a high pointed peak, in the neighbourhood of mean and a large basis area. Returns on capital markets represent those black noise type processes, and their differentiation (by operator  $\Delta$ ), which leads to a pink noise process.

## 7. Fractal distributions

### 7.1. Levy-Mandelbrot steady distributions

Starting from the Pareto distribution (1897), Levy (1937) has formulated a generalized version of the central limit theorem, and achieved a generalized function of probability density, from where one can achieve the classical distributions (normal distribution or Cauchy distribution), as particular expressions. The generalized form of density hasn't denoted any interest at that time, by its complexity, considering that its occurrence was not useful.

Definition (Levy, 1937): a function of distribution  $f(x)$  is steady if  $(\forall) b_1, b_2 > 0$ , and there is  $b > 0$ , so that

$$f\left(\frac{x}{b_1}\right) \cdot f\left(\frac{x}{b_2}\right) = f\left(\frac{x}{b}\right) \tag{34}$$

or its characteristic function;  $X$  that has the distribution  $f(x)$  will check

$$\varphi_x(b_1 t) \cdot \varphi_x(b_2 t) = \varphi_x(b t) \tag{35}$$

Using the characteristic function logarithm,  $\Phi(t) = \ln \varphi_x(t)$ , the logarithmic characteristic function will check the general form:

$$\Phi(t) = \begin{cases} i\delta t - |ct|^\alpha \cdot \left( 1 + i\beta \frac{t}{|t|} \cdot \text{tg} \frac{\pi\alpha}{2} \right), \alpha \neq 1 \\ i\delta t - |ct| \cdot \left( 1 + i\beta \frac{2}{\pi} \ln|t| \right), \alpha = 1 \end{cases} \tag{36}$$

As consequence, a steady distribution  $f(x, \alpha, \beta, c, \delta)$  depends upon four parameters  $\alpha, \beta, c, \delta$  that have the following signification:  $\delta$  is the reduction parameter to the null mean, by changing the variable

$u = \frac{x - \delta}{c}$ , for which the mean is null;  $c$  is the scale parameter, being a dispersion measure;  $\beta$  signifies the asymmetry parameter.

### 7.2. Transition from EMH towards FMH

The steadiness theorem (Fan, Neogi, Yashima) stated that: if two distributions are steady, of characteristic exponent denoted by  $\alpha$ , then their sum will be steady and of the same exponent  $\alpha$ .

The invariance propriety to additivity as regards the probability distributions steadiness is highly important within the applications on capital market, on the modern theory of the portfolio: if the

individual investments  $i = \overline{1, N}$  are steady and have the same value of  $\alpha$ , then the global portfolio is steady and has the same value of  $\alpha$ .

The Markowitz model (1952) was established on normal distributions (and therefore as concerns  $\alpha = 2$ ), and the covariance between the assets  $i$  and  $j$  of the portfolio will be determined by the individual variances and the correlation coefficient denoted by  $\rho_{ij}$ :

$$\sigma_{ij}^2 = \sigma_i^2 + \sigma_j^2 + 2\rho_{ij}\sigma_i\sigma_j, (\forall)i, j \in \{1, 2, \dots, N\}$$

As regards the future research of  $\alpha < 2$ , the FMH method was adjusted. The behaviour of a distributed Cauchy process seemed to be full of questions, as comparing to a Gaussian process, achieved by a generator of random numbers within the EMH axiomatic: jumps and discontinuities (of first type) in mean and dispersion.

In this way, the FMH method has become more necessary and more adequate within the research of the financial markets, rather than EMH, since the fractal steady distributions have been endowed with characteristics that make them consistent to the real behaviour. Within the frequencies distribution, one might notice the pointed peaks and the basis of large area.

**7.3. The fractal indefinite distributions divisibility and the fractal self-similarity**

The self-similarity represents the basic propriety of the fractal processes. As geometrical representation, the fractals signify self-similar figures, of non-integer Hausdorff size; in accordance to Mandelbrot (1982), the Hausdorff size strictly exceeds the topological size. The Hausdorff size signifies the fractal size. The self-similarity represents the quality of an object or process, of being similar to itself, regarding from the statistical point of view, to any spatial or temporal scale of representation. The self-similarity of fractal distributions is defined in the same way, but one should understand what signifies a part, and how this will be achieved from the entire or what is the part representation to a smaller scale, as related to the fractal distribution as entire.

Let us consider the fractal distribution  $f(x, \alpha, \beta, c, \delta)$ , by which the variable change  $u = \frac{x - \delta}{c}$  is brought to the reduced form (of  $\delta = 0$ ), meaning:  $f(u, \alpha, \beta, c, 0)$ .

The reduced form can be rescaled by using the parameter  $c$  (similar to the procedure by which the normal reduced distribution  $N(0, \sigma^2)$  is brought to the form  $N(0, 1)$ ). Rescaling is admissible if the new distribution remains in the steady distributions class. We use the definition of steadiness in the Levy (25'.a) way, but read inversely, and we enounce:

Definition 1: The distribution  $f(u, \alpha, \beta, c, 0)$  is divisible in two distributions, of the same type, if for the established  $b > 0$ , there will be  $b_1 > 0, b_2 > 0$ , so that the characteristic function will check:

$$\varphi(bt) = \varphi(b_1t) \cdot \varphi(b_2t) \tag{38}$$

Or the characteristic logarithmic function will check:

$$\phi(bt) = \phi(b_1t) + \phi(b_2t) \tag{39}$$

We extend to divisibility in  $n$  steady distributions of the same class; if for a value  $b$  of the  $b$  scale parameter; there are  $n$  positive values  $b_1, \dots, b_n$ , so that the logarithmic characteristic function will check the requirement:

$$\phi(bt) = \sum_{k=1}^n \phi(b_k t) \tag{40}$$

Definition 2: The distribution  $f(u, \alpha, \beta, c, 0)$  is indefinite divisible if (39) is true for  $(\forall)n \in N^*$ .

Conclusion: The fractal indefinite distributions divisibility will make possible their self-similarity with the parties resulted by divisibility. As the parameters  $b_k$  used in the definition of divisibility are identified with the parameter  $c$  of the distribution  $f(u, \alpha, \beta, c, 0)$ , by comparing the terms  $b_k^\alpha |t|^\alpha$

of  $\phi(b_k(t))$ , it results that  $b_k = c$  is the scale parameter of the parties' distributions, which have the distribution  $f(u, \alpha, \beta, b_k, 0)$ ,  $k=1, \dots, n$ .

One might notice that the parties' distributions (or distributions of factors, since the propriety of divisibility signifies the factorization of initial distribution  $f(u, \alpha, \beta, c, 0)$  are from the same class of

parameters  $\alpha$  and  $\beta$ . This means that a normal distribution ( $\alpha=2$ ) and  $c = \frac{\sigma}{\sqrt{2}}$  will be factorized in  $n$

distributions  $f_k(u, 2, 0, b_k, 0)$ , also normal, where  $b_k = \frac{c}{\sqrt{n}}$ , and therefore  $b_k = \frac{\sigma}{\sqrt{2n}}$ . The same situation

is also available for  $\alpha = 1$ : the Cauchy distribution  $f(u, 1, 0, c, 0)$  is factorized in  $n$  Cauchy

distributions  $f_k\left(u, 1, 0, \frac{c}{n}, 0\right)$ .

The issue imposed consists in the determination of the characteristic exponent  $\alpha \in (0, 2)$ , which signifies the fractal size of the probability space.

### 8. Conclusions

The traditional Gaussian approach does not fit with the actual mechanisms in the financial markets. The distribution of the price changes are more flat-tailed than normal distribution and random walk or Brownian motions are not adequate within the financial markets modelling. For this reason, Mandelbrot has established the theory of fractal Brownian motion (FBM). The IID hypothesis (abbreviation of independent and identically distributed) underlies on the central limit theorem of processes, which will give a Gaussian type resultant process by high accumulation, which has been though infirmed by the practical applications.

The Fractal Market Hypothesis (FMH) have explained much more adequately the emphasis of some properties and of some specific manifestations of processes on financial markets, as well as the statistical self-similarity, the persistence and the anti-persistence (anti-persistence as property of volatility), trends and of periodical cycles, intermittence and even chaotic behaviour.

The Fractal Brownian Motion (FBM) has seen as an extended model of research of the markets dynamics. The fractal processes emphasize global structures, and the fractal distributions will allow the measuring of non-conditioned variance (if this exists, meaning  $\alpha \neq 1$ ). Carrying out a comparison, the ARCH ( $p, q$ ) models signify the local processes of conditioned variances: the estimated volatility is conditioned by the existing information, among which we approach the volatilities from past up to present, and eventually, more over, as well as out perception over the dynamics of the past and of the present, specific to this indicator. We remind here the ARCH and GARCH models, since they emphasize distributions of well pointed distributions, in the mean neighbourhood and large area basis, as the precise distributions are manifesting on various markets (as the stock or currency exchange markets etc.).

The empirical studies cannot, for the time being, emphasize if the GARCH models of finite and conditioned variant reflect or not the fractal distributions effects of those processes, but which have infinite variance (or which doesn't exist).

If a differentiation process is applied for the GARCH models, as been emphasized by models ARIMA or ARFIMA, we will achieve models of classes IGARCH/ FIGARCH, which are characterized by infinite non-conditioned variances. If the ARCH/ GARCH processes do not dispose of long time memory, and therefore, they do not perform in accordance to processes for which the R/S analysis shows the persistence, the IGARCH( $p, d, q$ ) of  $d \in \mathbb{N}^*$  or FIGARCH( $p, d, q$ ) of  $d > 0, d \notin \mathbb{N}$  models will reflect an infinite memory, and thus, they will be adequate to modelling, as in the hypothesis of fractal markets or fractal structures, which are locally of probabilistic type.

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## AFTER THE CRISIS: THE END OF CAPITALISM OR A NEW AND REFORMED CAPITALISM ?

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**Abstract:** *The aim of this paper is to present what happened with the capitalist system after the worst crisis in the last 60 years which caused a lot of troubles in the world economy and imposed a lot of critics and analyses of traditional capitalist economic and social model. Some Nobel Prize winners for economics and other well known economists have analyzed the causes and effects of financial crisis and what are needed for attaining a sustainable growth and for protecting the social base of modern capitalism-the middle class. Besides reforming the economic science one needs to reform the corporate, national, regional and global governance by promoting public interests and not corporations profits and interests.*

**Key words:** capitalism, system, crisis, market, reform, governance

**JEL classification:** A 1, D 3, D 4, E 16, G 13.

### 1. Introduction: how the recent crisis hit the capitalist system

In the last years more and more Western analysts and even Romanian ones talked about the end of capitalism or a new capitalism: more humane, more moral, more environmentally friendly with people. Even Nobel Prize winners for economics are haunted by the illusion of reforming the capitalist system, e.g. Joseph Stiglitz in his book *"In free fall. America, free market and global economic collapse"* believes that a new capitalism is needed, one based on the trust between the financial system and the rest of society, because there is mistrust, frustration, fear, resentment of the people about the conduct and practices of the financial system, but also about the attitudes and actions of the capitalist state which did nothing to prevent the crisis and offered a lot of financial support to the banks. During the financial and economic crisis very few people have become rich or even richer while many people have recorded financial losses by means of reduced wages, impairment or loss of financial assets and rising unemployment. Financial crisis has highlighted related effects of moral hazard, liquidity trap and loss of consumer and investor confidence, which Paul Krugman has looked convincing in his book *"The return to economic depression and crisis of 2008"*. Krugman thinks that the capitalist system is still vulnerable and exposed to business cycle despite its impressive economic growth boosted by technological progress and globalization. While previous events, like local crises in Latin America and South Eastern Asia, hedging funds speculations, trade deficits have their contribution to the financial crisis, the main culprits remain the investment banks, deregulation of financial markets and the shortcomings of monetary policy. But it was the globalization that spread the financial crisis from USA into the whole world economy.

For Stiglitz the roots of the financial crisis are to be found in the financial sector where investment and commercial banks engaged in risky and unaccountable activities, financial institutions and markets did not performed well also due to weak control and supervision of public authorities. Stiglitz had well identified the main challenges currently facing the U.S. and global economy related to restoring of aggregate demand, rebuilding the financial system and economic restructuring, the danger of excessive fragility of financial markets, the huge burden of high unemployment or low level of employment, and that any substantial reform of the capitalist model should be linked to the reform of corporate governance, national governance and global governance. Stiglitz brings into question the concept of new capitalist order to solve difficult social and economic problems accumulated in the recent decades, which may be resolved only by an active and not a passive state.

Nouriel Roubini is the only important economist who predicted the fall of financial markets in 2006 due to the speculative wave of home prices, defaults on mortgages of homeowners and huge amounts of mortgage-backed securities. He is a proponent of austerity measures on short term and of achieving structural reforms on long term. Roubini lost his confidence in the monetary policy which is not able to support a genuine economic recovery in US and EU.

Robert Mundell, the leader of supply-side economists and a very influential adviser, even for China, put his finger on the rate of exchange of US dollar to be guilty of financial crisis together with the

mistakes made by Bush Administration and Fed. Mundell proposed the reduction of taxes, fixed exchange rates between US dollar, yen and yuan, and a new international currency (globo).

## 2. What kind of capitalism for the global economy?

After the fall of communist system in Eastern Europe in 1989, that long time was used as a fright for the critics of capitalism, it could be felt an undeniable victory of American capitalism, and Francis Fukuyama in his book "*The end of history and the last man*" from 1992 deemed democratic market capitalism as the final stage of social evolution, an optimistic opinion but not too well-founded. The unexpected bankruptcy of Lehman Brothers investment bank and the burst of the worst financial crisis after the Second World War could mean for the market fundamentalists a similar failure to that of falling Berlin wall, but the latter one signified the bankruptcy of communist system. The period of American triumphalism ended (Stiglitz) and it cannot be held the thesis that financial markets are self-regulating and that there is a rational behavior of them, in the self-interest of market participants.

The ascent of of communist system in the postwar period was caused not only by the results of the Second World War but also by the social inequalities and the ruthless exploitation of workers for over a century, the periodic financial and economic crises and the bloody wars of the 20th century. But the illusion of egalitarianism and prosperity for all fell apart gradually as the communist system failed in the economic field. If political and economic freedoms allowed free-market capitalism to win economic and social competition with central planning communism, however the trend towards an oligarchic system increasingly came out amid a crisis just caused by a greedy and unscrupulous minority enriched through various speculative operations. The ideas of monetarist school of Chicago oriented to liberalization and deregulation of markets and drastically reduction of the state role in economic policy had been reflected in the policies pursued in the U.S. and other developed areas, but also in IMF and World Bank's imposed programs for developing states, which have brought promised prosperity only for limited categories of people. Free market ideology has proved a curtain for new forms of exploitation or a sort of neocolonialism. The privatization of state assets meant selling at low prices to large Western companies the main deposits and very profitable sectors from developing and former communist countries. Likewise, foreign banks were able to achieve high returns on loans, and in the case of debtors insolvency IMF imposed the socialization of losses and therefore high costs for the population, the same banks bought at very low prices the assets put up after South Eastern Asian crises. Trade liberalization allowed foreign companies to practically destroy local industries in developing and former communist countries and free movement of labor meant only a brain drain by bringing specialists from these countries into developed countries.

Responses to the crisis situations clearly showed the obvious contrast between the management of the Eastern Asian crises and the management of US financial crisis, in the first case it was imposed by IMF a drastically reduction of the budget deficit and public spending, an increase of interest rates and no support for domestic banks facing a lot of constraints, in the second case the US Administration and the Fed engaged in massive spending increases leading to high budget deficits, in reducing interest rates near zero level, in offering a massive financial support(bail-outs) to the too big to fall commercial banks. While the developed countries had consistently applied countercyclical monetary and fiscal policies, the developing countries were forced to implement procyclical policies, their impact on economic activity being strongly negative and significantly higher than in the developed countries. American financial leaders, who became in frequent cases US governmental officials had often confused the interests of Wall Street actors with U.S. and rest of the world interests and they supported the goal of unlimited freedom of markets, which were in vogue in the U.S. and became a kind of nightmare for developing and former communist countries.

Quite recently the French daily newspaper *Le Monde* presented a new perspective on the financial crisis, arguing that in the early '80s, when there were rumours about concepts like post-industrial society or economy of services, it was imposed a new economic theory of "*comparative advantages*" which argued that the future of world economy would be in services and high technology industries, so that the advanced economies from U.S. and EU had been restructured by moving or relocating the energy and labor intensive industries from the North to the South. This massive relocation of industries, which meant jobs for hundreds of millions of Asian people, willing to work hard for a lousy payment, led to a deindustrialization process in the North where the development of services was not able to compensate the huge losses of jobs and incomes (a reindustrialization process would have been desirable, but it was not a serious concern for public authorities). The relocation of industries gave odds to corporations which

made huge profits due to very cheap labor force but also to the consumers from developed countries who benefited from relatively small prices of imported goods, however the deficits and trade imbalances exacerbated the issue of external debts and created a strong pressure on the budgets of net importer states. Nowadays the share of industry within the national added value is under 10% in US, while in Germany, the main EU industrial power and exporter, is around 30%, and in France and United Kingdom is around 16%. Deindustrialization is one of the causes, not the only one, of structural imbalances affecting world economy today. Eastern and Southeast Asian countries, led by China, produce more and more goods and save too much money, while developed countries in North America and EU do not produce enough industrial products and spend too much money, leading to major imbalances in international trade, which partly explains the financial crisis from 2007-2008 and the Eurozone troubles caused by sovereign debts crisis.

### 3. What happened with the middle class?

After the crisis a legitimate question arises: is still there a middle class in the developed countries or it was almost destroyed by the financial crisis? Stiglitz believes that the crisis had affected a large part of the population, who saw their homes and properties, social security rights and pensions impaired, also many jobs and health insurances were lost. The American Administrations had not been able to protect jobs and homes for ordinary people, instead they tried to protect the financial corporations by means of massive bail-outs. But the protection or bailment of property rights invoked by the corporations does not mean ensuring the social security rights and professional security of individuals? The dispute between capitalism and communism on the political and economic rights eventually led to the collapse of communism but also to a reinforcement of the economic rights in capitalism. In the U.S. this meant ensuring the free movement of capital, property rights and protection of intellectual property but these corporations rights had prevailed over individual rights. Hence the problem of the social contract and how the state is positioned to the rights of individuals.

Stiglitz blames the excessive consumerism of American society, as the American lifestyle based on the waste of resources is not a sustainable one and cannot be an appropriate model on the global scale due to limited natural resources and global warming. Individualism combined with materialism led to the undermining of the confidence that supports the operation of free market mechanisms. The costs of the collapse of confidence in the banking system were not taken into account, the crisis has accelerated the process. Loss of confidence in financial corporations alters social relations and community spirit. As the securitization spread on a large scale, the trust between the main actors of banking markets has gone, creditors and debtors no longer know each other, as such there are fewer opportunities for restructuring the loans or the contracts. Restructuring of credits was made all over against debtors, hence the need to discourage securitization. The partition between Wall Street and Main Street, between rich people and rest of society, has become obvious, though the income of many Americans was left in place or instead decreased significantly the private consumption was stimulated through loans, so that the middle class accumulated a lot of debts and at the same time suffered a lot of financial losses. In 2010 in US around 20% of the population held more than 80% of country's whole wealth. The adjustment costs or burdens imposed by the crisis meant a serious mitigation of the living standard of the middle class, although the bulk of adjustment would have to be borne by those at the top level, among them many rich people from financial sector that did not want to take their own failure.

Quite recently Francis Fukuyama has published an interesting article on this theme: the strong erosion of the middle class in today capitalism, mainly in the developed countries, revealed by statistics on economic and social evolution over the past 30 years. In the emerging countries, and also in Romania, the middle class was late to form, to have any further opportunity to erode. Any positive critique of capitalism system from developed, developing and transition economies, including Romania, cannot be misinterpreted as a taboo subject or a return to old type socialism (communism). As concerns Fukuyama, he actually retracted the end of history thesis after the events of 11 September 2001. The capitalist system imposed as a mainstream model within global economy through globalization and technological progress, but eventually leading to an important decrease of jobs in the developed countries, which ultimately means the erosion of the middle class. In short, a developed economy, no matter how it tried to transfer capital from primary sector and processing industries to services, was not able to preserve enough jobs and not to badly affect the middle class. While Fukuyama criticizes the lack of intellectual creativity of *the left*, unable to leave the concept of the welfare state model, deemed to be bureaucratic, inflexible and fiscal unsustainable, but he does not mention the market failures that are causing the most

acute, economic and ecological crises, with high social costs, which are almost unbearable for a all lower middle class.

When proclaiming the end of welfare state for citizens Fukuyama obviously ignores that capitalist state has become more and more a welfare state for corporations. In the future at stake is rather a particular version of capitalism, and not its existence, a legitimate state is much more desirable than a state which is a protector of some interest groups. A minimal state cannot be a legitimate one, he cannot protect the citizens mainly by regulating the markets. Privatization of state assets and services often means transforming a state monopoly into a private monopoly. If we totally reject a bureaucratic capitalist system we must have in mind the bureaucratic administrative structure existing at EU level, which has perhaps the most complex program to create new jobs from all democratic economies in the world.

Why large corporations, like banks, do not want a powerful state but a very weak one? Because they are very fond of getting rid of regulations and constraints, in order to form cartels and impose high prices to consumers, to record high profits and very high incomes for a limited category of individuals. But this may be considered an oligarchic state and not a genuine democratic state. Maybe the capitalist state is not the most effective economic actor but it must be the guarantor of civil liberties, while the corporations must take the full risks of their activities and not to seek full state support for covering the risks and mistakes in corporate governance.

*How can liberal democracy survive to the decline of the middle class?* It is quite difficult to answer to Fukuyama's question, but the conclusion is that the capitalism must change in many aspects and first of all in the way that state supports and encourages small property and SME's which represent the economic base for the middle class.

#### **4. A system crisis or a growth crisis?**

The first serious attempt to study the limits of economic growth was made almost 40 years ago when it was presented a study commissioned by the Club of Rome intitled *The Limits of Growth* and made by Donella H. Meadows, Dennis L. Meadows, Joergen Randers and William W. Behrens III using a World3 model to simulate the consequence of interactions between the Earth's and human systems. There were examined five variables: world population, industrialization, pollution, food production and resource depletion for studying growth trends under three scenarios. The projections for the values of the variables in each scenario were very limited predictions and there were only indications of the system's behavioral tendencies. Donnella Meadows, Joergen Randers, and Dennis Meadows published *Beyond the Limits* in 1993 as a 20 year update on the original study and in June 2004 another updated version under the name of *Limits to Growth: The 30-Year Update*.

Meanwhile a lot of authors, some of them connected with the Club of Rome scientific activities, have analyzed the different aspects if the limits of growth using different models and methodologies. Among them I could cite : Nicholas Kaldor, Jan Tinbergen, M. Mersarovic, Eduard Pestel, Ervin Laszlo, Thierry de Montbrial, Orio Giarini, Alexander King, Bertrand Schneider, Ian Johnson, Graham Turner, Matthew Simmons a.o. After 40 years some predictions proved to be accurate while others may be subject of strong debates and disputes. Nowadays when earth population exceeded 7 billion the mankind is facing a lot of difficulties related to industrial production, food production, energy resources and pollution.

Kenneth Boulding, cofounder of General Systems Theory, thought that capitalism is a system that requires growth and is fundamentally unsustainable due to ecological and social limits. Economic growth of capitalism was based on using new resources and energy supplies, creating new markets, and exploiting new pools of labor. Professor Richard Wolff shows that the recent crisis reveals a painful truth: the system is facing a growth crisis, the limits of economic growth are highlighted by the exhaustion of resources and ecosystems, the impact of growth on environment and human communities is very harmful. It is true that economic recession was caused by financial crisis which was provoked by toxic assets, collateralized debt obligations, credit default swaps and also by mistakes, errors, behaviours of individual investors and firms. Governments and central banks gave a lot of money (trillions of dollars) to banks and corporations facing hardship, but were not able to solve the unemployment problems and the resuming of a sustainable economic growth. Boulding's adepts blame the state favoritism towards banks and corporations and its neglecting attitude for the basic well-being of the public and the planet which would reflect the sickness of capitalist priorities. It is true that in the capitalist system profit is valued more highly than human and non-human life.

There are ecological and social limits constraining capitalism growth, the first ones refer to supplies of water, soil, underground and surface mineral resources, fossil fuels (oil being the most important one); the second ones refer to the split of welfare between a very small wealthy minority and a very large majority working hard to ensure her existence. In the opinion of antiglobalists capitalism's hunger for growth reached its highest level with the doctrine of corporate globalization (or "neoliberalism") and *corporate globalization meant allowing the free transfer of wealth across the entire planet, uniting the world in one giant market so that banks and corporations would face no boundaries to maximum profits*. For Boulding's adepts a new economy is needed based on fundamentally different ecological and social relationships, and this economy must replace the traditional capitalism. I may agree with their opinion when they say we need more freedom, more democracy, more justice and sustainability and we need to create a society focused not on profits of a very few people but on meeting the needs of all mankind, planet included. But I cannot accept populist slogans and actions like so-called common-sense radicalism, the social and ecological trauma created by capitalism, Global Justice Movement that militates against globalization process, international corporations, World Trade Organization (WTO).

### 5. Is the economic science able to revive the capitalist system?

Paul Krugman blamed economics as a whole for the failure of markets and the result translated into strong financial and economic crisis. Krugman doesn't like supply side policies and he is a demand sider for whom monetary policy is the main macroeconomic instrument. For Krugman the consumer demand prevails and its growth will stimulate the supply which disposes of enough unused resources (factors) and capacities. Krugman supports a strong financial reform and a new regulation regime in order to reduce the risks taken by the main market actors, at the same time a new approach of financial globalization may also be required. The main obstacle in the way of world prosperity is the outdated economic doctrines, so that a new economic science is needed based maybe on pragmatic approaches. Krugman like other Keynes followers supports the government interventionism promoted by James Tobin, but can the budget expenses stimulate the economy after a crisis?

Joseph Stiglitz is a more nuanced economist, his criticism is addressed only to monetarists, economic decision makers and financial corporations for what happened to the capitalist economy in the last decade. For Stiglitz it is not the ownership form (private or public) that is decisive for economic efficiency and market competition but the quality of corporate governance. Stiglitz believes that there are needed selective state interventions to counteract and correct market failures, to supervise actor behaviour on the market, to regulate and supervise the corporate management (governance), to restructure unsustainable American economic model based on consumerism, deindustrialization, exaggerated expansion of financial services, huge impact on environment. Stiglitz believes that there is a need for a new capitalism based on regaining confidence in the American model, nuanced, selective and targeted interventions of the state, reducing harmful influence on the economic policies pursued by industrial and financial corporations, the reconsideration of supply side policies, the alteration of the pattern of government expenditures and corporate and individuals taxes, substantial reforms in the financial system particularly targeting transparency, incentives granted to managers, excessive risk-taking, the use of derivatives, linking the interests of corporations with the whole of society, changing moral behaviour of managers of corporations and politicians, changing of individualistic and excessive consumerist mentalities. Stiglitz has criticised the neoliberal approach which often meant the deregulation and liberalisation of capital markets and which contributed to the risky financial products (derivatives) and slatternly speculations. Derivative contracts amount nearly a worldwide total of \$ 600,000 billion at the end of 2007, and only in US credit risk swaps had reached \$.62,000 billion.

In analyzing economic science Stiglitz focuses on four themes: macroeconomics, monetary policy, finance and innovation economy, noting that Keynes theory in economics was abandoned as the focus shifted from unemployment to inflation and growth, micro and macro models were different, the first one focusing on the efficiency of the markets and on the role of unemployment, the second one focusing on the wasting of resources during recessions and depressions. The microeconomic approach, focusing on the competitive balance, was deemed to be correct for macroeconomics by Chicago neoliberal school. Because markets are efficient economic fluctuations are only adjustments of the economy, which adapts itself to external shocks. Individuals are quite similar, there are no information asymmetries, the income distribution is not important, the monetarists making exaggerate simplifications that lead to absurd conclusions, such as that the Government expenditures do not stimulate the economy causing only deficits, also that unemployment aid would be harmful for the economy. The monetarist

school was giving too much importance to market liberalization and deregulation and to counteracting the inflation, but it neglected the fragility of financial markets and the effects of market failures.

While Stiglitz and Krugman believe in reforming the capitalist economic system Nouriel Roubini spoke even quite categorically, heralding the end of capitalism based on monetary policy failure and giving right to Karl Marx. Roubini said: *it seems that Karl Marx was partly right in arguing that globalization, financial intermediation run amok, and redistribution of income and wealth from labor to capital could lead capitalism to self-destruct (though his view that socialism would be better has proven wrong)*. Firms are cutting jobs because there is not enough final demand, but cutting jobs reduces labor income, increases inequality and reduces final demand. Stiglitz, and not only him, came to the the essence of the problem, assessing that there is a great disappointment of the American capitalist model, which has irretrievably lost the force of attraction for many states, even for its own citizens, who became exasperated and started to demonstrate on Wall Street, which would be normal because the U.S. is no longer the main source of capital in the world (Asia is taking over this role). Major flaws of American economic and social system, invoked since President Eisenhower, who spoke of the dangers of military-industrial complex, highlighted in the last decades by the dominance of the interests of large corporations in American politics, should not lead us to hasty and wrong conclusions concerning the capitalist model that matches a country. Stiglitz recommends a regime in which the role of the market is in balance with that of the state, which must effectively administer well-designed rules and he does not believe that the old style communism will return on (is Chinese communism a new style one?) but just that there is a risk of some forms of excessive state intervention, especially in ex-communist states (might be Hungary a bad example?)

Excessive market fundamentalism, inspired by the ideas of Milton Friedman, adversely affected those less wealthy and made even richer the very wealthy people (see doubling of the number of billionaires and tripling of purchases of luxury goods during the crisis period), but the excess interventionism cannot reduce the poverty or gaps in a society, in the opinion of many economists a capitalist economy cannot be successful unless it is largely based on the markets. American liberalism, which was based on the theories and schools of thought in American reputable universities, led by the Chicago liberal school, should not be opposed an antimarket philosophy, which the opponents of globalization and neomarxists gave fervent support.

But not only the problem of nuancing the interventionism of public authorities is important but also the matter of excessive consumption by promoting policies focused on demand has its relevance, because a large influential economist like Robert Mundell remarked that the supply side policies can bring more jobs and the necessary restructuring of the world economy (green energies, non-polluting industries based on high-technology industries, performing and useful services). Even US President Barack Obama, exasperated by the inefficiency of the EU budget austerity policies, criticized by Krugman and Stiglitz, said recently that only an investment program like the Marshall Plan could save some countries with unsustainable debts, such as Greece. Probably it would be needed a fundamental change in the mentality of the majority of population in the states with large deficits and debts, including US, for the purposes of getting out of drunkenness or consumatorist orgy, fueled by the excessive use of consumer credit, and by accepting of a rational balance between consumption and domestic production. Inept slogans, like that one needs to work more and earns less, probably inspired by Asian model (which bring huge profits only corporations that have relocated their productive capacities) reflect only the petty interests of an oligarchy, for which the exploitation of the majority of the population is an extremely profitable activity and which demonstrates the obvious immoral nature of capitalism. The cynicism of certain political leaders and some so-called technocrats, who support the abolition of the welfare state, which would be detrimental to economic competitiveness and budgetary balances, goes far beyond any limits of common sense. They simply ignore the situation of countries with a competitive economy, such as the Scandinavian states, which have implemented the concept of the welfare state with particularly success and they do not have any big problems with deficits and public debts.

## 6. Conclusions

The realistic solution is not to destroy capitalism, to create a new capitalism, to return to communism or to chose the Third Way, but the deep reformation of governance on all its fields based on solid principles and moral standards. Belief in the values of liberal democracy and in a balanced market economy and in the role played by them in building a prosperous and right world can be substantially undermined by crises caused by incorrect behaviours and policies favourable to only a restricted number

of persons considered to be privileged or components of a real oligarchy. At the level of the governments, corporations, and then at the global level, the public interest must prevail and not the personal or individual interest, not corporate profits should be in the foreground but the welfare of the population (see for example the Scandinavian countries), and the American lifestyle based on wasting the resources can no longer be a model worth following internationally due to the limits of natural resources and global warming. It is required substantial reforms in the financial and banking system, as well as a new long-term vision on the development of the world economy, and the solving of complex economic, social, ecological problems can no longer be made solely by narrow or limited approach at national or regional level but at the global level because global problems need global solutions.

I perfectly agree with Stiglitz when he considers that reforming of the economy should begin with that of economic science, because monetarist policies focused on countering the inflation ignored the fragility of financial markets, and monetarists have not seen that financial market failures can cause losses much higher to population than inflation. Returning to the ideas of Keynes, reconsidering the role of tax policy and industrial policy, promoting the concept of sustainable development and achieving a profound restructuring of the real and nominal economy can represent successful prescriptions for a more effective and more human capitalism, because a capitalism that does not ensure the prosperity of the majority of population is not in my opinion a genuine democracy but it is just perpetuating an oligarchic and anachronistic system which has nothing in common with meritocracy and equal opportunities, the principles which had ensured the success of American capitalism for more than two centuries.

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**THE CRISIS OF DIRECT PAYMENTS APPLICATION ON ROMANIAN AGRICULTURE**

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**Abstract:** *This paper presents the importance of supporting agriculture in Romania in the current financial and economic crisis, focusing on the difficult situation in which the agricultural sector is today. Agricultural direct support payments of CAP Pillar I is a great opportunity to improve the current situation for small farms, respectively the subsistence and semi-subsistence ones. Financially and politically, direct payments are the most important element of the CAP. In Romania, various forms of environmental exploitation cannot benefit from this type of subsidy, due to their small dimensions. In this paper we will show concrete examples of this phenomenon.*

**Key words:** Common Agricultural Policy, direct payments, agriculture, reforms

**JEL classification:** O 13, Q 18, Q 14

## **1. Introduction**

The agricultural sector continues to play a crucial role for economic development, especially in developing countries, where this sector is high both in terms of total revenue and the total population (Dethier et al., 2012).

Agriculture is a main branch of the national economy of Romania. As a means of existence, agriculture provides the source of income for rural population and is the supplier base and employment for the rural community. The current situation of agriculture in Romania is characterized by the existence of numerous economic and social problems, fragmented lands and the presence of numerous peasant subsistence and semi-subsistence farms, very small, producing mainly for own consumption, trading on the market only the production obtained by chance, being economically unsustainable. Excessive fragmentation of land is a serious impediment to the development of a modern and competitive agriculture (Rusu, 2002).

Common Agricultural Policy (CAP) plays an important role in agricultural development in Romania. CAP is designed as a unitary policy, regardless of farm size. Romania gradually integrates into the CAP implementation mechanisms and should reflect seriously on how common European policy is affecting its agricultural structure. Today, CAP represents for Romania mainly subsidies for producers and rural development money. Only that, the balance between the two is in the opposite direction of that seen in Western countries, meaning that rural development in Romania has allocated more funds than subsidized farms.

Financially and politically, direct payments support is the most important element of the CAP. Funds allocated to direct payments are distributed in each Member State in accordance with a relevant model, chosen for the implementation of single farm payments.

## **2. CAP reforms and the introduction of direct payments in the European Union**

Since its inception, CAP has been shaped by successive reforms, due to constant internal and external pressures (Yrjölä and Kola, 2001; Garzon, 2006; Swinnen, 2008), such as internal budgetary problems and international trade obligations negotiations (Swinnen, 2008; Cunha și Swinbank, 2009).

MacSharry reform (1992) changed the first instruments of the CAP, which involved a breach of CAP real historical model, the main actions pursued being liberalization of agricultural prices, by reducing the safeguard system to eliminate agricultural surpluses and world agricultural price alignment,

and agricultural supply control (Cunha și Swinbank, 2009). The major change was the shift from price support system, to income based support to farmers through direct payments.

The most important element of the CAP reform, Agenda 2000, was the split in two pillars: Pillar I, which includes direct payments and market interventions, and Pillar II that focuses on rural development necessary for a competitive agriculture. Then the environmental component was introduced as being mandatory to agriculture, which has forced farmers environmental standards. With these changes were also introduced subsidies to producer groups and young farmers.

"Fischler reform" in 2003, originally named Mid Term Review has brought significant changes, breaking the link between production and subsidies or "decoupling", payments criteria for "single farm" being introduced, for the reason to get rid of production which stood at the subsidies. Then channeling funds from Pillar I to Pillar II started (Swinen, 2008).

The main element of this reform was the introduction of single farm payments, regardless of structure of production and two new tools, namely "cross-compliance" and "modulation". Cross-compliance refers to the fact that farmers are obliged to follow certain rules concerning the environment and animal welfare to receive subsidies. Modulation is actually moving funds from Pillar I to Pillar II, ie subsidies, to rural development, this being achieved by reducing subsidies to large farms. The Fischler reform impact was the shift from quantity-oriented policy, to quality-orientation, free market and rural development. The 2003 reform aims not only to increase the competitiveness of agriculture and to encourage market orientation of production, but also to increase the importance of rural development by introducing new measures and the transfer of significant financial resources from Pillar I to Pillar II of CAP.

The main purpose of these reforms was to strengthen the position of the European Union (EU) in negotiations under the World Trade Organization (WTO) (Viaggi, 2011). However, the introduction of payments on the grounds of historic criteria largely kept the scope and distribution of budget funds of the CAP in Member States and between Member States farmers.

Future of CAP direct payments will change with the new reform post- 2013, in terms of size, type and justification, conferring the direct payments to EU farmers. It is unlikely for Member States to raise their contributions to EU budget after 2013, but pressure will certainly increase from net contributor Member States to reduce CAP spending (Begg, 2005, Begg et Heinemann, 2006. Begg et al., 2008). There is a possibility of re-nationalization of CAP Pillar I, that Member States will be obliged to co-finance the Common Agricultural Policy, supporting direct incomes from national funds (Grybauskaitė, 2008).

Pressures for uniformity levels for direct payments between Member States will also increase. Because spending on direct payments to farmers accounts for two thirds of the CAP budget, the average value of direct payments granted in the EU will drop, probably due to pressure from some Member States to eliminate them. The continuation to support incomes through direct payments may depend on reducing their redistributive nature (Begg and Heinemann, 2006, Cipriani, 2007) and by finding a new justification for their existence, such as providing public agricultural goods (Yrjölä and Kola, 2004; Begg et al, 2008; Bureau and Mahe, 2008).

European agricultural interest groups and policy makers highlights the importance of the current direct payments system, for maintaining European agricultural production and argue that abolishing or reducing global payments would have large negative effects on production levels, with repercussions on trade in agricultural products in EU. However, recent studies conducted by Nowicki et al. (2009) and Vrolijk et al. (2010) suggests that the elimination of direct payments should not have a negative impact on agricultural production in EU-27. They also argue that the negative effects of eliminating direct payments could be more significant in the individual Member States, regions, goods or types of farms.

### **3. Implementing direct payments in EU Member States**

Pillar I of the CAP is financed entirely from the EU budget, through the European Agricultural Guarantee Fund (EAGF). Instruments within this pillar are: open market interventions, coupled subsidies and direct payments. Pillar I is oriented towards agriculture as economic branch through direct payments (subsidies) and market interventions, and represents "traditional PAC". Under Pillar I, the most important tool to support smaller farms is direct payments. Direct payment system was changed significantly along with the 2003 CAP reform, when it was introduced The Single Farm Payment (SPS), which replaces the previous direct payments.

When introducing the SPS, Member States had three main options for calculating the value of payment entitlements: on the basis of the payments received by the individual farmer during a reference period (historical model) resulting in different aid levels per hectare; taking all payments received in a region and divide them by the number of eligible hectares (regional model) resulting in a flat rate; a mixture between these two models (hybrid model) that can be static or dynamic (with the latter approximating both elements towards a flatter rate).

As shown in Table 1, the countries in Eastern Europe that joined the EU in 2004 and 2007, have entered a different payment scheme than older members of the Union, namely the EU-15 countries, which entered Single Farm Payment model and EU-12 countries that entered Single Area Payment Scheme (SAPS).

**Table 1 : Model of direct payments implementation in EU Member States**

Member States	Start date	Model SPS /SAPS
<b>UE-15</b>		
Belgium	2005	SPS historical
Denmark	2005	SPS dynamic hybrid
Finland	2006	SPS dynamic hybrid moving to a flat rate
France	2006	SPS historical
Germany	2005	SPS dynamic hybrid moving to a flat rate
Greece	2006	SPS historical
Ireland	2005	SPS historical
Italy	2005	SPS historical
Luxemburg	2005	SPS static hybrid
Netherlands	2006	SPS historical
Austria	2005	SPS historical
Portugal	2005	SPS historical
Spain	2006	SPS historical
Sweden	2005	SPS static hybrid
United Kingdom	2005	SPS dynamic hybrid moving to a flat rate
<b>UE-12</b>		
Bulgaria	2007	SAPS
Czech Republic	2004	SAPS
Estonia	2004	SAPS
Cyprus	2004	SAPS
Latvia	2004	SAPS
Lithuania	2004	SAPS
Hungary	2004	SAPS
Malta	2007	SPS regional
Poland	2004	SAPS
<b>Romania</b>	<b>2007</b>	<b>SAPS</b>
Slovenia	2007	SPS regional
Slovakia	2004	SAPS

Source: European Commission, Agriculture and Rural Development

Successive CAP reforms have made European farmers receive annual fixed amounts which are based on historical criteria (as received in the past). Eastern Europe joined the scheme after it had been reformed; each entrant had previously their own agricultural subsidies policies, so that historical criteria could not be applied. The solution was found in the subsidy area payment: East European farmers receive money based on land owned (not necessarily grown, but maintained in good agricultural condition). The scheme was designed so that subsidies from the East to gradually adjust to the West, starting from a level of 25% on payments of the old Member States. Holdings below 1 ha do not receive European subsidies. Practically this means that 2.6 million subsistence farms do not receive subsidies.

This system allows farmers to better respond to market forces, producing what is needed today, giving farmers better options for managing the farms in a more environmentally friendly way, because farmers can receive these payments and are no longer required to grow land, but keep it in good

condition. Receiving direct payments to farmers is subject to compliance with a set of environmental standards and plant and animal health through cross-compliance.

The Single Area Payment System (SAPS) is a transitional, simplified income support scheme which was offered to the Member States who joined the EU in 2004 and 2007 (EU-12) as an option at the date of accession in order to facilitate the implementation of direct payments. With the exception of Slovenia and Malta all others have decided to apply SAPS. This scheme replaces (with some exceptions) all direct payments with a single area payment. The level of the payment is obtained by dividing the country's annual financial envelope with its respective utilized agricultural area. It is simpler than the Single Payment System (SPS) because there is no need to establish and administer payment entitlements. However it does not offer to farmers the flexibility of entitlements based on individual needs, such as sales or lease. Originally, SAPS was established for a period of up to 5 years after the accession. Following the Health Check of the CAP Reform, SAPS will remain in place until the end of 2013.

The management of Single Area Payment System is up to each Member State, being able to share regional subsidies. They can do a number of options when distributing money to farmers: the historical average payment is divided by the number of hectares per farm; in a region, the average total payments are divided by the total number of hectares of a farm, to provide the region a uniform flat rate per hectare payment; the level of payments between arable land and pastures is variable; uniform regional payment can be combined with a pay-per-farm, depending on commodity/product (Kelch et al., 2004).

Member States may determine the minimum size and total area of farms that are eligible for SPS. The minimum size of a farm that can receive direct payments is 0.3 hectares. In the arable sector, states have the right to retain up to 25% of direct payments coupled to production (Zahrnt, 2009). Thresholds for minimum eligible area for direct payments under Pillar I is found in Table 2.

**Table 2: Minimum area size eligible for direct payments in EU Member States**

Minimum levels					
Member States					
EU-15	Value in Euro	Ha	Member States EU-12	Value in Euro	Ha
Austria	200	2.0	Bulgaria	200	0.5
Belgium	400	2.0	Czech Republic	200	5.0
Denmark	300	5.0	Estonia	100	3.0
Germany	300	4.0	Cyprus	300	0.3
Ireland	200	3.0	Latvia	100	1.0
Greece	400	0.4	Lithuania	100	1.0
Spain	300	2.0	Hungary	200	0.3
France	300	4.0	Malta	500	0.1
Italy	400	0.5	Poland	200	0.5
Luxemburg	300	4.0	<b>Romania</b>	200	0.3
Netherlands	500	2.0	Slovenia	300	0.3
Portugal	200	0.3	Slovakia	200	2.0
Finland	200	3.0			
Sweden	200	4.0			
United Kingdom	200	5.0			

Source: European Commission

#### 4. Applying the Single Area Payment System in Romania

Although the CAP was originally intended to protect medium sized family farms, subsidies tend to focus to big ones. Environmentalists argue that they destroy the environment by intensive agriculture, while those who campaign to combat global poverty say it is unfair that the European taxpayers money go to subsidize large farms, that would still do well without this money, having effects against poor peasants. In Romania, the gap between subsistence farming and large farms subsidy makes the distribution to be the most uneven one across the European Union. In Romania, about 3 million agricultural households are not eligible for SAPS because of the eligibility criteria. Direct subsidies in Romania started only from 25% of the EU-15, increased by 5% per year until 2010, then with 10% each year until 2016, when they would reach the same level.

SAPS payments remain coupled to production of certain crops and are paid even if a farmer produces nothing, as long as the land is kept in good agricultural conditions. In addition, Romania has been allowed financial supplements to complement SAPS specific crops, to encourage beneficial areas development. Part of this money came from the budget of the Second Pillar, but most were financed from the national budget (Cionga et al., 2008).

Romania was also allowed to set a minimum land area, eligible for direct payments, under the CAP. Minimum area permitted by the EU is 0.3 ha, but Romania has opted for an over to at least 1 hectare, as administrative costs for paying subsidies to a smaller area of land covered by payments would exceed the benefits. It seems, certainly, a reasonable decision, based on the fact that administrative costs to manage one hectare are around 100 euros per hectare and the government had problems with managing these funds. However, this means that 2.6 million farming families (more than half of farmers) in Romania are fully eligible for direct payments. The area in hectares for which direct payments are made in Romania in 2007-2009 can be found in Table 3.

**Table 3: Single Area Payment Scheme paid by areas in Romania in 2007-2009**

Romania	Areas for which the aid has actually been paid		
	2007	2008	2009
Total area ha	ha	ha	ha
8716000	8 448 446	8 431 589	7 861 973

Source: European Commission

The CAP system in Romania, like agriculture throughout the country, is very fragmented, with large contrasts between large and small producers. Great farmers in Romania receive the vast majority of money allocated for agriculture. Looking at the 2008 recipients of grants in Romania, 0.2% of farms received 30% of the money and if farms between 100 and 500 hectares are included, 0.9% of farms have taken 51% of CAP subsidies for Romanian (Luca, 2009). Also, we must take into account here the fact that only 30% of Romanian farms are eligible for subsidies, which is even more shocking. Of all farms receiving subsidies in Romania, 80% get between 98 and 490 euros per farm, a very small amount even in Romania (Cionga et al., 2008). This demonstrates that PAC money in Romania amply supports a system that already exists and, if the situation continues in this manner, will further strengthen large farms in their positions of superiority.

This difference in chances is somewhat specific to Romania. Across the EU, large farms receive the largest share of subsidies, but not as much as in Romania. In Western Europe 50% of beneficiaries receive 3% of the subsidies. The difference is explained by the communist legacy that left Romania with a plethora of former enormous state farms, over 1,000 hectares in size, which absorb CAP subsidies money. These farms receive about 17% of the above mentioned direct subsidies (Cionga et al., 2008). Given the difference in funding levels for farmers in Romania compared to the rest of the EU, Romanian small farmer is in a competitive disadvantage in most of the time. Average direct subsidy in Romania is 50 euros per hectare, while the average is 252 euros per hectare in the 10 new Member States that joined in 2004, and 300.5 euros per hectare in the EU-15. Even by 2013, the Romanian medium payments will rise only to about 167 euros per hectare (Goga and Nagy, 2008). The figures are daunting and explains, perhaps, some of the pessimism of rural residents in Romania. The financial package for SAPS in Romania in 2010 was 700424 thousand euros (Table 4).

**Table 4: Annual financial envelopes for the single area payment scheme in 2010**

Member States	Single Area Payment Scheme (1000 Euro)
Bulgaria	326,671
Czech Republic	581,177
Estonia	70,531
Cyprus	34,898
Latvia	95,653
Lithuania	262,311
Hungary	831,578

Poland	1,994,196
<b>Romania</b>	<b>700,424</b>
Slovenia	268,304

Source: European Commission

Economic effects of direct payments are: allows farmers easy access to bank loans; subsidized production costs leading to a distorted allocation of resources in favor of less efficient producers, that have important land resources; contributes to workforce surpluses preservation in agriculture; increases the value of farmland and indirectly impairs the consolidation of farms; administrative costs of these measures are quite high, namely 6.7% in France, 8.5% in Italy and about 12% in Romania; granting direct payments does not induce the development of long-term investment programs (Zahrnt, 2009).

## 5. Conclusions

Most people in rural areas are not sufficiently prepared to meet the conditions of direct payments access and / or financial support available to producers through the common market organizations, through the support measures for rural development. They also have no material resources, necessary to meet community standards in the farm business diversification, environmental protection, products quality, compliance with veterinary and plant protection, occupational health and safety.

Due to the current economic crisis, several projects were abandoned, targeted to be implemented in 2009-2013 and part of the ongoing ones became unable to continue longer. These things happened because of lack of financing from potential investors, the extremely high loan costs from financial institutions and non-bank entities.

The major problems of agriculture in Romania are: lack of major investments in agriculture (not because of lack of funds for financing, but rather difficult access to them), land fragmentation, property disputes and poor technology.

Studies by Van Everdingen (1999) and Van Hecke (2001) found two causes of backwardness of small farms, namely subsistence, characterized in particular by the family business and with no employees from outside medium. Described causes are the alignment difficulty due to modern standards and technology, caused by reduced size and accumulation of debt, or the inability of effective financial management. Among rising discrepancies reasons between subsistence farms in Romania and the rest of the European Union we can specify the characteristics of the two ideas described above, having special effects in underdeveloped countries calling the need for distinct actions to counteract.

Even though subsistence and semi-subsistence farms are not excluded from Pillar I direct payments, due to their small size, get very small help or do not receive anything being below minimum required surface levels. Distribution of direct payments between small and large farms has been questioned regularly, at least not in terms of social cohesion. It is recalled that most of the direct payments were established as compensation for loss of income due to lower support prices. For this reason, it is normal for a large firm, producing more than a small farm and having a more severe loss of revenue, therefore, be compensated more than a small farm. Without visible results in the evolution of these structures, it is difficult for Romanian agriculture to reach West European levels, in short or medium time at least. However, over time, direct payments have lost their compensatory character and became a support to ensure stability of farm incomes and, in combination with cross-compliance, promotes sustainable agricultural activities.

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## THE CONVERGENCE OF EURO AREA COUNTRIES IN TERMS OF OPTIMUM CURRENCY AREA THEORY

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**Abstract:** *The aim of this paper is to analyze whether the Euro zone is an optimal currency area. The analysis takes into consideration the existing literature and the empirical data for several criteria of the optimum currency area theory. Since the introduction of the euro there have been significant advancements in fulfilling some of the criteria, but there is still a need of further progress in terms of labour mobility, financial, fiscal and political integration. The final conclusion is that Euro zone is not an optimum currency area.*

**Key words:** euro, optimum currency area, Economic and Monetary Union, adjustment.

**JEL classification:** E 42, F 15, F 33

### 1. Introduction

The theoretical foundation for all the studies regarding currency areas is represented by the optimum currency area (OCA) theory, formulated by Mundell in 1961. He describes the concept of an optimum currency area as the space where production factors, especially labour, are mobile.

Before the introduction of the European currency, there were many concerns about the lack of homogeneity between the economies willing to adopt the single currency. Sceptical opinions were based on the risk posed by forming a currency area without adjustment mechanisms against asymmetric shocks. Largely, these debates created by American economists, worried about the capacity of the newly created currency area to withstand asymmetric shocks.

Despite all these concerns, the euro was introduced and, at its tenth anniversary, it was considered a success. Still, it remained an open question if national economies will prove to be flexible enough in order to allow the smooth adjustment in the event of a significant asymmetric shock or a financial crisis.

In 2007, the financial crisis came and exposed the euro area to a number of asymmetric shocks. The economic diversity and the small level of labour mobility made it difficult to benefit from a proper adjustment, some countries being hit harder than the others. The concerns raised before introducing the single currency seem mild comparing to the present ones, which talk about the break-up of the euro area. Taking into consideration that optimality criteria have been emphasized as major adjustment mechanisms to asymmetric shocks, it is important to study if their level is high enough in order to counteract the negative effects.

The paper is structured as follows: Section 2 summarizes the theoretical aspects of optimality criteria as adjustment mechanisms. Section 3 analyses the methods used to quantify and investigate the degree of achievement.

### 2. Review of the literature on optimum currency area criteria

The optimality criteria evolved significantly since the initial contributions of Mundell (1961), McKinnon (1963) and Kenen (1969), creating a new theory of optimum currency areas. The three economic criteria, referring to labour mobility, product diversification and commercial openness have been joined by those regarding to political aspects, which refer to indentifying the probability that different states offer reciprocal help when confronting with asymmetric shocks. According to Wyplosz and Baldwin (2009), political criteria refer to fiscal transfer mechanism, the homogeneity of preferences and the solidarity among countries.

The first economic criterion was introduced by Mundell when formulating the concept of optimum currency area. He described it as the space where production factors, especially labour are perfectly mobile. The optimum circulating area of a currency is defined by reporting to the economic criterion of labour mobility degree and not according to the political criterion of the territory of the states constituted as international law subjects or other geographical benchmarks (Cerna, 2006).

From this criterion, referring mobility of factors of production there can be distinguished two other criteria: price and wage flexibility and free capital movements.

Wage and price flexibility is very important since the lack of this condition makes exchange rate variation the only adjustment mechanism left. In this case, losing the direct control on the instrument of exchange rate represents a cost.

In 1962, James Ingram pointed out that financial integration can reduce the necessity of exchange rate adjustments. Through this criterion, a currency area appears as a totally financial integrated area in which that is the possibility of financing the eventual private and public deficits without any pressures on the exchange rates or interest rates.

The second criterion for defining the optimality of an area is product diversification, introduced by Peter Kenen. Essentially, this criterion suggests that member countries of a currency area must have a very diversified production in order that the shocks caused by a change in demand to be symmetric or to have little effects that do not recall frequent adjustments of the exchange rate. In consequence, the most exposed countries to the risk of being affected by severe shocks are those specialized in a short range of products. Demand decrease for the goods exported affects only these countries, producing an asymmetric shock. Contrarily, countries with a diversified production will be less affected by negative shocks on a certain product since its share in total production is reduced.

Professor Ronald McKinnon suggested the third economic criteria, the degree of economic openness. According to this criterion, countries that are more open to each other can form a monetary union since renouncing to exchange rate as an adjustment mechanism in the event of asymmetric shocks do not create large costs. The degree of economic openness is quantified by the share of exports and imports in GDP.

Fiscal integration manifested through fiscal transfers suggests that countries accept compensating mechanism in the event of negative shocks. These type of transfers works as a common insurance mechanism against shocks since, often, the country that offers its help to another country might need it back in the future.

Homogeneity of preferences assumes that the member countries reach an agreement regarding the way of solving effects created by shocks. This criterion is needed since there are many ways of approaching an economic problem. The members of a currency area should agree, considering the policy, to trigger the inflation or the unemployment or other common approaches.

### **3. Empirical assessment of OCA criteria**

The European Monetary Union offers plenty of data for empirical research on the complex aspects of the optimum currency area theory. In order to analyze the degree for the fulfilment of the OCA criteria by euro area countries, we will test each criterion. Although this approach is often criticized for the lack of an integrated structure that can offer a precise view of the costs and benefits of joining a currency area, we consider it as a detailed assessment of the state of convergence.

#### **3.1 Labour mobility and labour market integration**

The current euro area situation is very unstable. The second major currency area after the USA is the subject of numerous shocks that can have different consequences on the individual member states in terms of growth and inflation. In this context, losing direct control on monetary policy and exchange rate policy can be considered a loss in terms of flexibility. For euro area to be considered an optimum currency area, as it is mentioned in the literature, the flexibility should increase in other fields in order to compensate the loss.

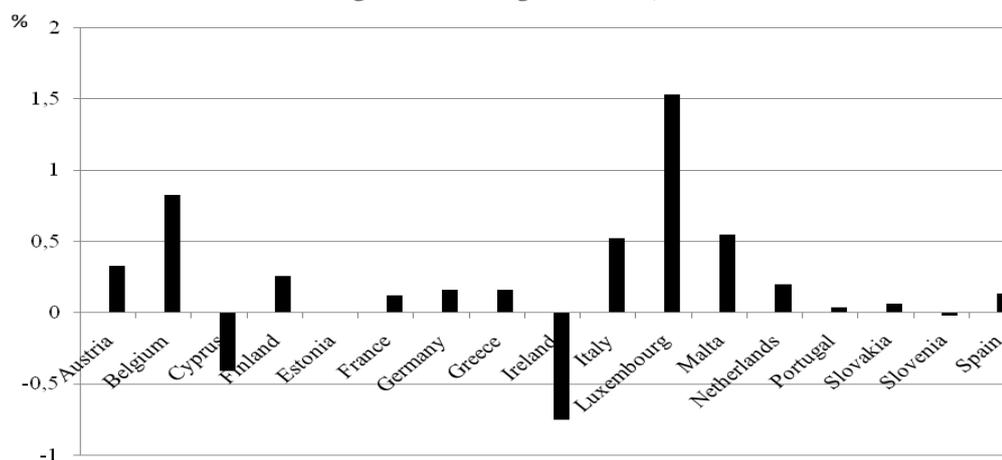
Internal labour mobility deals with movements of working age population between euro area regions. Measuring labour mobility is not an easy task. Another shortcoming of the empirical findings is the lack of clarity regarding the appropriate rate of labour mobility. In addition, there are no EU data sources to indicate the arrivals and departures and the data from the census conducted in 2011 are not compiled, leaving us with few alternative indicators for labour mobility.

One of the most important indicators for quantifying the degree of labour mobility is the net migration rate (Gakova and Dijkstra 2010). This indicator shows the difference between the number of people who arrived and left during one year as a percentage of the total annual population. More specifically, we used the crude ratio of the net migration during 2010 as a proportion in the average population from that year. This rate of net migration is equal to the difference between the crude rate of change and the crude rate of natural change.

The limits of this indicator are: it covers the entire population, rather than just those of working age and it includes movements in and out of the euro area instead of just movements within the EU.

Despite all these limits, net migration rate is a good source for identifying regions losing and gaining working age population from within the EU.

**Figure 1: Net migration rate, 2010**



Source: Author (based on data from <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/>, accessed on March 2012)

Latest available data on net migration rate, presented in Figure 1, shows that the highest level of the net migration rate is registered in Luxembourg, while the lowest, showing a negative value, is registered in Ireland. Overall, these values indicate a low level of labour mobility.

**Table 1: Net migration in the euro area countries**  
(Average annual net migration as a share of population in per cent)

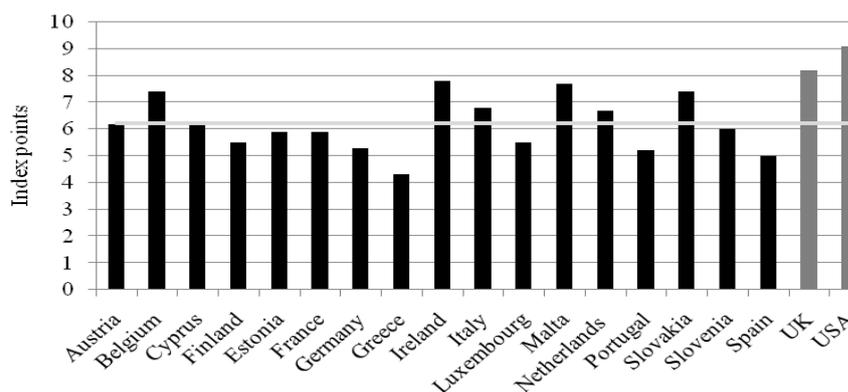
Country	1991-2000	2001-2010	Country	1991-2000	2001-2010
<b>Austria</b>	0.30	0.45	<b>Portugal</b>	0.19	0.34
<b>Belgium</b>	0.14	0.49	<b>Spain</b>	0.33	1.12
<b>Finland</b>	0.12	0.19	<b>Greece</b>	0.68	0.33
<b>France</b>	0.05	0.22	<b>Cyprus</b>	1.01	0.98
<b>Germany</b>	0.41	0.11	<b>Malta</b>	0.18	0.43
<b>Ireland</b>	0.30	0.68	<b>Slovakia</b>	-0.09	0.06
<b>Italy</b>	0.06	0.65	<b>Slovenia</b>	-0.05	0.34
<b>Luxembourg</b>	0.95	1.17	<b>Estonia</b>	-0.98	0.01
<b>Netherlands</b>	0.24	0.08			

Source: Author (based on data from <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/> accessed on March 2012)

Also, data considering net migration in the euro area can be analysed by comparing the available data on longer periods of time, which comprise the situation before and after adopting the euro. As Table 1 shows, the higher net migration average is registered in Luxembourg and the lowest in Estonia.

Another indicator that can be used in analysing labour mobility refers to labour market regulation. The sub-indices provided by the Economic Freedom of the World Index on labour market freedom comprise an evaluation of minimum wages, hiring and firing regulation and centralised wage bargaining. The values of this index can range between 1 and 10; higher levels indicating a higher level of freedom (Zemanek, 2011).

As Figure 2 shows, the euro area countries registered in 2009 lower levels of the overall index for labour market regulation, indicating this way that the labour market freedom is higher in the United States and the United Kingdom.

**Figure 2: Overall labour market regulations in the euro area, 2009**

Source: Author (based on Fraser Institute (2011) *Economic Freedom of the World 2011*, Annual Report, accessed on March 2012 at [http://www.freetheworld.com/2011/reports/world/EFW2011\\_complete.pdf](http://www.freetheworld.com/2011/reports/world/EFW2011_complete.pdf))

The figures previously presented are in accordance to many other studies that analysed labour mobility, showing a low level, especially when comparing to the situation from the USA.

This is not surprising taking into consideration the fact that there has been registered low geographical mobility of workers within the member countries themselves (Broyer, Caffet and Martin, 2011). The internal mobility in one country can be measured by the dispersion of intra-regional unemployment rates which is far greater in the major member countries of the European Monetary Union comparing to the United States. Thus, taking into consideration that the citizens of the euro area are relatively reluctant to change regions within a given country, it is not hard to understand why they are not willing to change countries.

Even though there have been registered unfavourable results in previous studies, it is possible that dynamic adjustment mechanisms to improve in the euro area. It is common to argument the fact that a monetary union will encourage changes endogenously in the economies of the member countries in order to become compatible with optimum currency areas theory ex post even though this could not be realised ex ante (Goodhart, 2006).

Given these endogenous prospects, many thought that it is interesting to test if, after so many years since euro's introduction, the results are still relevant and if the dynamics of labour adjustments have been modified comparative with those observed in the United States. Thus, there are few evidences about ex post improvements regarding euro area's experience. More pessimistic opinions show that there is no indication that labour mobility has increased in Europe.

Even though every citizen of the European Union has the right to work or live in another member state, few people choose to do so. Free movement of citizens is one of the fundamental rights guaranteed to the European Union citizens. Low labour mobility levels prove the fact that there are other barriers that determine people not to move from a country to another.

The most important barrier, which is almost always mentioned by the surveyed populations, is the distance from the family. In 2011, a study of Natixis, gathered the most suggestive eight types of obstacles to the geographical mobility of workers (Broyer, Caffet and Martin, 2011, p.9): the language and, in general, cultural barriers; the lack of available information; legal and administrative barriers; recognition of diplomas; the heterogeneity of tax and social systems; accommodation; the lack of transport infrastructure; employment for the partner/spouse.

These barriers do not only prevent mobility but also lead to potentially negative effects. As a consequence of these restrictions, people can be affected by the employment beneath the real level of their qualification.

The geographical mobility of labour is therefore still extremely low in the euro area. In order to address economic divergences, the solution is to create a coherent framework to eliminate the impediments faced by the European citizens who are willing to move to another country in the area.

### 3.2. Diversification of production

The criterion advanced by Kenen, referring to the degree of product diversification, represents another element needed to be quantified in order to calculate the optimum currency area index. Empirically, the degree of product diversification triggered little attention, the indicator used to quantify this feature being represented by the external structure of trade.

Countries with a diversified production benefit more from monetary unification since the shocks that affect one part of the market can be compensated by the sectors that were not affected. In order to quantify the degree of product diversification, we have analysed the structure of exports by sectors for each euro area country using the methodology suggested by Bayoumi and Eichengreen (1997). In table 2 we present the share of each sector in the total exports of euro area from 1999 to 2010. The products are classified using SITC methodology.

**Table 2: Share of each sector in total exports in the EMU (%) (1999-2010)**

Sector/Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Food, drinks and tobacco</b>	8,3	7,7	7,8	8,0	8,1	7,7	7,7	7,4	7,6	8,0	9,0	8,4
<b>Raw materials</b>	2,6	2,6	2,4	2,5	2,5	2,7	2,7	2,9	3,0	3,0	2,8	3,2
<b>Mineral fuels, lubricants and related materials</b>	2,2	3,1	2,9	2,9	3,2	3,3	4,7	5,3	5,1	6,5	5,1	5,8
<b>Chemicals and related products</b>	13,3	13,5	13,9	15,2	15,4	15,6	16,0	16,0	16,2	16,1	18,0	17,8
<b>Other manufactured goods</b>	27,9	27,3	27,0	26,9	26,5	26,7	26,4	27,0	27,0	26,3	25,8	25,6
<b>Machinery and transport equipment</b>	43,4	43,8	43,8	42,5	42,0	41,8	40,8	39,7	39,6	38,2	37,2	37,0
<b>Commodities and transactions not classified</b>	2,4	2,1	2,2	2,0	2,2	2,3	1,8	1,7	1,6	2,1	2,1	2,3
<b>Standard deviation</b>	<b>15,8</b>	<b>15,8</b>	<b>15,8</b>	<b>15,4</b>	<b>15,1</b>	<b>15</b>	<b>14,6</b>	<b>14,3</b>	<b>14,3</b>	<b>13,5</b>	<b>13,3</b>	<b>13,1</b>

Source: Author (based on data from <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/> accessed on March 2012)

Table 2 shows an increase of the degree of product diversification, by analyzing the values for standard deviation. Also, it can be observed that the most important sector in the total value of trade is the one of machinery and transport equipment, even if its share has been reduced during the analysed period.

The analysis shows that there are significant differences between euro area members regarding the degree in which they comply with the criterion of product diversification. Thus, according to optimum currency area theory, the existence of these ample differences between the structure of the economies of each member state and the one of euro area represents the fact that those countries can be more vulnerable to asymmetric shocks and can react differently to the common shocks of the union.

### 3.3. The degree of trade openness

McKinnon (1963) stated that, the more a country is integrated in international trade, the more it can benefit from joining to a currency area. A simple method of quantifying the integration is the so called openness rate, presented for the first time by Bayoumi & Eichengreen (1997).

The rate trade to GDP is frequently used to measure the importance of international trade comparing to the internal trade. The indicator is determined for each country as a simple mean of trade to GDP. Thus, the term can be misinterpreted since a low level for one country does not necessarily imply tax obstacles in the way of international trade

But this is not the only definition. The trade to GDP rate is determined differently by the specialist from IMF, World Trade Organization, and OECD. Some measures use the sum of exports and imports share in GDP, while other use more complex formulas like the adjusted trade share (Squalli & Wilson, 2011). We have chosen to use in this analysis the mean between the shares of exports and imports in GDP.

Based on this formula, we have determined and structured in table 3 the rates for degree of openness for each euro area country. If we ignore the years 2009, 2010, when the international crisis led to a decrease of trade volume, all countries had a tendency to increase their openness ratio or to maintain it. It is interesting to observe that, while some countries like Luxembourg, Netherlands, Germany and Belgium increased their openness degree, the others like Greece and Italy registered a slight increase or a negligible change.

The highest levels of openness degree were registered in Luxembourg, Belgium, Ireland, and Netherlands. The fact that Ireland has the highest level can be explained by comparing the magnitude of the shares of intra and extra euro area trade as a percentage of GDP. The strong trade relations between Ireland and Great Britain partially explain the fact that this country is characterized by a high level of trade openness.

Another important conclusion is that most of the euro area countries (Germany, France, Italy and Spain) tend to be relatively closed, in contrast with smaller countries (Luxembourg, Belgium, Ireland, Netherlands) that have higher levels of trade openness.

**Table 3: EMU countries openness ratio (%): 2002-2010**

Country/Year	2002	2003	2004	2005	2006	2007	2008	2009	2010
Austria	46,7	46,9	50,0	52,2	54,4	56,8	56,5	49,6	50,2
Belgium	74,1	71,7	74,3	78,2	80,4	81,5	85,4	71,8	72,0
Cyprus	51,6	47,6	49,0	49,6	49,9	52,0	52,8	42,7	42,4
Finland	35,7	35,1	36,5	39,6	42,7	43,2	45,1	34,3	35,3
France	26,3	25,1	25,7	26,5	27,4	27,5	27,7	23,5	23,9
Germany	33,5	33,7	35,9	38,5	42,6	43,4	44,2	39	39,4
Greece	27,9	26,2	27,2	27,0	27,9	28,3	28,4	22,7	22,7
Ireland	85,5	75,8	76,5	75,9	74,9	75,8	78,4	82,4	84,0
Italy	25,3	24,3	25,0	26,0	28,2	29,1	29,1	23,7	23,9
Luxembourg	130,9	125,1	140,3	143,1	153,2	160,6	156,6	139,1	141,6
Malta	83,2	81,7	81,3	80,1	89,6	91,2	83,3	69,2	68,8
Netherlands	60,9	59,9	62,7	65,4	69,0	70,5	72,6	64,0	64,4
Portugal	32,2	31,3	32,3	33,0	35,1	36,6	37,8	31,5	31,7
Spain	28,4	27,5	27,9	28,4	29,5	30,3	29,5	24,4	24,5
Slovenia	54,7	54,1	58,7	62,3	66,8	70,4	69,2	55,9	55,9
Slovakia	74,7	76,8	75,9	78,6	86,4	87,0	83,8	72,7	71,3

Source: Author (*Statistical Annex to European Economy – Autumn 2010*, European Commission [http://ec.europa.eu/economyfinance/publications/publication\\_summary16104\\_en.htm](http://ec.europa.eu/economyfinance/publications/publication_summary16104_en.htm))

Taking into consideration the fact that there are opinions that trade has been influenced by the unification process between euro area countries (endogeneity hypothesis), another approach is to analyze the openness degree in euro area, considering only the trade inside euro area. This data shows that the core countries have increased their trade with the rest of the euro area countries, while the periphery ones have registered a smaller trade after joining currency area.

The criterion of trade openness is fulfilled only by some of the member countries in the euro area. One of the limits of the analysis is the lack of an optimum level that can assure the adjustment in the event of asymmetric shocks.

### 3.4. Similarity of inflation rates of euro area countries

Fleming (1971) sustained the need of similarity between inflation rates as a criterion of the optimum currency area theory. Thus, when inflation rates of euro area member countries are stable and similar, then the terms of trade will remain stable, reducing the incidence of external imbalances and the need of adjustment through the exchange rate (Silva & Tenreiro, 2010).

Table 4 presents the increase in the Harmonised Index of Consumer Prices (HICP) for the euro area. The objective of the European Central Bank to maintain inflation rates below, but close to, 2%, has been accomplished in 1999, 2009 and 2010; in the other years the inflation rate being close to the reference value. But there are significant differences among countries: Greece, Ireland and Spain have registered high values.

**Table 4: Inflation rates in the EMU countries (%): 1999-2010**

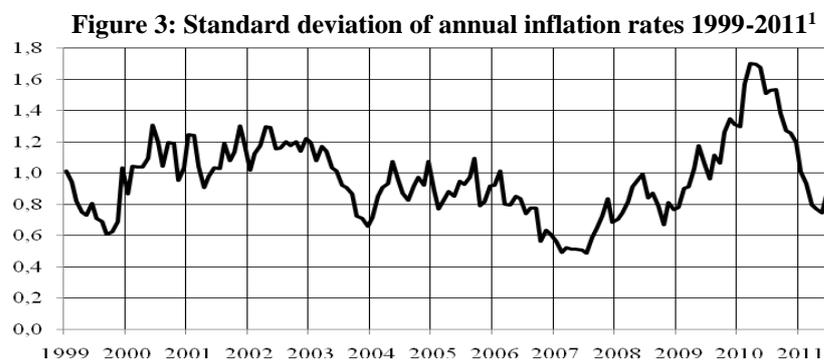
Country/Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Austria	0,5	2,0	2,3	1,7	1,3	2,0	2,1	1,7	2,2	3,2	0,4	1,7
Belgium	1,1	2,7	2,4	1,6	1,5	1,9	2,5	2,3	1,8	4,5	0,0	2,3
Finland	1,3	2,9	2,7	2,0	1,3	0,1	0,8	1,3	1,6	3,9	1,6	1,7
France	0,6	1,8	1,8	1,9	2,2	2,3	1,9	1,9	1,6	3,2	0,1	1,7

<b>Germany</b>	0,6	1,4	1,9	1,4	1,0	1,8	1,9	1,8	2,3	2,8	0,2	1,2
<b>Greece</b>	2,1	2,9	3,7	3,9	3,4	3,0	3,5	3,3	3,0	4,2	1,3	4,7
<b>Ireland</b>	2,5	5,3	4,0	4,7	4,0	2,3	2,2	2,7	2,9	3,1	-1,7	-1,6
<b>Italy</b>	1,7	2,6	2,3	2,6	2,8	2,3	2,2	2,2	2,0	3,5	0,8	1,6
<b>Luxembourg</b>	1,0	3,8	2,4	2,1	2,5	3,2	3,8	3,0	2,7	4,1	0,0	2,8
<b>Netherlands</b>	2,0	2,3	5,1	3,9	2,2	1,4	1,5	1,7	1,6	2,2	1,0	0,9
<b>Portugal</b>	2,2	2,8	4,4	3,7	3,3	2,5	2,1	3,0	2,4	2,7	-0,9	1,4
<b>Spain</b>	2,2	3,5	2,8	3,6	3,1	3,1	3,4	3,6	2,8	4,1	-0,2	2,0
<b>Euro area</b>	1,1	2,1	2,3	2,2	2,1	2,1	2,2	2,2	2,1	3,3	0,3	1,6
<b>Std. deviation</b>	<b>0,72</b>	<b>1,03</b>	<b>1,06</b>	<b>1,13</b>	<b>0,97</b>	<b>0,85</b>	<b>0,73</b>	<b>0,53</b>	<b>0,71</b>	<b>0,92</b>	<b>1,43</b>	<b>0,72</b>

Source: Author (based on data from <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/> accessed on March 2012)

Before the financial crisis, the standard deviation of the inflation rates in euro area countries was relatively stable (Figure 3). During the crisis, there has been registered an increase in standard deviation, with a peak in 2010.

In 2010, the highest level of inflation rate was registered in Greece (4,7%) and the lowest in Ireland (-1,6%).



<sup>1</sup>Austria, Belgium, France, Italy, Spain, Greece, Netherlands, Germany, Finland, Portugal and Ireland.

Source: Author (based on data from <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/> accessed on March 2012)

The problem raised by the differences between inflation rates is that the European Central Bank establishes the exchange rate according to inflation rate in euro area, fact that implies that the “one size fits all” rule does not match the real conditions (Gregoriou & Kontonikas, 2011).

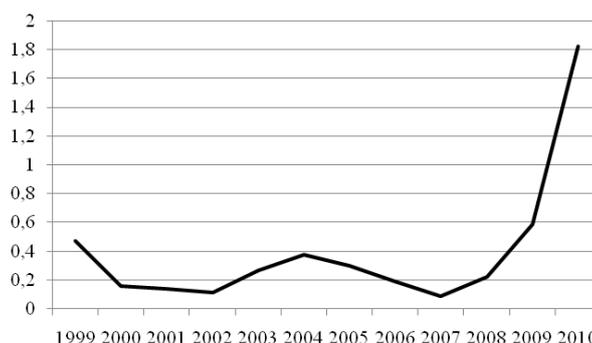
Concluding, the use of standard deviation of inflation rates shows that between 1999 and 2010 there were periods of divergence and convergence between euro area countries.

### 3.5. Financial market integration in euro area

According to Ingram (1962), financial integration can reduce the need for adjustment through exchange rate. The effects of temporary asymmetric shocks can be diminished through capital flows. The existence of a high degree of financial integration implies that even modest changes in interest rate would equilibrate capital flows between partner countries (Mongelli, 2008).

One of the measures for financial integration is represented by the interest rate of public debt. Thus, figure 4 presents the values for standard deviation of interest rates on ten years government bonds for eleven euro area members (Austria, Belgium, France, Italy, Spain, Netherlands, Finland, Greece, Ireland, Portugal, and Germany). Luxembourg was excluded due the lack of data availability.

**Figure 4: Interest rates on EMU Governments Ten Years Bonds (%) (1999-2010)**



Source: Author (based on data from <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/> accessed on March 2012)

From figure 4 it can be observed a tendency of convergence in the first years since the creation of euro area, fact proven by the decrease of standard deviation. This tendency has been modified starting with 2007, as an effect of the financial crisis (European Central Bank, 2011). The divergence of ten year government bonds reflects the increase of sovereign risk, as well as the liquidity risk, exacerbated by market overreaction. Liquidity risk persistence represents a threat to financial markets.

The analysis, even though it has many limits, as a consequence of using only one indicator that focuses on one sector of the financial market, shows an increase in convergence especially before the financial crisis.

### 3.6. Fiscal integration in euro area

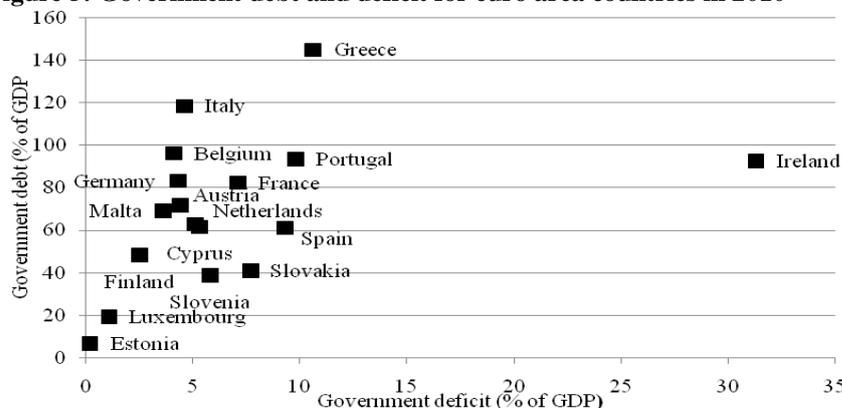
According to Mongelli (2002), fiscal integration has three main dimensions: fiscal convergence degree, the capacity of absorbing shocks through fiscal stabilization and public risk sharing facility.

Fiscal stabilization means that euro area countries can face severe economic imbalances if they have accomplished medium term targets imposed by the Stability and Growth Pact. Regarding the fiscal convergence, this can be analysed looking at the degree in which euro area member countries met the requirements imposed by the Stability and Growth Pact.

Financial crisis brought to attention the divergences between countries regarding the way they accomplish the levels imposed for government debt and deficit. Although there were differences between member countries since euro introduction they have become more significantly recently as a result of the influence of financial crisis.

Taking into consideration that the Stability and Growth Pact establishes limits for public finance situation, in figure 5 we have presented the positioning of member states considering the levels for public debt and government deficit registered in 2010.

Figure 5: Government debt and deficit for euro area countries in 2010



Source: Author (based on data from <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/> accessed on March 2012)

Thus, it can be observed that periphery countries (Greece, Ireland, Italy, Portugal and Spain) did not maintain the discipline regarding the situation of public finances compared to the core countries. The existent divergence between euro area countries is not a favourable situation for the functioning of the union.

The third dimension of fiscal integration is represented by the risk sharing facility offered by a supranational budget. Thus, the countries confronting with asymmetric shocks can receive transfers from the countries that do not face problems. According to de Grauwe (2010), the main problem of euro zone construction is the lack of a centralized budget that constitutes an automatic solidarity mechanism in times of crisis. The present financial assistance offered to a state that confronts with problems does not represent a fiscal transfer, but a loan that needs to be fully repaid and that carries an interest rate.

Automatic transfers do not solve the adjustment problems of the states, but reduce the necessity to use financing from the capital markets. Thus, the existence of a centralized budget creates an automatic solidarity mechanism that allows the countries confronting with a negative shock to attract resources from other countries without needing an explicit process for taking this decision.

The criterion regarding fiscal integration is far from being satisfied. Even though it is not established that the countries offer assistance between them, some events, like the actual crisis can determine them to turn to it in order to assure the functionality of the monetary area.

#### 4. Conclusions

The present financial crisis represents an important motivation to intensify the debates regarding the optimality of euro area, taking into consideration that it has been affected by important imbalances. The economic divergences in euro area have raised questions regarding euro area optimality. In order to increase the resistance of member countries to asymmetric shocks, a real adjustment mechanism is needed.

Our study showed that labour mobility is still low even though there are more than ten years since the introduction of the euro. This situation was caused by several obstacles, especially the language barrier. Though, one of the most important factors is, in our opinion, the weak inclination for mobility of the citizens in the euro area. This is already visible at the national level. Also, there is small evidence that endogenous forces have improved labour mobility in euro area after the introduction of the single currency.

The results regarding diversification of production and openness degree indicate the fact that there are numerous divergences between member states. Also these results should be regarded carefully since there is no unity in the measures used and the benchmark level.

Considering the criteria of inflation rate similarity and the degree of financial integration, the analysis shows that there have been made advancements since the introduction of the euro area, but the financial crisis seriously deteriorated the degree of fulfilment.

An unfavourable situation is registered in the case of fiscal integration. The fiscal convergence has not been reached in any year since euro creation, member countries presenting very different levels of fulfilling the criteria of public finance situation.

The most important dimension of the degree of fiscal integration is represented by the necessity of a fiscal transfer mechanism. Its creation is often invoked as a solution for euro area salvation.

Despite all the existent limits in conducting the analysis on euro area optimality, it can be stated that there are needed more efforts in order to achieve an optimum level for all the criteria of the OCA theory. Thus, the lesson that should be learned from the experience of the euro area is that a monetary union should not be formed without sufficient real convergence which will allow the adjustment in the face of contradictory evolutions of competition through different mechanisms. The lack of sufficient convergence from the perspective of the optimum currency area theory will make the adjustment process longer and more painful.

#### 5. Acknowledgements

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**POLICY IMPLICATIONS OF GLOBALIZATION'S VISIBLE AND HIDDEN EFFECTS**

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**Abstract:** *Globalization continues to head the debate over the new economic order and its complexity fuels the arguments of both supporters and opponents. Nevertheless globalization creates practical situations for governments that need to make decision with major implications for the national social and economic life. Departing from this point the paper addresses the need of decision makers by providing information and explanation on the national effects and their rational. The operational potential of this information is hindered by the balanced support of facts for both side reasoning.*

**Key words:** globalization, international organizations, transnational corporations, resistance

**JEL classification:** F 20, F 40, F 50

## 1. Introduction

The history of globalization starts with the history of humankind. Facts that support this are the migrations for seeking better environmental conditions, richer resources, trade opportunities by valuing progresses in transportation, and following ancestral patterns of territorial expansion. Globalization starts with the massive migratory flows by the discovery of new continents and territories and establishment of empires and intensifies in the industrialization era.

Growth of inter-state trade, based on stable institutions authorized to make exchange of goods with other states, occurs before the period of trade liberalization named "The first era of globalization" that is featured by *Pax Britannia*, gold as economic standard in world trade (1850-1880). The theoretical basis of this stage is well described in the works of Ricardo as "Comparative advantage" and of Say as "Law of balance". The core of these two papers is an argument that supports the idea that countries will have an efficient trade and that any drawbacks will be ruled out by the interplay between demand and supply.

Following the First World War a core of European state, some states in America and Oceania become prosperous, enlightening the importance of product and capital flows among states. Globalization accelerates after the Second World War when the debates regarding trade are held at global level within the framework of GATT. Meanwhile it is established the World Trade Organization, which assumes a wide range of tasks. At regional level there are organized alliances that establish collaboration agreements such as the Maastricht Treaty and NAFTA (North America Free Trade Agreement).

Globalization is a growing process that became a phenomenon, with exponential development, underpinned by four pillars: liberalization of product and service markets, capital market, information and knowledge, and free movement of labor. Its drivers are: transnational corporations and capital banks that feed in with energy the globalized economic system.

Against the offensive of globalization, nation-states could find their selves in one of two asymmetric positions: belong to the globalization leaders or globalization bearers. The first ones are the developed states, while the second category of states cannot withstand the phenomenon, surrounding their economies to it.

## 2. Globalization's effects on the world

Interests, development level, thinking capacity and the direct effects of the globalization process are different or at large distances one from another. These differences are in fact responsible for the benefits or losses brought in by globalization. Globalization's effects in the contemporary world should be accepted as being positive ones, making globalization a vivid presence, a dynamic process which could change the face of the world (Negreponi-Delivanis, 2001). Nevertheless, there are also negative effects and these too are also of great importance.

*Positive* effects of globalization could be considered the followings:

- Integration factor for humans in the world community: provide space for the deployment of new world governance systems and shape the global civil society.
- Reduced production costs due to economies of scale.
- Accelerated transaction, since changes are made in real time all over the world within the globalized communication system.
- Higher speed of trade, financial, and technological operations.
- Markets expand and new independent markets emerge for certain resources and traditional areas.
- The efficiency of economic activity improves at global level, due to the free movement of capital, investment, technology, and labor for areas that are more profitable.
- Various forms of international help are provided for poor countries.
- The remoteness of poor and developing countries is lessened.
- Information society expands and eases the access to information.

*Negative* effects of globalization are of same weight as importance:

- There are no national solutions for transnational problems.
- Transnational corporations could have an important contribution in shaping the nation-state's economy.
- Social deficit. The drivers of globalization are TNC (transnational corporations) and FDI (foreign direct investment). These drivers are establishing the faith of countries and interfere with the redistribution of incomes generating employment scarcity, but also profits of the corporations.
- Demographic deficit. The national intellectual potential is shrinking, while the export of human resources and competencies increases.
- Security deficit. Poverty, lack of personal safety, and migration are transformed for national and global social order.
- Ecology deficit. The world natural environment is deteriorating fast, correlated with national and global economic growth.
- Reducing employment opportunities in developing countries or in countries with low level of labor productivity.
- Deepening of economic gap. Currently, 258 persons held a wealth that equals the belongings of 2.5 billion people.
- Proliferation of consolidation of trade networks for drugs, guns, persons, human organs, money laundry.
- Freezing of national strategies for reforms.
- The traditional culture of societies vanishes or is transformed in stage and commodity; the humanist culture is eliminated step by step due to widespread use of technique and science.
- Lowering the political and economic power of organized labor (e.g. syndicates)

The dichotomist typology of the effects leads in the need to manage them in order to reduce the negative effects and to value the positive ones. At global level, there is a lack of governance. Some existing bodies assume the responsibility to manage certain aspects of globalization, but they have little or no authority on the process as a whole (World Trade Organization, United Nations and its commissions and programs). Nevertheless, there are voices that support the project of global governance, projected for a medium term (UNEP, 2011). This body could become the world treasurer, and there are signs that indicate this as the goal of globalization supporters (Bran, 2011).

Globalization cannot be presented only in black and white, since positive and negative effects have a wide range of manifestations. Meanwhile, there are neutral effects that should be identified, analyzed and assessed in order to be managed properly (Daly and Cobb, 1989). Effects that are looking neutral today could have significant positive or negative contribution in perspective. For instance, holding

up the demographic growth of white race and supplementing the need for labor by using immigrants of other races, genetic manipulation of plants and animals, intensive agriculture, and neglecting traditional medicine could have unexpected results. The idea of neutrality is supported by the opinion according to which globalization is not a force of evil, or of good, but a source of development opportunities.

### 3. Reactions to globalization at national level

Reactions are sensations and images that have different resonance and manifestations than the events themselves. These could be explosive or not and have different forms. Further we will present a number of such reactions occurring at national and international level.

States should strengthen the juridical system in order to make it able to continuously conciliate the aspirations of various actors and to adapt to the changes occurring outside the national state. Further it should assimilate the requirements of globalization, creating conditions for specialization and integration in the international economic landscape. The assimilation of the globalization by the state should be a voluntary reaction not an imposed one. Proactive approach of changes, from inside to outside, valuing the existing resources, creativity and cooperation is a good option if resources are available (Bran et al., 2011).

Addressing the effects of globalization from a practical perspective by reducing uncertainties, identifying the actions needed, selecting the most appropriate actions is a must.

The state should redefine itself. It does not disappear, but go through a disintegration process in its core functional parts. These parts (law courts, governmental agencies, executive structures and legislative bodies) will develop relations with the corresponding network at international level (the new trans-governmental order).

Countries could refuse to supply labor and infrastructure for transnational corporations, but this could mean to drop the country's own development process. There is little other option to obtain prosperity, since states need the presence of these corporations.

Managing globalization and its effects necessitates a large amount of information (Bran, 2007). Therefore it is necessary to create capacities to access, select and use the information needed for a proper country-globalization relation, that respect the principles established in national strategies in accordance with the national interest.

### 4. Resistance to globalization

Civil society reacts to globalization in various ways and there are important milestones that depict its resistance. This resistance departs from the persistence and even worsening of major and overarching problems (poverty, unemployment, financial crises, social protection and lack of competitiveness for certain actors). Possible explanation for such failures could be:

- The liberalization of capital market was made without providing control on speculative pressure;
- The liberalization of trade is imposed to most developing countries;
- Globalization reduces wages and the availability of jobs in developed countries by transferring processing industries in developed countries.

The anti-globalization movement provides an interpretation from a different point of view, which allows different insights and inferences on the possible outcomes. Thus, the effects of globalization from this perspective are:

- Return to colonialism, under the umbrella of International Monetary Fund (IMF), World Bank (WB), transnational corporations;
- Reduction the number of alternatives in terms of economic systems, since capitalism is considered the only viable form of the economy;
- Loss of national sovereignty that further allows the loss of national identity and cultural diversity. There are imposed models that are in accordance with the standards of globalization;
- The globalization of underground economy fueled by corruption exploded after the liberalization of world market, before states and international institutions create tools able to control this sector;
- Generation of global financial crises that created important losses for all countries, although the core of the problem lied in USA.

The above mentioned reasons and effects are stated loudly then international meetings of United Nations, World Trade Organization, IMF and WB are held or then the representatives of the most developed countries meet. Such events started on the threshold between millennia and continue today.

It is important to notice that there are voices raised against globalization amongst the representatives and civilians of developed countries too. Citizens and company managers from USA, Germany, England, Spain, Italy, and France considers globalization as a negative force. Their position is motivated by effects such as higher taxes on wealthy company managers. The number of those that share this opinion is three times higher than the ones that support the opposite.

## 5. Conclusion

National economies are reorganized by the processes of globalization, the overlapping between their border and the political border being reduced. Globalization could be regarded as a transformation that affects sovereignty, territoriality and state power. In this relation, globalization transforms or restores the power and authority of national governments. Sovereignty acquires a novel understanding. It should be regarded as a negotiation resource within the framework of a policy featured by complex transnational networks. This new face of sovereignty is associated with the emergence of new and powerful non-territorial forms of economic and politic organization.

Globalization could not be depicted in black and white, although there are such situations in certain countries. Governments should set preparation for a proper management within the framework of globalization instead of declarative opposition with little or no action to harness the positive effects. Nevertheless there is an important anti-globalization movement that reveals a very different interpretation of globalization effect and is active in expressing these side effects in public events or by lobbying in the most important international meetings.

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## EURO AREA: NEW TIMES, SAME CHALLENGES

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**Abstract:** *The Great Recession revealed the imperfect constitution of the Euro Area. The Maastricht nominal convergence criteria were not a promoter of real convergence: after 1999 several countries accumulated macroeconomic disequilibria, "supported" by the Great Moderation.*

*This paper estimates the potential output and the structural deficits of Euro Area (12) member states, employing the Hodrick-Prescott filter. According to the results, potential output declined severely, while structural budget deficits reached record levels recently. The member countries face the same challenge as in the past decades: potential output recovery in a context of fiscal consolidation. However, the global macroeconomic context is different.*

**Keywords:** potential output, structural deficit, Euro Area

**JEL classification:** C 22, E 32, E 62, H 30

### 1. Introduction

The waves of the worst global financial and economic crisis since the end of the World War II have seriously affected the Euro Area. The region is confronted with the public debt issue, a crisis that may endanger the future of the Monetary Union in Europe. Launched in Greece less than two years after the global financial crisis hit the region, it spread to several countries, especially from the Southern area (Portugal, Italy). At present Spain is the "favourite" target of the financial markets. Despite the efforts adopted and implemented by the European policymakers over the past quarters, this crisis is far from over.

The Great Recession revealed the imperfect constitution of the Monetary Union in Europe. The nominal convergence criteria established by the Maastricht Treaty were not a promoter of real convergence. In fact, after 1999 several countries of the region accumulated macroeconomic disequilibria, exacerbated during the last years of the Great Moderation.

Several factors determined the accumulation of macroeconomic disequilibria (especially in terms of current account/private debt) by some member states of the Euro Area before the launch of the global financial crisis.

On the one hand, there must be mentioned the divergent evolutions of the real interest rates across the member states after the introduction of the euro, supporting private demand in the countries with low (sometimes negative) real cost of money. The higher growth rate registered by these economies attracted capital inflows (in search of a higher return), directed especially towards the non-tradable sector (construction, real estate, etc.). At the same time, the low real interest rates had unfavourable impact for the savings process.

On the other hand, the risk perception was low during the last decade of the Great Moderation, given the global savings glut. These factors had impact on the evolution of the relation investments/savings across the member states, resulting in divergent evolutions of the real exchange rates (several countries registered an appreciation, expressing the loss of competitiveness).

At the same time, in several countries the behaviour of the budgetary policy was not complying with the spirit of the Stability and Growth Pact during the last years of the Great Moderation.

The first wave of the Great Recession revealed the macroeconomic divergence and disequilibria across the member states of the Euro Area, but also the imperfect constitution of the Monetary Union. This shock affected all the member economies more or less with the same amplitude (GDP of Euro Area contracted by 4% y/y during 2009). The government expansionary policies during the first wave of the crisis determined a severe deterioration of public finances across the region. The countries with huge imbalances (either private, or public) and important dependence on foreign capital flows were the most affected by this global financial tsunami, making impossible the adjustment. Consequently, the public debt crisis emerged in Greece, a country with huge private imbalances (investments/savings) and also "famous" for its fiscal profligacy policies.

The waves of the crisis have had negative impact on private investments and labour markets, resulting in a severe decline of potential output (towards the lowest levels in decades). In some countries, the potential output turned negative (Greece). It seems that these countries have become asymmetric shocks of the Euro Area.

At the same time, the structural component of the budget deficits registered a record deficit in 2010 (around 6.6% at the Euro Area (12) level, according to the estimates of this paper), with important differences among member countries.

In other words, we may affirm that the global financial crisis amplified the structural divergence across the European Monetary Union.

The recent evolutions of these structural indicators (potential GDP and structural budget deficit) represent factors of risk for the future of the Monetary Union in Europe. The European policymakers must address the public debt crisis, through measures that are perceived as credible by the financial markets. The recent signature of the Fiscal Compact determines the member countries to reduce the structural component of the budget deficit.

On the other hand, there must be addressed the recovery of the potential output. It is a stringent problem, as the current noticed asymmetries may support the financial markets pressure (speculative attacks) against the sustainability of the Monetary Union in Europe.

The member countries of the Euro Area (12) are not confronted for the first time with these challenges. However, it seems that this time, the reforms needed to counter these evolutions can no longer wait. Would it be possible to address these problems in the current macroeconomic climate? Especially, taking into account that the structural reforms were not implemented during good times? For sure, the next years will continue to be tough for the Euro Region as a whole, but also for the other members of the European Union (highly dependent on the Euro Area).

The rest of the paper has the following structure: chapter 2 treats the real economic divergence across the Euro Area (based on several relevant indicators); the methodology of estimating potential output and structural budget deficit is described in the 3<sup>rd</sup> chapter; chapter 4 interprets the results of the estimations; the final remarks are presented in the last chapter of the paper.

## **2. Real economic divergence in the Euro Area**

The worst global financial and economic crisis since the end of the World War II revealed the imperfect construction of the Monetary Union in Europe. At the moment of the creation, the Euro Area did not satisfy the criteria of the optimal currency areas (OCA). The nominal convergence criteria established by the Maastricht Treaty were necessary, but not sufficient. These criteria masked the structural differences among the member states. At the same time, the nominal criteria permitted the accumulation of macroeconomic disequilibria that became unsustainable in some member states at the end of the Great Moderation.

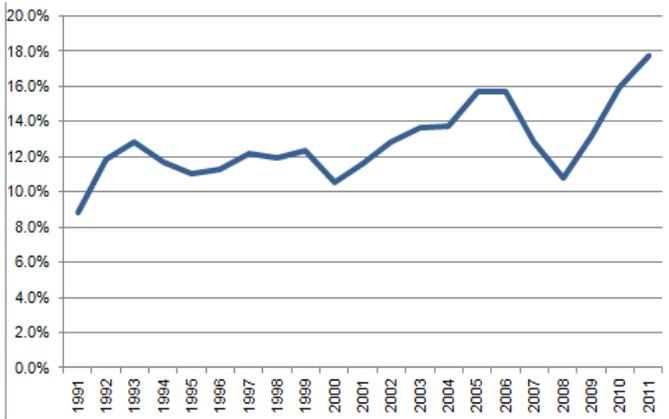
In fact the nominal convergence criteria did not bring the real economic convergence, necessary for the sustainable functioning of the Euro Area, especially in the context of the lack of the Political Union.

Actually, after the introduction of the euro there can be noticed the real economic divergence among the member states of the Euro Area (12). This divergence is expressed by the evolution of very important macroeconomic indicators: investments and savings.

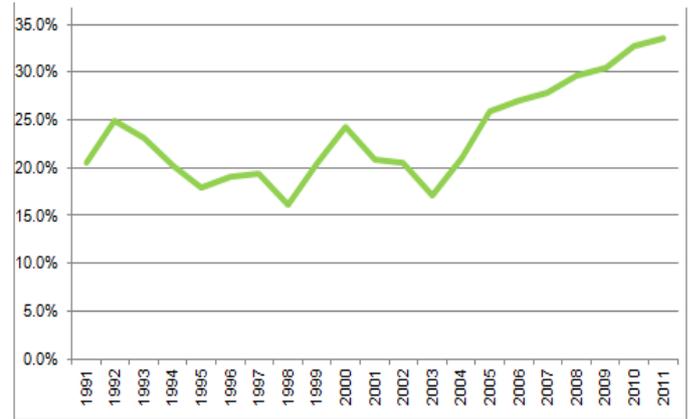
The evolution of investments and savings reflects the situations of the current account and of the budget balance for any economy. The divergence of these macroeconomic variables among the member states of the Euro Area (12) amplified after the introduction of the euro. This divergent evolution expresses either the “support” of the nominal indicators (divergence of nominal inflation rates), or the divergence in terms of behaviour (private sector, public sector).

In order to capture this divergent evolution I compute the standard deviation for the investments and the savings (as a percentage of the GDP) for every economy of the Monetary Union (12) compared to the level observed at the Euro Area level. As can be noticed from the figures 1 and 2, the standard deviation increased significantly after the introduction of the euro (1999), either for investments, or savings. However, the increase of standard deviation is more pronounced for the savings indicator, reflecting the divergence among the member states in terms of the savings attitude.

**Figure 1: Investments in the Euro Area (12)**  
(% of GDP) (standard deviation)

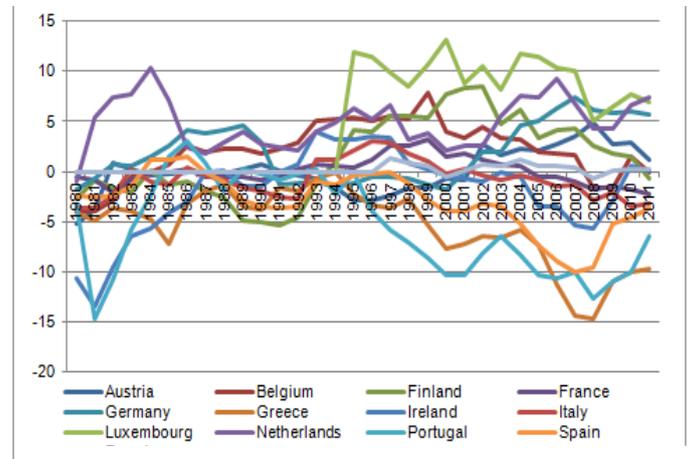


**Figure 2: Savings in the Euro Area (12)**  
(% of GDP) (standard deviation)

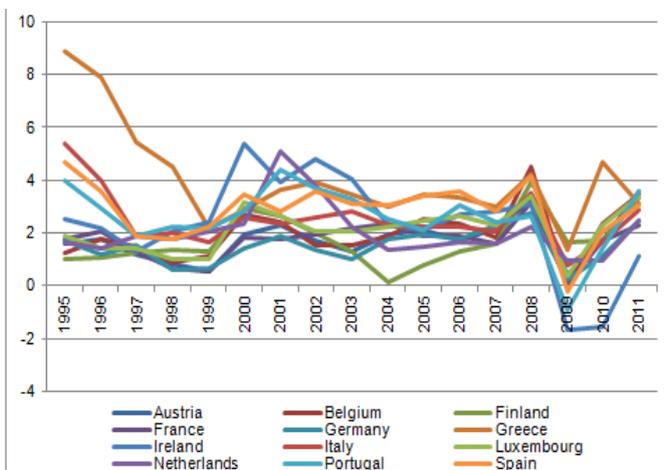


The divergent evolutions of the savings and investments variables express the differences among member states in terms of the current account and of the budget balances. In terms of the current account behaviour there can be noticed important differences among the member countries (figure 3). On the one hand, several countries registered important current account surpluses, for instance Germany, Finland. On the other hand, countries from the Southern part of the monetary union persisted in deficits: Portugal, Greece or Spain. The current account deficit of these countries amplified during the period 1999-2007. These deficits were determined by the divergent evolution of inflation (figure 4), which determined important differences in terms of real effective

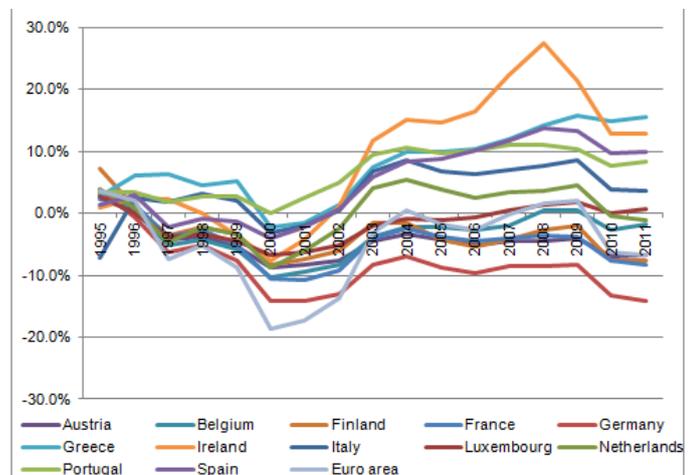
**Figure 3: Current account in the Euro Area (12)**  
(% of GDP)



**Figure 4: Inflation in the Euro Area (12)**  
(%, y/y)



**Figure 5: Real effective exchange rate in the Euro Area(12)**  
(2010=100)

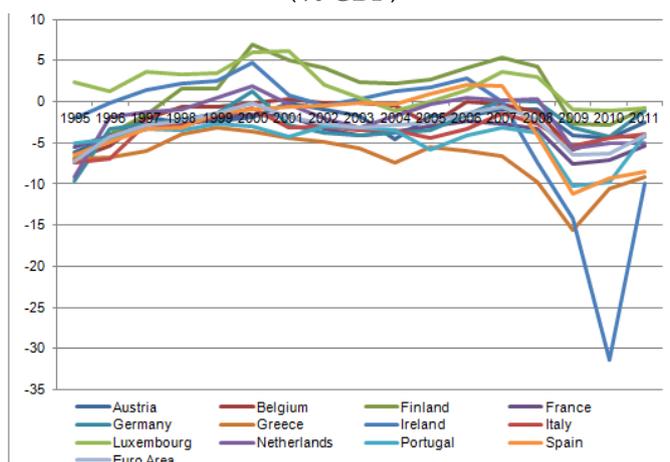


exchange rates (figure 5).

Figure 6: Budget deficits in the Euro Area (12)

(% GDP)

At the same time, the behaviour of fiscal policy in several member states of the Monetary Union led to a fragile stance of the public finances. In fact, as can be noticed from the figure 6, after the introduction of the euro, the fiscal convergence criteria were neglected by the majority of the countries in the Euro Area. Even Germany disrespected the Stability and Growth Pact during the first half of the 2000s. I underline the cases of Greece and Portugal, where the fiscal profligacy presents an important dimension. In fact, these countries faced the “twin deficits” syndrome.



### 3. Description of the methodology

In this paper I estimate the potential output and the structural budget deficit of the member countries of the Euro Area (12). In order to estimate the potential output I employ the Hodrick-Prescott filter. Afterwards I compute the output gap and I use the budget elasticity of the European Commission in order to estimate the cyclical component of the budget deficit. The structural component of the deficit is computed by difference between the budget deficit and the cyclical component of the deficit.

I use data of real GDP (taken from the World Bank database, expressed in 2005 prices) of the member countries of the Euro Area (12) during the period 1961-2011, in order to determine the output gaps. In the second step, the cyclical deficit is computed using the sensitivities of the EU budgets to real GDP estimated by the European Commission, based on the average weights of the budget items for the period 1995-2004 [see Larch and Turrini (2009), page 8]. In this step, data of the observed nominal deficit / GDP ratio was taken from the IMF database, covering the period 1991-2011.

This section shortly describes the methods employed. One of the methods employed by the literature in order to estimate the potential output is the Hodrick-Prescott (HP) filter. This methodology distinguishes between a cyclical component and a trend component of the GDP ( $Y_t = Y_t^* + Y_{tc}$ ). The cyclical component of the GDP is obtained according to the following mathematical relation:

$$\text{Min} \sum_{t=1}^T (Y_t - Y_t^*)^2 + \lambda \sum_{t=2}^{T-1} ((Y_{t+1}^* - Y_t^*) - (Y_t^* - Y_{t-1}^*))^2 \quad (1)$$

where  $Y_t$  represents output,  $Y_t^*$  represents the trend of output,  $\lambda$  is a measure of smoothness, so that the lower the value of this parameter, the closer potential output follows actual output.

In the extreme case when  $\lambda = 0$ , then the trend would equal actual output. Hodrick-Prescott suggests a value of 1600 when working with quarterly data and 100 for annual data. However, some other contributions in the literature suggest the use of other values for  $\lambda$ . Bouthevillain et al. (2001) evidence some studies where the value chosen for this parameter is 400 for annual data. On the other hand, they mention other contributions where for a value of 1600 for quarterly data corresponds to a value of 6 to 8 for annual data.

There does not exist any ideal filter for the decomposition of output into trend and cycle. According to Bouthevillain et al. (2001), the Hodrick-Prescott filter presents the advantages of simplicity and transparency, which explain the fact that it has been one of the most widely employed filters in the analysis of the macroeconomic series. Two problems they mention are the compression and the leakage effects. The compression effects might appear, as a consequence of the fact that “the cycles that should belong to the cyclical component” are not completely included in the cycle, and thus the “variability of the cyclical component is underestimated”. These effects have impact in the assessment of the public

finances because of the volatility of trends and also might make it difficult to determine the expansionary fiscal policies especially during the boom periods as “they potentially suggest an overall positive assessment of fiscal policies”. The leakage effects consist of the fact that “cycles that should belong to the trend are not in fact included in the latter” and consequently the “variability of the trend is underestimated”. Beyond this, they do not take into account possible “jumps in productivity growth”. In the case of the Hodrick-Prescott filter, the magnitude of these effects depends on the choice of  $\lambda$ . According to these authors, the compression effects diminish with the increase of the value of  $\lambda$ . Pointing to the trade-off between the two effects, they conclude that the lower the value of  $\lambda$ , the lower the leakage effects. In fact, choosing the value of  $\lambda$  while applying the Hodrick-Prescott filter, one should take into account the costs of these effects and weight them.

After shortly describing the method, I now compute the potential GDP of the Euro Area (12) and of the member countries, using a value of 100 for  $\lambda$ . I use data (annual observations) of real GDP, expressed in 1995 prices, for the member countries of the Euro Area (12) for the period 1961 – 2011, from the World Bank Database. All computations have been performed with the package Eviews 4.1.

In what respects the computation of the cyclical component of the budgets, I employ the method suggested by Balassone and Monacelli (2000). They decompose the budget deficit / GDP ratio into two additive components: a cyclical one and a structural one. Mathematically, this can be expressed under the following form:

$$\text{deft} = \text{defs} + \text{defc} \tag{2}$$

where *deft* represents the budget deficit / GDP ratio, *defs* represents the structural component of the budget deficit and *defc* the cyclical one. The cyclical component is computed as follows:

$$\text{defc} = (Y_t - Y_t^*)\eta \tag{3}$$

where  $Y_t - Y_t^*$  represents the output gap and  $\eta$  represents the elasticity of the budget with respect to the GDP.

As already mentioned before, I will compute the output gap employing the Hodrick-Prescott method and for  $\eta$  (elasticity of the budget with respect to GDP), I use the estimates of the European Commission as they appear in Larch and Turrini (2009).

I now briefly describe the method of estimation of this elasticity by the European Commission. The elasticity of the budget with respect to GDP measures how much the budget balance changes with a 1% change in GDP. This is considered a “synthetic” indicator, as it is not dependent on the ways the output gap is computed. Mathematically, this sensitivity is expressed under the following form:

$$\eta = \frac{\Delta(\text{def}_t / Y_t)}{\Delta Y_t / Y_t} \tag{4}$$

or under an equivalent form,

$$\eta = \frac{R}{Y} (\varepsilon_{R:Y_t} - 1) - \frac{X}{Y} (\varepsilon_{X:Y_t} - 1) \tag{5}$$

where  $\eta$  represents the elasticity of the budget with respect to GDP, *deft* represents the budget,  $Y_t$  is the output, *R* represents the budget revenues, *X* represents the expenditure,  $\varepsilon_{R:Y_t}$  represents the elasticity of the budget revenues with respect to GDP and  $\varepsilon_{X:Y_t}$  represents the elasticity of the budget expenditure with respect to GDP. The sensitivities are estimated directly, by regressing the expenditure and the revenue items of state budget (specifically the log of their ratios to nominal GDP) on the log of nominal GDP. Table 1 shows the sensitivities of the budget balances in the European countries as estimated by the

European Commission, for the average weights of the expenditure and revenues over the period 1995-2004.

**Table 1: Sensitivities of the budget balances in the Euro Area (12)**

	Revenues	Expenditure	Budget Balance
Austria	0.43	-0.04	0.47
Belgium	0.47	-0.07	0.54
Finland	0.41	-0.09	0.50
France	0.44	-0.06	0.49
Germany	0.40	-0.11	0.51
Greece	0.42	-0.01	0.43
Ireland	0.36	-0.05	0.40
Italy	0.49	-0.02	0.50
Luxembourg	0.48	-0.01	0.49
Netherlands	0.39	-0.17	0.55
Portugal	0.41	-0.04	0.45
Spain	0.38	-0.05	0.43
Euro Area	0.42	-0.06	0.48

Source: Larch & Turrini (2009)

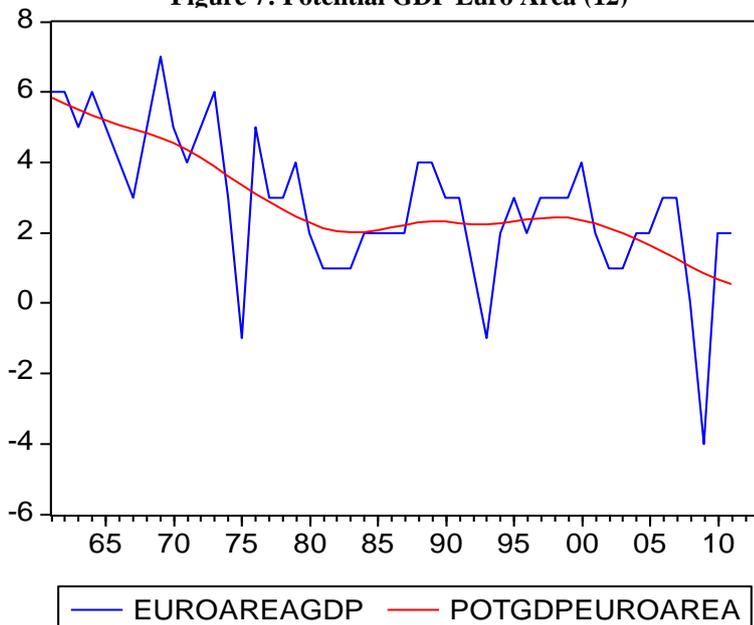
**4. Empirical results**

The following figure presents the evolution of potential GDP of the Euro Area (12) over the past five decades. There is obvious the downward trend during this period. This downward trend of the potential output in the Euro Area (12) was determined by the lack of reforms to the structural shocks that hit the member countries of the region over the past decades: oil shocks, globalization, enlargement of the European Union.

The potential output of the region decreased from around 5.2% y/y during the 1960s to 3.4% y/y during the 1970s. The potential GDP was estimated at around 2.3% y/y during the 1980s and the 1990s. During the 2000s it declined to an average of 1.4% y/y.

As can be noticed on the figure 7, the rhythm of the decline of potential output intensified during the past years, in the context of the waves of the worst financial and economic crisis since the end of the World War II. At present, according to these estimates, the potential output of the Euro Area is below 1% y/y (the lowest level since 1960, at least).

**Figure 7: Potential GDP Euro Area (12)**



The

waves of the Great

Recession have strongly affected the structural components of the GDP: investments, labour supply and total productivity factor. On the one hand, capital investments declined severely across European countries during the period 2008 – 2010. This evolution was determined by the increase of the cost of capital, given the risk perception in the context of the crisis.

At the same time, the crisis led to a strong increase of unemployment rate (almost to 11%), the youth being the most affected category (over 20%, the highest values being observed in Spain and Greece (over 50%)).

Last, but not least, the total productivity factor was negatively influenced, either by the decline of investments, but also by the depreciation of human capital.

In what regards the cross-country analysis, the following figure (8) presents the evolution of potential GDP for the member states of the Euro Area (12) during the period 1961-2011. As can be noticed, the countries that suffered the most severe declines of potential output after the launch of the Great Recession (period 2008-2011) are: Greece (-3.7 p.p.), Ireland (-2.9 p.p.), Spain (-1.7 p.p.),

Figure 8: Potential GDP – member countries of EMU (12)

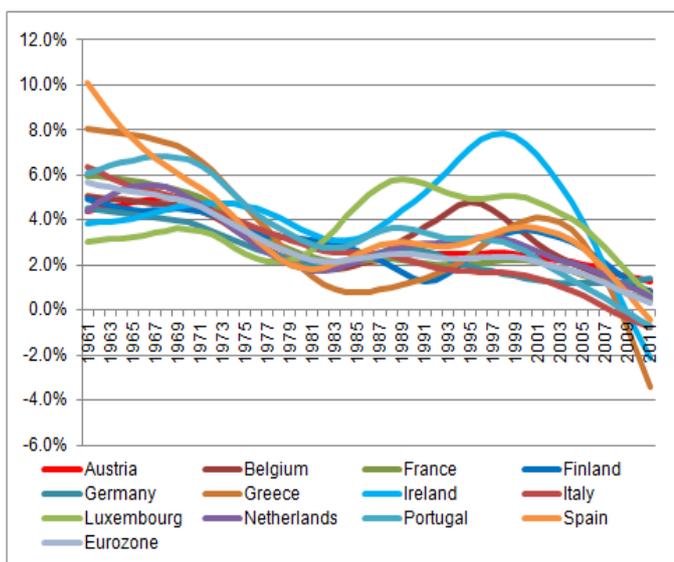
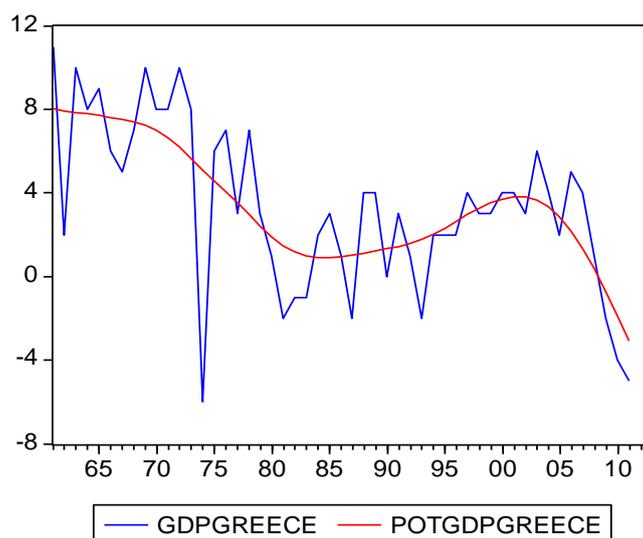


Figure 9: Potential GDP Greece



Luxemburg (-1.6 p.p.), Finland (-0.9 p.p.) and Portugal (-0.9 p.p.). According to the estimates, potential output of Greece turned negative since 2009 (as can be noticed in the figure 9), evolution determined by the flight of capital (in the context of the public debt crisis), with negative impact for investments.

However, there can be noticed a group of countries with lower rhythm of decline (of the potential output) compared to the rate registered at the Euro Area level (-0.6 p.p.): Austria (-0.3 p.p.), Belgium (-0.4 p.p.), France (-0.5 p.p.).

On the other hand, the only one country in the Euro Area (12) that registered an increase of potential GDP during the period 2008-2011 was Germany (0.2 p.p.). This evolution expresses the fact that the first economy in the Euro Area benefited from the waves of the crisis. This result is sustained by the shape of the economy during 2010 (3.6% y/y) and 2011 (3% y/y). The economy has gathered the benefits of the structural reforms implemented before the global crisis hit the European continent (at present the unemployment rate in Germany presents the lowest level since the early 1990s).

These evolutions of the potential output across the member states of the Euro Area (12) confirm the real economic divergence across the region. This divergence increased over the past years, as several countries in the region (the periphery countries) seem to have become persistent asymmetric shocks.

In fact, the Great Recession revealed the structural disequilibria accumulated by the member countries after 1999. In other words, the nominal convergence established by the Maastricht Treaty was not sufficient, as several economies accumulated severe macroeconomic disequilibria during the last years of the Great Moderation (especially unsustainable level of private debt, with negative consequences for the public finance stances since the launch of the crisis).

The structural component of the budget balance has been computed as the difference between the nominal deficit and the cyclical component of the budget balance as

computed above. Some difficulties with missing data should be evidenced here. For instance, data concerning the nominal budget deficit / GDP ratio is missing until 1994 for Luxembourg and Netherlands. Here follows the results of the computation (figure 10).

Analysing the structural deficit of the member countries of the Euro Area (12) during the period 1991-2011, one can see the trend of consolidation of the budgetary stance, especially after the signature of the Treaty of Maastricht in 1992. The clear trend of consolidation of the budgetary stances of the member countries might have its explanation in the fiscal criteria of the Maastricht Treaty and in the race for the third stage of the EMU.

At the beginning of the 1990s the structural component was negative for all the countries in the sample (except for France), with the worst values in the cases of Italy (-11.2%), Greece (-11.1%), Belgium (-6.4%), Portugal (-6.4%). At the end of that decade (1999), all the countries in Euro Area (12) had a structural budget deficit below 3% of GDP.

However, it can be noticed that after qualifying for the Euro Area several countries neglected the fiscal discipline imposed by the Maastricht Treaty and by the Stability and Growth Pact: the case of Greece (the structural component of the budget deficit increased to 7.7% of GDP in 2004); Italy (the structural deficit increased to 4.4% of GDP in 2005). The structural component of the deficit also deteriorated in France and Germany, both countries violating the Stability and Growth Pact in the first part of the past decade.

At the same time, there can be noticed the severe deterioration of the structural component of the budget deficit across the Euro Area (12) after the worst world financial and economic crisis hit the region. At the end of 2011 these countries presented a structural budget deficit above 0.5% of GDP. Ireland had the most severe structural budget deficit (11.5% of GDP), given the efforts with the bail-out of financial sector in 2010. It was followed by France (7.2% of GDP) (here is the explanation regarding the loss of the AAA rating at the beginning of 2012), Greece (7.1% of GDP), Spain (6.6% of GDP) and Portugal (5.6% of GDP). The lowest structural deficits were estimated for Finland (1.4% of GDP) and Luxembourg (1.3% of GDP).

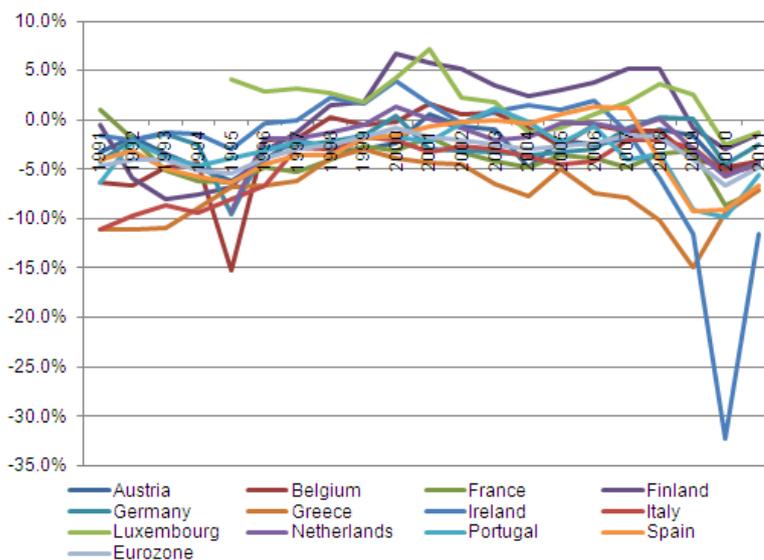
## 5. Concluding Remarks

According to the current analysis in some Euro Area countries the potential output turned negative, as the investments contracted for several years and the unemployment rate surged to record level (especially for young people) (for instance, the youth unemployment rate in Euro Area is over 20%).

In this context, one of the main challenges for the European policymakers on the medium run should be the recovery of potential output. It would be a very difficult process, as, normally, the potential output recovers gradually after a prolonged period of crisis (at present, the Euro Area faces the second recession since 2008).

The recovery of the potential output requires an acceleration of the rhythm of growth, but this seems impossible given the context of fiscal consolidation during the following years. Among the economic policy measures that may support the recovery of the potential output one can mention: the relaunch of capital investments (especially in sectors with a high added value), higher investments in Research&Development and in Education across the member states, the structural reforms (mainly in

**Figure 10: Structural budget deficits in the Euro Area (12) (% of GDP)**



terms of labour markets). These measures are consistent with the Europe 2020 strategy: smart, inclusive and sustainable growth.

There can be mentioned several reasons that determine me to expect a low potential GDP at the Euro Area level over the next years: the high risk premium (with negative impact for investments), the increase of financial regulation (with immediate impact in a higher selection of investment projects for part of the financial system), a higher tax burden (with negative impact either for investments, or labour force supply).

The analysis of the evolution of structural and cyclical components of the budget deficits of the Euro Area (12) countries over the past 20 years allows me to draw several interesting conclusions regarding the budgetary policies of Euro Area (12) member states.

First of all, one can conclude that the problem of the budgetary stances of the member countries is typically associated to the structural component of the deficits. As can be seen above, all the countries analysed presented negative structural budget balances at the end of 2011. The structural component of the deficits deteriorated dramatically in all member countries of Euro Area (12) after the first wave of the global financial and economic crisis hit the region. For instance, according to these estimates, the structural component of budgetary stance in Germany deteriorated from a 0.2% of GDP surplus in 2009 to a 4.4% of GDP deficit in 2010. In France the structural component of the budget deficit was around 3% in 2009 and deteriorated to 8.6% of GDP in 2010. In the case of Italy the structural budget deficit almost doubled from 2009 to 2010, to 5.4% of GDP. Also, in the Iberian countries, the structural deficit increased dramatically from 2008 to 2009, to almost 9% of GDP (either for Spain, or Portugal). Not to mention the cases of Greece (a structural deficit of about 15% of GDP in 2009), or Ireland (record 32.3% of GDP in 2010, given the bail-out of the financial sector).

In fact, with few exceptions (Finland, Luxembourg and Ireland) the member countries of the Euro Area (12) registered structural budget deficits most of the period 1999-2007 (since the creation of Monetary Union until the first wave of the crisis), the most severe disequilibria for this interval (as annual average) being registered by Greece (-5.6% of GDP), France (-3.5% of GDP), Italy (-3% of GDP) and Germany (-2.4% of GDP).

According to this analysis the potential output presented a downward trend across the Euro Area (12) over the past decades. The waves of the worst global financial and economic crisis since World War II exacerbated the rhythm of decline of the potential output of the EMU member countries, as capital investments contracted severely (mainly in 2009) and human capital depreciated.

At the same time, the member countries of the Monetary Union are confronted with very high level of the structural component of the budget deficits.

Concluding, the European countries face a very important macroeconomic challenge on the medium run: potential output recovery in a context of fiscal consolidation. This challenge is not new. The downward trend of the potential output started several decades ago. The policymakers acknowledged this tendency and tried in several times to implement Programmes to reverse the trend: for instance, the Lisbon Agenda. However, these Programmes were not successful.

On the other hand, it seems that fiscal profligacy was the rule for most of the member countries of the Euro Area (12) over the past decades. Except for the period 1992-1999, when we assisted to the fiscal consolidation in the run for the Monetary Union qualification, the European countries did not manage to implement an equilibrate fiscal policy.

Even though the structural problems and challenges are old, the times are new. The global macroeconomic context is different nowadays. The high risk perception and the intensified competition across the world, make the necessary adjustments across the euro area very difficult.

## 6. Acknowledgements

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## POULTRY MEAT MARKET EFFICIENCY IN ROMANIA IN THE CONTEXT OF THE INTEGRATION IN THE EUROPEAN UNION AND EMERGENCE OF ECONOMIC CRISIS

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**Abstract:** *Efficiency involves making best use of resources so with maximum efficiency and minimum costs for the needs and ensuring ecological balance. The purpose of this paper is to present an analysis of market efficiency indicators poultry in Romania after EU integration and the onset of economic crisis. They have influenced the production, consumption and trade balance for poultry. But we can say that after analyzing efficiency indicators in the period 2007-2010, poultry meat market is efficient.*

**Key words:** import, export, poultry meat, economic crisis

**JEL classification:** F 10, L 11, Q 13, Q 17

### 1. Introduction

Development of society, lead to increased needs and increased production should be based on technical and scientific achievements. So attention must be paid to efficiency, since higher production can be based on resources. And most of the resources are limited, while the needs are endless. This should ensure maximum efficiency at minimum costs.

Efficiency is synonymous with the absence of waste or use as good as it can, economic resources to meet human needs and desires. (Scholty B, 2007, pag 242)

Efficiency is the ratio between results and resources consumed and therefore, the effort made to a unit should be up on the effort to obtain a unit of effect must be minimal. The conclusion is that the idea that maximize impact is done simultaneously with minimizing effort is wrong.

Usually increased efforts happen with growth effects. (Roșu I, 2007, pag 17) But maximize the effects should be made with the preservation of ecological balance.

Economic efficiency is a modern concept of job evaluation and serves to substantiate decisions so that resources are consumed in the most favorable for society. (Nicolescu 1994, pag 70-84)

Romania due to agricultural area of 14,798,300 ha (Anuarul Statistic 2011) as it ranks 5th in Europe in arable land and grassland, accounting for 8% of total EU-27 has great potential for production of agricultural products (Peligrad, 2009). Cheap labor and favorable climate for grain production, it could turn into a net exporter of food, but with all these advantages, is a net importer.

Integration into the European Union imposed alignment with EU standards, concerned application of tough regulations regarding animal welfare and environmental protection. Thus the European Commission has to ensure that imports from other countries comply with EU standards on animal welfare, to prevent unfair competition, given that poultry must comply with strict requirements without benefit of help from the European Union. (Jurnalul Oficial al Uniunii Europene, C74, 2010)

As the global economic crisis which started in 2008 in the United States of America, reached Europe, the negative effects of the crisis were felt in Romania leading to increased VAT from 19 to 24%, but lower income, particularly budgetary, resulting in lower purchasing power.

The economic crisis has led to increased feed prices which results in increased prices for poultry meat. Also increased cereal prices, also due to the production of biofuels, encouraged by the European Union in view of environmental concerns, (The state of food and agriculture commodities markets, 2009) led to higher feed prices for poultry diets.

Imports of poultry in Romania since EU accession has led a number of changes. Therefore the United States, holding a significant share of imports in our country, must now meet the quality

requirements imposed by EU standards. Imports from EU countries called "intra-Community transfers" are exempt from customs duties, driving the importance of these countries. (Avicultorul no.2/2010; no.4/2008)

Given that Romania does not export large amounts of poultry, Romanian Association of Poultry Breeders has proposed a strategy for the comparison of imports and exports, by 2013. Also the Ministry of Economy has adopted national strategy for 2011-2015 aimed at export to outside countries. (Avicultorul no.2/2011)

Local producers should focus and export high value-added types, since their domestic market is not favorable and the price can be obtained to export about five times higher. (Avicultorul no.2/2010)

For Romania should not be difficult to supply the European market, given that has the lowest price from the manufacturer. Price competitiveness of Romania was given by reduced cost of day-old chicks, labor and depreciation. Reduced cost for day-old chicks in reproduction good technical performance and incubation. Labor costs in Romania are among the lowest in the European Union. And in terms of depreciation, it should be noted that most halls are old and have already been written. With integration into the European Union modernization and retrofitting were made. But in Romania the price of feed is high considering that there are no regulations or internal stock of cereals, also energy costs are high, and there is no better insulation.

Also export target should be Western Europe, where they can get a higher price. But we must not lose sight of the Middle East countries, since people are mostly Muslim, large consumers of poultry due to religious ban on eating pork. These are countries that do not have a climate for growth and production of poultry feed.

The purpose of this paper is to present an analysis of poultry meat market efficiency in Romania after EU integration and the emerge of economic crisis. They have influenced the production, consumption and trade balance for poultry.

## 2. Materials and methods

Given the activity approach poultry market efficiency is necessary to use a system of indicators with which to calculate and interpret various aspects. So the system of indicators used to determine the effectiveness of the poultry market are represented by: the production of poultry, poultry meat consumption, import market share of intense development and average selling price volatility for the main types of poultry meat, import and export of poultry, but also foreign trade balance.

To assess the volatility we calculated the coefficient of variation, the ratio of standard deviation and the arithmetic average and expressed as percentage. The higher the coefficient the higher prices and volatility. Standard deviation is calculated using the dispersion.

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{\sum (x - \bar{x})^2}{n}} \quad (1)$$

$$\text{Coefficient of variation} = \frac{\sigma}{\bar{x}} * 100 \quad (2)$$

$\bar{x}$  = arithmetic average of the data string

Research methods used are based on comparisons over time and compare indices with fixed base in space. Comparison over time based on indices with fixed base includes examining the phenomenon at different times from the reference. And comparing the results of the comparison space unit provides the results of other units.

## 3. Results and Discussion

### 3.1. Efficiency of poultry production in Romania

Poultry production in Romania was affected in the analyzed period by accession to the European Union, the effects of avian influenza still felt and by the emergence of global economic crisis.

The emergence of avian influenza in Romania, mismanaged by authorities and export ban has resulted in slowing production, not just in 2006 but in 2007, when poultry production was affected by increased price of corn. But it notes that 2008 was a favorable year of poultry farming, registering a significant increase in poultry production. In subsequent years the growth rate was lower, taking place even decreased production due to economic crisis.

So poultry in Romania has to face global competition respecting high standards of animal welfare, environmental and quality of food required by the EU and to have competitive market prices.

**Table 1: Developments in production and consumption of poultry meat from internal market specification**

Specification	U.M.	2007	2008	2009	2010	2010/2007(%)
<b>Poultry production</b>	kt	198.9	250.6	294.9	293.4	147.5
<b>Poultry import</b>	kt	126.7	114.2	131.0	97.5	76.9
<b>Poultry meat consumption</b>	kt	324.0	355.1	392.3	327.5	101.1
	Kg/inh	14.7	16.1	17.9	14.8	100.6
<b>Domestic import proportion</b>	%	39	31.3	30.7	25	64.1

Source: National Institute of Statistics, Avicultorul nr.1/2011

Analyzing poultry meat production in Romania can notice an increase in 2010 over 2007 of 47.5%, but in 2010 a slight decrease of 0.5% from 2009. The increase in 2008 compared to 2007 was 25.9%.

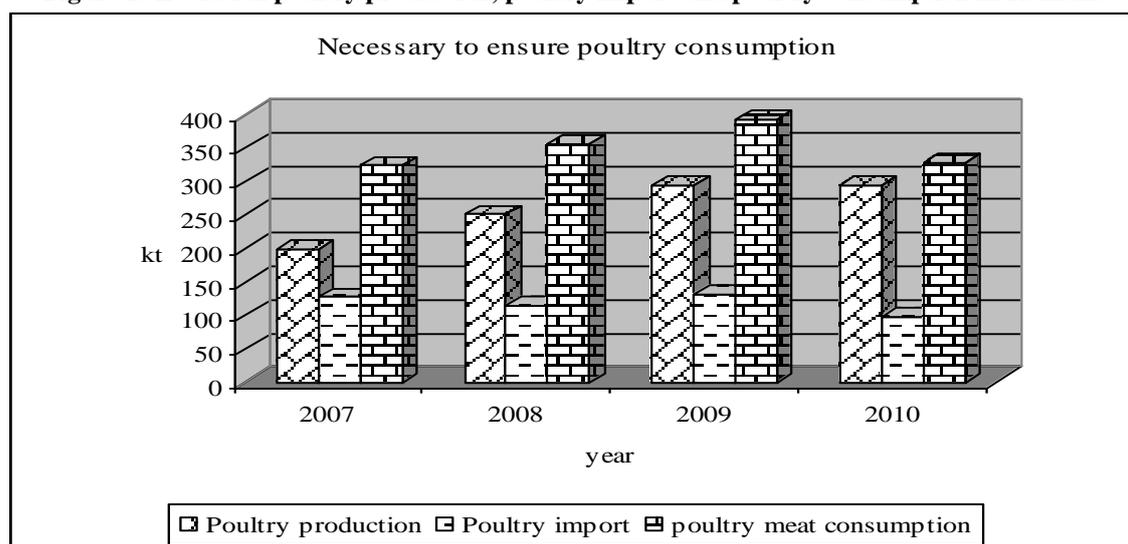
Given the adverse effects on the market poultry meat production has done well, registering an upward trend during the period analyzed.

Analyzing the total poultry meat consumption in Romania there is an upward trend during 2007 - 2009, growth in 2009 over 2007 was 21.1%, and in 2010 has been a 16.5% decrease from 2009, so it shows that consumption in 2010 is close to the consumption in 2007.

The same trend is observed for average consumption per person, which increased from 14.7 kg / capita in 2007 to 17.9 kg / capita in 2009, and in 2010 drops to almost the level of 2007 to 14.8 kg / capita.

But in this period is observed decreasing the proportion of imports on the domestic market with 35.9% in 2010 compared to 2007. This decline is continuing, although the pattern of imports is variable from year to year.

**Figure 1: Evolution poultry production, poultry import and poultry consumption in Romania**



Source: National Institute of Statistics, Avicultorul nr.1/2011

**Table 2: The average selling price development on the main types of poultry (lei/kg)**

Specification	2007	2008	2009	2010	2010/2007(%)
<b>Grill</b>	5.8	6.06	6.4	6.46	111.3
<b>Odol</b>	5.06	5.71	5.78	5.96	117.8
<b>Chicken breast with bone</b>	8.5	8.84	8.87	8.89	104.5
<b>Chicken legs</b>	7.05	7.38	7.78	7.44	105.5

Source: Avicultorul nr.1/2011

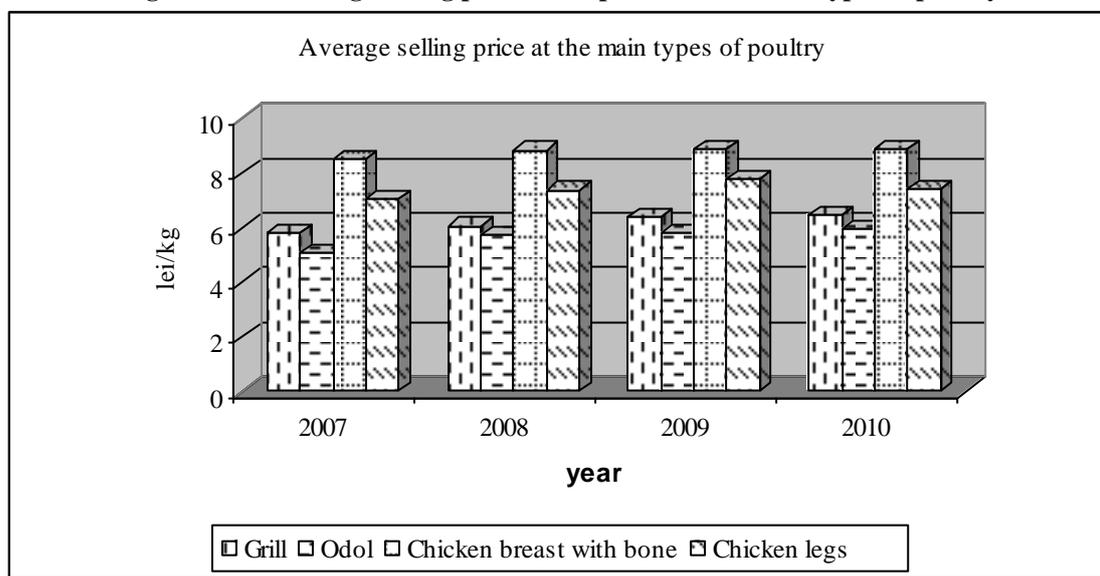
Analyzing the evolution of the average sales price of the main types of poultry, it appears that growth in the period 2007 - 2010, is lower for higher added value products such as legs and chest and higher for grilled chicken and odol .

This shows that the price of chicken grilled and odol increased in 2010 compared with 2007 by 11.3% and 17.8%. Whereas for chicken breast and chicken thigh growth was 4.5% and 5.5% in 2010 compared to 2007.

Growth wasn't very high considering that in this period feed, energy prices and VAT have increased. Also during this period additional expenditure were needed for tough application of the rules of animal welfare and environmental protection, given that the subsidies are eliminated.

But it should be noted that producers are caught between high commodity prices and lower consumer prices because of the strong position of the processing and retail companies and can not benefit from rising prices of finished product.

**Figure 3: The average selling price development on the main types of poultry**



Source: Avicultorul nr.1/2011

**Table 3: Evolution of the variation of the average selling price for the main types of chicken**

Specification	Coeficientul de variație			
	2007	2008	2009	2010
<b>Grill</b>	3.54	2.76	1.54	4.15
<b>Odol</b>	8.8	4.12	3.9	7.24
<b>Chicken breast with bone</b>	4.24	3.55	4.41	1.86
<b>Chicken legs</b>	6.12	3.94	3.23	4.40

Source: own calculations based on data from Avicultorul No 1/2011

Analyzing the average selling price volatility of the main types of poultry in Romania shows that it is reduced as the transmission of the negative effects was done indirectly and gradually feed through price variability, energy and fuel.

All four types of chicken in the period 2007-2010 have low volatility, with some fluctuations from year to year, which can be easily seen in the case of odol chicken.

### 3.2. The evolution of Romania's international trade of poultry.

Imports of poultry in Romania after the accession to the European Union must comply with quality standards imposed by it. These quality standards have eliminated the United States of America, representing the main importer of poultry in Romania, but spurred European Union countries, in view of customs barriers.

**Table 4: The evolution of poultry imports from Romania**

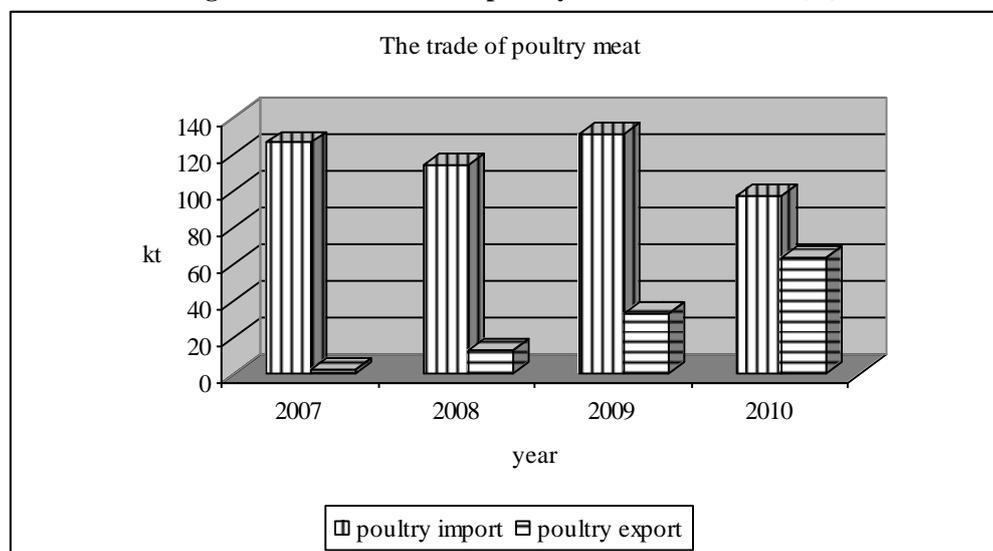
specification	U.M.	2007	2008	2009	2010	2010/2007(%)
poultry import	kt	126.7	114.2	131.0	97.5	76.9
	th euro	150067	154945	160680	130176	86.7
Chilled meat	kt	4.1	7.1	16.2	-	395.1

<b>% chilled meat</b>	%	3.2	6.2	12.4	-	387.5
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Source: National Institute of Statistics

Analyzing trends in imports of poultry in terms of quantity in Romania there is a decrease of 23.1% in 2010 compared to 2007. Positive aspect given that poultry companies have production capacity to meet demand for domestic market. In the period under review, imports have variations from year to year, so in 2008 lower than in 2007 with 10% in 2009 compared to 2008 increased by 14.7% and lower in 2010 compared to 2009 by 25.6% .

**Figure 3: The evolution of poultry trade in Roamania (kt)**



Source: National Institute of Statistics

Imports of poultry meat in terms of value in Romania, have an ascending trend during 2007-2009, followed by a descending trend in 2010, they decrease in 2010 compared with 2007 by 13.3%.

Regarding the share of imported chilled poultry it increases from 3.2% in 2007 to 12.4% in 2009, however the percentage is very low. So in Romania is importing a large quantity of frozen poultry meat, since it is difficult to transport frozen meat without decay, especially in long distance countries.

Although the majority of poultry imported into Romania, is frozen as it was not found in large quantities in stores, especially because consumers have been used by local producers to use chilled meat. Which brings us to the idea that frozen poultry is used by the processors for input in preparations.

**Table 3: The main importing countries in Romania (tons)**

Specification	2007	2008	2009	2010	2010/2007(%)
<b>Netherlands</b>	42853.0	34846.3	47634.1	23794.4	55.5
<b>Brazil</b>	33779.0	26323.6	22436.9	12001.0	35.5
<b>Hungary</b>	6936.0	8807.0	14342.3	12646.0	182.3
<b>Austria</b>	2462.0	5813.2	7127.6	3983.0	161.8
<b>Germany</b>	6576.0	8339.0	6420.7	6799.4	103.4
<b>Poland</b>	4730.0	4690.4	6313.4	5204.9	110.0
<b>Bulgaria</b>	2287.0	1469.1	4750.6	10271.5	449.1
<b>Belgium</b>	9073.0	6056.4	2843.0	2304.0	25.4
<b>Total 9 countries</b>	108660	102190.9	111868.8	77004.2	70.8
<b>other countries</b>	18055	12000	18712.4	20495.8	113.5

Source: National Institute of Statistics

Analyzing the main importing countries of poultry meat in Romania shows that in 2007 - 2009 the largest increases were recorded in Bulgaria (349.1%), Hungary (82.3%) and Austria (61.8%). But the main importing of poultry meat in Romania are the Netherlands and Brazil in 2010 compared to 2007 but a decrease of 45% and 64.5%.

So if the two countries in 2007 ensured 60.5% of total imports, respectively 33.8% Netherlands 26.7% and Brazil. If the percentage of imports from Brazil decreased continuously during 2007-2010, to 12.3% in 2010. The proportion of the Netherlands varies from year to year, so decreases in 2008 with a rate of 30.5%, increase in 2009 to 36.5% and decreases and in 2010 to 24.4%.

Poultry exports in Romania.

Romanian Association of Poultry Breeders and Ministry Economy have adopted strategies to increase exports of poultry in Romania. These strategies aim to increase exports of value-added varieties (chicken, poultry meat), which can be distributed at a high price. But refer to countries that would be targeted Western Europe due to high marketing price and rich countries Middle East that could become a good market. They can be a good market because of the preference for this type of meat and weather conditions for obtaining them.

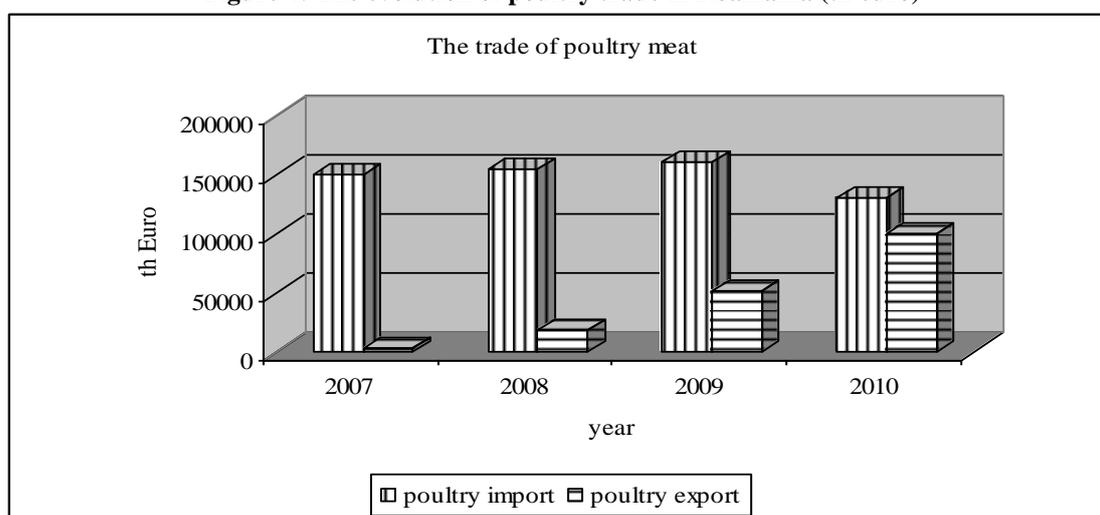
**Table 4: Poultry exports in Romania**

specification	U.M	2007	2008	2009	2010	2010/2007(%)
Export	kt	1.8	12.3	33.2	63.4	3502
	th Euro	3378	18458	51827	100239	2967.4

Source: National Institute of Statistics

Analyzing the evolution of export of poultry in Romania there is a continued and significant growth in the period 2007-2010. So in terms of quantity exported increased from 1800 tons in 2007 to 63,400 tons in 2010. It can be seen that the increase in poultry exports quantitatively is greater than in value terms. So in conclusion we can say that Romania exported types with lower value and it should focus on the higher values.

**Figure 4: The evolution of poultry trade in Roamania (th euro)**



Source: National Institute of Statistics

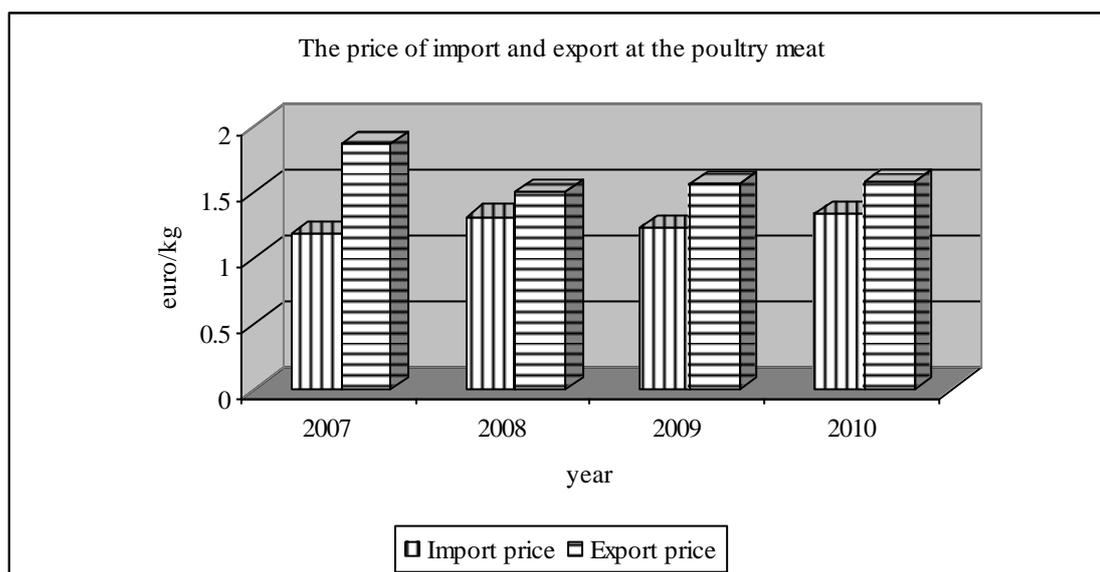
**Table 5: Import and export of poultry meat price development (euro/kg)**

specification	2007	2008	2009	2010	2010/2007(%)
Import price	1.18	1.31	1.23	1.33	112.7
Export price	1.86	1.50	1.56	1.58	84.9

Source: own calculations based on data from the National Institute of Statistics

Analyzing the evolution of the average import and export of poultry in Romania, shows that it presents different trends. Thus the average price of poultry meat imports in 2010 compared with 2007 shows a decline of 12.7%. And the average poultry export a decrease of 15.1% in 2010 compared to 2007. Although it is observed that the export price of poultry is higher than that of import.

**Figure 5: Import and export of poultry meat price development (euro/kg)**



Source: National Institute of Statistics

**Table 6: Romania's foreign trade balance for poultry (%)**

Specification	2007	2008	2009	2010	2010/2007(%)
Quantitative	1.4	10.7	25.3	65	4642.8
In value	2.25	11.9	32.2	77	3422.2

Source: own calculations based on data from the National Institute of Statistics

Analyzing foreign trade balance for poultry in Romania there is an improvement, given that in 2010 exports quantitatively reach 65% of imports, and in 2007 they accounted for only 14.7%. The same trend is observed for exports by value, representing in 2010 77% of imports from 2.25% in 2007. So we can say that Romania's foreign trade balance improved significantly during the analyzed period.

#### 4. Conclusions

Although during the analyzed period were a series of negative effects such as avian influenza and the emergence of economic crisis, we can say that the poultry meat market in Romania was effective on the following aspects:

- poultry meat production is increased in the period with 47.5%, due to high technical performance,
- But poultry consumption in Romania has dropped being in 2010 almost like in 2007
- The average selling price for the main types of poultry meat is increasing, but notice that they are higher for products with values lower (grilled chicken, chicken odol) than those with higher value (chest, legs). given the fact that in the analyzed period there were increases in feed prices and increasing VAT increases are not significant. From which we conclude that the producers have taken account of lower purchasing power and reduced their profit.
- Using coefficient of variance to compare the average selling price volatility for the main types of chicken, we conclude that the volatility is low, because the harm was done indirectly and consumption is constant.
- Import of poultry in Romania during the analyzed period decreased by 23% in terms of quantity and 13.3% in value terms. This represents a positive effect given that Romania has all the conditions and the capabilities to produce and ensure domestic needs.
- The largest quantities of imported poultry meat is frozen, given that these can be found in small quantities in stores, we conclude that the processors are using it in obtaining poultry meat products.
- The main importer of poultry in Romania during the analyzed period is the Netherlands, although it has decreased by 45% in 2010 compared to 2007. In 2007 with Brazil it had 60% of total imports, imports from Brazil, however, decreased by 64.5% in 2010 compared to 2007.
- During this period the export of poultry in Romania recorded significant increases, both in terms of quantity and value. But you want to balance the trade poultry balance and even exceeded it, as the climatic conditions and production potential allows.

- Analyzing the import and export prices for poultry, it is found that the import price is lower, and during the analyzed period increased. Poultry export price during the analyze falls, but was higher than the import.

So we can say that at this time poultry market was efficient, since the economic crisis led to lower purchasing power. Notice that consumption fell almost the 2007 level, but poultry meat production increased, the increase was directed to export.

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## FISCAL SUSTAINABILITY ASSESSMENT: A PANEL DATA APPROACH FOR CEE COUNTRIES

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**Abstract:** *The study assesses the sustainability of public finance in CEE countries using stationary and cointegration analysis. The intertemporal relationship between government expenditures and revenues in a time-frame over the period 2000-2011 has been realized using the ARDL model for each country of those four. In order to determine fiscal sustainability in the region, a panel cointegration has been performed and the main results are that there is an evidence of a cointegration, thus a fiscal synchronization.*

**Key words:** intertemporal fiscal constraint, panel cointegration, fiscal sustainability, autoregressive distributed lag model.

**JEL classification:** C 33, E 60, E 62

### 1. Introduction

For the European Union a key policy issue is the sustainability of public finances. Within the EU fiscal framework, fiscal discipline is an important support for the implementation of monetary policy; countries have to respect the requirements of the Stability and Growth Pact. The focus of this paper is to examine the intertemporal relationship between government revenues and government expenditures for the four countries: Czech Republic, Hungary, Poland and Romania.

### 2. Literature Review

In literature, several hypotheses have been proposed to characterize the inter-temporal relationship between government revenues and expenditures. In 1978, Friedman advanced the hypothesis of tax-and-spend which sustains the fact that changes in government revenues lead to changes in government expenditures. Buchanan and Wagner (1978) argue that the decreased revenues lead to increase in spending, as the public will perceive the cost and demand more programs. The second school known as spend and tax school is based on the idea that changes in government expenditures lead to changes in government revenues. Peacock and Wiseman (1961, 1979) stated that increases in government spending drawn by crisis situations lead to permanent changes in expenditures. This effect, known as “displacement effect” generates a tax increasing, which although initially was justified by the economic then became permanent tax policies. If in the first school tax and spend the hypothesis is defined by unidirectional causality from government revenues to government expenditure, in the second school the assumption is the other way around.

Fiscal synchronization hypothesis, the third school underlines the fact that government may change expenditure and revenues and citizens decide on the level of spending and taxes through comparing the benefits of government to citizens marginal cost (Musgrave, 1966; Meltzer and Richard, 1981). Since those variables are jointly determined, the hypothesis is characterized by bidirectional causality between government revenues and government expenditures. This fiscal synchronization hypothesis was sustained by Barro’s (1979) tax smoothing model, based on Ricardian equivalence view that deficit financed government expenditure from the present results in future tax increases. The non causality between government revenues and government expenditures represents the assumption of the fourth school, fiscal neutrality school, stated by Baghestani and McNown (1994). Afonso and Rault (2009) investigated causality between government expenditures and revenues in the EU using bootstrap panel analysis in period 1960-2006. The main conclusion is that spend and tax hypothesis causality has been found for countries as Italy, Greece, Spain, France and Portugal, while the Friedman theory is evidenced for Germany, Belgium, Austria, Finland and UK. On a sample of 15 OECD countries Chang and Chiang (2009) find evidence of bidirectional causality between government revenues and expenditures using panel cointegration.

### 3. Theoretical Model

Although a universal definition of sustainable fiscal policy doesn't exist it is accepted the fact that exploding debt is not sustainable. Budget policy is constrained by the process of financing the deficit, borrowing without restraint and to finance the interest on debt by another debt, any pattern of deficit would be sustainable. However, government face a present-value borrowing constraint, meaning that governments must intertemporarily balance their budgets by fixing the current market value of debt equal to the discounted sum of expected future surpluses. The value of the debt would explode over time at a rate faster than the one of the growth if the intertemporal constraint budget balance is not respected. Hakkio and Rush (1991a)(1) demonstrated that this constraint is not violated if expenditures and revenues are cointegrated and the estimated coefficient on expenditure equals 1. Quintos (1995) stated that a sustainable fiscal policy doesn't necessary to fulfil the condition of cointegration, as long as the independent variable's parameter estimated in the bivariate regression lies between 0.1 In 2007 Bohn(2) criticises Quintos(1995) and challenged the necessity to have first difference stationary debt or cointegration between expenditures and revenues.

### 3.1 The ARDL cointegration approach

In order to test the cointegration of government and expenditures for each country we used autoregressive distributed lag (ARDL) framework by Pesaran and Shin (1995, 1999) and Pesaran (1997) to establish the direction of causality. The advantages of using this method instead of Johansen approach of cointegration are related to the fact that long run relationships are estimated with one single reduced form of equation comparing with a system of equations as for conventional Johansen methodology. Other advantages are that ARDL doesn't test the existence relationships between variables in levels and the approach avoids the larger number of specification as well as the optimal number of lags to be specified. According to Pesaran and Pesaran (1997) the ARDL procedure is represented by the equation:

$$\phi(L, p)y_t = \sum_{i=1}^k \beta_i(L, q_i)\tilde{x}_{it} + \delta'w_t + u_t \tag{1}$$

Where

$$\phi(L, p)y_t = 1 - \phi_1L - \phi_2L^2 - \dots - \phi_pL^p \text{ and } \beta_i(L, q_i)y_t = 1 - \beta_{i1}L - \beta_{i2}L^2 - \dots - \beta_{iq_i}L^{q_i}$$

Where,  $y_t$  is the dependent variable,  $x_{it}$  represents the independent variables and  $w_t$  might by dummy variable, time trend and other exogenous variable. The optimal lag length is determined by AIC.

The long run elasticity is estimates as follows:

$$\hat{\theta}_i = \frac{\hat{\beta}_{i0} + \hat{\beta}_{i1} + \dots + \hat{\beta}_{iq_i}}{1 - \hat{\phi}_1 - \hat{\phi}_2 - \dots - \hat{\phi}_p} \tag{2}$$

The short term dynamics of the ARDL is:

$$\Delta y_t = -\phi(1, \hat{\rho})ECT_{t-1} + \sum_{i=1}^k \beta_{i0}\Delta x_{it} + \delta'\Delta w_t - \sum_{j=1}^{\hat{p}-1} \phi''y_{t-j} - \sum_{i=1}^k \sum_{j=1}^{\hat{q}_i-1} \beta_{ij}''\Delta x_{i,t-j} + u_t \tag{3}$$

And the error correction term is:

$$ECT_{t-1} = y_t - \sum_{i=1}^k \hat{\theta}_i x_{it} - \psi'w_t \tag{4}$$

The short run dynamic coefficients are  $\phi^*$ ,  $\delta'$  and  $\beta_{ij}^*$  and  $\phi(1, \hat{\rho})$  denote the speed of adjustment.

### 3.2 Panel unit root and cointegration

In this paper the following unit root test are used in the panel data, Im et al (2003) and Levin et al (2002) . The IPS test is based on the following model:

$$\Delta y_{it} = \alpha_i + \beta_i y_{i,t-1} + \sum_{j=1}^{p_i} \rho_{ij} \Delta y_{i,t-1} + \varepsilon_{it}, \quad i=1, \dots, N, t=1, \dots, T \tag{5}$$

Where  $\Delta$  is the first difference operator,  $y_{it}$  is the series for country  $i$  in the panel over period  $t$ ,  $p_i$  is the number of lags selected for the ADF regression and  $\varepsilon_{it}$  are iid variables for all  $i$  and  $t$  with zero means and  $\sigma_i^2$  finite heterogeneous variances.

The test has the null hypothesis of a unit root for each individual country in the panel and is  $H_0: \beta_i = 0 \forall i$  against the alternative  $H_1: \beta_i < 0, i = 1, \dots, N; \beta_i = 0, i = N_1 + 1, \dots, N$ , which allows for some of the individual series to be integrated. The LLC test is also based on the model (1) but the coefficients of autoregressive term are considered as homogenous across all individuals, thus  $H_0: \beta_j = \beta \forall i$  against  $H_1: \beta_j < \beta \forall i$  the alternative one, which assumes that all single series are stationary. The statistic  $t$ , asymptotically follows a standard normal distribution. LLC test is part of the panel unit root test that assumes that there is a common unit root process. Another two tests are Breitung and Hadri. While Breitung have the null hypothesis of a unit root, Hadri test uses a null of stationary. The Breitung method differs from LLC by constructing standardized proxies and then detrended. This test requires only a specification of the number of lags used for every cross-section ADF regressions and no kernel computations are necessary as for LLC test.

When two series are respectively non-stationary but some linear combination of them is a stationary process then those two series are cointegrated. The Engle-Granger (1987) cointegration test is based on evaluation of residuals of a spurious regression performed using variables with unit root. If the variables are cointegrated then the residuals should be stationary, then I (0), Pedroni (1999, 2004) and Kao (1999) have modified the Engle-Granger procedure in order to be applied on panel data. Pedroni proposed test that allow for heterogeneous intercepts and trend coefficients across cross-sections. Considering:

$$y_{it} = \alpha_i + \delta_i t + \beta_{1i} x_{1i,t} + \beta_{2i} x_{2i,t} + \dots + \beta_{Mi} x_{Mi,t} + \varepsilon_{i,t} \tag{6}$$

For  $t=1 \dots T; i=1 \dots N; m=1 \dots M$ ; where  $x$  and  $y$  are assumed to be integrated of order one. The parameters  $\alpha_i$  and  $\delta_i$  are individual and trend effects which may be set to zero. The null hypothesis is of no cointegration and assumes that the residuals have unit root. Pedroni shows that the standardized statistic is asymptotically normally distributed,  $\frac{N_{N,T} - \mu\sqrt{N}}{\sqrt{v}} \rightarrow N(0,1)$ , where  $\mu$  and  $v$  are generated by the author using Monte Carlo simulations. Kao (Engle-Granger based) cointegration test is constructed on the same approach as the Pedroni test but specifies cross-section intercepts and homogenous coefficients on the first stage regressors.

$$y_{it} = \alpha_i + \beta x_{it} + \varepsilon_{i,t} \tag{7}$$

The test assumes the running the first stage regression from Eq 2, requiring  $\alpha_i$  to be heterogeneous and  $\beta_j$  to be homogenous across cross-sections and setting all trend coefficients to zero. Under the null hypothesis of no cointegration, Kao shows that the following statistics (3),  $DF_p = \frac{T\sqrt{N}(\hat{\beta} - 1 + 3\sqrt{N})}{\sqrt{10.2}}$ ;  $DF_t = \sqrt{1.25t_p} + \sqrt{1.875N}$  converge to  $N(0,1)$  asymptotically, where the estimated variance is  $\hat{\sigma}_v^2 = \hat{\sigma}_u^2 - \hat{\sigma}_{u\varepsilon}^2$  and  $\hat{\sigma}_{0v}^2 = \hat{\sigma}_{0u}^2 - \hat{\sigma}_{0u\varepsilon}^2$ . Gutierrez's paper (2003) reveals the fact that Kao's panel test has higher power than Pedroni's tests when a small- $T$  number of observations are included in a homogenous panel.

#### 4. Empirical Results

The study was developed using government expenditures and revenues for Czech Republic, Hungary, Poland and Romania covering the period 2000Q1-2011Q4. The data was collected from EUROSTAT, the variables were deseasonalized and used in real terms (2000=100)(4). First step was to perform a cointegration for each country(5) and the ARDL model specification of the relationship between government expenditures and revenues is represented by the following equations:

$$\begin{aligned} \Delta G &= \lambda_0 + \beta_1 G_{t-1} + \beta_2 T_{t-1} + \sum_{i=1}^k \delta_{1i} \Delta G_{t-i} + \sum_{i=1}^k \delta_{2i} \Delta T_{t-i} + \varepsilon_t \\ \Delta T &= \pi_0 + \nu_1 T_{t-1} + \nu_2 G_{t-1} + \sum_{i=1}^k \theta_{1i} \Delta T_{t-i} + \sum_{i=1}^k \theta_{2i} \Delta G_{t-i} + \mu_t \end{aligned} \tag{8}$$

Where  $G$ = government expenditures;  $T$ =government revenues;  $k$ =lag length for the unrestricted error correction model; $\Delta$  = first difference operator;  $\varepsilon$  and  $\mu$ =white noise disturbance error term. The bound test for long run relationship between government revenue and spending is based on F statistic by imposing restrictions on the long run estimated coefficients that is  $\beta_1 = \beta_2 = 0$  and  $\nu_1 = \nu_2 = 0$  for the equation

[8]. If the F-statistic computed is below the lower bound then the null hypothesis of no cointegration is accepted. The co-integrating relationship was estimated using the following equations:

$$\begin{aligned} G &= \lambda_0 + \beta_1 G_{t-1} + \beta_2 T_{t-j} + \varepsilon_t \\ T &= \pi_0 + \nu_1 T_{t-1} + \nu_2 G_{t-j} + \mu_t \end{aligned} \tag{9}$$

In order to calculate the speed of adjustment for short run relationship, we capture it through the following equations:

$$\begin{aligned} \Delta G &= \lambda_0 + \sum_{i=1}^k \delta_{1i} \Delta G_{t-i} + \sum_{i=1}^k \delta_{2i} \Delta T_{t-i} + \delta_3 ECT_{t-1} + \varepsilon_t \\ \Delta T &= \pi_0 + \sum_{i=1}^k \theta_{1i} \Delta T_{t-i} + \sum_{i=1}^k \theta_{2i} \Delta G_{t-i} + \theta_3 ECT_{t-1} + \mu_t \end{aligned} \tag{10}$$

Where  $ECT_{t-1}$ , represents the error correction term, lagged for one period and  $\delta$  and  $\theta$  are the coefficients that measure the speed of adjustment. The bounds testing procedure for the absence of any level relationship between the variables assumes that coefficients  $\beta_1$  and  $\beta_2$  from Eq. [8]. When the calculated F-statistic is greater than the upper bound critical value (UCB) the null hypothesis of ‘no cointegration’ is rejected, and when the calculated F-statistic is less the lower bound critical value (LCB) the null hypothesis is accepted. Based on number of parameters the simulations revealed that LBC is 6.689 and UCB is 7.451(6). Considering the fact that the F statistic calculated when G is dependent variable is 7.74, therefore the presence of the long-run relationship is attested.

**Table 1: Results of error correction model -Romania**

Dependent Variable: D(EXPENSES)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.019817	0.00542	3.655943	0.0007
D(Revenues(-1))	-0.20683	0.10228	-2.02223	0.0494
ECM(-1)	0.385159	0.097438	3.952859	0.0003

Source: Own calculation

The results of the short-run dynamic coefficients in equation (10) are presented in Table 1. The error correction mechanism (ECM) is estimated at 0.38 with probability value of 0.0003 for Expenses while for revenues the coefficient of ECM is -0.41 with a p-value 0.01. Hence, the ECM is highly significant and has the correct sign. This means that approximately 40% of the discrepancy in the previous year is adjusted for by the current year. For the panel analysis, the empirical analysis starts with unit root testing for government revenues and expenditure.

**Table 2: Results for panel unit root tests**

Panel unit root test: Summary / Series: T-REVENUES		
Method	Statistic	Prob
<b>Null: Unit root (assumes common unit root process)</b>		
Levin, Lin & Chu $t^*$	-0.86619	0.1932
<b>Null: Unit root (assumes individual unit root process)</b>		
Im, Pesaran and Shin W-stat	-0.11332	0.4549
ADF - Fisher Chi-square	7.42795	0.4912
PP - Fisher Chi-square	24.7309	0.0017
<b>Null Hypothesis: Stationarity</b>		
Hadri Z-stat	9.22435	0.0000
Heteroscedastic Consistent Z-stat	3.6744	0.0001

Source: Own calculation

The results are presented in Table 1 and the conclusion is that for both revenues and expenditure the null hypothesis of unit root is accepted in case of both common unit root classes of tests and individual unit root classes. The p-value of 0.00 attached to Z statistics Hadri test, indicates the fact the null hypothesis is rejected, meaning that variables government revenues and expenditures are  $I(1)$ .

**Table 3: Results for panel cointegration tests.**

Series: G-EXPENDITURES, T-REVENUES					
Null Hypothesis: No cointegration					
Pedroni Residual Cointegration Test			Kao Residual Cointegration Test		
Alternative hypothesis: common AR coefs. (within-dimension)			ADF	-2.18111	0.0146
	Residual variance	0.00571	Residual variance	0.00571	
	HAC variance	0.00173	HAC variance	0.00173	
Panel v-Statistic					
Panel rho-Statistic	-10.387	0.0000			
Panel PP-Statistic	-5.713	0.0000			
Panel ADF-Statistic	-5.728	0.0000			
Group rho-Statistic	-5.995	0.0000			
Group PP-Statistic	-5.231	0.0000			
Group ADF-Statistic	-5.597	0.0000			

When the hypothesis of unit root is accepted the next step is to test if the variables are cointegrated. The long-run equilibrium relationship has been tested using Pedroni's and Kao's tests-Table 3.

## 5. Conclusions

The aim of this paper was to investigate the fiscal sustainability hypothesis in Romania and in the region, analyzing four of the CEE countries, Hungary, Poland and Czech Republic. The main conclusion from the ARDL analysis was that there is a fiscal cointegration between government expenditures and revenues in Romania, moreover the error correction coefficients indicate that the hypothesis of fiscal synchronization is accepted. On panel approach, the results of unit root tests revealed the order I of integration of the analyzed variables and the panel cointegration tests, both Pedroni and Kao lead to the conclusion that the public finances are sustainable in the long run between government expenditures and revenues in region exists.

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**Notes**

(1)  $B_t = \sum_{j=-t+1}^{\infty} (\rho_{t+j})^{-1} (T_t - G_t) + \lim_{j \rightarrow \infty} (\rho_{t+j})^{-1} B_{t+j}$ , Where B is debt and T and G are the total revenues and expenditures. The intertemporal balance condition implies that the right term limit equals zero

(2) The second Proposition from his research stated the following: Suppose  $G \sim I(mG)$  and  $T \sim I(mT)$  with possible different order of integration, then  $B \sim I(m)$  with  $m \leq \max(mG, mT) + 1$  so TC and IBC hold, where IBC:  $B_t = \sum_{j=1}^{\infty} (\rho)^j E_t(T_{t+j} - G_{t+j})$  and Transversality Condition:  $\lim_{n \rightarrow \infty} \rho^n E_t B_{t+n} = 0$

(3)  $DF_{\rho}^* = \frac{\sqrt{NT}(\hat{\beta} - 1 + 3\sqrt{N}\hat{\sigma}_v^2/\hat{\sigma}_{ov}^2)}{\sqrt{3 + 36\hat{\sigma}_v^4/(5\hat{\sigma}_{ov}^4)}}$  and for  $\rho > 0$ , the augmented version,  $ADF = \frac{t_{\hat{\beta}} + \sqrt{6N}\hat{\sigma}_v/(2\hat{\sigma}_{ov})}{\sqrt{\hat{\sigma}_{ov}^2/(2\hat{\sigma}_v^2) + 3\hat{\sigma}_v^2/(10\hat{\sigma}_{ov}^2)}}$

(4) The logarithms of variables are used in empirical analysis

(5) Due to lack of space only output for Romania was presented.

(6) The critical values are from Pesaran(2001)

**ANNEXES**

**Table1: Annexes- Error Correction Representation ARDL Model- Romania**

<b>Dependent Variable: D(EXPENSES)</b>				
	Coefficient	Std. Error	t-Statistic	Prob.
<b>c</b>	-0.151271	0.098306	-1.53878	0.1314
<b>Expenses(-1)</b>	-0.339936	0.086651	-3.92303	0.0003
<b>Revenues(-1)</b>	0.384581	0.098398	3.908413	0.0003
<b>D(Revenues(-1))</b>	-0.207426	0.103287	-2.00824	0.0511

## LESSONS LEARNT FROM THE CURRENT ECONOMIC CRISIS. TOWARDS A CENTRIST PERSPECTIVE IN ECONOMICS

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**Abstract:** *Briefly discussing the mechanics of the 2008 economic crisis in the US, and the events unfolding thereafter, this paper seeks to bring a new perspective to the vast literature that has been created on this topic. The research goals were to show that there have been mistakes made on either side, government or market-side and that a more balanced view towards these two forces could have prevented such a crisis from happening. Conclusions suggest that a centrist perspective on economics could conciliate these two, apparently antagonistic principles, and in the process, lessen the number of crisis.*

**Key words:** 2008 economic crisis, private sector, public sector, economic centrism.

**JEL classification:** H 12, G 01, E 32, F 44

### 1. Introduction

In the nineteenth edition of their praised economics book, Samuelson and Nordhaus make a statement in the introduction for a centrist perspective in economics. I will extract just two ideas from that introduction, in the original words of the authors, and those are: “Centrism is of a vital importance today because the global economy is in a terrible meltdown[...] The follies of the left and right both mandate centrism.” (Samuelson, Nordhaus, 2010). The whole introduction to their latest edition magnum opus is short, precise and very interesting to read. At its core, this is what the current article seeks to show: that we have strayed too far from the moderate center, in our views with regards to economics, both theoretical and applied, and this has, time and time again, had repercussions on our societies. Going through some of the errors that have been made, with regards to the current economic crisis, I seek to emphasize that this particular event has been ushered in by the dominant deregulatory thinking which predated it. One must take care though, not to misinterpret this, as this paper is about straying away from the moderate center, in either direction; thus, too much governmental action can be just as harmful as excessive liberty for the markets. The key word is balance, not surplus.

The current economic crisis, started in 2008, although with causes that date back further in time, has sparked a lot of interest at all levels, be it in a academic setting or in a day-to-day, mundane level. This has been so because this economic crisis has reached out and touched nearly every sector of the economy, and, by extension, everyone taking part in the society. It goes without saying, that in a strongly globalized world, that we are living in, the crisis has spread fast, and it has touched nearly every country that maintains, in one form or another, foreign relations.

This paper will not analyze every detail of the current crisis; instead it seeks to emphasize some key points in the development of the crisis, with a focus on the actions of government and market players and their consequences. The second part, building on the resume of the mechanics of the current crisis, seeks to underline the importance of keeping a moderate (i.e. balanced) perspective on economics.

### 2. Brief synopsis of the mechanics of the current crisis

Before starting, I must say that establishing a clear point in space and time, when the current crisis began is all but impossible. Some authors argue that the current crisis is intimately linked with the IT crash in 2001, and that the real estate bubble that followed was just a by-product of this event (Stiglitz, 2010; Krugman, 2009). Carmen Reinhart and Kenneth Rogoff highlight the international cash flows that poured into the United States, in the years before the crisis, resulting in a high deficit in the balance of payments account, as a key factor in sustaining the high, overinflated, prices in the real estate sector (Reinhart, Rogoff, 2012). Paul Krugman emphasizes the role played by the gray financial system (Krugman, 2009), while Nouriel Roubini and Stephen Mihm also point towards the unregulated non-banking financial system as a key component of the current crisis (Roubini, Mihm, 2010). Kevin Dowd identifies moral hazard as a recurring theme throughout the 2008 crisis (Dowd, 2009). And the list could continue indefinitely.

The economy of a nation is incredibly complex, and the major events that unfolded in such a economy like that of the United States of America were clearly linked in one way or another with each other. The trigger of this crisis is not really that important. This can be stated, because I think that the causes were multiple and have grown in time, so that a trigger would not have been anything other than that, a simple detonator, which acted on earlier build-ups. I assume one could go as far back as the 80's in looking for causes to this crisis, and probably others, earlier still. All the while somebody else could claim that this crisis had nothing to do with the IT bubble, for example, and that it all started in 2005, when the real estate bubble began to lose air. Might be so, however it is worth noting that the economy can be viewed as a living organism, and as such any action, be it from the state or the free market, can influence the whole apparatus in ways that we cannot yet completely foresee. We clearly would not have a crisis on our hands, if our predictive capabilities would have been better.

First we should acknowledge that the current crisis is closely tied to the bubble that formed in the real estate sector. As some authors put forward, the 2001 IT bubble might have fueled the real estate bubble (Stiglitz, 2010; Krugman, 2009), and, as such, one could start the analysis from as far back as that event, in looking for errors in judgment. Other authors tie the origins of the current crisis to yet more bubbles, identifying 4 such occurrences in the years predating the current slump (Sornette, Woodard, 2009). As there is still a lack of academic consensus on this matter, my analysis will start from 2008, the point when it became clear that, not only there was a bubble in the real estate sector, but it was also rapidly deflating.

Before the crisis, the prices of housings were grossly overestimated and this allowed common people to acquire loans, based on house value, rather than real income or repayment perspectives. The creditworthiness of borrowers was subjected to analysis by third party companies, but that did not cause a drop in the amount of sub-prime crediting and, by extension, of the real-estate prices, simply because those companies were evaluating according to current market values (which were already overestimated). Also, as some authors put forward, it turns out that some of the bond credit rating agencies had binding contracts with the banks that were giving credits, and that they received pay according to their evaluation. It seems strikingly clear now that any such rating agency would not dare to lower their inflated evaluations, for fear of losing good business (Stiglitz, 2010, p. 171). In this trio of debtor, creditor and credit rating agency, it seems clear that nobody had a interest, or even the power to realign the prices to their normal value. The creditors were happy that they were loaning people, with a good interest of course, the debtors were happy that they were acquiring quick and easy money, and the companies assigned to evaluate the risk of the loan were, of course, happy to cash in the check for setting a high rating to a given credit. Fact of the matter is that the credit rating agencies were giving the green light to loan, believing that the mortgaged property could cover any unfortunate accident.

To decide which side in this matter was and has wronged is rather debatable. It seems a bit odd that the crediting mechanisms were so lax as to allow sub-prime loaning go on. This is both a problem of quantity and quality, as in the first place there were too many credits given, and these were keeping the prices in the real estate market artificially high, and in second place, there were too many sub-prime loans given out, based on the erroneous conception that the income of debtor was not important; rather his mortgaged property was. The logic behind this was that, should things go wrong, the bank could simply sell the property, and get back all the loaned resources.

The fact is that all the actors in this snapshot, accounting for the market side, were basing their aspirations and actions on the value of the real estate that the debtor possessed. As time went by, the prices of the real estates inflated even more, as had the bubble itself. Given the fact that none of the actors on the market could act to deflate or alleviate the bubble, and perhaps they did not even have a reason to do that, it seems natural that the improvement of the situation required outside action. Outside, in this context is meant to define a fourth party, separate from any of the previous ones, which has both the power and the means to intervene. One has to look no further than the state to find such a player. Indeed, modern economies are often defined by a active and dynamic state, and this can be seen most vividly in the open market transactions that the National Banks of various countries engage in, in order to keep their currency at a certain and manageable level. It also should have been a National Bank that should have intervened to deflate the bubble. The stance that the FED adopted during the development of the current crisis is somewhat puzzling, due to the fact that there have been both warnings of the imminent troubles and precedents, as in previous economic bubbles.

As it stands, it seems clear that the FED was put in a difficult position by the events unfolding in what would become the 2008 economic crisis. I have a hard time believing that both the FED, and the

political decision makers failed to see the looming crisis. More likely, I think that the FED made a conscious decision to let the bubble in the real estate sector burst by itself, thinking that it would be easier to just clean up afterward. We should not forget that at that moment, ante-crisis, the economy seemed to be very healthy to the untrained eye. Because the signs of this crisis were so well hidden, only a few economists read them well, and warned of the consequences. So, taking this into account, it is conceivable that a government intervention on the market, to realign the real estate prices, via various ways, could have been seen as a throw back in the economic progress. Following such a misreading of the government intervention, it seems natural that a public backlash against the actions of the FED, and any such future actions, would have taken place. Instead, by letting things run their course, the FED thought that it could easily save the situation by clearing up the mess, after the bubble had burst, without much negative feedback from the public. Often times a preventive measure is misunderstood, or, at any rate, unappreciated at its real value, simply because one does not confront the full brunt of the negative situation that would have otherwise unfolded. Interestingly enough, the decision makers at Washington had a precedent on which to base their actions, and that was the IT bubble in 2001. Even though the bubble burst and the economy took a hard blow, the result of that bubble could not be compared with the current situation in any way. I think this is where the entities that should have intervened got it wrong. They gauged the situation in a superficial way, and did not foresee the events that could, and have unfolded. Indeed it is arguable that human predictive capabilities are inherently slim. Still I do not think that can excuse the lack of action of certain institutions that were meant to protect the economy of United States of America.

At the other spectrum, one must not overlook one of the mechanisms that led to this crisis, and that is the sub-prime crediting in the market side. It is this toxic crediting which will eventually lead to bankruptcies. At the heart of things, one could say that the fatal decision belongs to the banks and financial institutions. The first of these decided to loan people based on real-estate value, and the premise that this will be forever high. The latter, the financial institutions, bought the packaged bonds, without checking how the original loans were actually given, in this way actually acquiring the plague that would soon come to pass. Of course, on the market side, one could also look towards the rating companies, which rated these financial innovations (i.e. the packaged bonds) as AAA (sure investment). This is easily turning out to look as a story of negligence, both on the market side and on the government side.

Fast forward a few years and, with the plummet of the real estate prices, the whole economy soon followed suit. There is evidence to show that recessions are sometimes doubled by either a credit crunch or a real estate price collapse, or both (Claessens, Ayhan Kose, Terrones, 2009). But the amplitude of this crisis was not only determined by chance, as other factors potentiated it. Theoretically the crisis should have stayed in the financial sector, without much contagion in other sectors of the economy. The financial innovations which allowed for bonds to be repackaged and resold (pompously named securitization), and also the various intra and inter branch corporate loans made sure that this would be a contagious crisis. The globalization of finance then gave the crisis new wings and it bestowed itself upon the whole world. Upon reaching this stage it becomes clear, at least to me, that this crisis thrived from the carelessness in the financial market, which was doubled by the same attitude from the authorities, able and responsible for intervening. Why this situation was made possible, and what was the underlying cause of these events is discussed in section 3 of this article. From this point on though, if one can say that the actions of some companies threw Americans, and by extension the world, into this mess, it was the job of the FED to take the economy of the USA out of it.

In previous paragraphs I have briefly depicted the actions undertaken by various market side actors and government authorities. The whole story so far seems to me to have a deep prevention versus cleaning afterward underlayer. On the one side, all the economic actors should watch out for their own financial safety. That is to say that one does not go about conducting business, expecting others to act as financial saviors, if things go wrong. It is a matter of business ethics, and blatant common-sense, that one makes sure that the business he or she is managing, is sustainable, and that the transactions made are safe, or at least do not endanger the very existence of the company. This is to say that prevention of a bad business deal should naturally be the focus of any entrepreneur.

On the other side, the latter (i.e. cleaning up afterward) has become somewhat of a *modus operandi* for most of the actors responsible with governing over their citizens. Indeed when one has not been wise enough as to take preemptive measures, one has to get acquainted with the sour taste of the aftermath and all the harsh cleaning up that one must put up with. As was discussed earlier, the lack of initiative on the part of the FED could be seen as a lack of action justified by political reasons. The fact

that 2008 was an election year for the States meant that dealing with the crisis would have to wait until after the voting would end. Indeed, Buchanan and Tullock, among many others, showed that the people we choose to rule our society for a limited time, are motivated by the same mundane reasons as any other person (Buchanan, Tullock, 2010). It is highly probable that the events which unfolded during the crisis that we are going through, serve only to prove the two distinguished economists right.

After 2008, many important companies, mainly banks and financial institutions (but not limited to that, see for example GM and Chrysler cases) were on the brink of bankruptcy. This situation was ushered in by the collapse of the crediting mechanisms, which, in its own turn, was generated by the failure of the banks to retrieve the sub-prime loaned dollars. Also, the fact that many companies acquired toxic collateralized debt obligations (CDOs) helped, as was stated above, to spread the economic plague evenly and ubiquitously. It had become clear that intervention was needed; and also that by this time, the tide could not be turned, and the economy would have to take the full brunt of the crisis. The FED started to take action since December 2007, when it decided to help the crediting mechanism, via a series of programs such as Term Auction-Facility (TAF) and Term Asset-Backed Loan Facility (TALF). Afterward, in 2008, the Troubled Asset Relief Program (TARP) was initiated and a conservatorship were instituted over the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac). These actions were all envisioned to restart the dying crediting system, however, as George Akerlof and Robert Shiller point out, each of them had weaknesses or deficiencies. These include (Akerlof, Shiller, 2010):

- relief available only for AAA rated credit bonds;
- the possibility, turned real sometimes, that the loans given to banks would end up in the wrong pockets – see the bonuses given to bank CEOs with these funds;
- the matter of size; would the program be enough to help restart the loaning mechanism? And if not, how much would be enough, with care taken to avoid wasting resources?;
- convincing the banks that the circumstances were safe enough to restart the crediting.

Regardless of the efficiency that these programs had, or should have had, I think there is still the matter of who the FED was trying to save. Restarting the crediting mechanism can only be a beneficial event for a economy, however one must not forget that to get to that point the government had to save the banks and other financial institutions first.

Firstly, it is debatable if saving dying corporate mammoths is a good thing. Indeed many work places would have been lost, and probably the economic situation would have taken a turn for the worst if big name (and size) companies would have gone bankrupt. Still one has to wonder if actually the current government actions have not actually instituted permanent parasite like relation between the powerful corporations and the administrative sector. This has to be said because I am wary of the actions undertaken by corporations prior to, and during the current crisis. It seems to me that these mammoths were aware of their privileged status within the economy, and the fact that the state would not let them collapse. Because of this, the actions undertaken by, at least some companies, building up to the 2008 crisis, can be seen as a problem of moral hazard. This problem is masterfully detailed by Nouriel Roubini and Stephen Mihm (Roubini, Mihm, 2010), and can be summed up as follows: some companies knew they were too big and important to the economy of the USA, and as such acted negligently in their business affairs, knowing that the government would save them. In other words they risked in their business dealings, all the while knowing that should things go sour, the government would mitigate the risks. Indeed some authors warn of these dangerous occurrences; a paper by the Committee on the Global Financial System, besides some of the fore mentioned writers, cautions that “the expectation that central banks will act to attenuate market malfunctioning may create moral hazard by weakening market participants' incentives to manage liquidity prudently” (Papadia coord., 2008).

Even more, after things started to take a turn for the worst, some of the companies were basing their whole business on the fact that the government would intervene to save them, basically gambling for redemption. This idea can be found in a number of economic books, most notably in the writings of Joseph Stiglitz (Stiglitz, 2010), but also by Nouriel Roubini and Stephen Mihm (Roubini, Mihm, 2010). Another interesting idea, found also in the writings of first author, is that many too-big-to-fall companies are, by their very nature, avoiding one of the key aspects of capitalism, and that is bankruptcy. It is perhaps ironic that in the years before the crisis, there was a strong wave of liberalization, ushered in by the political establishment, but also backed up by the corporate side actors. After things went sour because of that very liberalization, the corporations eagerly embraced the government intervention as a savior.

Secondly, many have argued that the crisis is a natural part of the economic process (Roubini, Mihm, 2010, *inter alia*). Is it then not natural to think of crises as events which clear the market of dubious, unskilled and unneeded economic actors? The amount of dollars that have poured into the accounts of dying mammoths, and some even further into big bonuses for managers who managed the huge performance of leading established brands into the grave, would not have been better off used as incentives for establishing new companies and maybe funding new business ideas? The fact of the matter is that this particular assertion cannot be confirmed or disproved at the current time. It is perhaps fortunate that the government acted to bail corporations with billions of dollars, but at the same time, who knows how much better off the economy would have been if new businesses would have been stimulated with these resources. Time will tell, however it seems to me that in any case, a dangerous precedent has been set, in that if you are big enough as a company you can afford to be disorderly in your business dealings, because your size will warrant a cash check from the government. But such was not entirely the case, as certain corporations were in fact left to die, the obvious and most popular case being Lehman Brothers. So one has to wonder why not all the dying corporations were saved, or why not all these mammoths were not left to die. Capitalism is a ever-changing entity, shaped by our very actions. It might be that the institution of bankruptcy has taken its last breath. More like it though is that some companies have managed to elude one of the key aspects of both capitalism and crises. Sadly, I think one can not say that this situation was achieved by a competitive advantage over other economic actors. Rather, what should have been a competitive advantage, warranting for the survival of the company during times of crisis, turned out to be a sort of economic blackmail. At an academic level, Hyman Minsky underscored the importance of Central Banks, as lenders of last resort during times of crisis (Minsky, 2011). It is clear that a depressions warrant actions from the Central Banks, but the issue, I think, needs to be linked with the problem of moral hazard, on the side of the companies, which could stand to gain access to money bailouts. There has been, for some time, a debate in the academic medium about advantages held by large and small companies. Being too-big-to-fall could be one of those key characteristics that small companies, with all their capacity for innovation, lack, and will always do so.

### **3. The centrist perspective, ties to current economic crisis, and what we could gain from it**

The underlying cause for this crisis, was, as stated in the above paragraphs, a excessive freedom for the companies operating in some economic sectors. It is my belief that, if in the years preceding the current crisis, there would not have been a steady increase in the deregulation of the market, the situation that we are facing right now could have been avoided. More so, if the government would have sharpened its attention, the gray financial sector, which some authors say is responsible for a lot of the reckless speculation which plunged the financial markets (Krugman, 2009 *inter alia*), would not have enjoyed so much freedom in its business dealings. Another aspect that I detailed in the first part of this article was that mistakes were made on both sides, market level and government level. Which of these two entities failed first, or failed most is a trivial matter, and would not really accomplish anything other than spark (another) academic debate on state or market preeminence. Such debates have been raging on and off for decades now, and the results are scarce and controversial. What we can learn from this crisis, at an academic level, is that the balance between market freedom and state intervention is fragile, and that any excessive behavior towards one of these concepts, to the loss of the other, can only lead to unbalanced situations, and economic problems in the future. This is not to say that all economic crises are fundamentally linked to either a lack, or a excess of regulation, but that some were, and probably still will be.

One can make a solid case that the years before the crisis have been comprised of a sustained deregulation and market liberalization (See Ferguson, Johnson, 2009, for a resume of the attitude of the FED towards deregulation in the years predating the crisis). Immediate results might have been good, but it seems clear now that these attempts focused on more market freedom allowed for this crisis to build up. This is not to say that excess governmental control is beneficial or wanted, in any way. We can look at the communist experiment, which took place in the XX<sup>th</sup> century in Eastern Europe, as a clear case that going in the other extreme is just as bad.

The two concepts, market freedom and government intervention are seemingly antagonistic, but one must reconcile them in order to ensure a sustainable and healthy economic development. In other words, we should move from a mutually exclusive perspective, towards a collaboration between both companies and the state, to the benefit of each other, and the society as a whole.

I think at this moment, there is a misconception that the government and the market, seen as economic entities, are somehow structurally different. And if that is not the case, it seems clear to me that most economists will agree that at least the results stemming from their *modi operandi* are divergent.

First we should acknowledge that, both companies/entrepreneurs and state agencies/authorities are composed of individuals. As such, structurally, these two entities are akin. And if Buchanan and Tullock showed, beyond a doubt in my opinion, that our rulers have their own personal interests and do not always do what is right for most, but often what is good for themselves, or a select few others, based on a careful political reckoning (Buchanan, Tullock, 2010), I see no reason why corporate executives and similar big players on the market-side, would not share the same fallen ideals as the politicians. Even more, it is commonly asserted that in a capitalist economy, entrepreneurs are supposed to selfishly seek out profits, so that in the end, the whole society progresses. Some part of the fore mentioned statement can be debated, with regards to negative/positive externalities, among others, however it is clear that an entrepreneur seeks profit. It is by putting these last few sentences together, that one can reach the natural conclusion that, both the public sector and the private sector are comprised by people, and all these people are animated, in diverse degrees, by various interests, and do not always act in the benefit of the community.

If we agree that the fore mentioned conclusion is true, it should also come as natural that, in order to better serve our society, the interests and aspirations of these two entities need to be reconciled. And this brings me to my second point: the results from the actions undertaken by government-side and market-side operators should not be seen as divergent. It is a delicate task to reconcile the interests of groups with distinct and sometimes opposed aspirations, more so with the growing political power of international corporations; however this I think is a crucial step towards ensuring a harmonious and sustainable development. If these two apparently antagonistic entities are not reconciled, there is always a risk of either excessive market freedom (which was one of the roots of the 2008 economic crisis), or a choking, debilitating government grasp on the economy. Besides the convergence of the ambitions of the two players, one should look for a constant update mechanism, so as, at all times, the equilibrium between these two forces is rooted in the local and international economic peculiarities, and changes accordingly.

By this point, it becomes clear that a centrist perspective requires a active government. This is due to the fact that the state is inherently preoccupied (or should be) with the welfare of the community. In other words, one should not expect a harmonious and sustainable development for all living within a community, from companies (i.e. the market side operators), due to the simple fact that market-side players are focused on profit gains and not social welfare. If the state is competent in managing the economic freedom of these market-side players, a community can shift towards a harmonious development. The fore mentioned statement should not be interpreted as a powerful, imposing state. A competent state, is in my opinion, one that leaves as much economic freedom as possible to market-side actors, while also maintaining a strong-enough grasp in the economy to ensure that companies and entrepreneurs do not hurt the society with their actions (via the legislative and executive powers of the state), as has happened in the current economic crisis, and that its populace enjoys a certain standard of living (via its resource collection and redistribution mechanisms).

The problem now is the fact that, as stated a few paragraphs earlier, the state is ruled by the same flesh and bone humans as those that ruled huge corporations right into bankruptcy. How should we then expect these humans to act in a balanced way, when the human nature is inherently flawed, or so easily lead astray. I think this conundrum can only be solved by reaching a academic consensus on the importance of both state and market. Realizing the importance of a centrist perspective could determine our regulators to act more responsibly, and in a more balanced manner towards the two key concepts. Fact of the matter is that education is the most powerful tool we have to carve out the negative aspects from our human nature. I do not see why we should not extend this method towards bettering our governors. Good education can only stem from a consensus, so until economics, as a discipline, does not clean its own backyard, at least with regards to the market/state dilemma, the people actively taking part in the economy will continue to act in an excessive way.

#### 4. Conclusions

This is not a crisis of sub-prime crediting, and this is not a crisis generated or fueled by lack of government intervention. Those are rather key aspects, or peculiarities, as this is a crisis of imbalance, of lack of moderation, not necessarily on the consumer side (although this crisis should serve as a warning

towards crediting one's self over one's means of payback). Throughout this article I have sought to show two things: the first is that there have been huge errors made on either side – both on the market side, by all the actors there, and on the government side; the second is that a lack of academic consensus blurred the judgment of all participants in this event, and allowed for this crisis to happen. Fact is that the decision makers voted by the people have economic advisers, and these economic advisers are connected to the academic debates. If there is not a clear consensus in this environment, one can not expect a consensus to form anywhere else. If the implications of straying too far away from the moderate center are not understood, such crises will follow, time and time again. Indeed there might be situations where one of the two entities, state or market, should prevail. In times of war, for example, it is common, and perhaps even needed, for the state to intervene and take control of the production process, at many levels of the economy. However, these are exceptional cases, and the side effects are not noticed, or are not so visible, simply because the circumstances are already grim.

The difficult issue, with regards to balancing the economic freedom of the market with the government intervention, is that we do not even have a academic consensus on the matter. This means that the decision makers can stray either way into a excessive behavior, influenced by their advisers, the socio-economic circumstances, or even their own beliefs. If this behavior is not rooted deeply in the needs of the economy at that particular moment, it can lead to unbalanced situations, which can easily grow into economic crises. It has been one of my goals to show that this economic crisis stemmed from such a unbalanced situation, due to the deregulation of the market prior to 2008.

The issue of preventing crises such as this one from happening is one related to balancing the economic freedom of companies and the level and magnitude of state intervention. A centrist perspective on economics would by no means be a panacea, ridding us of all our economic problems. But if these two entities are balanced and always in accord with the latest happenings in our society, it is highly possible that events such as this current crisis will be rarer.

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## ASPECTS AND PROPOSITIONS REGARDING HIGHER EDUCATION IN ROMANIA USING SWOT ANALYSIS

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**Abstract:** *Education is an important agent of change for states in a globalised world. One of its most important components is represented by higher education that manages, in part, the connection between labor market and future or present employees. Romania lags behind most of the European Union member states when it comes to higher education indicators and needs a clear vision to gain the advantages from being part of the Community. Reaction to, and for market changes is required mainly from universities, seen as major institutions that release new workforce. This paper focuses on a SWOT analysis that presents several characteristics of Romanian higher education in order to give some possible solutions.*

**Key words:** higher education, SWOT analysis, universities, knowledge economy

**JEL classification:** D 83, E 20, I 20, I 23, J 20

### 1. Introduction

Higher education participates in many market changes. On one side it models the economy by promoting research in different key sectors and by releasing well educated graduates on the work market. On the other side it suffers changes coming from the current market needs, to which it is obliged to respond, in order to align to present economical characteristics. Higher education institutions, like universities, see themselves as agents of change, but also as economical instruments that have to react to market changes.

Today universities tend to be more than local institutions, as they refer to other levels. It is quite challenging to think that universities rely to their knowledge only to a local or regional area. The mentioned levels are still important, but further analyze requests a deeper understanding, merging these above with national and global influences. The present research paper aims at addressing the national level regarding higher education, so it is considered to be a partial constituent of a bigger image. Further research is needed for completion.

In a globalised world there are more implications to the process of knowledge creation and distribution, tending to a global knowledge economy. Given all that, universities and other higher education institutions are seen as global agents, but their degree of implication in the globalization process depends on several key elements (Marginson, 2010) like: history, geography and scale, material resources, language power, knowledge power, knowledge economy concentrations, global agency, nation-state, openness to the global, sense of own self-controlled project. These key elements interact primarily in two, national and global, dimensions. The extent of national control over their higher education is variable and it is linked to country characteristics. Globalised higher education institutions remain linked to national goals, being hanged to national labor market, industries, local communities, and influenced by policy makers strategies, especially national ones when it comes to education in Europe. Ultimately, global flows of people, ideas, knowledge, messages, technologies and capital depend on the national features of the higher education in every country, leveling the ground for global knowledge institutions.

In this paper we analyse some of the higher education characteristics in Romania over the last years, focusing on universities, and pointing out problems and giving possible solutions, in order to align the current educational system to a globalised one, by making it more efficient and by eliminating small obstacles with wide implications. We will emphasize situations that can construct a *SWOT (Strengths, Weaknesses, Opportunities, and Threats)* analysis, some of them with statistical basis.

### 2. SWOT analysis of higher education in Romania

Romania, as part of the European Union, tends to a commune model for higher education, complying with the European legislation to some degree, but still maintains most of its own power of decision over education. When we speak about higher education in Romania, the power of change lays in the hands of national agents, sometimes assisted by European financial aids aiming at certain indicators.

When it comes out to put in balance good and bad parts of an economical and social system, it is always good to underline similarities and differences with other systems, mainly if we refer to an emergent country, as Romania is considered. There are some specific situations that cannot be compared between systems, as every country is different in history, geography, resources and many other characteristics, but being part of a community with similar goals as European Union makes it imperative to find weak points in comparison to other member countries and sort them out, transforming them into strengths for the national system and the whole Union.

A SWOT analysis that presents mainly the weaknesses and threats can be a good starting point for decision making, not only for policy makers, but for academia itself. We point out that this method should be combined with others, as Sava and Zugravu (2009) cost-benefit analysis revealed when they take into account non-economic benefits, that can have financial or non-financial effects. We now present the constituents of SWOT for higher education in Romania, keeping a linear approach in four sub-sections: *Strengths*, *Weaknesses*, *Opportunities*, and *Threats*.

### **2.1. Strengths of higher education in Romania**

In the last two decades progress has been made in higher education in Romania. Educational institutions were created and evolved to have better results. There is a tendency to absorb a higher percentage in total potential students and this trend must be sustained by not neglecting the systems strengths when dealing with problems, as follows:

- Partnerships between national universities were created, to share knowledge, know-how and make better common propositions to a changing political environment.
- High number of accredited higher education programs ( undergraduate, master, doctoral, postgraduate), meaning that many universities can align their indicators to at least the minimum requests.
- Enrollment in computer networks with other foreign universities, to share fresh knowledge and to help fill the national knowledge gaps.
- Good rate of European Funds obtained for the 2007- 2013 financial period with stable programs in development which will increase the knowledge economy national indicators regarding research and university innovation.
- Strong propensity to globalisation phenomenon.
- The improvement of higher education quality with the adoption of Bologna system which Romania, a signatory country of Bologna documents, has committed itself to join to the other European countries in their common effort to create an European Area of Higher Education and Research (Munteanu and Andrei-Coman, 2011).
- A better system for diplomas equivalence between countries, learned from problems in the past.
- Constant participation in programs as *Erasmus* or *Leonardo da Vinci*, for sharing direct international education experience.
- High percentage of students financed from national budget. Compared to other European Union countries, like England or Portugal, where all students pay fees, only 44% pay fees in Romania, similar to Estonia and Germany with under 50% (Orr et al., 2011). Given low incomes for most of its population compared to other EU members, Romania has to maintain a high level of finance for education in order to make it accessible to most of its people.

### **2.2. Weaknesses of higher education in Romania**

The focus of every analyze in higher education made for Romania should be its weaknesses. As other constituents of SWOT change over relatively short periods of time, its weaknesses seem to persist and the evolution of the system is slowed down by this. The elimination of at least one of the following points would be a priority:

- Difficult financial access for other countries students, mainly The Republic of Moldova and Bulgaria, to the Romanian higher education, for which fees are significantly higher than for Romanian students.

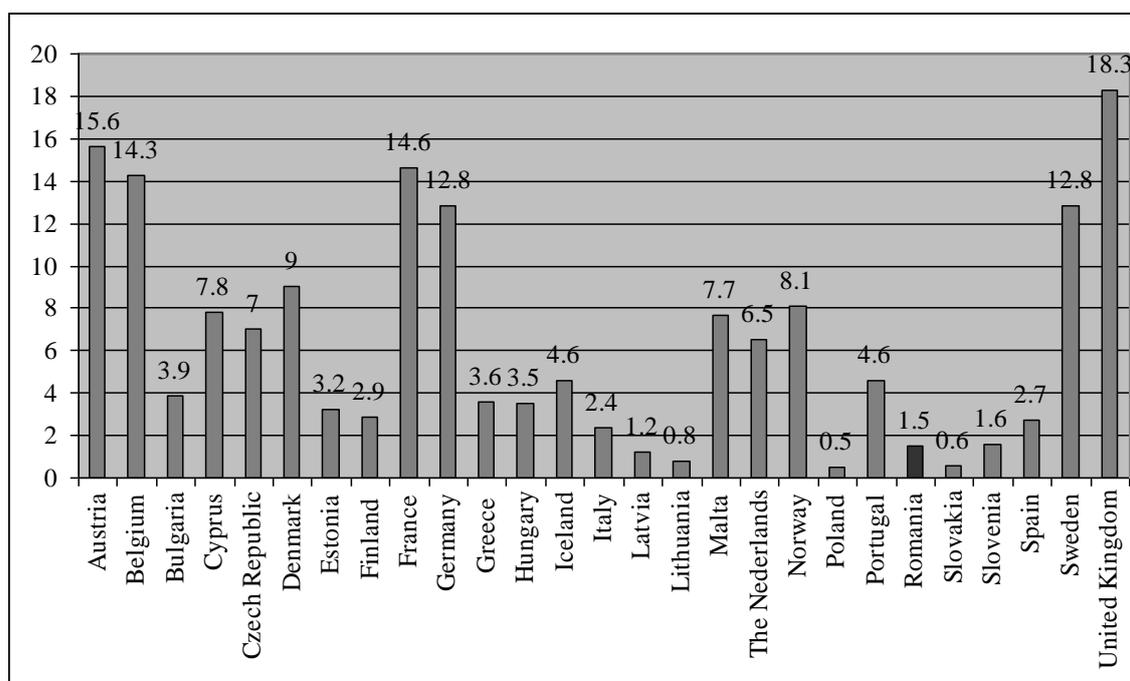
- Absenteeism, increased in the final years of study programs. More attractive, active and practical seminars can decrease this tendency. Students face a challenge in the last year of study as most of them prepare to enter the labor market. Making courses and seminars more connected to their future jobs can be a solution.
- Low correlation between field of study and qualifications obtained in the labor market.
- Unattractive educational programs leading to a desire to change the field on labor market entry.
- Lack of practice or restricted existence in curriculum. Practice is essential to better understand a profession. Some universities, as engineering or architecture, depend on practice and this comes out naturally. Other, as economics or other social sciences must make agreements with the public and private institutions, relevant to every specialization in part.
- High proportion of theory in the higher education programs. Outdated information is present in curriculum and should be avoided. Some books and courses are too general, even if the program tends to a narrower domain, but never reaches it. International validated manuals should be allowed as basis of learning in many domains.
- Incomplete university services and unrelated to the needs of its various students.
- Absence of clear and consistent feedback from the private sector about the necessary changes in academia. The lack of communication can be replaced mainly by educational institutions that need a stable and consistent program of conferences focused on private sector and for it, not only general topics. Another way is to purchase knowledge by financial contracts as a last resort, only to keep up the pace with the real economy.
- Among the worst indicators in the EU in terms of people aged between 25-64 years participating in permanent education. People between these ages are not encouraged to study as they concentrate on their present jobs. Requalification is harder without permanent education and reflects in lower revenues and higher resources loss.
- Absence of cross-disciplinary by focusing on specialized closed lines.
- Negative reputation coming from being part of a corrupt system. As Mungiu-Pippidi and Dusu (2011) resume in their work, Romania is perceived as the most corrupt EU member state (according to Transparency International Corruption Perception Index). In 2008–2009, The Coalition for Clean Universities organized the first assessment of integrity of the Romanian higher education system, evaluating 42 state universities in terms of Administrative Integrity, Academic Integrity, Democratic Governance, Academic Governance and Sound Finance for a time interval of one academic year, finding systemic problems in the organization and functioning of university life, attributed to the failure to build accountability systems at university level, following decentralization of higher education after 1989.
- Academic staff loaded with bureaucratic activities due to frequent changes in legislation. Lack of examples and situations described in higher education referring legislation spends time for clarification and interpretation. Laws should be more focused on clarity of details in relevance to reality.
- Low number in foreign students in the total number in higher education institutions students in comparison with the other EU countries in Figure 1 for 2006, a condition highlighted in Table 1 for Romania in the last 6 consecutive years, with the exception of a slow constant rise in percentage.

**Table 1: Foreign students situation between 2005- 2011 in Romania**

Academic Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011
Enrolled students in higher education	716464	785506	907353	891098	775319	673001
Foreign students studying in Romania	9944	10396	11095	11887	13778	16138
Foreign students as % in total enrolled students in Romania	1.39	1.32	1.22	1.33	1.78	2.40

Source: Own calculations with data from *Anuarul Statistic al Romaniei*, 2011

**Figure 1: Number of foreign students as a percentage of total students in the host country in 2006 (%)**



Source: Own calculations with data from EUROSTAT

- Low participation to higher education for people starting with the age of 28 years old.
- Unclear distinction between quantity and quality.
- Campuses lack of activities to encourage closeness between students and their universities. University prestige is based on student good feedback resulting from interaction. In order to have an economy and society based on knowledge, young people must be equipped not only with technical knowledge, but also competences as creativity, problem solving or team work, needed for frequent changes in their professional and private life (Suciu et al, 2011). These qualities may be achieved in universities and campuses, where students spend most of their time during academic years, same time raising university prestige.
- Weak university response to community and students needs.
- Unclear academic fiscal budget from internal and external sources due to economic crisis. A lower number of students enrolled paying fees means fewer resources for current activities that do not depend on student number. European funds become more important in this situation and efforts to obtain them should be more intensive, even after 2007-2013 European budget period.
- Lack of pride of being a student at a certain national university, only to the extent of obtaining a graduate diploma needed for a better wage or position on the labor market.
- Romanian universities lack of strong presence in the global community.
- Reporting seen as a ritual without a clear sense or definition.
- Reporting absorbs time resources and leads to more bureaucracy. Reporting has to causes: internal and external. External causes are tied to legislation and its modification was noted. Internal causes arise from the existence of various approaches and fixed ideas coming from administrative personnel. From reports, an university checks different minimum accomplishments from professors, students or staff and many times this process can and should be included in activities and automatically generated, meaning that a unified database can be achieved through internet, intranet and technology.

### 2.3. Opportunities for higher education in Romania

Romania, being a country in development, has a number of opportunities that can be followed and transformed into strenghts:

- Third place in the world for Romania for internet connections quality and speed, that could facilitate a substantial development in online education, given a good spread of internet connections in the rural areas.
- The possibility to attract European funds for higher education projects even in the post 2007-2013 period in the new European budget program.

- Opportunity to gain know-how through the mobility obtained by university staff, participating in post-doctoral projects.
- The existence of a specific solid academic experience that can be outsourced in the fields of economy, whether on decisional or advisory levels.
- The existence of many higher educational models from which Romania can learn and change, therefore innovate.

#### 2.4. Threats for higher education in Romania

- Lowering salary levels of faculty members due to economic crisis may cause restrictions (or waiver) in the teaching and research, followed by relocation of activities to the private sector when there are significantly higher incomes, especially for teachers with experience in relationships with private entities.
- Limited inclination for a career in academia in favor of a temporary job for new entry in the academic system, due to lower revenues in the first years of teaching.
- The European Union and national institutions bureaucracy in refunding payments for EU projects, which can cause blockages and refunded payments for the affected projects, plus a weak capacity of universities to respond to this phenomenon or to borrow money in a sustainable manner, to run their projects without stop.
- Educational investments in securing increased educational offer in coming years is strongly sensitive to plummeting demand for education. A lower educational demand in a year, representing the number of seats allocated to various programs, leads to lower seats offered next year for those programs or even to their abolition, independently from the potential return of demand on short and medium term. Educational demand trend is clearly seen as a landmark in defining the bid for next year, independently from the often essential needs of the labor market in the near future.
- Weak attraction capacity for new young teachers because of the entry level salary in higher education, below the minimum entry wage in the private sector, given their extensive preparation, most of the time.
- The need to increase tuition in the near future added to the need to reduce pressure on the national budget by lowering the number of financed students. This may cause a drastic drop in both the number of graduates and new students entry. This effect can partially be reduced by making affordable student loans schemes, as those applied in the United Kingdom, and by making partnerships with the private sector in order to get good jobs for students, making those jobs part of their educational practice.
- National budget crisis witch tends to lower the contributions to research and education in contradiction with *the Lisbon Treaty*.
- A negative national population perception regarding the quality of the higher education, seen as decreased in the favor of quantity, and perceived mainly to increase some indicators and revenues not to produce talents.
- Many employers seem to have no interest in where the graduates obtained their diploma or in which field. In this manner, important resources are consumed for requalification or adaptation to a new field or specialty on the labor market.
- There is no clear and official delimitation between qualities of different universities programmes. This tends to the point where different graduates from various universities are in equal position on the labor market.
- Increasing the number of accredited higher education programmes has a good economic and social impact until it is made by quantitative methods, mainly in private universities.
- Encouragement of the phenomenon of buying works and dissertations, by simply ignoring its wide spread in the students community. Some students finish their studies buying their dissertations from other well prepared students. This is a phenomenon and should be treated with seriousness. Being part of a black market, it cannot be fully quantified, but should be denied and punished more efficient by internal university laws and criminal law. We urge the need for this kind of fraud detection mechanisms.

### 3. Conclusions

We find ourselves in a period of great turbulence. The global crisis is real and present in almost every country, and acts not only financially, but also socially. In higher education good nominal

indicators are not enough to resurrect the economy, making real indicators the target for long term planning. Real indicators quantify quality more than quantity. For these, the quantitative results come as a given.

Until we reach a knowledge economy, elements of nominal importance will prevail. Characteristics as number of students, budgets or attracted funds do make a difference in Romanian economy, yet student needs- other than basic ones-, quality of universities partnerships- leaving behind the financial benefits and key indicators modification- or teachers well being- other than financial benefits, as loaded time with reports, increased number of students per professor, very busy periods coming from time spent with students in the final year for their dissertations, lack of time to take part in international projects or conferences- are neglected, leaving deep marks in nominal indicators.

A true knowledge economy on national level exceeds legislation, bureaucracy, corruption and deals intensively with knowledge creation and distribution and frequent updates of this process. Other than that, it is clear that Romania is in a building process when it comes to higher education and the final results depend on the foundation modification, in order to have a strong ground for a potential knowledge, not a hybrid between commitments to the European Union and the resistance of an obsolete thinking that does not consider new validated instruments. This paper can be used as a starting point for a new SWOT analysis that can find methods to measure qualitative characteristics and arrange them in order of importance, followed by estimations of impact over nominal indicators.

#### 4. Acknowledgements

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## DOES QUALITY MATTER UNDER THE WAVES OF ECONOMIC CRISIS?

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**Abstract:** *The economic crisis, all over the world, has created many problems, but it also has created opportunities. While some companies faced with severe storms in the battle of surviving, other companies have found new keys to success. In the current context, quality can become a reliable way to overcome the economic crisis and gain the market supremacy. The purpose of this article is to present an overview about the necessity of promoting quality in order to face a crisis period, like the one we are facing today.*

**Key words:** quality, economic crisis, quality cost, managers, eliminating waste

**JEL classification:** L 15, M 11, M 41

### 1. Introduction

The economic crisis, all over the world, has created many problems, but it also has created opportunities. While some companies faced with severe storms in the battle of surviving, other companies have found new keys to success. Quality is an issue ever discussed in literature and in a competitive environment, which is why organisations all over the world want to provide the best products or services for their customers in order to stay on the market.

Nowadays, because of the economic crisis, there is a big pressure placed on the managers' shoulders, since they must provide high quality and manage their organisations efficiently and effectively. Although every organisation has its own particular structure and culture, all of them should take into consideration the principles of good quality standards. Standards which must remain the same, no matter the economic waves encountered.

Customers prefer high quality products or services at a reasonable price. Companies should ensure that customers would have value of their money by receiving good quality products or services. Also, managers should take into consideration all the expenses involved in providing high quality. In this context, appears the need to know the cost of quality, because a lower cost implies a benefit both for the company, to obtain a positive result, and for the consumer, to meet the required needs.

### 2. Quality makes the difference

Quality is an ever evolving perception which still arouses interest, especially in the current economic climate. Through time, the concept of quality was defined by many as: "fitness for use" (Juran, 1974), "conformance to requirements" (Crosby, 1979) or "total customer satisfaction".

The definition proposed by ISO 9000:2000, was: "Quality is the degree to which the needs and the expectations are met; therefore quality represents all the features and properties, of a product or of a service, which are required by the client".

Generally speaking, quality of products, as a complex and dynamic concept, represents all the characteristics of values, expressing how they can satisfy social needs depending on a number of parameters: technical, economic, ecological, aesthetic and social.

In time, quality must become a "prevention-based system" (Noyé, 2000) and the central axis of the new approach should be focused on preventing defects, rather than correcting them. In this way, the issue knows a more simplistic approach and a much lower quality cost, whereas it is much cheaper "to prevent than cure".

The goal of prevention it is about following very carefully all phases of product design to suppress the sources of the defects as soon as possible. In the same direction, the company will be linked to product quality and the effort will be transmitted and lead to continuous improvement of manufacturing processes, of methods and procedures used. In other words “if we want to bear good fruit, we must take care of the tree and its environment” (Noyé, 2000).

Nowadays, so many managers are excusing their business failure by saying “it’s because of the crisis” and of course, in their opinion we need leadership and entrepreneurship more than ever. Inefficient and unproductive companies are being threatened always and not only in crisis periods. W.E. Deming was the one who provided a comprehensive overview of the profound system of production in order ways to improve productivity. “Out of the Crisis” it is a safety belt because it has much wisdom and it is as relevant today as it was when it was published. So, the essence of Deming’s teachings lies in 14 points required to climb out of the crisis (Deming, 1986):

1. Create constancy of purpose toward improvement of product and service with the aim to become competitive and to stay in business, and to provide jobs.

2. Adopt the new philosophy. We are in a new economic age. Western management must awaken to the challenge, must learn their responsibilities, and take on leadership for change.

3. Cease dependence on inspection to achieve quality. Eliminate the need for inspection on a mass basis by building quality into the product in the first place.

4. End the practice of awarding business on the basis of price tag. Instead, minimize the total cost. Move toward a single supplier for any one item, on a long-term relationship of loyalty and trust.

5. Improve constantly and forever the system of production and service, to improve quality and productivity, and thus constantly decrease cost.

6. Institute training on the job.

7. Institute leadership. The aim of supervision should be to help people and machines and gadgets to do a better job. Supervision of management is in need of overhaul, as well as supervision of production workers.

8. Drive out fear, so that everyone may work effectively for the company.

9. Break down barriers between departments. People in research, design, sales, and production must work as a team, to foresee problems of production and in use that may be encountered with the product or service.

10. Eliminate slogans, exhortations, and targets for the work force asking for zero defects and new levels of productivity. Such exhortations only create adversarial relationships, as the bulk of the causes of low quality and low productivity belong to the system and thus lie beyond the power of the work force.

11a. Eliminate work standards (quotas) on the factory floor, substitute leadership.

11b. Eliminate management by objective. Eliminate management by numbers, numerical goals. Substitute leadership.

12a. Remove barriers that rob the hourly worker of his right to pride of workmanship. The responsibility of supervisors must be changed from sheer numbers to quality.

12b. Remove barriers that rob people in management and in engineering of their right to pride of workmanship. This means, inter-alia, abolishment of the annual merit rating and of management by objective.

13. Institute a vigorous program of education and self-improvement.

14. Put everybody in the company to work to accomplish the transformation. The transformation is everybody’s job.

The vision of a continuous improvement of quality is very important and will lead us to a necessary practice within an organization, taking into consideration at least three reasons: beside the economic effects we must keep in mind the other categories of effects that don’t make a direct contribution or on a short-term to the increase in the profit of the company but ensure a better satisfaction of all concerned. Considering the matter on a long-term, the company will improve its image as being socially responsible and will record profit growth. At this point, technical and social effects should not be neglected because they make a contribution to the general progress and ensure long-term welfare; quality is a technical, economic and social category continually changing as a result of modification of human needs but also from the point of view of technical progress. A decrease of concerns and resources allocated for the improvement of quality might result in the decrease of competitiveness of the organization having small consequences;

customer orientation infers to place him at the core of the organization's attention and an increased concern for the optimization of quality concerning the customer or user.

### **2.1. Quality cost through managerial accounting**

Product quality can be considered an integral component of management accounting. If we take into consideration that any consumer wants goods and services at a higher quality and at a lower price, the cost of achieving this goal is a crucial factor in a company's activity. Production quality is a summary of the technical level, operational performances and economic processes and thus, the product becomes competitive only if the quality cost is rational and reasonable. Therefore, the actions specified in the program of quality assurance and improvement involves a series of financial and material resources, respectively a wide variety of expenditure also known as "cost of quality".

The cost of quality assurance can be grouped into four different categories (Campanella, 1999), which are also recommended by the American Society for Quality Control:

- prevention costs;
- appraisal costs;
- internal failure costs (costs of internal non-conformance identified before the product delivery);
- external failure costs (costs of external non-conformance identified after the product delivery).

In the literature, there is still the tendency for these four categories of costs to be regrouped in total quality costs divided in turn on: costs of conformance (prevention and appraisal costs) and costs of non-conformance (costs of internal failure and costs of external failure).

Managerial accounting plays a key role in fostering quality as it has to weigh up the advantages and disadvantages resulted after the existence or lack of an optimal level of quality. Practically speaking, managerial accounting makes a contribution to the decision-making system through cost analysis, planning and budgeting, the formulation of decision-making judgements, the analysis of using resources, pricing analysis, the control of all these activities through specific methods and provision of information in terms of deviations and ways of correction, etc. (Iacob, 2011).

Through its proposed objectives, managerial accounting certainly wants a quality cost optimization. For example, by increasing expenditure gradually, in the manufacturing process, we can substantially reduce non-quality costs reflected by: scrap, rectification, handling of complaints, etc. However, optimization should be done in a rational way, because these expenses must be made and justified economically only by achieving an acceptable level of sales.

Among the fundamental principles of managerial accounting, the improvement of quality cost means also achieving the target of "zero defects", because, according to Crosby's words: "...it is always cheaper to do the job right first time". Thus, the vision of management on the quality cost must be a constant concern that should be reconsidered at all levels in a company and outside it.

The objectives of quality policy should cover the design and implementation of specific actions oriented towards economic agents in order to facilitate the achieving excellence of their internal organization and, therefore, excellence results. One of the most important actions refers to creating a culture of quality awareness of both producers and consumers that the only viable and efficient market is the one sustained by competitive products in terms of quality. Thus, quality can be regarded from two perspectives:

- from the manufacturer point of view: the quality that influence the cost is related with the documentation provisions of the underlying product realization, the costs will be even higher as documentation requirements are more demanding;
- from the consumer point of view: quality influencing cost is related to how products satisfy their requirements in terms of reliability, availability, and also requires low maintenance cost.

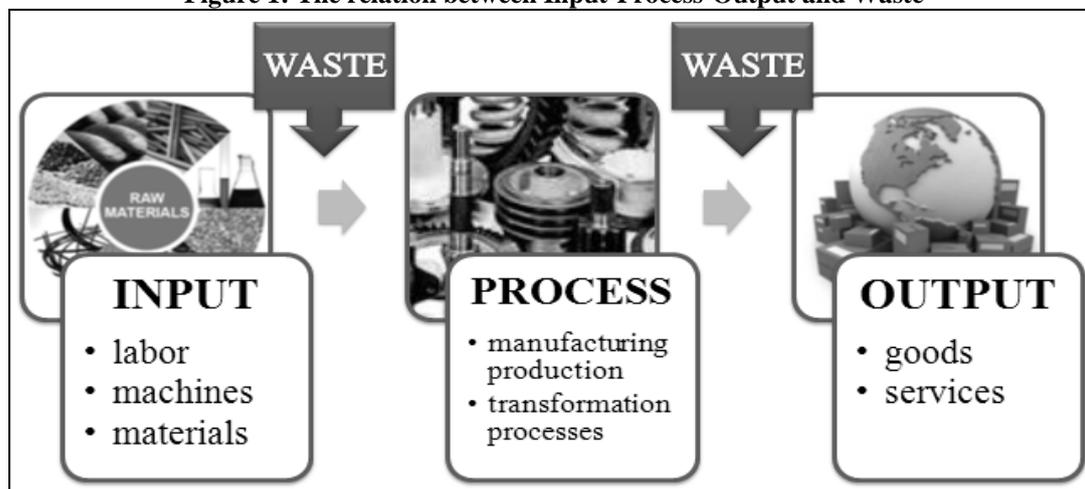
Improving product quality is a goal of the manufacturer because it provides a competitive advantage. Normally, high quality means additional costs that consumers will notice and feel the consequences through price. Therefore, the manufacturer must weigh all the issues and needs of consumers and to improve quality, only if it is a customer desire and he supports a possible price increase (also by increasing the cost of quality). It is clear that between these two points (supplier and customer) we have a chain of quality, which must be uniform and equal, otherwise, it will occur fluctuations or even unwanted gaps. From this point of view, it is sufficient that one of the two links to fail for the chain to

break and not to achieve the objectives proposed. If the chain is longer, then decreases the probability of getting quality at the end of the chain and satisfy the final consumer, who practically is the last link.

Today's managers, forced by the existing market situation along with the economic crisis, want to increase their competitiveness by facing cost pressure. In time, many companies have tried to come up with cost reduction methods in order to eliminate waste from the manufacturing process. This strategic goal was achieved by those managers who understood that business revenue is important and necessary, but profit at the expense of quality would have been a disaster.

Waste is defined as anything that does not add value to the customer. It could also be defined as anything the customer is unwilling to pay for and in the Figure 1, we can easily see that in the relation between Input-Process-Output, waste it's involved.

**Figure 1: The relation between Input-Process-Output and Waste**



## 2.2. Providing quality – a key to success

Providing a high quality products and services is a key to business success. That is because high quality promotes customer satisfaction and customer satisfaction has a direct link to business revenue. Customers want quality products and services in order to feel they are getting value for money, especially in these hard economic times.

Although it is well known that advertising may win new customers, quality can be the reason to keep them. A good manager is aware that the costs of winning a new customer may be five times more than the related costs to manage a relationship with an existing customer. So keeping customers satisfied is essential: "satisfying the customer includes providing what is needed when it's needed" (Benbow, Elshennawy, Walker, 1974).

Actually, part of providing high quality means also seeking customer feedback. One way to do this is to institute customer loyalty programs, such as: different strategies, discounts, rebates or rewarding loyal customers. In time, a loyal and dedicated customer can help the company to seek and achieve the desired level of quality. It is extremely important the client knows that the company is interested to provide quality products and services and also to know that the supplier cares about his personal feedback.

Managers don't have to see "quality" as a must and focusing in developing quality products and services, but also as an experience by engaging with customers and listening to their needs. As Dinu Bumbacea, Management Consulting Partner at KPMG in Romania comments: "The global financial crisis has had a major impact on Romanian consumer behaviour. Customers are now more price-sensitive than ever, but also willing to spend on quality if they think they are getting value from their purchases. Tracking consumer behaviour and changing product strategy in-line with its evolution will be critical to success. But companies must be careful not to dilute their brands, or lose coherence through overly frequent changes to their products and pricing"

For a company which aims to maintain and increase its own market on crisis periods, cost control and price negotiations are crucial, so it has to be a win-win situation. The win-win strategy is often applied to negotiation between suppliers and customers at all levels. The ultimate goal in challenging situations like losing customers is to avoid conflict and to provide a win-win solution.

The large organizations tend to focus on a new approach called the “small steps” - practically a strategy based on kaizen principles. This strategy was intended to help companies achieve objectives of economic growth and a good organizational balance. The “small steps” vision has already become a practical and required measure in the current economic conditions and the decisions at managerial level were made more carefully than in situations of economic growth.

### 3. Conclusions

The quality is a variable which has become more and more important in the business sectors, and the managers, the employees and the clients want to have this quality. Thus, we assist to the existence of a win-win concept where both parties (manufacturers and customers) must win something in order to gain further benefits. Practically, quality can be the key which makes the difference and positively influence revenues.

In conclusion, we can make the assertion that the success of a business is built on the relationships it has with its clients and their continued satisfaction with the products and services they purchase. Today, more than ever, because of the economic crisis, consumers are concerned about the quality of the products and services. For an organization to withstand market competition, it must optimize its responsiveness to the client needs. Thus, in an economy based on competition law, companies fight for a better recovery of the buying power of their customers, offering better quality at an affordable price and delivery terms more favourable. The information provided, by measuring the cost of quality in an economic entity, can be used to indicate major opportunities for correction and provide stimulants for continuous improvement, even in the context of the world economic crisis.

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## REFORM CHALLENGES OF THE ROMANIAN HEALTH SYSTEM

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**Abstract:** *The purpose of this paper is to present the differences and the evolution of health system reforms in Romania which began in 1989 through the health law in 2006, introduction of co-payment and health insurance. Current reforms are focused on continuing the process, prevention and primary medical assistance, enhanced supply of a minimum package of services, private sector development and to establish clear relationships between healthcare and social security systems. Highlighting the directions of the reform, the quality of care and global context required the revision to the ground by the new health law which is in public debate.*

**Key words:** health care reform, health financing, evaluation studies

**JEL classification:** I 18

### 1. Introduction

Romania went into the last two decades through a period of fundamental changes in all socio-economic aspects including the healthcare system. From the demographic perspective, there was a decrease in population due to emigration, increased mortality and decreased birth rates. Compared to the European average, health of the population in Romania is poor, life expectancy is five years less than the EU average and infant mortality and birth rates are among the highest. Reforms began in 1989 and until 1998 was previously a centralized system, based on tax system which was converted to a decentralized management through multiple health insurance that is based on contractual relationships between patients, health insurance funds and healthcare providers. Payment for health services has changed significantly: primary health care services are paid through a formula that includes income per capita budget and service charge, hospital emergency receive funding based upon the individual patient and the tax medical services. Current reforms focus primarily on further decentralization, private sector development and establishment of clear relationship between social systems and health providers.

### 2. Health status

The World health report ranked the Romanian health care system 99th in terms of performance and based on its effect on the health status of the population, since then, many of the indicators have improved and a better performance would be expected. The past five years recorded an improvement of population health and some improvements can be clearly attached to appropriate interventions while others can be explained by the general development of the country. A study of avoidable mortality in Europe with data extracted from WHO compared avoidable mortality for men and women in European countries (Newey, 2003). In 2002, Romania had the highest level of treatable mortality, and Romania is the only country that does not show improvements in treatable mortality over the ten-year period for men, although slight improvement for women can be seen. Moreover, over 40% of all-cause mortality in both time periods could be attributed to treatable diseases. Romania has the second highest rate of preventable deaths for men and women, followed by Hungary. Rates of preventable deaths increased for both men and women; for the latter this is a trend in most countries (attributed in large part to the increase in prevalence of smoking among women (Tyczynski, 2004) and not unique to Romania. These findings overall suggest that significant health gains can be achieved through improved access to effective health care and public health policies.

Life expectancy at birth in Romania for the general population has been increasing, reaching 67.4 years in 2002 and 69.8 in 2010 (Table 1). However, life expectancy at birth in Romania is still lower than in comparative countries of central and eastern Europe, and considerably lower than the EU average. As in other European countries, women in Romania live longer (76.23 years) than men (69.24 years).

**Table 1: Life expectancy at birth**

Country	2002	2010
EU (27 countries)	74.5	76.7
Euro area (17 countries)	75.8	78.0
Romania	67.4	69.8

Source: Eurostat, 2012

Quality of care represents an essential part of healthcare system, which applies for sectors of care, such as hospitals, laboratories and primary care facilities (Bara, 2003). All the sectors need quality improvement, and the institutional spectrum is regarded as an essential step towards better quality of health care. The most advanced in this regard are the laboratories, where more and more laboratories are achieving international accreditation.

**Table 2: Population/demographic indicators, 1992–2006**

Year	1992	2006
Population density	95.7	90.52
Fertility rate (births per woman)	1.5	1.3
Birth rate (per 1000)	11.4	10.2
Death rate (per 1000)	11.6	12.0

Source: National Institute of Statistics

A challenge is the infrastructure, where the need for improvement is obvious and where disparities between regions and counties are huge and visible and the most obvious apply to hospitals. The disparities can be found sometimes in the same hospital. The next level is policy-making, which has to improve and is recognized by the government as a priority. A stronger policy could lead to essential changes in the managerial and organizational culture towards quality improvement. This represents one of the main challenges of current and future health care policies.

As evidenced in Table 3, the infant mortality rate declined from 12.22/1000 live births in 1990 to 12.1 in 2000 and 10 in 2010, but Romania still has the highest infant mortality rate among countries from the European Region. About half the infant deaths are related to perinatal conditions and malformations (57%), but a high proportion is from diseases of the respiratory system (37%). Mortality in those aged under 5 years has followed the infant mortality trend, decreasing from 58.53 in 1990 to 16.5 in 2010.

**Table 3: Main causes of death, 1997–2005**

Cause	Deaths (per 100 000 population)		
	1990	2000	2010
Perinatal conditions (per 1000 births)	12.22	12.1	10
Infectious and parasitic diseases	12.52	14.55	11.25
Circulatory diseases	705.7	667.61	618.7
Malignant neoplasms	147.88	170.84	179.8
Trachea/bronchus/lung cancers	29.47	35.69	37.01
Respiratory diseases	105.86	67.25	52.98
Digestive diseases	53.07	61.44	58.02

Source: WHO Regional Office for Europe

The most frequent causes of death (Table 3) for the age group 0–1 are prenatal causes (37.8%), respiratory diseases (27.5%) and congenital malformations (22%) (National Institute for Statistics, 2006).

In 2000, nearly one-third of deaths occurred in medical institutions, another one-third in maternity hospitals and one-fifth at home. In 2006, less than one-third died in medical institution but 43.7% of deaths occurred in maternity hospitals while infant deaths at home remained the same as in 2000. The underlying cause is inadequate access to health care and primary health care services (United Nations System in Romania, 2003; Ministry of Public Health) (Table 4).

**Table 4: Mortality and health indicators**

Indicator	1990	2000	2010
Life expectancy male	66.62	67.81	69.24
Life expectancy female	73.08	74.82	76.23
Mortality rate (per 1000 population)	10.65	11.4	10.26
Infant mortality rate per 1000 live births	26.91	18.63	13.91
Mortality rate under 5 years (per 1000 live births)	34.31	22.2	16.48
Maternal mortality rate (per 100 000 live births)	83.56	32.83	15.49

Source: WHO Regional Office for Europe

The main causes of death in 2006 in Romania were cardiovascular diseases (62.1%), followed by malignant tumours (17.6%), digestive diseases (5.5%), accidents, injuries and poisoning (4.9%) and respiratory diseases (4.9%). Deaths from external causes and from infectious and parasitic diseases are more common in Romania (4–5%) than in other EU Member States.

**Table 5: Immunization levels**

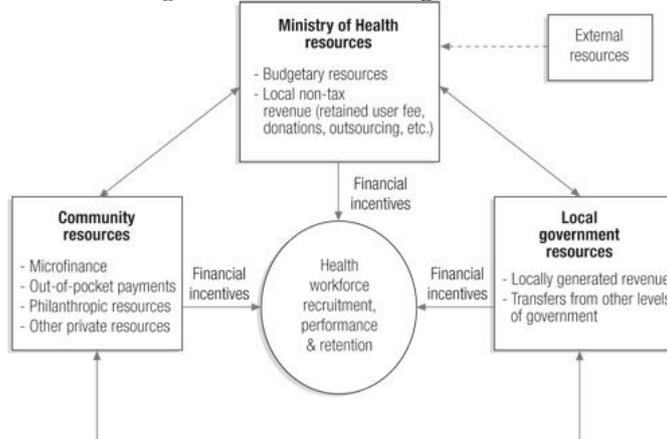
Indicator	1990	2000	2010
Measles (% of children under 12 months/3 years)	92	98	96.7
DTP (% of children 12 months)	96	99	98.2
Poliomyelitis (% of children under 12 months)	92	99	96.9
Tuberculosis (% of new live births)	90	99.7	99.2
Hepatitis B (% of children 6 months)	-	98	98.5

Sources: WHO Regional Office for Europe; National Centre of Communicable Diseases Prevention and Control

### 3. Health financing

Financing based mainly on general taxation was replaced with a system based on mandatory insurance premiums paid by the employee (6.5%) and the employer (7.0%) as a fixed percentage of income. In addition, pensioners, people receiving social assistance, the unemployed, conscripted soldiers, and people in custody or under arrest are covered (Frenk, 1993). Other categories, such as children and young people, disabled people and war veterans with no income and the dependants of an insured person (wife, husband, parents and grandparents) were also covered.

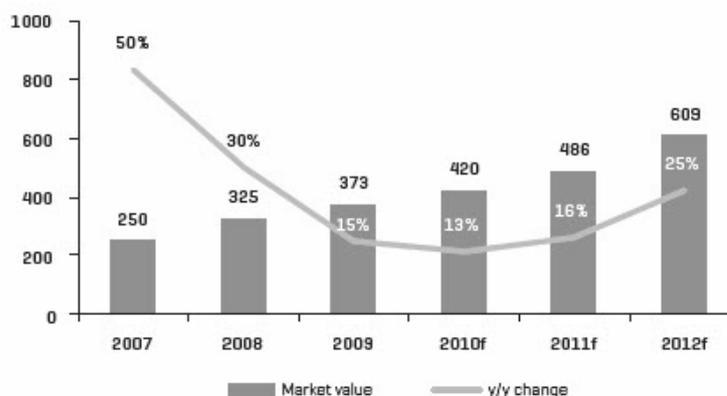
**Figure 1: Health financing resources**



Source: Bulletin of the World Health Organization

The insurance law contributed significantly to the development of the private sector in health (Figure 2). Prior to the law, access of private health care providers to public funds was rare. Moreover, the previously state-employed GPs became independent practitioners, the majority of them being self-employed.

**Figure 2: Growth of Private Healthcare in Romania**  
**Value (EUR mn) and y-o-y growth of private healthcare in Romania**

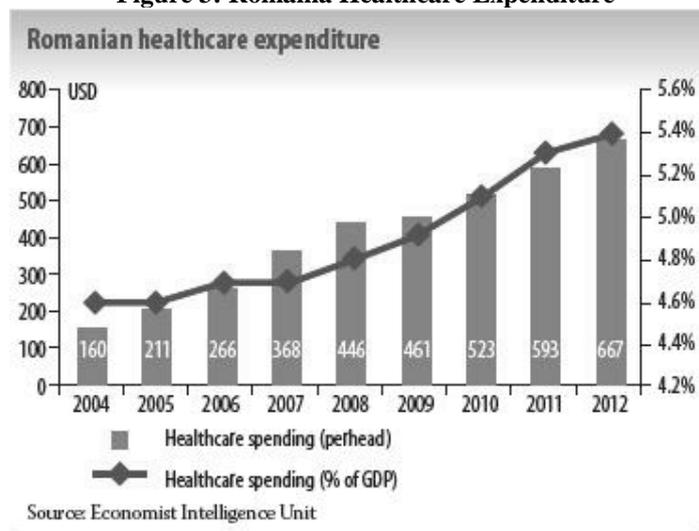


Source: PMR Publications, 2010

Source: PMR Publications, 2010

Social health insurance expenditure has constantly increased (Figure 3) from 64.6% in 1998 to 82.7% of total expenditure on health in 2004. From 2007, due to the allocation of taxes on alcohol and tobacco to health funding, the health insurance contribution fell to an estimated 75% of total expenditure (Cace, 2004). Health insurance covers preventive health care services; ambulatory health care; hospital care; dentistry services; medical emergency services; complementary medical rehabilitation services; pre-, intra- and post-birth medical assistance; home care nursing; drugs; health care materials; and orthopaedic devices. The system can negotiate contracts with both private and public providers. Taxes continue to be an important contribution mechanism for health care as the state budget retains responsibility for funding public health services and capital investments, as well as preventive activities included in high-priority national health programmes.

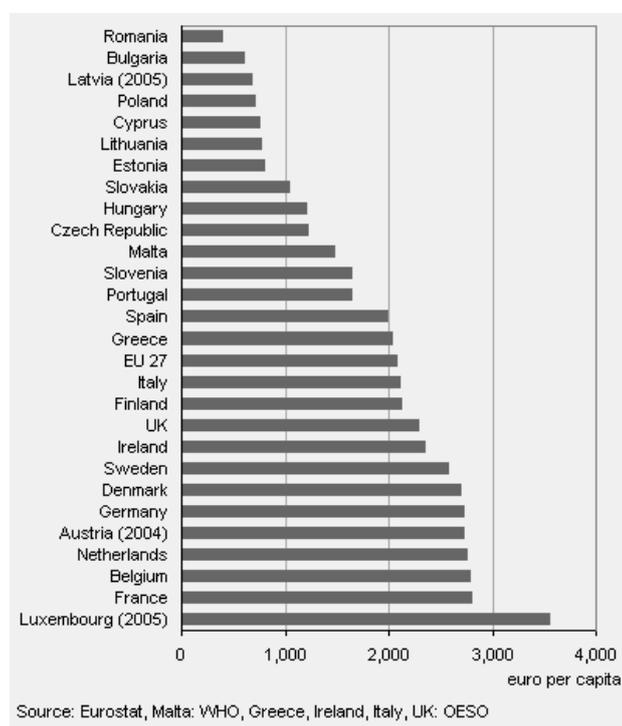
**Figure 3: Romania Healthcare Expenditure**



Source: Economist Intelligence Unit, 2012

The implementation of the health insurance scheme in 1999 increased public expenditure to 3.4% of GDP (in 1999) compared with 2.8% in 1998. Compared with other European countries, Romania still has the lowest percentage of GDP spent on health (Figure 4). There were no further dramatic increases in the following years, but the general trend of health expenditure in Romania as share of GDP is increasing (Fig. 4). The level of health care expenditure per capita is also much lower compared with countries from western Europe, and with many countries from central and south-eastern Europe. The international comparability of the Romanian data is limited, however, as it does not include private expenditure, which is not regularly collected or calculated. Therefore, it is unclear what has happened in terms of private expenditure growth. Though the level of private spending is underestimated, it appears health expenditure from public sources as a proportion of total spending is relatively low. Expenditures include mainly those of the NHIF and Ministry of Public Health for medicines, health services, preventive services, medical equipment and capital investments.

**Figure 4: Healthcare Expenditure EU**



Source: Eurostat, 2012

#### 4. Conclusions

The Romanian health care system is currently in the process of rapid transformation and probably one of the main problems with the Romanian health care system is the lack of a clear vision of its future and the lack of a coherent project for its health system, which is shared and accepted by the main stakeholders. The increased turnover of decision-makers within the health system has resulted in a number of health projects and strategies, often developed with international support, which started the development of its own "health policy". For these reasons, many health policy areas are still not touched by serious reforms, for example human resources training in healthcare or hospital organization, which is very similar to that before 1990. The challenge remains to find the appropriate mix between capitation, fee for service and activity-dependent budgets. Hospital reform in terms of hospital reorganization is still regarded as a possible tool to improve control of expenditure. Both the hospital and pharmaceutical sectors are perceived by the population as unresponsive to their expectations. Finally, it is important to highlight that expectations, real or induced, have to be considered in the context of the socioeconomic development level of the country and of transformation of the health system.

#### 5. Acknowledgements

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## THE IMPACT OF CHANGE AND ITS IMPLICATIONS ON THE LABOUR MARKET AND HUMAN RESOURCE MANAGEMENT

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**Abstract:** *This article aims to address some specific aspects of the East German labor market. In a first stage an overview of the privatization process in the East is to be offered: Modus operandi and the structure of the National Agency for Privatization (hereinafter THA) are to be described pointing out the stages of privatization and some key indicators. Also, the factors and the means by which West Germany was able to (positively) influence the evolution of the privatization process in the East are to be explained.*

**Key words:** labor market, privatization, restructuring, reform, unemployment.

**JEL classification:** J 0, J 7, J 8, K 31

### 1. Introduction

The fall of the Berlin Wall on November 9, 1989 was to mark a radical change in the history of postwar Europe. Few suspected that the fall of the socialist regime of the German Democratic Republic (GDR - informally known as the East Germany) was to trigger a chain reaction collapsing the totalitarian regimes in Eastern Europe (Barford, 2002). Federal Republic of Germany (FRG - known as West Germany) and undertook the reconstruction of East Germany, by creating the Monetary, Economic and Social Union herewith. Signed in May 1990, the Reunification Treaty stated that the transition to a market economy is to be achieved without major social disruption while also improving the living and working conditions of the population (Treaty between the Federal Republic of Germany and the German Democratic Republic establishing the Monetary, Economic and Social Union, 1990). The Federal Government estimated that convergence was to be achieved within a shorter period compared to the other former communist States and its *reform policy was based on three main areas: investment subsidies in the East* (under various forms), *monetary union, massive capital transfers to the East*.

One of the main questions this chapter aims to answer can be formulated as follows: can the undertakings of the State be effectively privatized if this task is entirely delegated to an authority responsible for privatization, which has proper autonomy and is independent from the political factors? The question is trying to find the answer through detailed analysis of the privatization process carried out in East Germany by the Treuhandanstalt (THA), the Agency designated for the privatization of state property in East Germany.

### 2. The privatization process in Germany following the reunification: an example of radical reform.

East Germany was considered the economic model of the socialist bloc countries. However, after the fall of the Berlin Wall and the reunification, the economic deficiencies in the East surfaced, demonstrating its lack of functionality (Keller, 2000). After the fall of the Berlin Wall on November 9, 1989 and the reunification of Germany the following year, an ample process of economic, social and political reform was initiated and conducted in the new German Federal Republic. The grounds of this process were the massive privatization of the State's undertakings in East Germany.

In March 1990 was established the **National Agency for Privatization (Treuhandanstalt - THA)**, an organization, with state-owned capital, responsible for privatizing the undertakings in East Germany. In other words, THA took over the property of almost the entire East German economy. The main *objectives of the THA* were:

- most efficient and fast privatization of the state-owned undertakings in East Germany
- increasing the competitiveness of as many state-owned undertakings, so that jobs can be maintained and new ones created

- subsequently, due to increased pressure and slow implementation pace, the THA took over the task of restructuring certain undertakings in order to facilitate their privatization.

In addition to these main objectives, the THA also had the responsibility of funding the organizations it owned, so that they remain operational and not to accumulate trade debt or debt with the state budget. (Woll, 1995).

Gros and Steinherr (1995) describe four stylized forms of ownership structure as arising from the table below.

**Table 1: Types of ownership**

Ownership structure	Features	Where?
Colonial	Assets are mainly held by non-residents	East Germany following the privatization (which is uncomfortable for the residents of the East)
Social	Assets are held primarily by the state (and implicitly by the population)	East Germany before the privatization
Direct	Assets are held primarily by residents and non-residents	West Germany
Indirect	Assets are held by intermediaries who are liable for the management	

Source: adapted from Gros and Steinherr (1995)

The THA took over an extremely difficult task, namely to assess over 8,000 companies and commercial facilities within an environment of frequent structural changes. The commercial facilities were large organizations, the socialist giants resulting from the late '70s fusion of different types of undertakings which had interdependent relationships within the production process; activities ranging from research to production and sales took place in these commercial facilities, which were centrally coordinated and through which was intended to stimulate the knowledge transfer from the research facilities to the production ones. Many of these commercial facilities were providing the employees with accommodation facilities, health care centers, schools for children, etc. In terms of profitability, these commercial facilities represented an economic disaster, but their immediate dissolution would have been a social disaster, as between 10,000 to 70,000 people worked in each of the 173 commercial facilities (Dyck & Hopper-Wruck, 1998; Schreiber et al., 2002). The THA's role was that of a mediator between various parties involved (Government, federal authorities, trade unions, professional associations, etc.) and between the economic interests and the social and political ones (Hau, 1998, von der Heyden, 1995).

The proposals presented in the previous paragraph were not however implemented, and the THA was invested to *lead and coordinate the privatization process*. Until July 1990, the THA owned over 8,000 companies, which, in turn, had more than 45,000 production locations / sales units where over 6 million people were employed. The THA also owned all the public utilities, properties of the party and of the military services. At that time, the THA was the largest organization in the world, owning a portfolio ranging from steel and coal industry to service companies; for example, film and music studios, hotels, pharmacies, cinemas. In addition, the THA took over about 2.5 million hectares of farmland and forestry, which previously belonged to the Political Police (Berndt, 2007; Bryson, 1992; Thick & Steinherr, 1995, Kaser, 1998).

Soon after the THA took over the state's undertakings, a study was conducted to assess the efficiency thereof. The enterprises were evaluated on a scale from 1 (very good) to 6 (very poor). The results of this analysis are presented in the table below:

**Table 2: Assessing the competitiveness of enterprises in East Germany**

Rating	Description	Percentage of enterprises in this category
1	Profitable enterprises which can be directly privatized	2%
2	Enterprises which may be privatized after slight restructuring	7%

Rating	Description	Percentage of enterprises in
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		<i>this category</i>
3	Solid business plans, but it takes major restructuring	41%
4	Restructuring is possible, however there is no sustainable business plan	24%
5	Limited restructuring possibilities	9%
6	Impossible to be subject of privatization; the closure thereof is recommended	17%

Source: Dyck & Wruck, 1998

As it can be seen, only 2% of the companies were operational and could be directly privatized, while 26% of the companies had a high probability of being closed. The results of this study, which presents a pessimistic economic picture in terms of the privatization process in East Germany, are consistent with the results of an independent study conducted by a group of American economists who estimated that only 8% of the state owned companies were able to cover their variable costs (Akerlof et al., 1991).

Initially, approximately 600 employees were working with the THA when it was established in March 1990. This number was still insufficient for an activity which had an unprecedented magnitude in the economic history, namely the *transformation of a centralized economy in a functioning market economy in a short time*. Thus, by the end of 1991 the number of the employees with the THA grew to 3,000. Also, the number of companies it was dealing with increased to 13,000 after many of the large conglomerates were broken into smaller and easier to manage units (Aghion et al., 1994).

*The THA structure and the operation* are to be presented next.

A large number of the management positions within the THA and the related institutions were occupied by Western managers with wide experience in the market economy. The THA's Board of Directors was constituted both of politicians with experience in economics and private experts specialized in managing bankruptcy, insolvency and liquidation. The Board of Directors is supplemented by an Administrative Board, which consists of West German managers with experience in running private companies in the context of market economy, five representatives of the five new federal states and four trade union representatives. The Administrative Board carries out an advisory and supervisory activity. The activity of these councils met public opposition, resulted in some cases with tragic events, for example, the 1991 assassination, by alleged supporters of a radical left wing organization, of the THA President, Mr. Detlev Karsten Rohwedder, German politician and manager.

Privatization in East Germany was built as a two-step process, each of stages corresponding to certain key activities, as shown in the table below:

**Table 3: Stages of privatization in East Germany**

<i>Stage</i>	<i>Activities</i>
<b>1. Restructuring state-owned undertakings</b>	<b>Commercial facilities division into smaller units having their own legal status</b> (Limited Liability Companies, Joint Stock Companies, etc.) and transfer of property to the THA (Berndt, 2007).
	<b>Establishing the management boards</b> which included experts from West Germany and thus facilitating the transfer of know-how (91% of the management personnel was represented by experienced business people in West Germany).
	<b>Opening balance sheets in DM</b> for all the said companies (this has proved extremely difficult given the difficulty of valuing assets and liabilities (the debts failed to reflect the performance of enterprises and, within the centralized system they were merely a result of political decisions). In view of granting the companies with potential a chance of surviving, financial and accounting adjustments were required.
<b>2. The actual selling</b>	<b>Establishing the method of privatization</b> separately for each enterprise
	<b>The call for tenders public</b> - was the method the most widely used: those interested in purchasing (a large number of potential local and foreign investors, individuals and corporations) were invited to submit a business plan that included precise specifications of the <i>planned investments and the number of employees who were to be kept</i> . In case of breach of these commitments various sanctions were set.
	<b>Negotiation</b> - the THA negotiated with the bidders and when they reached an agreement the latter had to guarantee a minimum level of the investments and

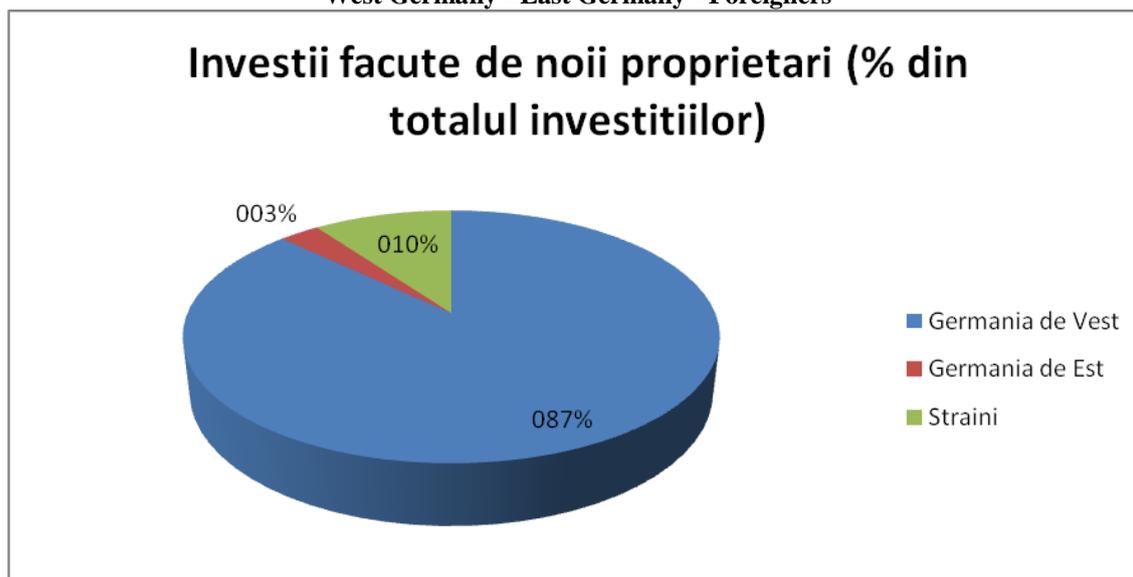
	number of the kept employees.
	<b>Implementation of other methods of privatization - (MBI, MBO, etc.)</b>
	<b>Closure of those undertakings that could not be sold</b> - there were only two methods for the undertakings which did not find a buyer: either allocating state subsidies (the political pressure on the THA was very high in this respect (Gröner & Baumann, 1994), especially in the industrial cities of East Germany, where the decision of closing unprofitable undertakings was delayed and they were funded with public money for a period) or closure thereof.

Source: adapted from Gros and Steinherr (1995), Hau (1998)

The THA's activity ended in 1994. Until this date, more than 15,000 organizations have been privatized, 4,500 were re-privatized (rendered to their former owners) and 3,600 were dissolved. About 80% of the privatized organizations went to mid-sized companies. In 3,000 cases the privatization was conducted through the sale to managers and internal employees' method (MEBO) and sale to the external managers with experience in the area method (Management buy-in). Undertakings that have applied these methods had an average size (usually up to 500 employees). Most undertakings were sold to investors in West Germany, only 850 units getting to be owned by investors from other countries.

From the graphs presented below results that the total investment guaranteed by the new owners amounted to DM 298.2 billion and the jobs saved / created amounted to 1.46 million employees. It is noted that western investors are the most advantageous from both perspectives: they undertake 87.1% of promised investments, while the buyers from East Germany undertake only 2.9% of investment (although the latter own 20% of all privatized enterprises). This is probably due to lack of and difficulties faced by them in obtaining capital. On the other hand, it was intended for the residents in the East to be actively involved in the privatization process (also to avoid social discontent, among others) and therefore some undertakings were sold to them even if the non-residents were providing more favorable terms.

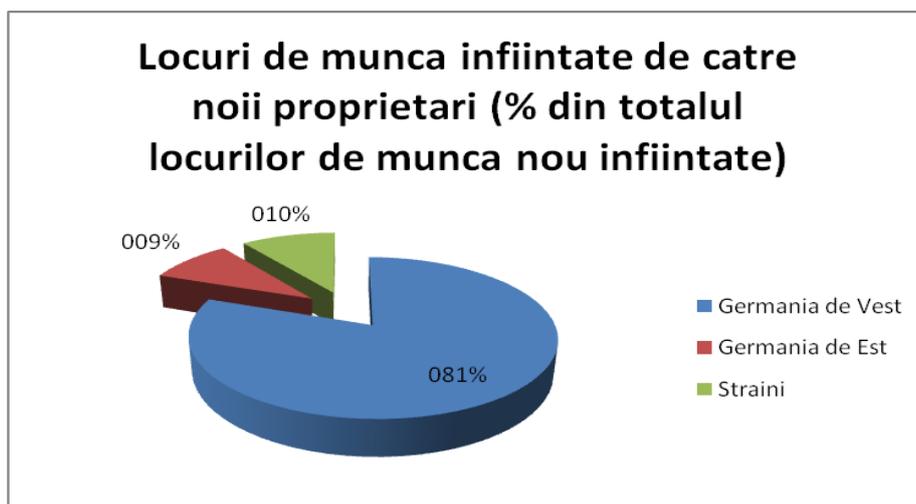
**Figure 1: Investments made by the new owners of the companies from East Germany**  
**Investments made by the new owners (% of total investments)**  
**West Germany - East Germany - Foreigners**



Source: Personal illustration based on data from Dyck & Wruck, 1998

In terms of the new jobs created by new owners of the Eastern companies, the situation is similar to that of investments. The Western investors are the most prolific, creating over 80% of total employment, followed by foreign investors who create 10.2% of total employment. Investors from East Germany occupy the last place: despite the fact that they own 20% of new privatized undertakings, they create only 9.2% of total employment.

**Figure 2: Jobs created by the new owners of companies from East Germany**  
**Jobs created by the new owners (% of total investments)**  
**West Germany - East Germany - Foreigners**

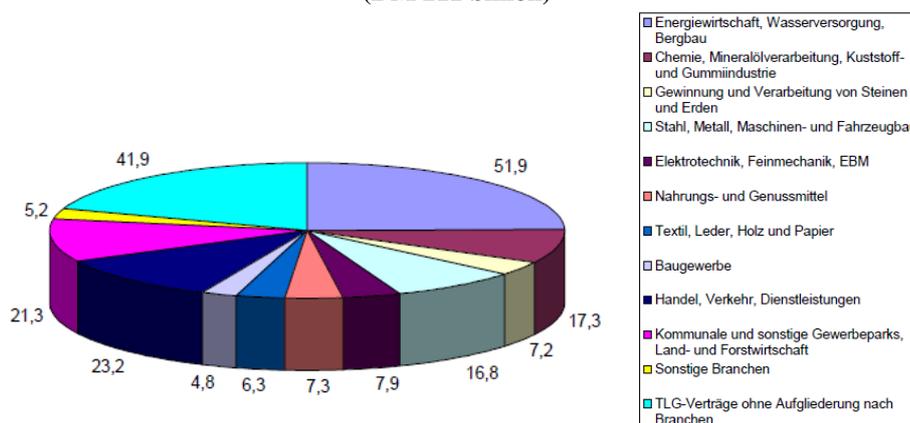


Source: Personal illustration based on data from Dyck & Wruck, 1998

As regards the restitution to former owners, 16,000 of the 18,000 requests were resolved, including 4,000 enterprises that were returned in kind. The issue of restitution was an impediment to privatization, as the legislation initially provided that the restitution in kind was the priority and not cash compensations. This led to ambiguities on the ownership status, the THA not being able to dispose of assets as long as their situation was unclear or was the subject of a lawsuit. However, the Government reviewed that matter and said that restitution in kind was not an absolute priority, and it could be replaced with equivalent compensation, thus leading to the unblock of the privatization process. (Gesetz zur Beseitigung von Hemmnissen bei der Privatisierung von Unternehmen und Förderung von Investitionen, 1991).

As shown in the graphs below, the THA privatizations led to investments of over DM 200 billion and over 1.5 million jobs were created. Most investments were headed for the energy and mining sectors (51.9 billion), textile and leather industry, timber and paper industry (23.2 billion), agriculture and forestry (21.3 billion).

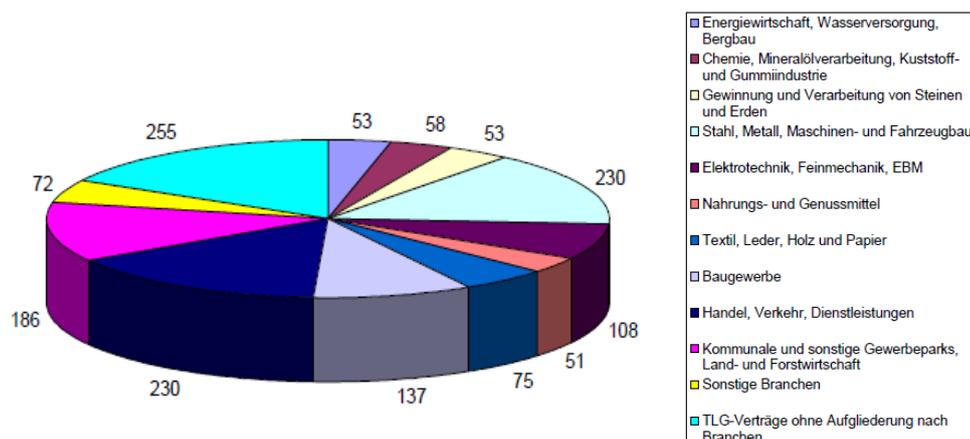
Figure 3: Investments made in Germany during the privatization carried out by the THA (DM 211 billion)



Source: Bundesministerium der Finanzen, 2005

As regards the employment, most of the jobs were created in trade and services (255,000), followed by the steel industry, metallurgy and machine building (230,000), and agriculture and forestry (186,000).

Figura 4: Jobs created in Germany during the privatization carried out by the THA



Source: Bundesministerium der Finanzen, 2005

The privatization process was not completed simultaneously with the termination of the THA activity, which was ended in late 1994, several legal issues still remaining unresolved and many undertakings being non-privatized. Overall, the *THA's activity ended with a net loss*, which was taken over by the government in Bonn, thus leading to the *Western population discontent*, as it had to bear the cost of reform in the East (not only the THA's losses, but also other financial transfers to citizens and businesses in the East).

*The responsibilities of the former THA were taken over by three other agencies*, namely: the National Agency for the Settlement of Aspects related to the Reunification (Bundesanstalt für vereinigungsbedingte Sonderaufgaben, *BvS*) - which dealt with the undertakings still remained non-privatized, the Agency for Privatization of Buildings (Treuhändliedenschaftsgesellschaft, *TLG Immobilien*) - which dealt with the state-owned buildings of urban and industrial areas; the Land Operating and Management Company (Bodenverwertungs-und-Verwaltungs GmbH, *BVVG*) - a subsidiary of the THA founded in 1992, which dealt with agricultural and forest land owned by the state. *BvS* closed operations in 2000 when it assigned the pending problems to other State bodies. Also in 2000, the *TLG* business was reoriented from the privatization of state-owned assets towards an active portfolio management designed to generate profit for the Government. Subsequently, the *TLG's* privatization itself was scheduled, but this initiative was postponed, the excuse for that being the unfavorable economic conditions that occurred once the global crisis started in 2008. In 2011 they went back to the idea of the *TLG's* privatization, which at that time had a capital of 1 billion Euros and owned property of 1.75 billion Euros, and in 2010 recorded a net profit of over 20 million Euros. As regards the *BVVG*, in 2008 it announced a profit of over 3.5 billion Euros resulted from the privatization of over 500,000 hectares of agricultural and forestry, which was carried out since 1992. (*BVVG*, 2008; Bundesministerium der Finanzen, 2005, 2011; von der Heyden, 1995).

### 3. The main challenges encountered in the privatization process in East Germany

A fast and radical privatization process was implemented in East Germany, which would have been probably doomed to fail if not for the help of the Western population. The *sharp decline in production* is among the main negative aspects thereof (Gagnon et al., 1996), which was much stronger than in other Eastern European countries (where a gradual transition to market economy was chosen). In 1991, the GDP share of the federal states in East Germany was 7.4%, while the share of employees in the total employees of the reunified Germany was 20%. These figures indicate a level of labor productivity in East Germany three times lower than in West Germany. (Gros & Steinherr, 1995).

Also, the *production structure* is very different in the East compared with that in West Germany. The *public sector is twice more important in the East than in the West*, while services and production are twice less important. Underdevelopment of service sector is specific to socialist countries and the productive sector was subject to a broad process of reconstruction. Private consumption in East Germany in 1991 was similar to that in the West, indicating that massive capital transfers were coming from the West. (Bundesregierung, 1992).

The collapse of East Germany production was sharper than in other former socialist countries because after the reunification with West Germany and the adoption of monetary union and after decades

of isolation the *East industry* was suddenly exposed to the competition in the West. Thus, consumers had to choose between the Eastern and Western products; the balance was in favor of those in the West, of course. The collapse of East Germany production following the reunification (a fall of 30% in 1991) cannot be compared in magnitude with any country in Central or Eastern Europe (in Poland, Czechoslovakia and Hungary the decrease amounted to about 25%). The only possible comparison is with the recession of the 1930's Great Depression. (Tullio et al. in De Grauwe et al., 1994).

The most affected sector was that of capital goods (down 50%), a main sector of the East Germany industry. This sharp fall is explained by the decline in the exports to other countries of the former Communist bloc: one third of the dramatic decline in production was due to the *reduction of trade relations with former communist countries* and two thirds were due to the *change in the consumption habits of the population* (preference for imported products). (Gros & Steinherr, 1995). Given the low consumption possibilities which existed during communism, at the time of the fall of the Berlin Wall, the Eastern population had available both savings and greater consumption desire, as they have been deprived for more than 40 years. So, the Eastern Germans had the necessary financial resources to buy new and attractive products in the West. By establishing a favorable conversion rate, which was intended to ensure a comparable standard of living, and without realizing the related effects, the German Government indirectly undermined the Eastern economy, whose products were suddenly not required on a free market. Also, by massive capital transfers, domestic consumption has suddenly increased, so that in 1994 it represented 90% of that in the West. These values indicate a rate of consumption 50% higher than that of production, thus indicating the creation of a budget deficit. (Kaser, 1998).

The second major problem of East Germany lies in the external debt crisis. As shown in the table below, the total trade balance recorded a surplus of DM 22.9 million in 1990, and after only 3 years it was reduced to DM 3.2 million. In the midst of privatization, in 1993, the trade balance with European Union (EU) countries became negative (-0.7) due to lack of competitiveness of Eastern products on EU markets. The external deficit reached alarming levels, namely DM -199 billion in 1993.

**Table 5: The trade balance of the federal states of East Germany (in bn. DM)**

	The total external trade balance			EU Countries				Former socialist countries		
	External deficit	Exports	Imports	Trade balance	Exports	Imports	Trade balance	Exports	Imports	Trade balance
<b>1990</b>	-	38,1	22,9	15,2	2,9	2,7	0,2	29,8	14,9	14,9
<b>1991</b>	-152,3	17,5	10,9	6,6	3,0	2,3	0,7	11,4	6,1	5,3
<b>1992</b>	-190,0	13,8	9,6	4,2	3,2	2,5	0,7	7,2	4,6	2,6
<b>1993</b>	-199,0	11,9	8,7	3,2	1,9	2,6	-0,7	6,2	3,9	2,3

Source: Jahresgutachten, 1995

Another major problem faced by Germany during the privatization of the Eastern economy consisted of the alarming increase in unemployment. In 1992-1993 the eastern official unemployment rate reached a level similar to those of the Great Depression of the '30s. However, the actual values were much higher, being masked by the migration to West Germany and early retirements. The German labor market's issues during privatization and the changes in human resource policies at company level are to be presented in detail in the next chapter.

One of the major difficulties encountered during the privatization of undertakings in East Germany is considering the *environmental factor*. Technologies available to them did not meet the minimum environmental standards, which led to difficulty in selling and decrease in the purchase price, as new investments in technologies had to be made with minimal impact on the environment. Environmental issues are one of the main concerns of the potential investors, because most of the state-owned undertakings do not meet the current environmental standards, meaning that the new owners have the obligation to make substantial investments in this regard. (Berndt, 2007; Bluffstone, 2007; Lovei & Gentry, 2002). A study conducted by Klavens & Zapparutti (1995) within 1,000 big companies in the U.S. and Western Europe regarding the factors that hinder the choice of purchasing state-owned companies from the former socialist countries reflect the fact that half of the purchase proposals have not been finalized due to environmental considerations. In East Germany the THA ordered extensive environmental analysis, and environmental audits were subsequently carried out, trying to keep costs as

low as possible. Thus, in 1996, when the privatization process was in a final stage, the amount of \$6.4 billion was spent for ecological activities related to the former public undertakings.

The table below comparatively presents the differences regarding some of the most important economic indicators in 1990 in East Germany and in West Germany. The indicators related to the entire Federal Republic of Germany in year 2011 are also presented.

**Table 6: East Germany / West Germany Indicators**

Indicator	East Germany (1990)	West Germany (1990)	Federal Republic of Germany (2011)
<b>Population</b>	16 Mil	62 Mil	82 Mil
<b>GDP</b>	\$160 Bln	\$ 945 Bln	\$ 3,629 Bln
<b>GDP per capita</b>	\$ 9700	\$ 15,300	\$ 37,900
<b>Budget revenues</b>	\$ 123 Bln	\$ 539 Bln	\$ 1,582 Bln
<b>Budgetary expenditures</b>	\$ 123 Bln	\$ 563 Bln	\$ 1,643 Bln
<b>Unemployment rate (actual)</b>	26,9 %	6,1%	6%

Source: Central Intelligence Agency, 1990 and 2011; <http://www.tradingeconomics.com/population-list-by-country>, 2011

It is noticed that immediately after the 1990 reunification the differences between East and West were sky high: West German GDP is 6 times higher than the Eastern one, and the GDP per capita is almost two times higher. The biggest difference is recorded in the real rate of unemployment: East Germany registered values 4.5 times higher than in West Germany. As regards the reference year 2011, through analysis of the values of these fundamental indicators in the Federal Republic of Germany (West Germany + East Germany), one can see that an equilibrium point was reached, marked by positive values in economic terms, showing convergence was achieved between the two regions. Thus, the unemployment rate is 6%, one of the lowest in the European Union. This is a result of the reforms imposed by the Schröder Government and continued by Angela Merkel during the global economic crisis, involving, among others, increase in the flexibility of the labor market and employment and remuneration conditions. Also, the structure of employment (2.4% of the population works in agriculture, 29.7% in industry and 67.8% in services) shows the profile of a highly developed country (the main clue is the high share of services). GDP per capita is \$ 37,900, the 28th in the world in terms of amount, and budget expenditures exceed revenues by \$ 61 billion. (Central Intelligence Agency, 2011).

#### 4. Conclusions

Given the very different values recorded in 1990 between East and West, it is obvious that a certain level of convergence has been achieved only by *directing large flows of capital from West Germany to East Germany* (Gagnon et al., 1996). Thus, since the reunification and up to 2004, the amount of aid West Germany granted East Germany accounted for over 1.2 trillion Euros. Each year over 80 billion Euros have been transferred, which is a large amount of capital for both the sender and for the destination region. One cannot calculate with certainty whether these amounts are the result of government policies or voluntary investments, but it is assumed that most of them are state subsidies.

The research points to an analysis performed at the organization level on the management practices and systems of motivation to improve work conditions, which, as a consequence, leads to attraction and increased retention rate of highly trained employees. Given the above, the next chapter addresses the analysis of the management practices and measures that are recommended at the enterprise level (microeconomic).

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## EUROPEAN AUTOMOTIVE INDUSTRY AND MARKET DURING CRISIS – STATE AND CORPORATE ACTIONS

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**Abstract:** *During tough times of challenges due to crisis, the European automotive industry and market was seen as a key sector for focusing efforts to support recovery of European economy. Its particularities to concentrate directly and indirectly important industries and fields of economy, as suppliers, retailers and workforce requested an active role of states and European institutions, as well as new commitments and approaches from the involved companies, in order to cooperate, define and implement clear and solid actions for recovery. This paper goal is to emphasize such actions and to highlight its success. European automotive was the motor of recovery.*

**Key words:** European, automotive, crisis, actions, state, corporate

**JEL classification:** M 21

### 1. Introduction

The financial crisis that started in 2008 in U.S. effect was dispersed throughout the world. The problem of liquidity and market uncertainty has affected the world economy and brought fully significant structural changes. The banking sector suffered a contraction in the credit, even termination, which caused a shortage of capital to finance economic activities. Industry, agriculture, services were immediately tried and had to resort to emergency measures like blocking investment, staff layoffs, lower outputs, even giving up profitability to maintain market share. The state was forced to take an active role and participation in supporting and financing of national economies and in prioritizing and protecting certain economic sectors. All these have brought additional costs, additional needs and generated mutations at micro and macroeconomic level.

The automotive industry is one of the main sectors affected by the crisis, around which were focused most actions to revive the economy, both in developed and developing countries. The manner which the industry reacted to crisis is to be appreciated, while the economic measures and business models are to be followed.

All auto markets in the world have declined significantly in the first year of crisis which was 2009, while following years were marked either by recovery or the slowdown of the decline. The mutations made during these years, have more a qualitative sense and refer to bilateral cooperation between States, companies, as well as legislative changes, mergers and acquisitions of competitors, partnerships, business model changes, diversity by cost savings, relocations of production factors and vertical integration. All these aspects will be presented in this article, highlighting the auto market reaction to the challenges of crisis and how the main participants responded.

### 2. Global Outlook

International levels of automotive production, as per OICA annual statistics, show a positive situation on the global market which registered an unexpected trend of recovery in 2010 by +25,65% and a moderate rate of production grow in 2011 by +3.17%. Such situation is presented in Table 1.

First remark about structural changes during crisis is about the increasing levels of production in Asia-Oceania. Here we should highlight **China** which automotive production increased significantly from 9.299.180 units in 2008 to 18,418,876 units in 2011 (OICA). It is a remarkable outplay by China manufacturers achieved during crisis. If in 2006 China replaced Japan to become the second car market in the world, in 2009 it was U.S.A turn to be outpaced by China.

Which are the secrets of China success? We can outline some key ones like: China's acceptance and entry in WTO; an active and supporting play of the government to power automotive industry by offering subsidies for purchasing new-energy cars; good and lasting cooperation between local manufacturers and global manufactures via Joint Ventures.

**Table 1: World motor production during financial crisis**

Production	2008		2009		2010		2011	
	Value (units)	Change %	Value (units)	Change %	Value (units)	Change %	Value (units)	Change %
Europe	21.777.794	-4,67%	17.009.468	-21,90%	19.826.116	16,56%	21.130.380	6,58%
America	16.886.089	-11,63%	12.535.540	-25,76%	16.367.398	30,57%	17.796.240	8,73%
Asia-Oceania	31.507.403	2,78%	31.753.104	0,78%	40.924.255	28,88%	40.624.624	-0,73%
Africa	586.013	8,11%	416.577	-28,91%	511.358	22,75%	541.596	5,91%
<b>Global</b>	<b>70.520.493</b>	<b>-3,75%</b>	<b>61.791.868</b>	<b>-12,38%</b>	<b>77.629.127</b>	<b>25,63%</b>	<b>80.092.840</b>	<b>3,17%</b>

Source: own creation based on OICA data.

China has offered a lesson on how to approach globalization and its premises. When the central government decided to open China's auto market to international companies, it was fully aware that domestic manufacturers then would not be able to compete with the more sophisticated and experienced foreign rivals. To surmount this problem, foreign automakers were allowed to enter the Chinese market only through joint ventures with local partners, each no more than 50% controlled by a major foreign nameplate automotive manufacturer. It was a win-win solution, a method which has demonstrated its viability since then.

Second seized change on the automotive global industry was the decreased levels of production in *America*, as a continent, hardly affected by the crisis in 2008 and 2009, but successfully managed to recover in 2010 and 2011. In **USA**, the direct intervention of Obama's government has saved GM and Chrysler from collapse by offering *treasury loans* and requesting them more *aggressive plans to recover* under a closer supervision. Such method has pumped the necessary funds to maintain and to succeed in their attempt to recover which was registered by mid 2011 when loans were refunded.

In addition, the government launched in July 2009 the „*Cash for Clunkers*” program which provided 3500-4500\$ for buyers, a move which gave a stimulus to this sector to produce and to consumers to buy new fuel efficiency cars. Approximately 700.000 car units were sold under this program. By end of 2011, automotive sector has recovered and sales have increased constantly with 115.000 more jobs created.

In South America, the main player, **Brazil**, had a very rigid fluctuation, maintaining step by step an increasing trend. With a low reduction by -1,0% of production in 2008, Brazil has registered continuous levels of growth in 2009 and 2010. In December 2008, the Brazilian government introduced a *cut in the Tax over Industrialized Products (IPI)* for the automotive sector. Brazilian government efforts to stimulate the country's car sales had a positive effect with new registrations reaching 668,314 units in the first quarter of 2009, up 3.14% from the same period of 2008.

The **European** automotive industry was also hit by the global financial crisis. At beginning of 2008 and especially during 2009 it was registered a drop of -21.90% of motor production.

Main causes were banking blockage of credits for consumption, decreased salaries and purchase power of consumers, low demand, lack of corporate liquidity to finance operations, low levels of confidence on market etc. This situation caused major disturbances like: high inventories due to overcapacity, severe jobs cuts and temporary freeze of market investments and researching corporate projects. Political actors like European Commission and national governments have reacted quickly and established a set of measures to coordinate and to support the automotive industry recovery. Particularities of such measures are detailed on next section concerning the european automotive industry response to crisis. By end of 2011 the situation came out on top, motor production in Europe has increased to 19.826.116 units in 2010 and 21.130.380 units in 2011, levels which are close to the ones achieved before the crisis.

### 3. European automotive industry

Europe is the world's largest vehicle producer with an average output for 2006-2011 of over 17 million passenger cars, vans, trucks and buses per year, which represent approximately 25% of worldwide vehicle production. The automotive industry is also a formidable employer in Europe. At least 12 million

families depend on automotive employment with 2.3 million direct jobs and another 10.4 million in directly related manufacturing and other sectors.

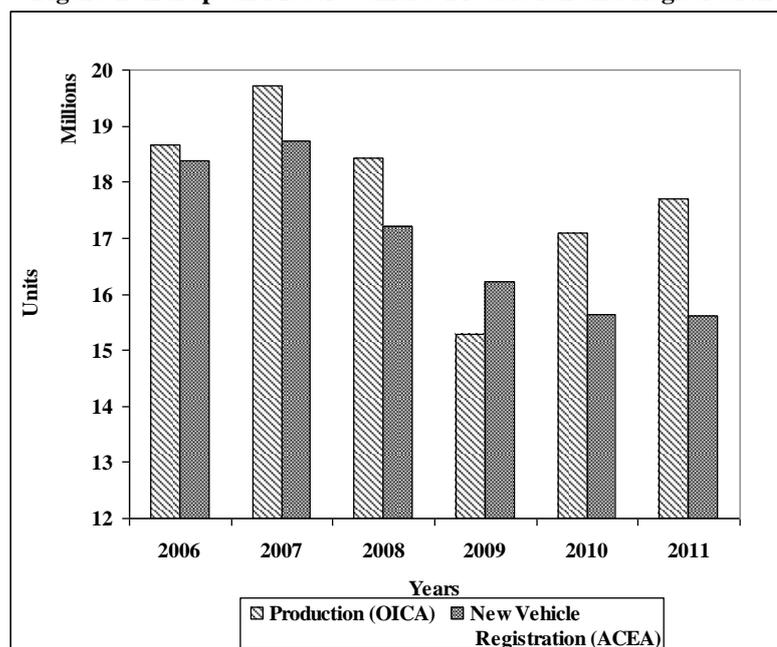
It is considered a leader in the global market for its integrated operations which cover: research, design, development, production and sales. European automotive market is composed of a concentrated and sophisticated global network, which includes joint ventures, cooperative production sites and assembly. Automobiles are highly complex and innovative products. The ACEA members invest annually over € 26 billion in R&D, or 5% of their turnover. Total automotive R&D investments, including those from suppliers, are even higher. The auto industry is the largest private investor in R&D in Europe.

Automotive industry is closely linked with many other sectors. Electronic engineering, mechanical and electrical, information technology, steel, chemicals, plastics, metals and rubber are all key suppliers. 20% of EU steel and 36% of its aluminum production car goes into production. It is also a very important cross-border in Europe and the world generally is about 50 upstream component suppliers for a car, spread throughout Europe, and around 75% of the value added of a new car is generated by these suppliers. Therefore, the intra-Community trade in automotive products is substantial with around 360 billions euro in 2007, although the onset of the crisis in 2008 saw the decline of 315 billions euro. Any slowdown in the automotive sector therefore strongly affects other sectors and all EU Member States.

The European automotive industry is a key factor in economic growth, exports, innovation and jobs. Its impact filters through a range of other sectors. It has very important relation with suppliers, manufacturers, sales and servicing downstream creating a web of mutual interest, touching each of the Member States.

The international financial crisis which started in 2008 in USA had affected also the European market. An overview on such effects on production of motor vehicles and also on registration of new motor vehicles within European Union of 27 Member States is presented on Figure 1, marking also the period before the crisis.

**Figure 1: European Motor Vehicles Production and Registration**



Source: own creation based on OICA and ACEA data

After a peak of production of almost 20 million units in 2007 and a sensitive drop of level in 2008, production has collapsed in 2009 to less than 16 million units. Recovery began starting with 2010 and continued to 2011 by reaching almost 18 million units, marking the same trend as before the crisis. Registration of new vehicles had a descendant trend since 2007 to 2011, arriving at 16 million units in 2011. It was influenced by the financial crisis, but also by the positive commercial trade balance.

Regarding the motor vehicle production decrease of almost 20% from 2007 to 2009, it reflects the major disturbances arising from the automotive market, determined by low confidence to consume and invest which the financial crisis had brought. Impact on industry was significant: reduced schedules or

production stoppages, low profitability, high rates of jobs cuts in all sectors, social movements, corporate vs. social or corporate vs. political media struggles etc.

Given the automotive industry parameters within European economy and overall implications on all sectors, there was a major need for clear and coordinated measures to outcome the financial crisis effects.

As a consequence, on 28<sup>th</sup> November 2008 the European Commission has issued “**A European Economic Recovery Plan**” a set of guidelines and measures which European Council and governments must consider to implement in order to protect, support and develop the European economy in front of the financial crisis adversities. Two main pillars were highlighted:

- a *major injection of purchasing power into the economy*, to boost demand and stimulate confidence. The Commission is proposing that, as a matter of urgency, Member States and the EU agree to an immediate budgetary impulse amounting to € 200 billion (1.5% of GDP), to boost demand in full respect of the Stability and Growth Pact.
- the *need to direct short-term action to reinforce Europe's competitiveness in the long term*. The Plan sets out a comprehensive programme to direct action to "smart" investment. Smart investment means investing in the right skills for tomorrow's needs; investing in energy efficiency to create jobs and save energy; investing in clean technologies to boost sectors like construction and automobiles in the low-carbon markets of the future; and investing in infrastructure and inter-connection to promote efficiency and innovation.

With a major focus on the automotive industry as catalyst to overcome the crisis the European Commission has issued a report on 25<sup>th</sup> February 2009 on “**Responding to the crisis in the European automotive industry**”. Key priority for the future was set to ensure European industry responsiveness to the current crisis and to emerge from it in a stronger position to compete globally once market conditions improve. This will be notably the case if the automotive industry will master the triple challenge of technological leadership with an environmental and safety performance that is world class.

The Recovery Plan emphasises the importance not only of addressing the causes of the current problems of the automotive sector, but doing so in a way which will secure and further reinforce the longer-term competitiveness of the industry. This means in particular responding to evolving consumer demand – in Europe as well as globally - by speeding up the development and production of "green" cars through high levels of investments in R&D and innovation. Such an approach will in turn make a major contribution to make industry fit for the low-carbon economy and thus to achieving Europe's ambitions in reducing CO<sub>2</sub> emissions and improving energy security.

In the **European Economic Recovery Plan**, the Commission defined the key elements of public support for the automotive industry reference. Some of these measures are general, while others are designed, in particular the automotive industry. The main objectives were:

- *to support demand* in order to help remedy the credit crisis;
- *to facilitate adjustment* by cushioning the costs associated with restructuring, especially for workers and improve their training;
- *to encourage upgrading* to ensure the sustainable competitiveness of the industry worldwide;
- *to help industry implement radical technological change* required by the climate change challenge.

Based on such guidelines each European state could manage a set of measures to achieve the proposed objectives. Government's actions were focused on both direct and indirect intervention fully aware of the importance of a solid approach.

Member States could support the automotive industry, even if the measures constitute state aid, because they could be granted without notice through measures in accordance with the General Block Exemption Regulation of 2008. This Regulation was used to support the automotive sector, including carmakers and their suppliers and distributors, many types of aid: to promote research, development and innovation, regional development, employee training, help for SMEs, venture capital, environmental protection, support measures to promote entrepreneurship, start-ups in assisted areas and women entrepreneurship. These categories of aid could be granted without notice and Commission's subsequent approval. Member States had only to inform the Commission afterwards, by using a simple spreadsheet information that the aid was granted.

European Union and Member States **main actions** were directed to support and boost the automotive industry via:

- *stimulating demand by public acquisitions*, as well as the acceleration of public fleet renewal projects;
- *subsidies for purchasing of new vehicles* through a financial support granted to consumers for *scrapping their old cars and buying more environmentally friendly cars*; This measure gave a boost to the automotive industry at beginning of 2009 when it was the only significant factor sustaining consumer demand for vehicles on such a difficult economic climate. e.g.: German car scrapping program was the largest in Europe and was imitated also by other countries including United Kingdom, France and Italy. An increase with 40% was registered in Germany's new car registration on May 2009 regardless same period of 2008 (ACEA 2010 data). France registered just an increase of 2.4% (ACEA). Other countries registered decreases. The impact of the car-scrapping programs might take some time to be felt, as the time lag between the sale and registration of new vehicles differs among countries and even among sub-national administrative units (Smith, 2009). Announced in January 2009, the program in Germany was limited to 600,000 cars and a updated budget to 2.5 billion euro. More details can be check on Table 2.

**Table 2: Car scrapping schemes within European states**

Country	Max Incentive	Age Requirement	Emissions Requirement	Government Cost
Germany	2.500 €	> 9 years	No	2.5 billion €
UK	2000 £	> 10 years	No	300 million £
France	1.000 €	> 10 years	Yes	220 million € / max 600.000 cars
Italy	3.500 €	> 10 years	Yes	-
Portugal	1.000 €	> 10 years	Yes	-
	1.500 €	> 15 years	Yes	-
Romania	900 €	> 10 years	No	max. 60.000 cars

Source: own creation based on ACEA data.

- *subsidized loans* to companies which suffer losses due to financial crisis (companies with difficulties a priori to crisis were excluded of such help since it is a forbidden type of state aid); One of the institutions entitled to have this role was the European Central Bank, which has issued an 1 trillion euros cheap three year loan program in December 2011 and February 2012
- *supporting R&D programmes* as an essential part for consolidating the technological advance and as a starting point for a competitive behavior on future market; European car manufacturers have agreed on a common approach, which is expressed in EUCAR strategy (auto industry - R&D challenges of the future, November 2008) and is based on four key research areas, namely: Mobility and Transport, Energy and Environment, Safety and Security, Affordability and Competitiveness. A method of financing R&D programmes was via European Clean Transport Facility (ECTF), which is a major EIB financing tool to support investments targeting emissions reduction and energy efficiency in the European transport industry, including the automotive (OEMs/Suppliers), railroad, aircraft and shipping industries as well as related infrastructure. It amounts to 4bn euro p.a. and can cover up to 75% of eligible project costs and up to 200m euro/loan. It offers a wide spectrum of debt financing solutions under both project finance and corporate finance frameworks.
- *minimising social impact, costs and safeguarding skills and employment* was a delicate target which state policies had to reach during crisis. In October 2007 the European social partners and industry organisations of the sector have launched "European Partnership for the anticipation of change in the automotive sector", which is a comprehensive two-year work programme carried on to anticipate and mitigate the social impact of restructuring. Also, through the European Social Fund (ESF) there were implemented measures in order to retain jobs and combat unemployment in the automotive industry, such as: supporting short-time workers by financing training and a part of wage and non-wage labour costs; supporting company and sector restructuring; financing retraining; anticipating change requirements and matching skills. In May 2009, the European Parliament voted to change European Globalisation Adjustment Fund rules so as to make aid available to wider group of redundant

workers. In practice, this meant lowering the eligibility threshold from 1,000 to 500 redundancies and widening the scope to include job losses due to the crisis. On September 2011 this aid was extended until end of 2013, giving the possibility to support a wider group of people who have lost their jobs due to the economic crisis.

- **opening markets and supporting fair competition worldwide** by negotiating the removal of barriers to automotive exports both multilaterally in the WTO and bilaterally with major trade partners. On such direction, on October 6, 2010, the 27 member European Union (EU) and South Korea signed a bilateral free trade agreement (FTA). South Korea has requested the removal of tariffs on imports of European cars in South Korea, in order to increase market share. The EU has sought not only the elimination of tariffs on South Korean cars, but also regulatory developments, including safety and emissions regulations that European producers have complained that they are discriminatory and impede their access to the South Korea market. This is an important achievement since USA is also striving without success for obtaining similar treatment from South Korea. The EU and South Korea would eliminate all of their tariffs on passenger cars and trucks over five years, including tariffs on electric vehicles. Their respective tariffs on auto parts—8% for South Korea and 3% to 4.5% for the EU—would be immediately removed. Also the EU is committed to avoid any new trade restrictions being created towards third countries because it is a mutual interest to have open markets which can fight the crisis.
- **environmental aids** like: aid to companies which improve the environmental performance in their production process, aid for environmental studies, aid for the acquisition of new green transport vehicle under certain conditions, aid for energy saving, aid for sustainable biofuels (which indirectly benefits car manufacturers developing motors using biofuels). The EU supports the development of alternative fuels, and EU funding for automotive research and development should lead to cleaner, safer, and smarter vehicles.

It was a coordinated and active intervention of state to support the demand on the market, to support capital flow, financing access, to reduce costs and alienate the burden of crisis. Companies and market was in need for protection and for a clear path to outcome the crisis, and the European union institutions and Member states government had offered important means and assistance to cover such need.

#### 4. European automotive market

As described above, EU Member States governments and EU institutions had an active role in protecting and supporting the automotive industry in front of the financial crisis challenges and applied various measures in order to initiate recovery and to sustain the automotive industry as key part of European economy stability and development. Production levels have increased yearly since 2009 from 15.2 million units to approx. 17.7 million units in 2011.

Not the same trend was registered regarding the motor vehicles sales, represented by new vehicle registration data, which decreased year by year from 2007 to 2011. It was a slight decrease in 2011 regarding 2010. It is a large difference between production and new vehicle registration in Europe, which explains also the significant trade balance. More details are described on Table 3.

**Table 3: European Motor Vehicles Balance (in units)**

Indicator	2006	2007	2008	2009	2010	2011
Production (OICA)	18.673.982	19.724.773	18.432.070	15.289.992	17.102.459	17.698.212
New Vehicle Registration (ACEA)	18.373.232	18.723.065	17.215.802	16.218.780	15.629.550	15.610.922
Exports	n/a*	n/a*	6.335.143	3.806.963	4.721.718	n/a
Imports	n/a*	n/a*	3.449.727	2.534.157	2.567.949	n/a
<b>Indicator</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Trade Balance	n/a*	n/a*	2.885.416	1.272.806	2.153.769	n/a
Exports / Production	-	-	34%	25%	28%	-
Imports / Registration	-	-	20%	16%	16%	-

Notes: n/a=no data available ; n/a\*=data available only for EU 25

Source: own creation based on ACEA and OICA data.

According to ACEA data, trade balance is positive during crisis, European manufactured products finding better sales possibilities on foreign markets especially on NAFTA, EFTA and Asian markets. Main destinations for passenger vehicles export are USA, Iran, Switzerland, China. Exports to USA and Russia have decreased since 2007 to 2009 with -44.9% to USA and -66.7% to Russia. Therefore, main growth rate during crisis was registered with Iran (72.9%, 350.131 units), China (72.3%, 173.135 units) and Mexico (63.9%, 104.900 units).

Most imports are coming from Japan (643.155 units in 2009), but in a descendant trend since 2007 with -33.4%. Second main partner is South Korea (350.259 units in 2009), followed by Turkey (313.660 units in 2009). Main actor during crisis was India which has reached 265.558 units exported in EU on 2009, compared with 119.630 units in 2007. Imports from India are represented by small cars, including Hyundai's i10, i20 and Santro, and Maruti Suzuki's A-star, sold under the name of Alto.

Situation of European market production, registration and trade is on a positive trend. We can conclude that the measures taken by Member states governments and EU institutions have given the required boost to economy for recovery and have activated demand, capital flow and confidence on market. Banking institutions had open for credit and consumers are confident and interested to purchase. In such positive environment, it is the corporate turn to move on the market by an adequate responsiveness, approach and business model.

As shown in Table 3, more than a quarter of EU motor vehicle production is designed for export to various foreign countries, production and export's trends registering same rate of growth, which highlights the solid and coordinated approach of European manufacturers towards a sustainable production valid on each sort of market profile and consumer needs. Imports are represented especially by cheap vehicles from small classes and target especially the low level budget driven consumers.

We will analyze below the corporate approach and positioning during crisis and the corresponding mutations on the automotive market. There are 16 major car, truck and bus manufacturers in Europe which operate in 169 vehicle assembly and engine production plants in 16 Member States, often sustaining the economic fabric of complete regions and cities (ACEA, 2011). European producers are leaders in environmental technology and security and a driving force behind the concepts of sustainable mobility future. There are more than 12 million of European families working directly or indirectly in the automotive industries: manufacturing, sales, suppliers, after-sale services, transportation etc.

During 2009 the small car segment registered significant sales, especially due to temporary fleet renewal schemes used by States governments to support demand during crisis. Beginning with 2010 we can observe an important decrease in such class and a major orientation towards medium classes: low and up. It is a year when Korean and Asian manufacturing brands had a decrease of sales. More information can be followed on Table 4 and 5.

**Table 4: New Car Sales in Europe\* by segment**

	2007	2009	2010
Small	35%	40.5%	33.2%
Low Medium	24%	23.5%	29.2%
Up Medium	14%	11.9%	15.1%
Multi purpose vehicles	13%	9.7%	6.6%
SUV's	8%	8.2%	8.7%
Luxurious	4%	3.3%	4%

*Notes: Europe\*= EU27, Norway and Switzerland, excluding Luxembourg*

Source: own creation based on ACEA data.

Volkswagen Group is the main player on European automotive market, followed by PSA and Renault Group. They were not so much affected by the crisis since in 2011 they almost reach the levels from 2007, before crisis. In 2011, Volkswagen looks even more solid than others with a 22% percent on the market, regarding 18% on 2007.

As tendency during crisis, most brands felt a yearly decrease of less than 10% of sales until 2010, when they initiated recovery, except Fiat, Ford, GM and Japanese brands which continue to register decreasing rates even in 2011.

We can remark 2009 as the hardest year due to low levels of new units registered, market being very unresponsive and reticent. Massive fleet renewal programmes across Europe were developed by States in order to support market and avoid collapse.

Korean brands registered an increase of sales of approx. 20% on 2009, due to such programmes and low prices of its car segments, especially small class. Also the bilateral free trade agreement between EU and South Korea signed in 2010 to reduce and eliminate tariffs and other trade barriers in manufactured goods, including automotive.

**Table 5: New Motor Vehicle Registration in Europe\* by brand**

Brand Group	2007		2008		2009		2010		2011	
	Units	MS								
Volkswagen	3.421.019	18%	3.273.121	19%	3.108.368	19%	3.121.930	20%	3.379.351	22%
PSA	2.469.856	13%	2.263.820	13%	2.205.515	14%	2.187.942	14%	2.035.594	13%
Renault	1.756.121	9%	1.627.537	9%	1.593.381	10%	1.700.442	11%	1.603.563	10%
Ford	1.998.850	11%	1.697.223	10%	1.665.953	10%	1.296.050	8%	1.277.373	8%
GM	1.805.354	10%	1.552.607	9%	1.355.478	8%	1.265.536	8%	1.259.225	8%
Fiat	1.652.976	9%	1.557.766	9%	1.509.325	9%	1.309.333	8%	1.200.231	8%
Japan	1.572.654	8%	1.451.602	8%	1.338.020	8%	1.231.176	8%	1.189.020	8%
Daimler	1.104.826	6%	1.062.555	6%	869.420	5%	873.985	6%	886.847	6%
BMW	852.138	5%	823.521	5%	709.517	4%	753.603	5%	811.152	5%
Korea	609.109	3%	530.489	3%	617.284	4%	623.940	4%	687.663	4%
Toyota	1.019.924	5%	847.195	5%	894.935	6%	646.860	4%	601.990	4%
Other	239.292	1%	311.826	2%	231.864	1%	451.085	3%	563.265	4%
Dacia	180.620	1%	194.414	1%	253.488	2%	280.878	2%	267.715	2%
Total	18.723.065		17.215.802		16.218.780		15.629.550		15.610.922	

Notes: Europe\* = EU25 (including Bulgaria & Romania, excluding Malta & Cyprus) + EFTA(3); MS=market share

Source: own creation based on ACEA data.

A particular actor was Dacia which during 2007-2011 registered a continuous growth powered by its low cost brands: Logan face-lifted in 2006 and its new brand Sandero launched in 2008. His mother company Renault took benefit of such increases to dethrone Ford from the 3<sup>rd</sup> rank on European market. Switch was registered on 2009, period in which Ford was globally affected by crisis due to financial situation in America.

In Europe, Fiat was the European manufacturer most affected by crisis, with a year-by-year continuous decrease from 1.652.976 units in 2007 to 1.200.231 in 2011, main causes being the political and economical status of Italy, as well as a lack of actions of Fiat to thrive. This is due to the decision taken some time back to preserve cash and delay the launches of what are now urgently needed new cars.

Briefly, corporate decisions and actions on European automotive during crisis to overcome market challenges, to recover and to prepare a sustainable growth were headed on following directions:

- **alliances for strategic purposes**: market share, costs cut, R&D cooperation, sharing distribution channel, scale economy etc. Same examples are:
  - o On January 20, 2009, Fiat SpA and Chrysler LLC have announced their intention to form a global alliance. Under the agreement, Fiat will have a 20% stake in Chrysler and access to distribution network in North America in exchange for providing Chrysler with technology and vehicle platforms to build smaller, more efficient in the U.S. and provides mutual access distribution network worldwide Fiat. On January 5, 2012 Fiat released information that printing properties increased to 58.5%.
  - o In 2011, PSA Peugeot Citroen and BMW agreed to a joint venture for development and manufacture of hybrid components, including batteries, generators, power electronics and chargers, and software for hybrid systems.
  - o On February 29, 2012, SAP announced the official creation of a broad alliance with General Motors (GM), as part of GM, the PSA has become the second largest shareholder after the Peugeot family, with a share of 7%. Alliance aims to allow 1.3 billion pounds per year cost savings through platform sharing, joint purchasing and other economies of scale
- **access to new financing** like state subsidies via its financial divisions, like: Volkswagen Financial Services, Mercedes Bank and PSA Financing. A key aspect to mark here is that as long as their financial services units have banking licenses, automakers are eligible for

European Central Bank money, just as any other bank. For this reason, at beginning of this year Volkswagen had received a loan of 2 billion euro for a rate of 1 percent, on a three year basis. Such move was justified by Volkswagen with the purpose of lending such money to its customers on a scheme designed to finance purchasing of their cars, including the new fuel-efficient Up.

- ***closure of factories***; Due to rising costs, Delphi Automotive has closed in 2011 the factory in Ceska Lipa and it has been relocated to Romania in Moldova noua. Aston Martin is the only manufacturer which has closed factories during crisis, both of them in UK, in Milton Keynes and Newport Pagnell, in order to focusing all operations and efforts on the new luxury division plant from Gaydon.
- ***temporary shutdowns of factories*** in order to reduce production levels to adjust to market contraction; All factories across Europe appeal to this method from October 2008 to March 2009 with period varying from Fiat factory in Termini, Italy (67 days) down to only 5 days for the PSA factory in Vilaverde, Spain
- ***sales of production divisions***; Ford sold Jaguar and Land Rover in 2008 to Tata Motors (Indian based company) and Volvo in 2010 to Geely Holding Group (China based company) as an attempt to save such brands from insolvency and to concentrate all efforts only on his own brand.
- ***adjustment of business model***; Ford developed a global platform concept that was used in the production of the aptly named car, the Mondeo. But since it was not viable on a global scale due to regional settings and particularities, Ford has stopped this project and has returned to regional strategies. Such attempt to globalize product and process was a failure, and subsequently Ford has returned to a regional approach, for example the restoration of its European subsidiary, Ford Europe.
- ***relocation of plants and expansion to Eastern Europe*** in order to benefit of low cost of wages, utilities and state incentives; In 2008, Ford acquired a majority stake in Automobile Craiova, Romania. Ford Transit Connect is the first model produced by Ford in Craiova, and in 2012, followed by a class small car, B-Max, and a small gasoline engine displacement increased. Not only car manufacturers, but also automotive parts suppliers have invested in Eastern Europe, Contech, division of Continental tyres has invested 75 million euro in 2011 a plant in Timisoara.
- ***focusing R&D and production towards eco-friendly motor vehicles***; New generation of hybrid and green cars is the next key market challenge opportunity which manufacturers have to target. For such reason Ford contracted a loan from EIB which provides 450 million GBP to develop new generation of environmentally friendly engines and vehicle technologies in its research and development facility in Dunton, UK.
- ***restructuring of production to become more efficient and sustainable***; Companies have focused to protect their top level facilities by renewing production technologies to its advances. Ford targets a five year investment of \$500 million dollars in Dagenham Engine Plant to become more technology based as the global centre for diesel engine manufacture and also a 15 million Euro investment for Ford Design Centre in central London.
- ***vertical integration with suppliers through joint-ventures as well as relocation of suppliers facility near manufacturers***; Ford is considering a 50:50 joint venture company to be formed with transmission specialists Getrag to engineer and manufacture manual transmissions at facilities in Bordeaux, Halewood and Cologne. In the same time Ford supplier IAC has done investment in a production facility near Craiova, in Bals., They can take advantage of local low labor costs and lucrative incentives, but also being located in potentially the largest economic growth market in Europe can respond to present and future clients needs, like supply in sequence to the assembly line.

Manufacturers as well as suppliers and retailers are becoming more connected and open to share its know-how, facilities, channels, brands in order to overcome crisis challenges, to achieve efficiency and to support and develop its sustainable future growth on a more and more competitive European and global market.

Such cooperation has given the corresponding confidence to market actors and determined new investments, new jobs, new perspectives across the entire Europe.

## 5. Conclusions

As the largest manufacturer of vehicles, auto industry leads the EU is a key factor in economic growth, exports, innovation and jobs. With an annual turnover of approximately € 780 billion, the EU automotive industry plays a vital role in economic welfare, and produces more than 18 million vehicles per year. According to recent data, the European automotive industry has a trade surplus of € 60 billion, with exports worth € 125 billion.

Automotive industry is closely related to other key sectors include traditional electronic engineering, mechanical and electrical, information technology, steel, chemicals, plastics, metals and rubber. It employs a fifth of steel and more than a third of its aluminium production in European industry. Usually, 50 European suppliers are involved in the production of a new car, generating around 75 percent of the added value of the vehicle.

The problems of liquidity and market uncertainty had affected the automotive industry, which suffered a significant drop of sales in 2009. In such an environment and aware of its implications for the European economy, states and institutions become more active and open to support industry recovery by providing genuine European industrial policies and financing for the automotive industry. Such actions offered a greater flexibility to manufacturers, covered the social impact and heavily supported investments in R&D, as a goal to thrive the present and prepare the future.

On the European market there are a number of manufacturers which dominate in Europe, top five being solid and resistant during crisis. As characteristic, markets of individual Member States are often dominated by domestic manufacturers. They tend to have a larger distribution infrastructure in their respective national markets and customer preference for cars produced in the country still plays an important role. It is the case of Germany, France, Italy, but also of Eastern European countries.

In real need to reduce dependence on domestic markets and to improve competitiveness in other markets has stimulated the automotive players to continually invest in plants transplants and joint ventures. There were regarded as strategic and efficiently driven measures to outcome increased competition and demand drawbacks.

Although changes in automotive technology have been ongoing, economic crisis had also accelerated it. The European Union is now focusing more actively for cleaner vehicles, through measures such as its Green Initiative vehicles and the European Instrument for clean transport. Also they converge for better legislation to reduce the amount of emissions of greenhouse gases from cars and to support the development of alternative fuels. EU funding for research and development for cleaner, safer and smarter cars matches the corporate goals towards a new era in automotive industry.

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## REFORMING ECONOMICS: WHAT'S AT STAKE FOR HOMO OECONOMICUS?

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**Abstract:** *The recent economic and financial crisis consisted of a series of failures and it has led to the re-assessment of priorities and values not only in terms of the state or corporate governance, but also for homo oeconomicus. It expresses the failure of a paradigm that has had considerable influence on the area of ideas. A battle is taking place between ideas leading to failed policies and which have accelerated the crisis. Faulty perspectives have led both to an economic and to a moral crisis, and the main economic and political decision makers only noticed the issues with much effort.*

**Key words:** homo oeconomicus, governance, financial system, politics

**JEL classification:** A 11, A 13, F 59, G 38, P 17

### 1. Introduction

Globalization affects governance through its impact on the internal state policy. The governing parties' failure to manage after-effects is emphasized. The adopted policies were similar to those adopted for other crises as well, and therefore, they were subject to failure from the very start. They have shown a lack of understanding of the modern macroeconomics' fundamental laws. Fundamentalisms not only create costly adversities, but also devastating crises. The global organization of economy has strayed from the fundamental theses of the last quarter of a century, defending an ever vaster field for speculative transactions. The flexibility of the power balance and the capacity to restrict the power aspirations of the main protagonists on the international scene has gained new significance. The current concern with the decline of the West and the emergence of the East is related to the obvious decline of American power.

The economic and financial crisis occurring in 2008 consisted of a series of failures and it has led to the re-assessment of priorities and values not only in terms of the state or corporate governance, but also for homo oeconomicus. It expresses the failure of a paradigm that has had considerable influence on the area of ideas in the last decades. It has revealed not only faults of the predominant economic model, but also faults of American society knowledge limits, imperfections of the human being, and societal flaws. It has forced governments to save large financial entities and it has had a negative impact on social cohesion. The current systematic issues will lead to the inclusion of new perspectives on the long lasting dispute over the most capable economic system, bringing the highest benefits. Ignorance can be encountered in several areas of the business environment, where the disregard of the government and of the laws has become the norm.

A battle is taking place between ideas leading to failed policies and which have accelerated the crisis. The economic, ideological and relative battle has occurred in the distribution of wealth. Faulty perspectives have led both to an economic and to a moral crisis, and the main economic and political decision makers only noticed the issues with much effort. The moral limitations of the battle for power on the international scene are now weaker than in any other time in the history of the modern state system. The destruction of the intellectual and moral consensus, controlling the battle for power for almost three centuries, has deprived the power balance from the vital energy that turned it into the living principle of international politics.

### 2. Homo Oeconomicus and the Reformation of Economics

Modern economic theory promised prosperity for all, and a certain type of discipline. Economy has become a theory of the wealth generating mechanism. For a quarter of a century, the doctrine of the free market has dominated: markets are self-adjusted, the regulation hinders innovation and central banks must be independent. This model can no longer be applied nowadays or in the current economic conditions.

Markets are the vital core of any successful economy, however they do not operate properly if left to themselves; the state should not play a saving role only when the markets fail, but also a regulator role

in order to prevent failures such as recent ones. The economic mechanism that was supposed to be self-regulating was repeatedly saved, and therefore, it cannot operate alone, which means that the economic conceptions need to be revised. Economy is missing the method to test truths. Economists cannot perform experiments with economic systems that will only bring noticeable results after a certain period of time. Therefore, they always look back in order to propose modes of action for the future. However, by using remedies from the past, future economic theories will continue to behave similar to those in the past (Baumol et al, 2009).

Economic theory has ended up being self-sufficient (Marin, 2010). We are caught in the web of benefits of ideologies derived from major economic theories. The crisis of economic theory lies in economic facts, and man, i.e. homo oeconomicus, is the source of the crisis. Economy is the physics of the nature of homo oeconomicus. The human being is seen as a reproducible resource, while communication standards in the community are reduced. Homo oeconomicus has no feelings, it is rational and material, as created by classic economy. The standard economic theory says little about innovation, however it assumes that we are born with fully formed preferences, while we are actually influenced by everything happening around us. Economics have provided arguments supporting the absence of moral responsibility. From a scientific discipline, it has turned into a diehard cheerleader of capitalism. More than useless, it was at times even damaging.

The conceptual architecture of economics has deficiencies in terms of explaining hypotheses. However, as built today, it no longer has bases in defined hypotheses, as it leaves the area of economic rationality, which is the core of economy. The mainstream theory uses certain hypotheses, however the consequences are not explained within the meaning of the hypotheses of those theories, and therefore, we are facing an issue of epistemological inconsistency. The faults of economics have led to unintentional consequences, based on the hypotheses that it is a pantheon of ideas that appear to have been checked. Incorrect economic theories lead to incorrect methods of action. The resilience to the falsifications of the hypotheses by the community of scientists leads to incorrect models and recommendations.

Economics contravenes the commitment amplification principle: man must look forward, evolving as it moves, and if a previous position did not bring the desired results, a new position must be approached. It is said that in economics one must run fast in order not to stumble. However, the economy does not forecast, but it includes potential types of behaviour.

The failure to the neoclassic model to explain economic issues is underlined. Economists are still patients of the illumination modernity, creating a science as precarious as it is vain. The battles in the arena of macroeconomic ideas are influenced by the mutual interaction between the theory evolution within the discipline and events. Economy has refused diversity and it has become stuck in the rule of quantitativism. In this context, it is a mechanism of the creation of wealth, however such effigies have also reached their limits. It is normal for everything to be explained through economy, as economy has no political contents, since it is ready to be filled up by political ideology (Volkoff, 2001).

Keynes noticed for the first time in history that mankind was about to free itself from the “economic issue” (Stiglitz, 2010). However, none of the current economic theories concern judgment. Stiglitz pleads for leaving fundamentalist theories. We must turn away from the oversimplified way of explaining a theory. Warnings were issues from the Keynesian school of thought economists, sharing the conception that the market is not self-regulating.

Economists are amongst those made responsible for the occurrence of the crisis, and are criticized from being disconnected from reality. They have provided theories on the efficiency and self-regulation of the market. They have performed complex studies to correlate success with various policies, however, due to the fact that their success measuring method was flawed, their conclusions were also incorrect. The statistic methods that were used have not led and do not lead to clear and coherent answers. Modern science is full of schemes and applications, however it has ended up being mistaken for them, as it continues to distance itself from the real world. The lack of credibility affects not only scientists, but also individuals deemed specialists.

Specialists have made faulty recommendations and they are criticized for the fact that they are incapable of issuing forecasts, and that their models and analysis had fundamental flaws. They have no rigorous method to appreciate the value of imperfections in terms of information. Any asymmetry of information is noncompliant with the economic rationality hypotheses. Economic issues are also social issues, however, economists have become real sociologists, thus resulting in analysis errors. It should not be omitted that economic research is caused by political ideology. Value judgments are embedded in the

manner in which they state their analysis, however the removal of moral guidelines from economic reasoning has disturbed the value judgments.

Economy provides patterns to understand economic facts, and economists explain not facts, but contexts. The issue is not related to the fact that economy cannot predict crises, but that there are too many violations of the law of nature. Economy has no rule or regularity. The prediction is an interim form of knowledge, and work hypotheses are established with its aid. Common sense can no longer save economics or economic theory by itself. If the inter-subjectivity of the context breaks the rule of common sense, crises are unavoidable. The current crises can be included in the category of fluctuations shown by behaviours to fundamental elements of nature (Marin, 2010). Economy is facing two challenges: to ensure the consistency of its statements and to provide an explanatory model for the current economic system, which will supply the understanding of the market economy's operation.

The conceptual reconfiguration of economy leads to the conclusion that man will become the measure of all economic matters and that a time and space repositioning is needed. It is not an action-taking scope, but a theoretical scope. The source of the conceptualization and of the objectification of economy is homo oeconomicus. Economy must become humanized; it must no longer be the subject and scope of materialism. The operation of economic doctrines on behalf of progress and profit must end. Man must be re-entered in the economic equation.

A difference is made between the dogmatic and the traditionalist mode of thinking:

**Table 1: Dogmatic versus Traditionalist**

<b>Dogmatic manner of thinking</b>	<b>Traditionalist manner of thinking</b>
<ul style="list-style-type: none"> <li>• imposing a doctrine assumed to have a source other than the individual</li> <li>• absence of the simplicity of the world</li> <li>• a truly unchanging world can have no history</li> <li>• evoking a superhuman authority</li> <li>• unimaginable scenarios</li> <li>• abstraction</li> <li>• universally applied statements</li> <li>• rigidity</li> <li>• forms of constraint</li> <li>• rigid, intricate, oppressive thinking</li> </ul>	<ul style="list-style-type: none"> <li>• imposing a doctrine assumed to be based on the individual</li> <li>• simplicity of the world</li> <li>• the world is changing and it may have a history behind it</li> <li>• evoking human authority</li> <li>• concrete scenarios</li> <li>• generalization</li> <li>• individually applied statements</li> <li>• flexibility</li> <li>• no forms of constraint</li> <li>• flexible, clear, non-oppressive thinking</li> </ul>

Source: Soros, 2006

The traditional mode of thinking can only dominate if the members of a society see themselves as part of the respective society. Traditional convictions can only maintain their supremacy in competition with other ideas if they are based on an adequate degree of coercion. A dogmatic approach loses its power of conviction when there are opposite opinions. The ideal contents of a doctrine depend on historical circumstances that cannot be subject to generalization.

### 3. Societal and Human Flaws

The moral crisis we are facing has revealed the monstrous deformations encountered by society, as well as the fact that moral deficit is much harder to analyse and measure. Adjectives characterizing this moral crisis can be: exaggeration, greed, abundance, egocentrism, speculation, corruption, etc. The following types of principles have been forgotten: safety, free time, responsibility, sustainability, trust. Economists have long since been underlining the important act of behavioural actions. Too many have forgotten what it means to be a responsible citizen and to have moral consciousness. A change was made from nations of citizens to nations of shareholders (Marin, 2010).

A society has recently been created, where materialism has dominated moral commitments, and the individualism and fundamentalism of the market has led to the exploitation and division of society. Although there is individualism, however there is no individual responsibility. Economy in itself had led to an individual order. Diversity cannot be reduced and explained through a single criterion, however the author insists on the fact that the unilateral mode of thinking must be corrected. We do not need to be unilateral and one-dimensional as a system (Sterian, 2010). The consumerism and oversaturation with material assets deform humans until all meaning of life is lost. If we stop at finding a correlation between the individual versus society, we stray from the economical rationality area and we encounter the

impossibility of explaining a theoretical absurdity. Economy is relevant as an area of economic rationality. It is a product of knowledge and not only an energy- and financial resource-consuming product.

Economy has no meaning in the absence of society; it is a societal effect, and human actions influence the shape of economy. The scope in itself is man, and economy consists of means serving man. The individual is nothing in the absence of society. The innovation of an individual has no value if it is not acknowledged by the community in which it lives; therefore, innovation must be socialized.

Consciousness has become the subject of scientific study. It is important to understand that our own understanding is imperfect, that in making decisions one cannot rely exclusively on knowledge, and that reality is a function of our decisions (Soros, 2006). However, our decisions are also imperfect and have unintended consequences, as we hold incomplete understanding of the cases. Knowledge of reality is a condition preceding the truth. Abstract thinking makes several interpretations of reality possible, with the aid of which the contract between its opposite aspects are underlined: time and space, society and individual, material world and ideal world.

Models developed based on the hypotheses of perfect rationality or of limited rationality are imperfect. Rationality does not necessarily mean that individuals are acting in ways that make them happy. Rationality is defined by economists as close to coherence, and individuals are acting coherently, however in ways contrasting with those forecasted by the standard model of economic rationality. Economists have pushed the model beyond the limits of the specific scope. Systematic irrationalities can generate macroeconomic fluctuations. The nature of the economy exploring this area is behavioural economy. The role of the state can be underlined here, respectively to prevent the operation of individual irrationality, despite the fact that its mission is in contradiction with individual freedom.

People no longer trust each other or the system they are living in, and therefore, they no longer act as a community in addressing their problems, understanding phenomena or finding long term solutions. In a world governed by individualism, community is not really necessary and trust is not required at all. Egotism is not the only powerful feature of most people. Individuals are calculated, rational, egotistical, preoccupied only by their own interest. Practically, there is no room left for empathy, civic spirit or altruism. Prejudice and intolerance, the lack of respect towards professional values, the lack of interest towards finding the truth, are now being considered normal values. It seems that the sharing of similar opinions, even if wrong, is part of the adaptation and intellectual condition.

We have allowed markets to shape our economy, an economy that has shaped us as well. The market has changed our thinking, taking any sense of fairness along with it. Markets are operating in a context of laws and they usually determine the size of gains (Chomsky, 2004). For winner thinking economies, the market operates as adequately as possible. When money is the supreme goal of life, there are no limits for acceptable behaviour. The exacerbation of speculation risks making human values the subject of ridicule. The economic crisis places human experience itself at a junction. Essential verbs such as: to be, to think, to believe, have been replaced with to have, to consume, to exploit. When cynicism, greed and irresponsibility towards the fate of others and egotism spread, anomalies can seriously derange society (Dăianu, 2012).

The objective of societal production is to increase the welfare of members of society, and an important dimension of social welfare is security. At this time, we can no longer answer the question: how is welfare measured? Nor the question on the indicators used to measure welfare. Welfare is only understood at a one-dimensional level: it only occurs on the corporation side. Economic growth must be understood beyond the interpretation of the gross domestic product growth. The fundamentals of economic development have been forgotten: the environment, education, healthcare. The world needs to become a self-correcting system and economic identity needs to be re-assessed and re-invented.

We should remember that crises do not destroy assets, but devastate trust and safety, weaken the institutional weave, and market economy begins to be questioned. In order to adapt to the current worlds and to face the challenges we are dealing with, it is no longer enough simply to find a stable bridge between the left and the right (Friedman and Mandelbaum, 2011).

The building of a new society must be based on morality, and the individual must be placed in the centre of attention. The new social order must have a different motivation, new perspectives, new moral values, a new economic model, the revival of mankind. A change needs to occur from real society to an ideal one, and to shape an economy that does not include the market in its core.

We need to think about the type of system, society and economy we want. A society must be built where the role of the state is balanced with that of the market. In order to find out such matters, collective

action is needed from people (collective effort => connectivity => global benefits), that does not concern only its own interests, derived from preferences, and the satisfaction thereof in the detriment of other people, the relentless achievement of profit and the raising of human exploitation to the highest rank. Collective action implies empathy, networking, connections, connectivity, volunteering and creativity.

Rational faculties of space and time positioning are limited and confused. We are bound by a time that has not been fully used up, where the neuroses of the past almost entirely take over the present (Marin et al, 2007). Vice has weakened society's capacity and will to undertake major responsibilities. When people lose their moral compass, the result is large scale social suffering (Dăianu, 2009). When less important interests and values are in play, society can demand a single type of sanction: morality.

A formula is needed to make available the undertaking of moral responsibility, however the individual does not prevail in the relation, as it has no value if it is not considered as a social being. There is no prevalence as, if starting to head towards this direction, one tends to fall into the trap of ideologies. Prevalence is not placed in factorial relations subject to this analysis. Man is still facing a low level of consciousness and creativity, thus resulting in the numerous primitivism issues encountered all around (Brăilean, 2004).

The more the approach of fundamental issues is delayed, the more time the recovery of the American and global economy will take, requiring the restructuring of economies so as to observe the new economic laws. Mankind must select the option to change the model, a sign given by the acceptance of regulation. The feeling of crisis characterizing the psychology of groups can be related to the limited capacity to respond to shocks (Dăianu, 2012).

We cannot return to the times before the crisis. The discussion of the corporate governance issues leading to faulty stimulation structures and encouraging unpermitted behaviour is acute. However, the banking system cannot return to normality unless interference is also made in real economy. If markets are not capable of ensuring an adequate degree of transparency, the state must interfere by disclosing information. A short term solution could be the division of large institutions, as well as the reduction of the sphere of possibility for conflicts of interest and for excessively risky behaviour. Mankind is heading towards a system where change will occur in the lifestyle and the belonging to society. Economy must ensure normal stakes for economic behaviour. Regulations and standards are essential for the adequate operation of economy and for stimulating innovators.

A comparative analysis is proposed of two of the most important elements to be considered when discussing the vision on the direction we should be heading in:

**Table 2: What must be done**

<b>What must be done to re-establish balance</b>	<b>What must be done to restructure economy</b>
<ul style="list-style-type: none"> <li>• to maintain full occupancy and a stable occupancy</li> <li>• to establish regulations limiting the resulted damages</li> <li>• to promote innovation and knowledge</li> <li>• to provide protection and social security</li> <li>• to prevent abusive exploitation</li> <li>• to change the role of the state by using a more rational balance between the private and the social</li> <li>• markets are imperfect, as is the state</li> <li>• markets have failures, however state failures are more serious</li> <li>• markets can be inefficient, and governments even worse</li> <li>• one of the roles of the state is to write the rules of the game and to bring the arbitrators</li> <li>• the management of this crisis is a matter of political and economic game</li> </ul>	<ul style="list-style-type: none"> <li>• economic perspectives are already disillusioned</li> <li>• massive refurbishment</li> <li>• increased care paid to education and the infrastructure</li> <li>• directions are not extremely clear, however there is a need for public expenditures and resources</li> <li>• moving from focusing on production to the service sector</li> <li>• the vision to restructure economy must be articulated to a global vision</li> <li>• there are no institutions capable of helping identify issues and to form a vision on the manner in which they could be solved</li> <li>• a new sustainable economic model is needed</li> <li>• what is competitive advantage and how can it be achieved?</li> </ul>

Source: Stiglitz, 2010

The reformation of the system generating and maintaining tensions between the rich and the poor should distance itself from the concentration of financial capital. All that is needed is tolerance and transparency. Issues should no longer be judged in the light of the market mechanism. A change of attitude is needed, from the unilateral scope of one's own interest, to concern for the common interests of

humanity. A certain degree of intervention is required from the state, as stated by Keynes, however the economy should not be directed towards the following of own interests.

#### 4. The Financial System – Insensitive and Corrupt

The economic and financial crisis is based on a financial mediation system that has gone astray in the last centuries. It is closely related to over-financing, underestimating the need for social cohesion, losing the moral compass in the business world, neglecting ecological issues and arrogance in international relations (Dăianu, 2012). Financial scams generating the economic collapse caused by the collapse of investment banks have had an enormous contribution to the disastrous events we are still facing. Recessions are like the tip of an iceberg, as problems have much deeper roots, of unsuspected sizes. However, the definition of economic recession is different, according to winners and losers. The crisis occurred in the capitalist system, whose fundament is based on obtaining profit. The capitalist financial system was only interested in obtaining gain, and the temptation of easy profit has distracted its attention from the basic functions, while achieving financial innovation in its own interest. They have been guilty of abusing their dominant position due to their ignorance.

Financial markets have failed to meet their essential functions for society. Profit was obtained in the detriment of the prosperity and the efficiency of the rest of the economy. The extent of the crisis was widened by the interdependence and interconnectivity of the banking system. Truly globalist trends are set by the financial markets, however the direction couldn't be more wrong. "Steroids" were injected in the economy, as affordable credits, so that banks could perform more speculations, traders could buy more on the internal market and unskilled workers could build more homes (Stiglitz, 2010).

The faults of the financial system are emblematic for the much larger failures of the economic system. An almost schizophrenic behaviour was noticed from the financial systems, profiting from the public hysteria and filling their pockets. Abnormality, radicalism and extremism have entered the sphere of normal values of the financial society. However, the issues in the financial area are also similar to other scopes, though not to this scale. A morphological analysis was performed of the relative culpability of the banks' faulty behaviour, and the deficits of corporate governance were emphasized. Trust and safety, which should form the basis of the banking system, are gone (Sterian, 2010).

Much speculation has been made on the passion of the political sphere for extremes. Americans believe that fundamental change begins in their home and then spreads out towards the rest of the world (Rifkin, 2005), a hypothesis that was also undertaken in the financial system sphere. The recurrence of financial crises raises the problem of the market rationality and of the manner in which the rational actor will always be caught up in investment explosions and manias, invariably leading to panic and financial crises (Gilpin, 2000).

The drift of the financial sector has led to the poor distribution of human talent. Fundamental moral deficit has surfaced, together with moral deprivation by exploitation. The financial system did not rise up to the height of moral standards we should aspire to. Every passing day, the list of persons encountering ethical difficulties grows larger, and everyone claims to be innocent. Naturally, bankers blamed the helping hand given by the state, as they did not want to admit that the aid granted by the state was materialized in incentives and salary bonuses. The massive speculation is the result of the short term thinking of the economic activity (Johnson, 2009). National economies and tax practices have full knowingly contributed to a distancing from prudence, common sense and reality. Politicians are guilty of the subtle bigotry of limited expectations.

The financial system should only be a means to attract a scope and not the scope in itself. Decision makers had a perverse stimulation system, encouraging a behaviour lacking in long term forecast and the excessive undertaking of risks. Deregulation led to conflicts of interest and erroneous information, and banks were the main contributors to the erosion of the required information quality. It can be stated that the financial sector aimed to finance "creative destruction", however it ended up promoting "destructive creation" (Friedman and Mandelbaum, 2011).

The predominant economic theories are those based on rational behaviour, allowing economists to establish the balancing price. And a case that couldn't be further from balanced is what actually characterizes financial markets. Honesty and intellectual integrity are values that have perhaps never characterized the banking system. The current system is characterized by the belief that economic profit can be obtained independently from national suzerainty, a belief supported by the hegemony of a variety of liberal ideological precepts (Brăilean, 2004). Such an ideology exonerates the liability of the state towards citizens, in terms of economic difficulties.

As the crisis worsened, neither bankers nor governors wanted to tackle philosophical discussions on what a good financial system should look like. Therefore, the lack of responsibility and transparency on the magnitude of the crisis effects was proven. Common sense was entirely absent. The perversity of the financial market tends to dehumanize society. Wealth is no longer a means, but a scope of individual interest. Despite the fact that it is true that financial markets will, in the end, regain their balance, financial crises strike common people and the overall global economy (Gilpin, 2000).

The capitalist ideal is to create real value from nothing. This is also the scope of Wall Street and it is worth mentioning a clarifying comparison between the wall-stream and the mainstream, i.e. major differences between the profit-based economic system and the individual-based economic system:

**Table 3: Wall-stream versus Mainstream**

Wall-stream	Mainstream
<ul style="list-style-type: none"> <li>• profit-based</li> <li>• uses money to make money for those holding money</li> <li>• very large entities</li> <li>• outsourcing towards the public</li> <li>• employers are impersonal and absent</li> <li>• unlimited global capital</li> <li>• maximization of personal profit</li> <li>• profit is only a scope</li> <li>• profitability of financial capital</li> <li>• centralized megacorporation planning</li> <li>• competition to eliminate the unfit</li> <li>• the government protects property interests</li> <li>• trade is free and deregulated</li> <li>• money democracy</li> </ul>	<ul style="list-style-type: none"> <li>• based on means of living</li> <li>• uses resources to satisfy the community needs</li> <li>• medium and small-sized entities</li> <li>• internalization towards the user</li> <li>• employers are personal and rooted</li> <li>• local capital with clear limits</li> <li>• increase of production</li> <li>• profit is a means</li> <li>• human capital profitability</li> <li>• self-organized markets and networks</li> <li>• competition for efficiency and innovation</li> <li>• the government promotes human interest</li> <li>• trade is fair and balanced</li> <li>• individual democracy</li> </ul>

Source: author analysis

Banks have ended up being not only “too big to fail”, but also holders of too much political power to be contained. Financial markets have continued to be the most important sole factor on the American political scene, particularly in the economic theory sphere. Banks have ended up dominating the financial system not only through performances, but also through the tacit support of the state. Financial capital has annulled social positions. It is common to say that the root of the crisis lies in the loss of trust in the financial system, however the government’s failure to take recovery measures has also contributed to the loss of trust. The consequences of the brutal awakening are materialized in the decrease of living standards. The economic and social dynamics indicate a constant interaction between forces requiring liberalization and those that deem regulation as a necessary public asset (Dăianu, 2009).

The crisis falls with the structural changes ending an unsupported development regime (Peicuți, 2011). The intrinsic instability of the financial system must be controlled, together with the definition of an optimum dimension under which banks can operate in order to benefit from the collectivization of losses generated by their irresponsible behaviour. The system activity was thought out and controlled by people, performed in an economic and social framework characterized by subjectivity and relativity. The gap on the edge of which the global financial system is found demands the fundamental rethinking of the financial market surveillance mechanisms and regulations and it is preferable for it to lose as much of its speculative nature as possible (Dăianu, 2012).

A healthy and responsible banking system should be characterized by the following attributes: balance, reciprocity, cooperation, optimization, maintenance, diversity, sharing. The creation of balance between the insufficiency granted to the regulation of financial markets and their excessive regulation will prove extremely difficult. However, the creation of balance is crucial, as a major failure of this economic sector can bring massive and permanent prejudices of the overall economy (Friedman and Mandelbaum, 2011).

## 5. Conclusions

The reinvention of capitalism becomes a problem of meditation, sociological and political science interrogation, not only for the academic environment, but particularly for those governing in democracy. Capitalism remains, in itself, a relatively ambiguous model, full of anachronisms. It cannot be stated that it is a reality or a core. Economy has placed its distinct seal on the theory of corporate capitalism when it began to transplant its own individualist behavioural hypotheses outside the company borders.

Market failure can be avoided if coherent policies will be applied. Economic policy implies compromise decisions, however they cannot fall exclusively with the technocrats. The anti-crisis government program was much too limited and not properly thought out. It was proven that the government does not hold a wide range of knowledge in terms of a systemic risk.

A conclusion was drawn that there is no need for good economists, to achieve good economic policies; the most successful bureaucrats are rarely economists and, as shown by recent analyses, they are often times lawyers or engineers. Just as capitalism is politically correct, as long as capitalists sponsor politically correct actions, money has gained an ever more important role than the policies that must be implemented.

The current economic system can be reconfigured in the following directions (Chang, 2010): abandoning free market capitalism and selecting a regulated capitalism; understanding the fact that human rationality is limited; individuals are not determined by their personal interest as much as they are influenced by the society they live in; people remain material beings, who cannot live exclusively on ideas, however this does not necessarily mean that they are materialistic; achieving a balance between financial and real economy; the governments should become more powerful and active; the global economic system should be fully revised; admitting the failure and starting the reconstruction of the economic system from the ground up.

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## ROMANIAN ECONOMY – VITAL NEED FOR PERFORMANCE IN THE CONTEXT OF ECONOMIC CRISIS. REGULAR ECONOMIC FORECASTING. MEASURES, ANALYSES AND CONCLUSIONS

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**Abstract:** *The purpose of this article is firstly to analyse the steps taken by the International Monetary Fund through existing public policy instruments, and secondly to draw conclusions regarding the inter-institutional debate on the implementation of "economic governance" and its guiding principles. Therefore, this paper aims to present the main contributions of economic research to non-financial reporting, and the measures taken by Romania during the recession, passed through the filter of the Stand-By 2009 model.*

**Key words:** economic crisis, economic growth, measures, assessment, investment, brain drain

**JEL classification:** E 12, E 20, O 11

### 1. Introduction

This article, whose main motto is: crisis is a question of structure, recession, a question of conjecture, is based on discussions by various economic analysts. (Businessmagazine). According to EU regulations, a country is in recession if economic growth is negative in two consecutive quarters.

According to statistics, in 2011 Romania underwent a slight economic growth of 2.5%, primarily in agriculture, mainly due to extremely favorable weather conditions and to state subsidies for the agricultural sector. The second factor derived is subsidizing the agricultural sector. Subsidies are granted by the state, but there is also the alternative of accessing to European funds by farmers and domestic animal breeders.

The effects of this "growth" will be felt mainly during the second half of this year, given that 2012 is an election year. The attitude and behaviour of professionals in the field of economic and fiscal policy have a significant impact on the economic welfare of our country and community, when they provide such services. Professionals and financial analysts can maintain this advantageous position only by continuing to provide the public with these unique services at a level that will demonstrate that public confidence is well founded.

### 2. Romania Assessed by the IMF

Economic forecasts are produced by the Directorate-General for Economic and Financial Affairs (DG ECFIN). According to an analysis by an IMF team, Romania's economic growth for the period 2013-2016 is estimated at 3.5-4%. According to the same report by IMF, the economic growth for 2012 will be a mere 1.5%. (International Monetary Found)

As required by the Stability and Growth Pact, at the end of each year Romania has to submit an update of the medium-term fiscal strategy it first presented in January 2007.

This strategy should lead to economic growth. During these tough economic times, consumption is not stimulated in Romania, which could lead to recession, that is consumption will advance slower or even decrease. That is why some economic stability and growth strategies are based on the development and adoption of economic and fiscal policies.

Following these policies, which are sometimes not sufficient to overcome the current economic crisis, *austerity and conservation measures* established by public authorities have to be implemented.

Romania is one step ahead of the European Union in the adoption of tough measures needed to rebalance economic fundamentals.

These measures European countries now resort to are similar to those adopted by Romania in 2010. Countries such as the Czech Republic, Greece, Latvia, Lithuania, Spain, Portugal, Estonia, Romania, and Slovenia have gradually reduced public sector wages between the years 2008-2012.

The Slovak government has cut wages by 4% for management positions, while Portugal has reduced public servant salaries of over 1,500 euro per month.

**Table 1: Portugal – reduced salaries**

Reduced salaries in Portugal	Euro	Percent%
Existing salary stage a	1500-2000	3,5
Existing salary stage b	2000-4165	3,5 plus 16%
Existing salary stage c	over 4165	10

Source: IMF

According to various studies, Hungary aims to set VAT at 27%, notwithstanding European regulations, while VAT in other countries is 25%, and in Romania, 24%.

Western European countries also resort to austerity measures; among them the UK, which experiences a decrease in public sector expenditure.

British Prime Minister David Cameron stated at some point that industry is undergoing changes every month, while a new strategy in the field of life sciences within the NHS - National Health Service – has emerged.

Another measure that should be mentioned is the alternative idea proposed by the International Monetary Fund of a tax on financial activity. Interest in this idea proposed in 1972 by economist James Tobin, who took over and developed Keynes's ideas, resurfaced as a result of the financial crisis.

In his book entitled *The Economic Consequences of Peace* (1919), which holds a special place in Keynes's work, he is described as “the most authentic bourgeois, who studies economy and views things from a purely bourgeois perspective” (Complete Works, Vol. 42, p. 70).

He advocated government intervention in the economy, with the purpose of stabilising output and avoiding recession. He is also known for introducing fees for transactions with foreign countries, known as the “Tobin tax”. The Tobin tax is designed to reduce currency speculation, seeing that it is considered as unproductive. However, it can also be used to fund projects.

The second part of the analysis performed under the auspices of the 2009 Stand-By Agreement by the IMF staff team as background documentation for periodic consultation, included the intervention by the European Globalisation Adjustment Fund.

This Fund was created in 2006 and became operational in 2007.

Analysing the views expressed in this background documentation, we notice that they belong to the staff team and do not necessarily reflect the views of the Romanian Government and of the IMF Executive Board. The purpose of the 2009 Stand By Agreement (SBA) was to restore the fiscal and monetary market by tackling economic imbalances.

The SBA was approved in May 2009 in the amount of SDR 11.443 billion, equivalent to 1,110.8 percent of quota—one of the largest in Fund history, with co-financing from the EU. equivalent 1110.8 percent of the share is one of the largest Fund co-financing from the EU.

The program sought to stabilize the economy by a significant reduction in fiscal and external imbalances, as well as to stabilize and strengthen the financial sector. The strong fiscal structural component aimed to improved long-term fiscal and external sustainability.

The international economic crisis has created difficulties for both businesses and public institutions. Thus, businesses experience turnover reduction, along with decreasing profits and dividends. Moreover, there has been an obvious increase in claims in the last 12 months, both as far as businesses and the state budget are concerned. This blockage in the economy has led to numerous disputes not only among businesses, but also between businesses and private persons, or between businesses and public institutions.

Failure to take steps that will lead to economic thaw and eventually to economic growth will result in socio-political and economic decline, while society will regress to tech feudalism. Experts advise caution, while emphasising the weaknesses of the European and global economic system. Given the experience of previous years, EU Member States, Romania included, which undergo economic growth, prefer to remain reserved as to their expectations for 2012.

The main source of economic growth for Romania are investments, whose growth is estimated at 4.5%, while second ranking is consumption, estimated to rise by a further 2%.

The same holds true for net savings and net investment. Actually, savings are only a residual value. Consumption decisions, along with investment decisions, influence income. Implementation of investment decisions should, ipso facto, either restrict consumption or increase income. Therefore,

investment as such cannot but proportionally increase the residual elements that we call saving. (Keynes, p. 88).

This leads to the conclusion that some of the money paid to potential investors or entrepreneurs is compensated by current investment by the entrepreneur who contributes his own production equipment, while the rest are sacrifices made by him. (Keynes, chapter 6, p. 89)

In the context of the economic crisis and of the need to attract investments, particularly direct foreign investments, Romania needs to know exactly where it stands.

It is true that an unexpected increase in investment in a certain direction may cause a disruption of the pace of global savings and investment, which would not occur if that increase were foreseen enough time in advance. (Keynes p. 115)

### 3. Managerial Economics. Sustained Performance

What is currently needed is qualified workforce rather than low costs. Five years ago workforce costs were considered a strength, but nowadays things have changed and workforce costs may very well become a weakness.

The 'brain drain' Romania is currently experiencing will have to be paid very dearly in 15-20 years time, without taking into account the money borrowed from the IMF. The debts most difficult to prove are the so-called "opportunity losses". In other words, how can one prove that, had other decisions been made, the outcome would have been much better?

People leave the country, not because of poor management, but because life is becoming increasingly difficult in a context where no jobs are created.

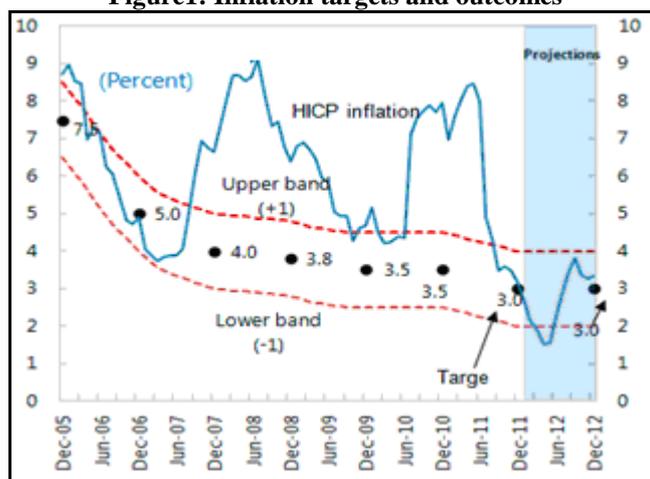
Brain drain: an immigration phenomenon whereby developed countries attract specialists from developing countries.

The fourth assessment of the SBA is proposed to amend the performance criteria, within the unit, this fact which concludes with fulfillment meeting the criteria.

### 4. Macroeconomic outlook.

Having regard to the modest economic growth in world demand among food and increase energy prices, inflation is likely to remain of  $3\% \pm 1$ , within the Central Bank.

Figure1: Inflation targets and outcomes



Source: Haver; IMF staff estimates

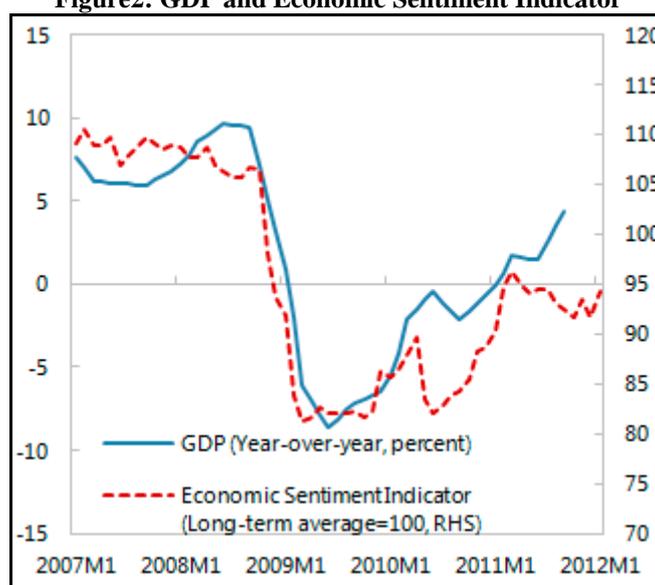
The price of fuel has risen alarmingly last year, inflation will remain so still 3 percent in the first half of 2012.

**Table 2: Consumer price index for march 2012 mains goods and services**

Weighing coefficient	Description of goods / services	March 2012 %, compared to:	
		February 2012	December 2012
826	Fuel	101,04	103,00
966	Electricity, gas and central heating	100,06	99,88
520	Electricity	100,00	100,00
328	Gas	100,00	100,00
118	Heating	100,00	99,20

Source: National Institute of Statistics, www.insse.ro, number. 85, April 2012

**Figure2: GDP and Economic Sentiment Indicator**



Source: Haver: IMF staff estimates

**Table 3: Romania: Macroeconomic Outlook**

	2009	2010	2011	2012	2013
Real GDP growth	-6.6	-1.6	2.5	1.5	3.0
CPI inflation, average	5.6	6.1	5.8	2.7	3.0
CPI inflation, eop	4.9	8.0	3.1	3.3	3.0
Current account balance (% of GDP)	-4.2	-4.4	-4.3	-4.4	-4.9
Gross international reserves (bn euros)	30.9	36.0	37.3	37.5	37.4

Source: IMF

## 5. Conclusions

Romania's socio-economic prerequisites are efficiency, competitiveness and convergence.

Order and performance are the motto by which Romania should become stable, competitive and functional, so that it will have its own balanced competitive environment.

The SBA review focused on four issues, which have been met to a large extent; some of them are still in place:

- the potential impact of a more pessimistic growth outlook on public finances,
- progress on health care and tax reforms,
- structural reform of state-owned enterprises by restructuring, privatization, and regulatory reforms in the energy sector,
- strengthening of contingency planning and safety net mechanisms to ensure financial sector stability.

Structural reforms and faster absorption of EU funded projects may stimulate economic growth, which could be included in a macroeconomic outlook.

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## THE IMPACT OF INFLATION ON THE RESULTS OF ECONOMIC ENTITIES

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**Abstract:** *In many countries, the primary financial statements are based on the historical cost, without taking into account the changes that occurred in the general level of prices or the increase in specific prices of assets held, excepting those cases in which the fixed assets and financial investments can be revalued. When using historical costs, the information is distorted, meaning it does not reflect clearly the events and the concepts of capital and maintenance of capital cannot be applied properly. In a hyperinflationary economy, high rates of inflation which occur for a long period of time, lead to the appearance of some problems which distort the data presented in the financial statements, and the “real” profit includes a tax on “inflation”, leading to the company’s decapitalization.*

**Key words:** inflation, performance, restatement, inflation tax, self-financing capacity.

**JEL classification:** D 81

### 1. Introduction

The purpose of this article is to bring well-documented information about the effects of inflation on the financial statements. Inflation is a very complex phenomenon; it appears because of a group of factors, each of them affecting more or less the inflation level.

The main objective of this paper is to analyze the negative effects of inflation on the economic entities’ results, as a consequence of excessive taxation, through the payment of an “inflation tax”.

In case of hyperinflation, or even inflation, the value of the assets, liabilities, financial position and the results obtained by a company are **distorted, deceitful**, because they also take into account the nefarious influence of inflation. Firstly, the assets’ value is undervalued, thus influencing the proprietary and solvency rates. The value of ownership equity is also undervalued, and it does not reflect the company’s real potential.

This paper was written after a thorough analysis of the literature referring to inflation and financial performance.

### 2. Body of the paper

#### 2.1 The concept of inflation

**Inflation** is an imbalance of economy which leads to the appearance of or increase in the discrepancy between the monetary mass and goods offer, compared to the previous situation. The process has two major tightly linked tendencies: general increase of the prices and monetary purchasing power loss.

Trying to explain the inflation phenomenon by referring separately to demand, costs, money supply, may lead us to discover some of the causes, but it is very difficult to ascribe the entire “responsibility” to a single element. In most cases, **inflation is caused by a combination these three factors:** demand, costs, money, together with some internal or external factors.

Inflation appears because of some economical, political, monetary, social, psychological, internal and external factors and it consist of a strong and long-lasting increase of general price index level, combined with an increase of the monetary mass and a loss of its purchasing power.

Inflation modifies the correlation between the prices of goods and resources, and the modification that generates major tensions is the one between the dynamics of prices of goods and the level and dynamics of salaries.

Some social categories obtain substantial advantages because of inflation and thus they support it. Thereby, the **debtors win** when the interest rate is lower than the inflation rate. With the loaned money, debtors can buy merchandise that during inflation is valued at a higher rate because of the price increase, and the reimbursed amount and the interest rate will be lower.

However, other social categories, which are getting more and more numerous and which have fixed nominal incomes, are the ones that **are affected** by the inflation, because even though their incomes are indexed periodically, they cannot cope with the increase in prices, thus their purchasing power permanently reduces. **Creditors** who loan money with a certain value are also affected, because at the date of payment they get back the same amount, which is actually lower because of inflation, thus they cannot buy the same amount of goods or services as they could have at the moment of gave the credit.

## 2.2 Evaluation of the company's financial performance

**The finance function** has to measure and administer all the wealth produced by the economy and to transfer them to different investors, taking care that there is an efficient distribution of risks. The transactions between the sellers and buyers are based on financial and accounting information. Each participant at the financial transactions intends to buy or sell based on different anticipation of the chances of winning. The anticipated value of any transacted good contains information regarding the companies' economical and financial performance: profit, dividend policy, financial risk determined by the indebtedness rate, operating risks determined the by profitability threshold.

In case of a publicly traded company, the evaluation can be done according to the **Gordon – Shapiro model**, corresponding to the formula:

$$P = \frac{D_1}{r - g}$$

$P$  – stock price;

$D_1$  – the value of this year's dividend;

$r$  – constant cost of equity;

$g$  – constant growth rate of dividends.

According to the economic theories, over time 3 models have formed that define a company's value:

- a) **Founder model**, by A. Smith, based on the work fund incorporated in the company's flow of goods and services which are intended to be sold;
- b) **Materialist model** (or realist) belonging to the economist A. Marshall, who believed that a company's value is given by the market value of its assets, which contains the company owner's capital;
- c) **Renewed founder model**, which establishes the company's value according to its capacity to disentangle monetary flows to help capital investors.

The three methods mentioned above determined 2 big categories of methods of evaluation: patrimonial and financial (of efficiency). The third method is in fact a combination of the other two methods.

Nowadays, the main principle in the evaluation process is the use of cash-flows and of discount rates, expressed in comparable terms. Treasury flows can be expressed in nominal or real values (without the influence of inflation).

The foresight of future flows is done by **anticipating inflation** of the prices of sold goods and services and of the prices of raw materials and other production consumption, including salaries. But this adjustment is not applicable to amortization and interest in fixed rate bonds.

**The term "profit"** comes from Latin, from the verb "proficere", meaning to progress, to achieve; later the meaning changed into "to lead to profit". The term "profit" can have multiple meanings.

A first statistical and legislative meaning considers that profit represents the difference between revenues and expenses, caused by the activity of an economic agent. If the difference is positive, meaning the revenues are higher than the expenses, then this means there is profit, but if the revenues are lower than the expenses, there is loss.

Another meaning considers profit to be an implicit remuneration, this being the result of an increase of work efficiency or of introducing technical progress, or the result of a better organization and management of independent activities

According to the **patrimonial meaning**, profit is measured by taking into account the following formula:

$$\text{Assets} - \text{Liabilities} = \text{Ownership equity}$$

To determine the results, one must consider the ownership equities of these two consecutive financial exercises:

$$\text{Result of exercise N} = \text{Ownership equity of exercise N} - \text{Ownership equity of exercise N-1}$$

Taking into account the **economical aspect**, the result of this exercise is the difference between the revenues and expenses, and it can be either positive, meaning there is profit, or negative, meaning there is loss.

From a financial point of view, the result of the exercise takes into account the company's treasury variation during a certain period of time, by comparing the revenues flow with the payment flow. The company's self-financing is provided as the result of the exercise and the proportion of amortization and of provisions that do not generate payments. The formula is:

$$\text{Result of the exercise} = \text{Self-financing capacity} - \text{Amortization and provision expenses}$$

**Profitability** can be defined as a company's capacity to obtain profit by using factors of production and capitals, irrespective of their provenience.

Profitability is one of the most concise forms of expressing the efficiency of the entire economical and financial activities of a certain company, respectively of all the factors of production, from all the stages of the economic circuit.

In an inflationist economy, to express profitability using the nominal annual return ( $R_N$ ), means to take into account the expected **inflation rate** ( $R_I$ ), using the following formula:

$$1 + R_N = (1 + R_F) (1 + R_I) \text{ for one year, and} \\ (1 + R_N)^2 = (1 + R_F)^2 (1 + R_I)^2 \text{ for two years.}$$

$R_N$  = nominal annual return rate;

$R_F$  = real estimated annual rate;

$R_I$  = inflation rate.

**Example:**

We presume that NBR (National Bank of Romania) anticipates an annual inflation rate of about 15% for the next two years, and the real rate of return is 7.5%. The annual rate of return is:

$$R_I = (1 + 0.075) (1 + 0.15) - 1 = 23.625\%$$

Thus, in an inflationary economy, having an inflation of 15% and a real rate of return of 7.5%, the nominal rate of return is 23.625%.

**Economic efficiency** is an economic category that means more than profitability. In order to express profitability, one can use two categories of indicators: profit and rate of return.

**The profit** reflects the company's efficiency, while the extent to which the company's capital and resources bring profit is reflected by the **rate of return** (an indicator of the relative size of profitability).

The **profit** as an indicator of profitability represents:

- A synthetic indicator used to assess the company's economical and social performance;
- A self-financing source of the company's growth;
- A way of controlling the economic and financial management;
- A way of paying the borrowed capitals;
- An incentive for the stockholders, employees, managers, owners;
- A source for the state's budget.

The profit can be analyzed from a structural and factorial point of view by taking into account the whole company or the products.

**The profit's structural analysis** wants to settle the contribution of different types of results to complete change, and also to highlight the changes that occurred to different units.

The structural analysis based on the gross result of the exercise can be done by grouping the revenues and expenses, **according to their type**, or grouping the expenses **according to their function** (destination) in the company.

The structural analysis of profit aims to point out the importance and dynamics of the results related to the three categories of activities which take place in a company: operating, financial and extraordinary.

**The profit and loss account** or the results account is a concise accounting document, which measures a company's activities, during a certain period of time. It represents a summary of the flow of activities at a microeconomic level, because it emphasizes those flows that contributed to a growth or decrease of the company's wealth, during a certain period of time.

The way in which the profit and loss account is presented varies from one country to another, depending on the economical, legal and fiscal characteristics of each country, but also on the way in which the accounting normalization is done. The results account can be presented in two ways, based on two criteria:

- According to the form of presentation, there are two variants: bilateral panel or account and a list, the later also having the name of vertical schema;
- According to the informational content, the profit and loss account can be presented in two ways: by grouping the revenues and expenses according to their destination or according to their nature.

Structuring the results account as a bilateral panel and according to their functions is specific to Anglo-Saxon countries, which have a one-tier accounting system. This form meets the manager's requirements because it offers the necessary data to administrate the company.

Presenting the results account according to the revenues and expenses' nature insures an easy way of analyzing the accounting information, whereas the entries in accounting are done by taking into account the operation's nature, without showing the expenses' internal destination. This way of presentation is specific to countries based on a dualist accounting system, in which financial and administration accounting are separate.

The harmonized accounting settlements replaced the term "exceptional" with "extraordinary". However, this does not mean that the exceptional revenues and expenses disappear, but they transform, most of them become elements belonging to the operating activities (penalties, fines, provisions), while others are transferred in the category of extraordinary elements (calamities).

We can find this change in IAS 8 "Net profit or loss", which shows that there is a difference between an "extraordinary" and "exceptional" element, as follows:

- Extraordinary elements represent the revenues and expenses that are clearly different from the regular activities and which do not happen frequently or regularly;
- Exceptional elements result from current activities, of operating the company, but which are not unusual from the point of view of their frequency or volume.

According to IAS/IFRS, the expenses from the profit and expenses account must correspond to the revenues from sales, services or other works which generate revenues. In order to reflect a correct image of the company's financial position and financial performance, it is mandatory to respect these rules.

In Romania, starting from the 1<sup>st</sup> of January 1994, the list format of the profit and loss account has been introduced. The revenues and expenses are now presented according to their economic nature. The structure of the information in the profit and loss account is determined by the nature of the economic and financial operations performed by the company during the management period. The operations performed by a company are quite heterogeneous, like for example: commercial, legal operations, financial transactions or operations caused by nature, the latter being accidental.

Due to the unevenness of the economic and financial operations, they are grouped in categories that are quite homogenous, called activities, according to how ordinary, general and repetitive they are. Thus, all the operations related to the operating activity, which can be identified with the company's scope of activity, are considered current operations.

Current operations have a specific nature, which is related to the company's scope of activity. They are also ordinary and repetitive, and they generate the current result.

According to the decree no. 3055/2009, the profit and loss account contains: net turnover, the exercise's revenue and expenses, grouped according to their nature, and also the exercise's result (profit or loss).

**The notion of current activity**, which regroups current operations, does not overlap with the notion of operating activity, which is an essential component, but not necessarily unique. Thus, the operations that are not related to the company's scope of activity, but which are repetitive and permanent, are considered to be current operations. They are distinguished from the extraordinary operations, which are accidental and nonrepetative. The operating and financial activities represent a company's current activity. Each kind of financial or extraordinary activity, operation, generates flows of revenues, expenses and results.

In Romania, the profit and loss account is a component of the concise accounting documents, and it is **done without fail** by the patrimonial units, irrespective of the form of ownership, either in a basic system (big patrimonial units) with a more detailed informational structure, or in a simplified system (small and medium patrimonial units) with a less detailed informational structure. The information provided by the result's account refers to both the finished and the previous exercise.

### 2.3 The analysis of the company's performance in case of inflation

Through a financial diagnosis, it is considered that a company has a **positive activity** when it obtains a profitability that covers the **risks undertaken by the investors**. The appreciation is done based on the data offered by accounting in **historical costs**. If the company functions in a **hyperinflationary economy**, the quality of the information provided by the historical costs raises serious questions.

Thus the **nominal rate of return must be superior to the inflation rate**, in order to cover at least the interest rate in case of a loan. The relationship, in a simplified manner, is the following:

$$K_R = K_N - I$$

$K_R$  – real rate of return;

$K_N$  – nominal rate of return;

$I$  – rate of inflation.

Having the Fisher hypothesis as a starting point, we can deduce:

$$(1 + K_N) = (1 + K_R) (1 + I)$$

$$K_N = K_R + I + K_R \times I$$

#### Example:

We presume that in a hyperinflationary economy the rate of inflation is 146%, and the nominal rate of return, calculated according to the data from the financial statements expressed in historical costs is of 150%. The real rate of return would be:

$$(1 + 1.5) = (1 + K_R) (1 + 1.46)$$

$$K_R = \frac{2.5}{2.46} = 1.016$$

Thus, **the real rate of return** would be 1.6% and not 50% like it is shown in the statements expressed in historical costs and without taking into consideration the influence of inflation.

The company's performance can be analyzed through different methods of analysis, the most important being the following:

- ❖ The analysis of the results based on the management's intermediate balance sheet;
- ❖ The analysis of the capacity for self-financing;
- ❖ The functional analysis of the results' account;
- ❖ The analysis of the turnover based on profitability threshold;
- ❖ The analysis based on the rates of return.

**The management's intermediate balance sheets** contain the main economic and financial indicators, based on the data from the profit and loss account. Based on these pieces of information, it is determined the way in which the company's material, financial and human resources are used.

An intermediate balance sheet represents the difference between two values. The intermediate balance sheets are presented in form of a panel, which is actually another way of presenting the results' account.

**Commercial margin** ( $C_M$ ) is an indicator used by the companies that sell the goods in the same condition in which they have been bought, this being specific for their trading activity.

**Gross operating surplus** (GOS or GOR- gross operating result) represents the potential cash flow provided by the operating cycle and it is determined by deducting the monetary costs of operating from the monetary revenues related to these activities.

Gross operating result measures the gross economic profit that comes from the operating cycle and shows what the company gets after the cost of labor force is deducted from the value added.

Gross operating surplus is not influenced by the amortization system, by the policy of constituting provisions, by the financial policy (degree of indebtedness) and neither by the policy of dividend distribution.

Gross operating surplus can be calculated through the additive method: amortizations and provisions are added to the other operating expenses and the revenues coming from provisions from the operations and also other operating expenses are deducted.

**The operating income** or Earnings Before Interests and Taxes (**EBIT**) circumscribes to the level of the company's main activity and it characterizes the profitability of the operating process. It is determined as a difference between the revenues and operating expenses.

**The current result of the exercise** represents the difference between current revenues (operating revenues and financial revenues) and current expenses (operating expenses and financial expenses).

**The gross result of the exercise** is formed from the current result of the exercise, together with the extraordinary result of the exercise.

**The result of the exercise or the net profit** is calculated through the deduction of the tax profit from the gross result of the exercise.

**The self-financing capacity (SFC)**, which reflects the company's financial potential, respectively the financial source generated by the company's industrial and commercial activity, after the deduction of all the expenses payable at a certain due date (revise somehow), can be calculated using two methods:

- a) The deductive method;
- b) The additional method.

**The deductive method** presupposes that the SFC is calculated starting with the gross operating surplus (GOS) from which all the company's payable expenses are successively deducted. The formula used is the following:

**SFC = Receivable Revenue - Payable Expenses = GOS + Other receivable revenues – Other payable operating expenses + Receivable extraordinary and financial revenue – Payable extraordinary and financial expenses – Profit tax**

**The additional method** presupposes that the calculated expenses (amortization, provisions), which haven't been paid at a certain due date, have been added to the net result of the exercise, but only after the calculated revenue had been subtracted from them, according to the following relationship:

**SFC = Net result + Calculated expense – Calculated revenue =**  
**= Net result + Calculated amortization and provisions – Reconsideration of the provisions – Share of the subsidy transferred in the results' account + (Net accounting value of the disposed assets – Revenues from disposal of assets)**

**In case of hyperinflation**, or even inflation, the value of the assets and liabilities, the financial position and the results obtained by the companies are **distorted, fake**, because they comprise the inflation's negative influence. First of all, the value of the assets is undervalued, thus influencing the solvability and patrimonial rates. The ownership equity is also undervalued, and does not reflect the company's real potential.

In case of inflation, amortization at historical costs of the fixed assets has two main influences:

- a) Failure to recover the entire initial value of the fixed assets;
- b) Loss of opportunity as a result of the lost deductibility of the marginal amortization which would result from its correction with regard to inflation.

**Amortization** can represent a self-financing source of new investment projects with a rate of return that incorporates present inflation. Not adjusting amortization with inflation leads to a decapitalization of the company and a lack of the necessary sources for new investment projects.

If inflation is taken into account when calculating the turnover, which is expressed in current costs, this will lead to an increase in the taxable profit and thus at a taxation of inflation. The main beneficiary of inflation is the state, and the higher the inflation, the higher the obtained advantage.

**Example:**

A company presents the intermediate management balances in historical and restated values, as a consequence of inflation, in the following table:

Intermediate management balances	N		N + 1		N + 2	
	Historical values	Restated values $R_I = 322$	Historical values	Restated values $R_I = 300$	Historical values	Restated values $R_I = 395$
GOS	520	520	630	630	480	480
Amortization	35	148*	40	160	42	208
Result of operations	485	372	590	470	438	272
Interest	110	110	120	120	100	100
Gross profit	375	262	470	350	338	172
Tax (16 %)	60	42	75	56	54	28
Net profit	315	220	395	294	284	144
Tax on inflation	$(148 - 35) \times 0.16 = 18$		$(160 - 40) \times 0.16 = 19$		$(208 - 42) \times 0.16 = 26$	
Operating cash-flow	460**	478	555	574	426	452

\*  $148 = 35 \times (1 + 3.22)$

Source: own calculation

\*\* Operating cash-flow = Result of operations – taxes + amortization:  $460 = 485 - 60 + 35$

**Self-financing capacity SFC** will have the following values:

**Year N:**

$SFC_{historic} = 520 - 110 - 60 = 350$  write historical in small letters

$SFC_{restated} = 520 - 110 - 42 = 368$

**Year N + 1:**

$SFC_{historic} = 630 - 120 - 75 = 435$

$SFC_{restated} = 630 - 120 - 56 = 454$

**Year N + 2:**

$SFC_{historic} = 480 - 100 - 54 = 326$

$SFC_{restated} = 480 - 100 - 28 = 352$

**3. Conclusion**

The net profit obtained in case of inflation adjustment to the amortization expenses is lower, and the inflation tax represents the difference between the restated cash-flow and the one obtained in historical values ( $478 - 460 = 18$ ). The tax paid by the company in historical values is 60, and the one established after the restatement is 42, the difference of 18 between the two values represents the “tax on inflation”, its relative value being of 30%.

One can notice that the SFC also has different values: 35 in case of using historical values and 368 in case of amortization restatement. The difference of 18 represents the additional paid tax. A higher self-financing capacity is more attractive for investors. By not adjusting in case of inflation the expenses with the amortization, companies will not have the necessary investment flows for resuming and continue the production process, and the concept of maintaining the financial and physical capital cannot be accomplished.

It is not surprising that many countries chose to solve their economic problems by falling back on a controlled growth of inflation. If Greece will leave the Euro zone, inflation will play a decisive role in solving the financial crisis.

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## ECONOMIC CRISIS AND THE IMPLICATIONS ON RURAL TOURISM AND SUSTAINABLE DEVELOPMENT IN CALARASI COUNTY

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### **Abstract:**

**Aim of Work** - This work aims to contribute to a better knowledge of how the countryside in the south of Romania and, in particular, Calarasi county, the existing values stored here, as well as those ignored or forgotten, the addressing the complex issue of rural tourism in an area with tourism potential but poorly known and promoted surface.

**Research goals** - For this purpose open development strategies are needed that exploit the advantages created by the dominant share of private ownership in agriculture and ensure intensive development to achieve competitive supply of agricultural products and an expanded market for all types of farms, with wide access to market products and production factors.

**Expected results** - news and analysis on this basis, the paper makes a diagnosis on the space arguments evaluated and outlines a possible strategy to develop tourism in the studied area.

**Key words:** rural area, rural tourism, tourism, agriculture.

**JEL classification:** F 0, Q 01, Q 1, Q 26

### **1. Introduction**

Knowledge, research and sustainable development of rural areas are vital activities to a country, both in rural dimension, expressed through the area owned and the share of employment in productive activities, social services and cultural tourism and the environmental protection.

The Agriculture and Rural Development Committee of the Council of Europe welcomes the report of the European Charter on the countryside, that the rural areas of Europe represent 85% of its total area and affect, directly or indirectly, more than 50% of the continent.

Economic growth, at a global level, force national economies and local communities to adapt to maintain and develop social and economic competitiveness through restructuring, both in rural area itself and in how to use and exploit it.

In this context and the result of Romania's entry into the European Union we will present, the situation in Romania, with Călărăsi County as case study, in terms of rural tourism and agrotourism.

### **2. Knowledge stage of the problem**

Lately some Romanian and foreign tourists are oriented to rural or agrotourim recreation areas. The explanation lies in the many benefits of this new form of recreation and refreshment in optimal conditions, at a lower price services, away from noise and stress of the civilized world.

But tourism development means an important lever for rural development, which requires treating the activity in an economic / management vision. Only in this way there can be highlighted theoretical and practical aspects of tourism development, but also Romania's European integration possibilities and rural tourism.

### 2.1. Knowledge and concepts of rural tourism

Through various forms of rural tourism it is offered the opportunity for people to come together and to know the conditions of life and culture of others. From experience of other countries it has been observed that rural areas are suitable for tourism and from many points of view, have the conditions necessary for such activities.

Tourism product results from the combination of goods and services provided by tourism and related services personnel, who, drawing on the elements of tourism heritage and general infrastructure and tourism, aimed at meeting the specific and general needs of tourism consumers.

### 3. Material and method

In this context, the paper entitled „THE SUSTAINABLE DEVELOPMENT AND THE IMPLICATIONS OF RURAL TOURISM IN THE DEVELOPMENT ON CALARASI COUNTY” aims to contribute to a better understanding of the countryside in the south of Romania and, especially, the Călărași County of the values stored here, often ignored or forgotten, to address complex issues of rural tourism in an area with great tourism potential, but poorly known and promoted surface.

Research undertaken on the role of agrotourism has shown that it has an important impact on development, in terms of social, cultural and especially economic point of view, of the area.

The idea that we followed throughout the scientific approach was therefore made to treat the subject in a systemic perspective, organic blend of theoretical statements and reference to reality investigated and that the south of Romania may be driven by agrotourism . On the other hand, we tried a pertinent analysis and applied to the situation of the phenomenon, placing it within the broader context of sustainable development and the importance given of Romanian rural tourism, considered a strategic sector of the European Union.

News and analysis on this basis, the paper makes a diagnosis on the space arguments evaluated and outlines a possible strategy to develop tourism in the area studied.

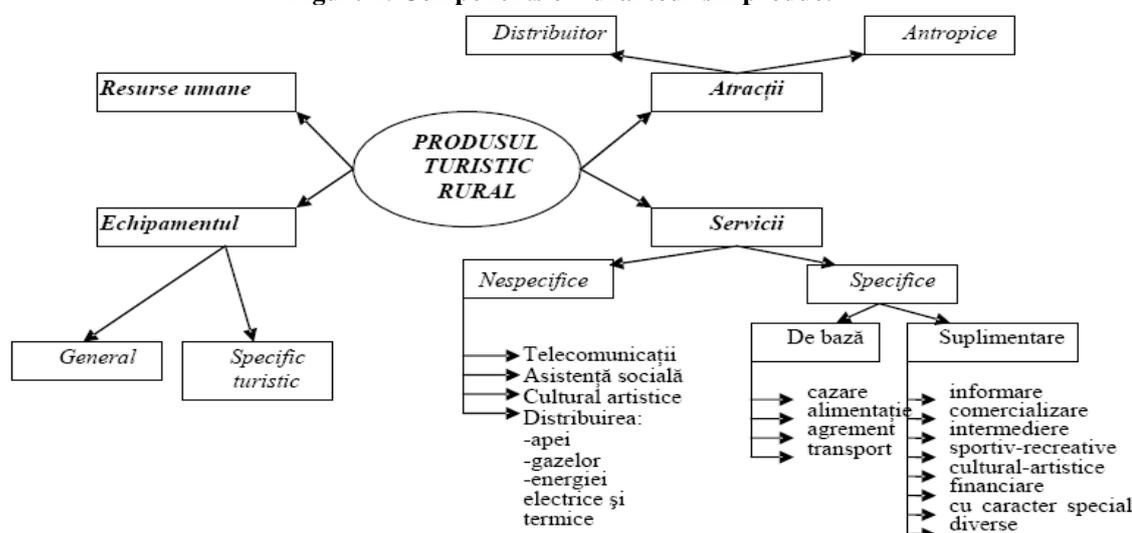
Knowing reality, there are suggested ways of obtaining brand tourist products that express awareness, to support the preservation and promotion of local identity and a competitive offer.

### 4. Results and discussions

*Features and scope of agrotourism.* Rural areas through its components satisfy a wide range of reasons: recreation and leisure, knowledge, culture, sports, air cleaning or bathing, hunting and fishing, tourism provides a large area of coverage leisure opportunities (fig. 1).

By this, agrotourism is a means to fully achieve its rural agriculture, tourism, human, technical and economic potential.

Figure 1: Components of rural tourism product



Source: after Gogonea Manuela Rodica,- Integration possibilities of the rural tourism product on the European market, Journal of tourism No. 3/2007

Calarasi County is in south-eastern Romania, on the lower left of the Danube, at the Bulgarian border, in the central part is intersected by the parallel of 44° north latitude and the meridian of 27 ° east longitude. The county has 5088 km<sup>2</sup>, representing 2, 13% of Romania.

Administrative organization of the territory has 2 municipalities, 3 towns, 50 communes and 160 villages. The county residence is the city of Calarasi, with a total of 70,000 inhabitants. Total population of the county is of 324,617, representing 1.5% of the population, the average number of inhabitants is distributed as follows: Urban: 120,270 inhabitants, respectively, 37% of the county, area: 204,410 inhabitants, respectively, 63% of the county population. Population density is 64 inhabitants / square km.

In Tables 1, 2 and Figure 2 it is shown the evolution of production and agricultural services and its dynamics, the total industry and sectors in the period 2002-2009, expressed in thousand lei prices of period. It is thus an increasing trend of total production from 779,705,900 lei in 2002 to 1,688,465,100 lei in 2005 and RON 2,041,731,000 in 2009. In the total production, the share is held by plant production, followed by livestock production and agricultural services.

**Table 1: The structure of agricultural production of goods and services, in Călărași County**  
- Thousand lei current prices

Year	UM	Total	Vegetal	Animal	Agrarian Services
2002	thousand lei	779705,9	548646,7	208718,8	22340,4
	%	100,0	70,4	26,8	2,9
2003	thousand lei	747892,4	391184,5	330687,1	26020,8
	%	100,0	52,3	44,2	3,5
2004	thousand lei	918565,7	553370	339917,8	25277,9
	%	100,0	60,2	37,0	2,8
2005	thousand lei	1688465,1	1218727,4	434645,9	35091,8
	%	100,0	72,2	25,7	2,1
2007	thousand lei	1738264	1336817	364199	37248
	%	100,0	76,9	21,0	2,1
2009	thousand lei	2041731	1514423	488767	38541
	%	100,0	74,2	23,9	1,9

Note Agricultural production of goods and services is according to Eurostat methodology on "Economic Accounts for Agriculture". SOURCE: Statistic Research – County Statistics, DADR Călărași

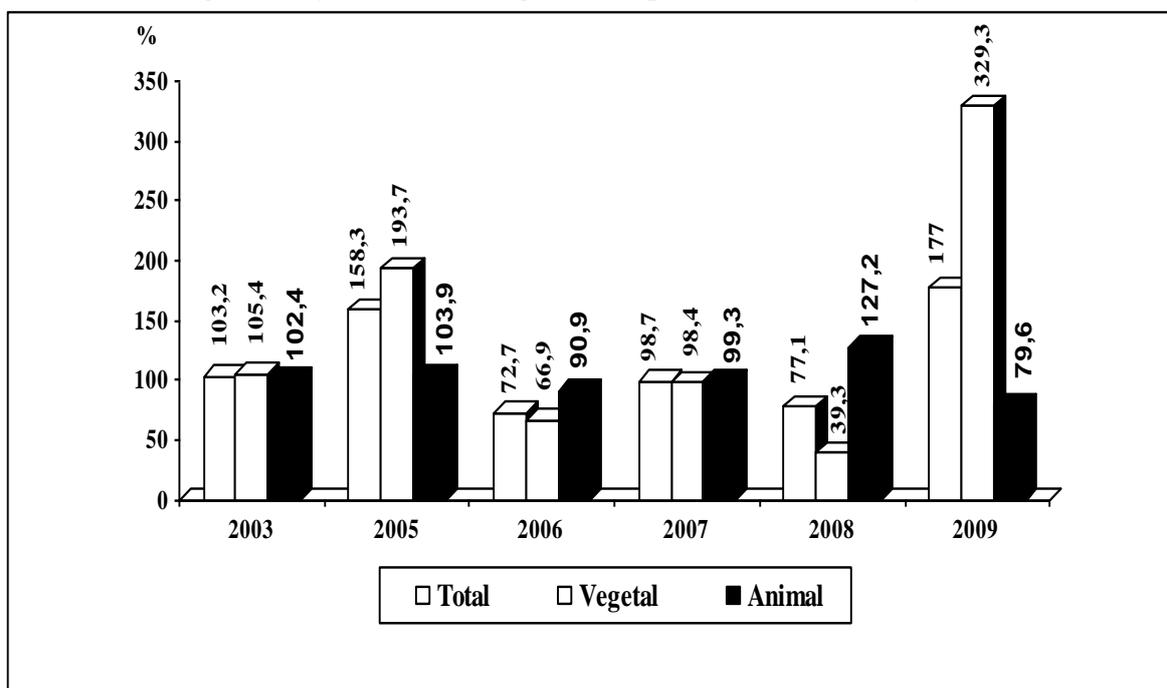
**Table 2: The dynamics of agricultural production of goods and services, in Călărași County**  
- Thousand lei current prices

Year	Total		Vegetal		Animal		Agrarian Services	
	thousand lei	%	thousand lei	%	thousand lei	%	thousand lei	%
2002	779705,9	100,0	548646,7	100,0	208718,8	100,0	22340,4	100,0
2003	747892,4	95,9	391184,5	71,3	330687,1	158,4	26020,8	116,5
2004	918565,7	117,8	553370	100,9	339917,8	162,9	25277,9	113,1
2005	1688465	216,6	1218727	222,1	434645,9	208,2	35091,8	157,1
2007	1738264	222,9	1336817	243,7	364199	174,5	37248	166,7
2009	2041731	261,9	1514423	276,0	488767	234,2	38541	172,5

Note Agricultural production of goods and services is according to Eurostat methodology on "Economic Accounts for Agriculture". SOURCE: Statistic Research – County Statistics, DADR Călărași

In terms of changing agricultural land use in Calarasi County, is found that, in 2009 compared to 1990, total agricultural area decreased from 426,780 ha to 426,230 ha, and recorded declining total arable land, from 415,779 ha to 414,821 ha during the same period.

**Figure 2: Dynamics of total agricultural production and industry sectors**



Source: Statistic Research – County Statistics, DADR Călărași

On the same line is located the area planted with orchards, which was reduced from 311 hectares to 172 hectares and the one planted with vineyards, which fell in the same period, from 5246 ha to 4965 ha.

In cities, significant changes in the arable land, there is substantial reduction in large villages, such as Grădiștea (from 15,580 ha to 14,752 ha), Borcea (from 30,363 ha to 29,680 ha), Jegălia (from 10 476 ha to 9992 ha), Modelu (from 9887 ha to 9438 ha), etc., while arable increases are recorded in localities Budesti, Căscioarele, Ulmeni Vasilați etc., but in a much smaller proportion than that of the surfaces that have been reduced. Terms of use of agricultural land, significant shifts in use in the "living" where all localities have increased the areas occupied by vineyards, some even up to five times, such as Borcea, Chirnoși, Ciocănești, Cuza Voda Jegălia, Dorobantu, Radovanu, Balcescu, Unirea, etc., the only place that reduced the area planted with vineyards being Al. Odobescu, from 189 ha, 105 ha maintaining culture. On areas occupied by orchards, it is found that several localities have eliminated these cultures, despite having a significant number of acres occupied by orchards, such as Lușșanu-26 ha, Jegălia - 25 ha, Dragalina - 17 ha, Lehliu - 27 ha, Al. Odobescu and ValeaArgovei by 16 ha etc., the same localities increasing the number of acres occupied by pastures and meadows, a direct result of increasing individual livestock holdings and agricultural associations.

From the total area of 292,154 ha, 112,895 ha are used in the associative system, 93,609 ha are leased and operated the system up to 85,650 hectares are individual holdings. The land use categories, note that, in the individual holdings in the 85,650 ha, 77,646 ha is arable land, 7750 hectares are vineyards, 198 hectares are occupied by pastures and meadows and 56 ha of orchards. In the associative farms (S.A + SC + AF), of the 112,895 hectares, 112,777 hectares are arable land and 118 ha are occupied by vineyards, in this type of holdings, there is use categories "orchards" or pastures and hayfields. The same situation is met in the company formed by leasing land where, from 93,609 ha, only 2 ha are occupied by vineyards and 5 hectares of pasture, the difference of 93,602 ha, arable land. Although most towns in the county operating system is a land lease and associations, such as localities: Cuza Voda - 74% and 9% in rental association, Lușșanu - 78% and 14% in rental association, Ulmu - 95% in association Ulmeni - 81% and 9% in rental association etc., there are communities that, over 50% of agricultural land is operated in individual systems, such as Căscioarele - 85%, Tamadau - 65% ,

Belciugatele - 60%, Fundulea - 61%, Budesti - 59%, Frumușani and Nana - 58% etc. With the current size of individual farms in Romania, rational use of land lease requires stimulation of the partnership and ownership concentration by buying farmland. Current legislation allows local increase in the size of farms and encourage land use directly by the owner or the tenant.

## 5. Conclusions

*Non-agricultural activities conducted in farms in the Călărași County* were defined by two sides on the rural economy: on the one hand specific territorial and non-agricultural activities, on the other hand, village and farms located in a permanent evolution. In the units with legal personality is also reported the existence of such activities but, unlike individual holdings, they are in smaller numbers but with a much higher capacity.

The natural conclusion to be drawn is that the complexity of non-agricultural activities in the area studied is still small.

All this shows a shift in the implementation of non-agricultural activities in farms in the Calarasi area to which reference may be made especially on the sales of vegetables, pork and beef, milk and milk products, which is precisely where the production of raw material has high potentials.

*Attractions and local attractiveness.* Currently, in agritourism many entrepreneurs work but often in isolation, the individual household level, so that missing unified concept in the preparation and launch attractive touristic offers.

*Forms of cultural and religious tourism,* area attractions are also analyzed, the religious buildings have as main objectives, with reference to the *monasteries and churches*.

In rural habitat of the area was found over time that there was a large number of localities in which very few have disappeared. Thus, rural household settlements Calarasi in the area show a continuity of living in this region.

All this can interfered the role of settlements in rural tourism which is one of the key factors in the analyzed area of the economy, all leading to a significant increase in tourism potential in these areas.

Sustainable development and the implications for tourism development concept is put into a complex, multidimensional, and general tourism and rural tourism, in particular, the content is integrated into this development. The seasonal and permanent tourism activities can be provided by exploiting the rational development of settlements and the existence of equal opportunities for development.

## 6. Acknowledgements

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## A STATISTICAL APPROACH TO TOURISM IN ROMANIA

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**Abstract:** *Tourism represents an industry of high importance in the economy of any state, especially if that country boasts a number of natural and anthropogenic resources that could interest potential tourists. Romania, a well-endowed country in this regard, has failed to this day to turn to good account its tourism potential, even if the financial efforts in this direction were not insignificant. Although our country recorded improvements as concerns accommodation, it failed nevertheless to determine significant increases in the number of tourists and overnight stays. The main cause is the lack of an adequate transport infrastructure, as well for several other reasons. The net use index of accommodation was generally below 30%. The average length of stay decreased. The average tourist expenditure in 2010 was below the European average and the preferences of Romanian tourists have changed.*

**Key words:** tourism, crises, statistic situation, causes

**JEL classification:** E 22, F 59, L 83, R 40, Z 0

### 1. Introduction

In 2007, the contribution of the tourism and travel industry to Romania's GDP was 2.1%, i.e. approx. 7.9 billion lei, much less than the 4.7% in 2005. According to the data provided by the WTTC (World Travel & Tourism Council), this contribution increased to 5.8% in 2008, but Romania was still next-to-last in Europe, only ahead of Serbia, while the revenues of Croatia, the leader in Europe, Croatia, represented about 25% of GDP. In the same period, a report of the same council ranked Romania on the 7th place among the 176 countries analysed in terms of growth prospects of the tourism and travel industry. Also, Romania ranked 58th in the world according to the absolute size of the travel and tourism industry, and 157th (nearly at the end of the list) according to the relative contribution of tourism to the national economy. The WTTC report indicated the poor state of infrastructure as the main impediment to the development of tourism (<http://www.evenimentul.ro/articol/turismul-a-contribuit-cu-58-la-suta-la-pib8209ul-romaniei.html>). We would also add, as another main reason, the frequently encountered imbalanced relation between the quality and price of tourism services. In a study of the World Economic Forum, due to poor infrastructure, our country was ranked only 76th in the world ranking in terms of competitiveness in tourism.

Nevertheless, the situation in Romania changes in the year 2011. According to the WTTC, of the 181 countries analysed, our country ranks 67th in the world according to the absolute size of its tourism and travel industry, 170th according to the relative contribution of tourism to the national economy, and 16th according to the growth prospects for the tourism and travel industry (<http://www.wttc.org/research/economic-impact-research/country-reports/r/romania/>). For the year 2011, the contribution of tourism to Romania's GDP was estimated at about 4.5% by the WTTC. This still remains to be confirmed by official statistical data.

NBR-reported revenues from tourism amounted to about 851 million euros in 2010, i.e. 34 million less than in 2009, thus recording decrease of -3.8%. According the same source, the negative balance of the tourism and travel sector increased by 135% in 2010 compared to 2009, reaching 386 million euros (<http://www.fin.ro/articol-57826/ce-sanse-are-turismul-romanesc-sa-si-revina-in-acest-an.html>). If we compare to a neighboring country, Bulgaria, our main competitor in terms of seaside tourism, our country's revenues from tourism have been about half of theirs. We should also mention that our country was included in the group of countries with lower revenue from tourism in 2010 compared to 2009, along with Ireland (-14.9%), Greece (-7.6%), Slovenia (-3.2%), Poland (-0.5%) and France (-0.8%). It is important to note that the last of these countries, despite a decline in revenue as compared to the previous year, still ranked first in the EU according to the overall revenue from tourism. The top five European countries that recorder an increase in revenues from tourism were the following, in descending order: Malta (+27.2%), Lithuania (+12.8%), the Netherlands (+10.9%), Portugal (+10.2%), Latvia

(+9.1%). With its 885 million euros from tourism, Romania ranked in 2009 only 23rd in the EU (<http://www.cotidianul.ro/in-ue-romania-este-codasa-la-incasari-din-turism-163618>).

In order to highlight the current state of the Romanian tourism from an international perspective, we presented a short comparative analysis between selected years. We believe that the above data illustrate the “major achievements” made by the tourism industry in Romania.

This paper proposes an overview of the main changes in tourism as compared to the period before the economic and financial crisis. We reviewed a series of indicators, such as the number of tourist accommodation units, the accommodation capacity as represented by the number of places and days of accommodation, the number of overnight stays of domestic and foreign tourists, the use index of accommodation units, the average length of tourist stay, as well as the tourism demand in Romania.

In our scientific approach we relied on several national and international statistics. However, we have to note that, due to the lack of certain data, we failed to capture in our analysis all the aspects of this industry, which has somewhat restricted our analysis. Although we would have wished to present statistic data for 2011, this was not possible because they had not been published at the time of our study. However, we believe that we have managed to highlight some of the important aspects of the Romanian tourism after the onset of the economic and financial crisis, and even more.

## 2. The current state of tourism in Romania: a statistical overview

In what follows we will present to the reader the main aspects of the tourist sector. In a logical order, at first we will refer to what is essential for any type of tourism, namely infrastructure facilities. We then referred to the following aspects: the accommodation options for tourists, the number of tourists, the number of overnight stays, the average length of stay, domestic tourism trends, tourism organized by travel agencies, the main means of transport used by tourists, the tourism demand in Romania, average tourist expenditure.

### 2.1. Accommodation offer

According to statistics, the overall number of accommodation units recorded an increase every year.

Thus, at national level, the offer of accommodation units in the period 2006-2010 was as follows:

**Table 1: The offer of accommodation units in the period 2006-2010**

Establishments of touristic reception	Year 2006			Year 2007			Year 2008			Year 2009			Year 2010		
	No. of units	Places	Indices	No. of units	Places	2007 vs 2006 (no. of units - %)	No. of units	Places	2008 vs 2006 (no. of units - %)	No. of units	Places	2009 vs 2006 (no. of units - %)	No. of units	Places	2010 vs 2006 (no. of units - %)
1. Hotels and motels	1220	173496	100	1231	174471	0.90	1264	181512	3.61	1316	185315	7.87	1397	191647	14.51
2. Hostels	75	3522	100	79	3522	5.33	81	3612	8.00	97	4396	29.33	114	5218	52.00
3. Touristic inns	9	278	100	6	186	-33.33	5	136	-44.44	5	136	-44.44	4	97	-55.56
4. Touristic chalets	116	5875	100	108	5574	-6.90	116	5207	0.00	123	5887	6.03	134	5667	15.52
5. Campings and houselet-type units	121	31235	100	111	29126	-8.26	109	31061	-9.92	101	29420	-16.53	100	29522	-17.36
6. Touristic villas and bungalows	1040	20703	100	974	19794	-6.35	982	19945	-5.58	1012	20325	-2.69	1035	21387	-0.48
7. School and pre-school camps	128	23227	100	115	20320	-10.16	111	19426	-13.28	111	18875	-13.28	92	16874	-28.13
8. Touristic boarding houses	702	12546	100	736	13429	4.84	783	14538	11.54	878	16653	25.07	949	18422	35.19
9. Agro-touristic boarding houses	1259	14551	100	1292	15448	2.62	1348	16906	7.07	1412	19783	12.15	1354	20208	7.55
10. Touristic halting places	31	1114	100	30	1152	-3.23	31	1211	0.00	30	2025	-3.23	32	2043	3.23
11. Holiday villages	2	110	100	3	160	50.00	3	180	50.00	4	215	100.00	4	157	100.00
12. Ships accommodation spaces	7	501	100	9	519	28.57	7	476	0.00	6	456	-14.29	7	456	0.00
<b>Total</b>	<b>4710</b>	<b>287158</b>	<b>100</b>	<b>4694</b>	<b>283701</b>	<b>-0.34</b>	<b>4840</b>	<b>294210</b>	<b>2.76</b>	<b>5095</b>	<b>303486</b>	<b>8.17</b>	<b>5222</b>	<b>311698</b>	<b>10.87</b>

Source: Results drawn by the authors from INSSE data

According to the table above, except for 2007, there was a general increase in the number of accommodation units in the analysed period. But when it comes to each type of accommodation unit, it needs to be noted that there was both increase and decrease. Thus, the increase in the number of holiday village accommodation units was 50% in 2007 and 2008 as compared to 2006, and 100% in 2009 and 2010. Other significant increases in the number of accommodation units were also recorded in the last two years for the following accommodation unit types: hostels (29.33% and 52%), urban tourist guesthouses (25.07% and 35.19%), rural tourist guesthouses (12.15% and 7.55%), hotels and motels (7.87% and 14.51%), tourist cabins (6.03% and 15.52%). However, in the same period there was a reduction in the number of the following accommodation unit types: tourist inns (-44.44% in 2009, and -55.56% in 2010), camping sites and cottages (-16.53% in 2009, and -17.36% in 2010), villas and bungalows (-2.69% in 2009, and -0.48% in 2010), preschool and student camps (-13.28% in 2009, and -28.13% in 2010).

Overall, however, there was a decrease of 0.34% in 2007 compared to 2006, while in the following years there was an increase stretching up to 10.87% (2010). Such an increase is, however, well below the one recorded by the EU member states that occupy the first five places according to this criterion (see table below).

**Table 2: The growth index of accommodation units as compared to 2006 (%)**

Place	Year 2007		Year 2008		Year 2009		Year 2010	
	Country	Indice	Country	Indice	Country	Indice	Country	Indice
<b>I</b>	Slovakia	30.93	Slovenia	39.75	Slovenia	41.44	Latvia	59.80
<b>II</b>	Slovenia	15.84	Slovakia	35.44	Slovakia	31.33	Slovenia	40.74
<b>III</b>	Croatia	10.23	Latvia	24.94	Bulgaria	22.02	Slovakia	26.82
<b>IV</b>	Bulgaria	9.44	Croatia	20.82	Croatia	27.08	Bulgaria	23.21
<b>V</b>	Spain	3.66	Bulgaria	15.40	United Kingdom	21.04	United Kingdom	20.67

Source: Results drawn by the authors from statistical data on the site: <http://www.epp.eurostat.ec.europa.eu>

The uneven tourism potential of Romanian regions determines the distribution of tourist accommodation units as follows:

**Table 3: Tourist accommodation units by region, in the period 2001-2010**

No. of units	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Region</b>	<b>3,266</b>	<b>3,338</b>	<b>3,569</b>	<b>3,900</b>	<b>4,226</b>	<b>4,710</b>	<b>4,694</b>	<b>4,884</b>	<b>5,079</b>	<b>5,222</b>
<b>1. NW</b>	322	342	368	427	480	543	554	585	645	658
<b>%</b>	<b>9.86</b>	<b>10.25</b>	<b>10.31</b>	<b>10.95</b>	<b>11.36</b>	<b>11.53</b>	<b>11.80</b>	<b>11.98</b>	<b>12.70</b>	<b>12.60</b>
<b>2. Centre</b>	744	791	842	914	993	1,223	1,209	1,268	1,207	1,188
<b>%</b>	<b>22.78</b>	<b>23.70</b>	<b>23.59</b>	<b>23.44</b>	<b>23.50</b>	<b>25.97</b>	<b>25.76</b>	<b>25.96</b>	<b>23.76</b>	<b>22.75</b>
<b>3. NE</b>	262	295	310	342	402	435	459	463	548	554
<b>%</b>	<b>8.02</b>	<b>8.84</b>	<b>8.69</b>	<b>8.77</b>	<b>9.51</b>	<b>9.24</b>	<b>9.78</b>	<b>9.48</b>	<b>10.79</b>	<b>10.61</b>
<b>4. SE</b>	1,047	1,014	1,081	1,152	1,228	1,278	1,247	1,258	1,311	1,385
<b>%</b>	<b>32.06</b>	<b>30.38</b>	<b>30.29</b>	<b>29.54</b>	<b>29.06</b>	<b>27.13</b>	<b>26.57</b>	<b>25.76</b>	<b>25.81</b>	<b>26.52</b>
<b>5. South</b>	336	344	365	394	409	433	426	449	457	472
<b>%</b>	<b>10.29</b>	<b>10.31</b>	<b>10.23</b>	<b>10.10</b>	<b>9.68</b>	<b>9.19</b>	<b>9.08</b>	<b>9.19</b>	<b>9.00</b>	<b>9.04</b>
<b>6. BI</b>	86	92	94	113	122	139	151	164	154	163
<b>%</b>	<b>2.63</b>	<b>2.76</b>	<b>2.63</b>	<b>2.90</b>	<b>2.89</b>	<b>2.95</b>	<b>3.22</b>	<b>3.36</b>	<b>3.03</b>	<b>3.12</b>
<b>7. SW</b>	164	158	183	189	227	250	259	255	283	305
<b>%</b>	<b>5.02</b>	<b>4.73</b>	<b>5.13</b>	<b>4.85</b>	<b>5.37</b>	<b>5.31</b>	<b>5.52</b>	<b>5.22</b>	<b>5.57</b>	<b>5.84</b>
<b>8. West</b>	305	302	326	369	365	409	389	442	474	497
<b>%</b>	<b>9.34</b>	<b>9.05</b>	<b>9.13</b>	<b>9.46</b>	<b>8.64</b>	<b>8.68</b>	<b>8.29</b>	<b>9.05</b>	<b>9.33</b>	<b>9.52</b>
<b>Total %</b>	<b>100.00</b>									

Legend: NW=North-West; NE=North-East; SE=South-East; BI=Bucharest-Ilfov; SW=South-West

Source: EUROSTAT, adapted by the authors

Most of the accommodation units are concentrated in three regions: north-east, centre and north-west (over 60% of the total in 2010). The Black Sea coast in the south-east region enables this region to have more than 26% of the tourism units in 2010. If we exclude the Bucharest-Ilfov region, whose surface is comparably lower than other regions, we notice that the lowest number of tourist accommodation structures is in the south-west Oltenia region. The limited tourist potential of the region accounts for a low percentage of accommodation structures of merely 5.84% out of the total.

The distribution of the number of accommodation places among the 8 regions of the country follows closely the ranking concerning the number of accommodation units. Thus, the largest number of places, over 43%, belongs to the south-east region; second place is occupied by the central region with over 13% in 2010, and third place by the north-west region with 8.37% in 2010. However, there was a change over time of the percentages of the different regions. For example, the Bucharest-Ilfov region has seen a significant increase, of more than twice the number of accommodation places, which meant moving from 3.33% in 2001 to 7.42% in 2010. The increased financial potential and attraction of the capital accounts largely for such an increase. Other obvious changes are found in the case of the South-

East region (from 47.66% in 2001 to 43.91% in 2010). For all the other regions the changes were below 1%.

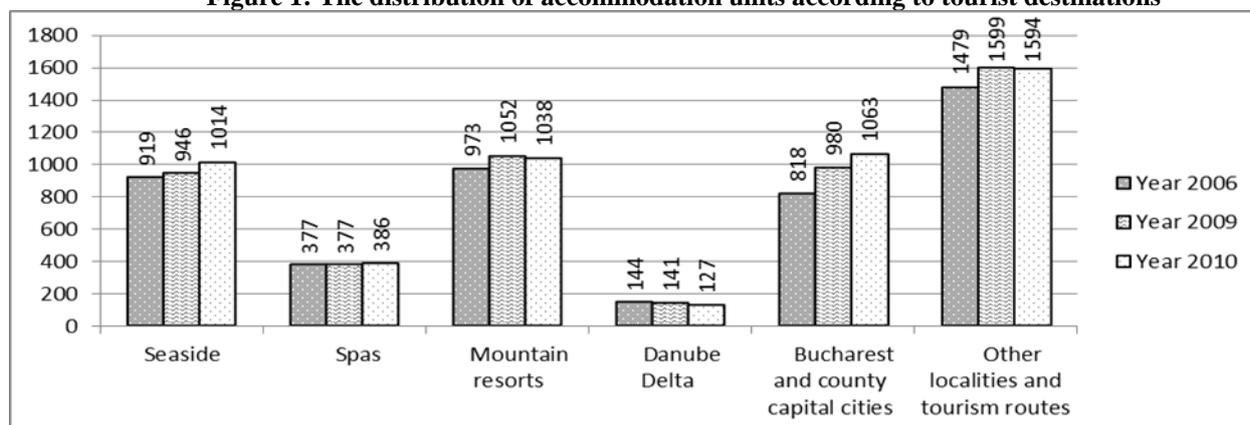
**Table 4: The distribution of accommodation places by region – Romania -%**

Region	Year 2001	Year 2002	Year 2003	Year 2004	Year 2005	Year 2006	Year 2007	Year 2008	Year 2009	Year 2010
North-West	9.09	9.01	8.89	8.91	9.19	9.34	9.45	9.00	9.19	8.37
Centre	12.51	12.41	11.97	12.45	12.72	12.89	12.47	13.36	12.67	13.48
North-East	6.13	6.34	6.57	6.23	6.61	6.61	6.49	6.45	6.96	6.83
South-East	47.66	47.73	47.87	47.42	46.95	46.86	46.85	45.09	44.36	43.91
South-Muntenia	7.70	7.87	7.94	8.15	7.87	7.25	7.32	7.30	7.11	7.26
Bucharest-Ilfov	3.33	3.79	3.66	4.16	3.96	4.43	4.85	6.44	6.73	7.42
South-West Oltenia	5.53	5.45	5.52	5.05	5.18	5.16	5.36	5.09	5.39	5.26
West	8.05	7.41	7.57	7.63	7.52	7.46	7.21	7.27	7.59	7.46
<b>Total</b>	100	100	100	100	100	100	100	100	100	100

Source: Results drawn by the authors from the statistical data on the site: <http://www.epp.eurostat.ec.europa.eu>

According to the tourist destination, the accommodation offer is as follows:

**Figure 1: The distribution of accommodation units according to tourist destinations**



Source: The graph was made by the authors from statistical data available in Romania's statistical summary in tourism in the years 2006, 2009, 2010

The statistics have led to these conclusions: in 2010 as opposed to 2006, there were significant increases in the number of accommodation units, of more than 10%, in the following regions: Bucharest and county capitals (+29.95%) and the Black Sea coast (+10.34%). For the other tourist regions, the growth was below 10%: other cities and tourist areas (+7.77%), mountainous regions (+6.81%), resorts (+2.38%). At the same time, some tourist regions recorded a decrease in accommodation units. This situation refers to the Danube Delta, where the reduction was -11.81%.

## 2.2. Accommodation options

Most tourists with stays in our country preferred to be accommodated in hotels and motels (80% of all tourists opted for this type of accommodation units in the period 2006-2010) and the fewest chose holiday villages and inns (between 0.02 % - 0.04%). The same preference for hotels can be encountered at the general level of the EU. In Romania, after hotels and motels, tourists chose villas, as well as urban and rural guesthouses.

When referring to the preferred level of comfort, Romanian tourists generally opted for lower category accommodation units (most for two-star hotels, followed by one-star hotels) due to their hotel rates which were within an affordable range for Romanian tourists. On the other hand, foreign tourists preferred higher category accommodation units (four-, five-, or three-star hotels).

### 2.3. Number of tourists, overnight stays and average length of stay

The overall number of tourists decreased from 7,125 thousand in 2008 to 6,073 thousand in 2010. Also, the number of Romanian tourists was 4,726 thousand in 2010, down about 17% compared to 2008 and lower than 2009 (4,866 thousand, i.e. 85.99% by comparison to 2008). The decline in domestic tourism is partly explained by the disappearance of subsidies and holiday vouchers that used to be provided by state institutions and Romanian companies to their employees who spent their holidays in the country.

If in the case of Romanians there is a downward tendency both in absolute and in relative size, the number of foreign tourists decreased only in 2009 (from 1,466 thousand in 2008 to 1,275 thousand in 2009), but in the next year it increased to 1,346 thousand. However, the number of foreign tourists in 2010 compared to 2008 is below 100%.

In 2008-2010, the largest percentage of tourists comes from Romania. Although Romania's tourist potential is comparable to other European countries that have more significant achievements in tourism, the lack of adequate infrastructure facilities for practising tourism is what still keeps away potential foreign tourists. Romania failed to attract a greater number of foreign tourists because of its weaknesses in this domain, as it results from the statistics below. The 17.24% share of foreign tourist overnight stays in 2010 was the lowest in the EU. At EU27 level, in 2011, the share of foreign tourists in the total of nights spent in hotels was 47%, placing our country on the last place, while the leader is Europe was Malta with 96%. The overall number of nights spent in hotels and other accommodation structures was 17.3 million in 2011, of which 3 million by non-residents, and 14.3 million by Romanian tourists.

**Tabel 6: Number of tourists, overnight stays, and average length of stay**

Indicators	2008	2009	2009 vs 2008	2010	2010 vs 2008
<b>No. of tourists – Romanians - x1000</b>	5,659	4,866	85.99	4,726	83.51
<b>No. of tourist's overnight stays – Romanians (x1000)</b>	17,367	14,658	84.40	13,284	76.49
<b>% from total tourist's overnight stay</b>	83.79	84.60	-	82.76	-
<b>No. of tourists – foreigners - x1000</b>	1,466	1,275	86.97	1,346	91.81
<b>No. of tourist's overnight stays – foreigners (x1000)</b>	3,359	2,668	79.43	2,767	82.38
<b>% from total tourist's overnight stay</b>	16.21	15.40	-	17.24	-
<b>Total numbers of tourists – x1000</b>	7,125	6,141	86.19	6,073	85.24
<b>Total no. of tourist's overnight stays - x1000</b>	20,726	17,326	83.60	16,051	77.44
<b>Average travel duration for Romanians (days)</b>	3.07	3.01	0.98	2.81	0.92
<b>Average travel duration for foreigners (days)</b>	2.29	2.09	0.91	2.06	0/90
<b>Average travel duration – no of days</b>	2.91	2.82	0.97	2.64	0.91

Source: Results drawn from statistical data from Romania's statistical summary in tourism in the years 2009, 2010

A further decrease is found concerning the average length of stay for both Romanian tourists (from 3.07 days in 2008 to 2.81 days in 2010, i.e. -8%) and foreign tourists (from 2.29 days in 2008 to 2.06 days in 2010, i.e. -10%). The austerity measures determined by the current economic and financial situation at a national and international level also influenced the average length of stay of Romanian and foreign tourists. The family budget for domestic and foreign holidays was heavily influenced. Under these circumstances, the length of stay was also reduced.

The net accommodation use index was generally below 30% in the last three years. The highest numbers were in the case of accommodation on ships (68% in 2009 and over 73% in 2010), followed by hotels (33.5% in 2009 and 29.9% in 2010, 3.6% less than the previous year). According to category, the highest hotel use index was in the case of two-star hotels.

Both in 2009 and in 2010, most foreign tourists came from the EU, with high numbers from countries such as Germany, Italy, France, Hungary and the U.K. EU countries are then followed by Asian countries (Israel) and North America (the U.S.A.).

The preferences of foreign tourists who chose to visit Romania through travel agencies in 2011 have turned to the following:

1. Cultural tours (especially to UNESCO sites), which attracted tourists from Germany, Austria, France, Spain, the U.K., Italy, as well as from eastern markets: Poland, the Czech Republic, Moldavia, Russia, Ukraine.
2. Health tourism, which managed to attract tourists from Germany, France, Israel;

3. The Danube Delta, very interesting tourist destination for tourists from Germany, Italy, France, Hungary;
4. Black Sea cruises: most tourists from Germany, Austria and the U.S.A.;
5. City-break tourism: Bucharest is especially preferred by young people due to the important shows and events hosted by the capital in 2011. The demand is limited, however, because of the extremely high prices of Romanian city-break packages as opposed to the E.U.;
6. The Black Sea coast: most tourists come from Germany, France, Italy, Ukraine, Russia, Belarus, Moldavia. ([http://anat.ro/presa/retrospectiva\\_anului\\_2011.html](http://anat.ro/presa/retrospectiva_anului_2011.html))

#### **2.4. Tendencies in domestic tourism**

According to Eurostat, Romania was, in 2010, first in terms of the percentage of tourists who opted for domestic tourism (94% vs. 6% for foreign tourism). Our country was followed closely by countries such as Estonia (92%), Bulgaria and Greece (91%), and Portugal (90%). At the other extreme are countries such as Luxemburg (with more than 1%), Belgium (24%), and the Netherlands (47%). On average, 77% of Europeans have opted for domestic tourism, and only 23% for foreign tourism.

According to the same source, in 2010 there were 10,484 thousand domestic trips, and 679 thousand foreign trips. With the current financial and economic crisis, most Romanians opted for short trips of 1-3 nights (60%) and less for longer domestic trips, over 4 nights. In the case of Romanian tourists who went abroad on holiday, only few chose short trips, while most preferred longer foreign stays.

In terms of domestic destinations, the sea coast still ranked first in the last three years. The Danube Delta and hot springs resort tourism destinations have seen an upward trend, as tourists are starting to show more interest for hot springs resort packages including cures and treatments, at the expense of seaside packages, which offer less attractive services.

#### **2.5. Tourism through travel agencies**

Tourism through tour-operators and travel agencies has also suffered. In the case of incoming tourism, there was a 13.4% increase in the total number of foreign tourists visiting Romania, in 2009 as opposed to the previous year. In the following year, however, travel agencies have not managed to attract a greater number of foreign tourists to visit our country. Compared to 2008, the percentage of foreign tourists visiting the country was only 51.28%. If we consider in more detail the foreign tourists who used the services of travel agencies, we notice a 15.87% increase in the number of foreign tourists brought by tour operators in 2009, as compared to 2008. At the same time, we are witnessing a sharp decrease of 72.84% in the number of those brought by selling travel agencies. The year 2010 recorded a decrease in foreign tourists both for tour operators (52.53%) and for selling travel agencies (29.36%). The overall fall of the number of foreign tourists is rather significant, but it can be accounted for by the economic and financial crisis. Most European and other tourists opted for domestic trips instead of foreign travel.

There is an on-going drop in the number of Romanian tourists going abroad through travel agencies. Thus, as opposed to 2008, in 2009 the number of Romanians who took international trips through travel agencies fell by 37.39% reaching 463,175 people, so that in 2010, as compared to the same reference year, 2008, their number fell by 55.96%, i.e. at 325,845 tourists. It is important to note, however, that in the same period there was an increase of about 4 times, and respectively 2 times for the following year, in the number of Romanians who made use of foreign services offered by selling travel agencies. Nevertheless, this increase failed to compensate for the drop in the number of Romanians who purchased foreign trips through tour operators, so that, overall, the number of Romanian tourists who went on holiday abroad decreased.

**Table 7: The number of tourists purchasing trips through travel agencies**

Indicators	Incoming activity					Activity of domestic tourism					Outgoing activity				
	2008	2009	Indice	2010	Indice	2008	2009	Indice	2010	Indice	2008	2009	Indice	2010	Indice
No. of tourists through tour operator agencies	148663	172260	115,87%	78099	52,53	416541	129990	31,21	113841	27,33	712031	334001	46,91	269172	37,80
No. of tourists through agencies with sale activity	8526	6210	72,84	2503	29,36	21103	98076	464,75	49584	234,96	27774	129174	465,09	56673	204,05
<b>Total</b>	<b>157189</b>	<b>178470</b>	<b>113,54</b>	<b>80602</b>	<b>51,28</b>	<b>437644</b>	<b>228066</b>	<b>52,11</b>	<b>163425</b>	<b>37,342</b>	<b>739805</b>	<b>463175</b>	<b>62,61</b>	<b>325845</b>	<b>44,04</b>

Source: Romania's statistical summary in tourism in 2010 and 2011, adapted by the authors

Domestic tourism through travel agencies experienced the same negative trend in both 2009 and 2010. The number of Romanians who opted for domestic trips through travel agencies fell to 52.11% in 2009, and to 37.34% in 2010. The tendency noted in the case of Romanian tourists going abroad is also present in the case of Romanians who opted for domestic tourism. Thus, the number of Romanians who purchased domestic trips through selling travel agencies increased over 4.6 times in 2009, and respectively over 2.3 times in 2010. The increase did not compensate, however, for the drop in the number of Romanians who used the services of tour operators. As a result, we are witnessing an overall drop in the number of Romanian tourists who practised domestic tourism from 437,644 to 228,066 people in 2009, and to 163,425 people in 2010.

Most Romanian tourists who purchased trips from travel agencies have chosen to go to the sea coast. The first three options of tourists who used the services of tour operators were as follows, in order: the Black Sea coast, the mountains, and other tourist regions. One needs to note, however, the increased interest of Romanian tourists for hot springs resorts, from 0% in 2008 to 10.17% in 2009, and to 11.82% in 2010. Meanwhile, the number of Romanians who spent holidays at the seaside or in the mountains dropped, even if they remained their top choices. The situation is slightly different in the case of selling travel agencies. Thus, in 2008, the majority of Romanian tourists who used their services chose the mountains, followed in descending order by the Black Sea and other regions. In later years, first in their preferences was in the Black Sea. The next place was held by hot springs spas and mountain resorts. The two last areas exchanged 2<sup>nd</sup> and 3<sup>rd</sup> place in 2009 and 2010.

**Table 8: Romanian tourists practising domestic tourism, by tourist areas**

Tourist areas	Tour operator agencies						Agencies with sale activity					
	2008	%	2009	%	2010	%	2008	%	2009	%	2010	%
<b>Seaside area</b>	250472	60.13	65076	50.06	49865	43.80	7237	34.29	61354	62.56	30895	62.31
<b>River cruises</b>	440	0.11	100	0.08	137	0.12	0	0	64	0.07	10	0.02
<b>Maritime cruises</b>	363	0.09	63	0.05	40	0.04	0	0	104	0.11	4	0.01
<b>The Danube Delta</b>	4449	1.07	1958	1.51	2160	1.90	120	0.57	1179	1.20	1045	2.11
<b>Cultural tourism</b>	14414	3.46	3319	2.55	3909	3.43	0	0	1900	1.94	236	0.48
<b>Religious pilgrimage</b>	4732	1.14	861	0.66	1858	1.63	354	1.68	694	0.71	692	1.40
<b>Mountain area</b>	105921	25.43	31250	24.04	25233	22.17	8892	42.14	14431	14.71	8745	17.64
<b>Spa area</b>	0	0.00	13219	10.17	13457	11.82	0	0	16019	16.33	4887	9.86
<b>Other areas</b>	35750	8.58	14144	10.88	17182	15.09	4500	21.32	2331	2.38	3070	6.19
<b>Total</b>	<b>416541</b>	<b>100</b>	<b>129990</b>	<b>100</b>	<b>113841</b>	<b>100</b>	<b>21103</b>	<b>100</b>	<b>98076</b>	<b>100</b>	<b>49584</b>	<b>100</b>

Source: Romania's statistical summary in tourism in 2010 and 2011, adapted by the authors

Although the economic and financial crisis has affected the number of Romanians who opted for trips abroad, it is noteworthy that there was no change in the order of their foreign destination preferences. In the following years as well, most chose their tourist destinations among European countries, especially EU members. The 2<sup>nd</sup> place is held by African tourist destinations, and the 3<sup>rd</sup> by Asian tourist destinations. The table below is relevant in this respect.

**Table 9: Romanian tourists practising foreign tourism**

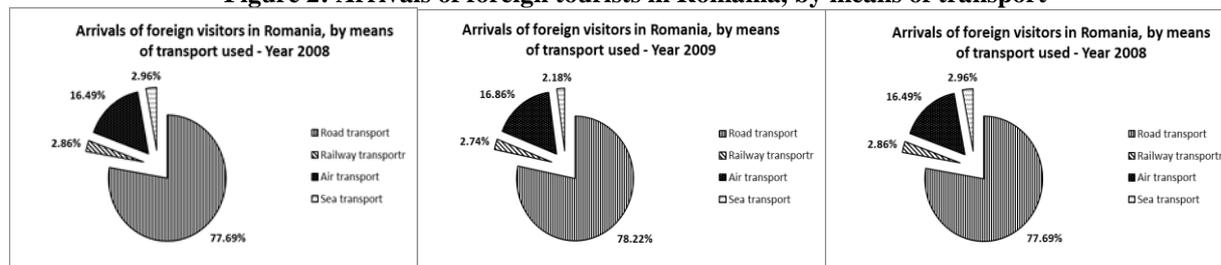
Tourist areas	Tour operator agencies						Agencies with sale activity					
	2008	%	2009	%	2010	%	2008	%	2009	%	2010	%
<b>Europe</b>	535345	88.75	267855	89.72	214425	83.36	18824	94.39	75085	91.87	49662	91.88
<b>E.U.</b>	380549	63.09	185958	62.29	143402	55.75	14811	74.27	46605	57.02	40086	74.16
<b>Africa</b>	43804	7.26	27254	9.13	36507	14.19	958	4.80	4033	4.93	2237	4.14
<b>North of America</b>	4829	0.80	820	0.27	839	0.33	48	0.24	306	0.37	218	0.40
<b>Central and South America</b>	7006	1.16	206	0.07	48	0.02	0	0	178	0.22	336	0.62
<b>Asia</b>	11942	1.98	2291	0.77	5238	2.04	112	0.56	1677	2.05	1582	2.93
<b>Australia, Oceania and other territories</b>	244	0.04	0	0	100	0.04	0	0	386	0.47	0	0
<b>Countries not specified</b>	28	0	114	0.04	78	0.03	0	0	64	0.08	16	0.03
<b>Total</b>	603198	100	298540	100	257235	100	19942	100	81729	100	54051	100

Source: Romania’s statistical summary in tourism in 2010 and 2011, adapted by the authors

**2.6. Means of transport used by tourists in and from Romania**

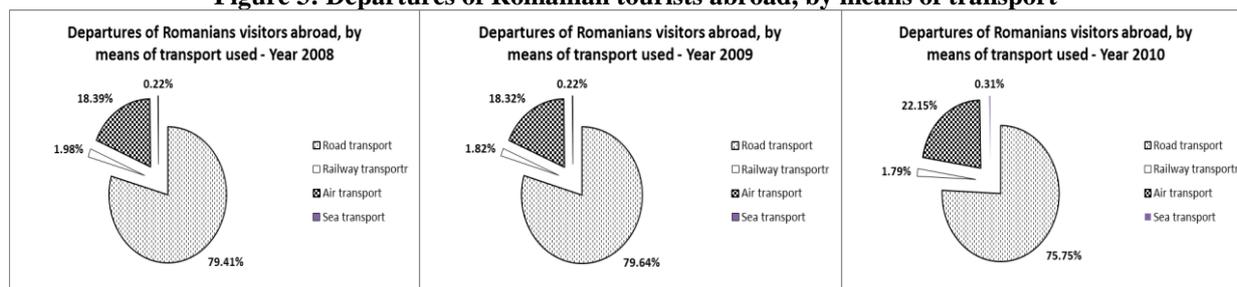
As shown in graph no. 2, most foreign tourists arrive in and leave Romania by land (about 80%), and most of them choose road transportation (over 77%). Another significant part of foreign tourists and foreign use air travel (over 16%). The same preferences apply to Romanian tourists who practise foreign tourism (graph no. 3). Overall, over 75% choose road transportation to travel abroad, as they consider it the safest and most financially attractive, and a percentage between 18% - 22% choose air travel. In addition, the same preferences for means of transport are applicable in case of Romanian tourists who practise domestic tourism.

**Figure 2: Arrivals of foreign tourists in Romania, by means of transport**



Source: graph and data drawn by the authors from Romania’s statistical summary in tourism in 2011

**Figure 3: Departures of Romanian tourists abroad, by means of transport**



Source: graph and data drawn by the authors from Romania’s statistical summary in tourism in 2011

**2.7. The tourist demand of Romanian residents**

The tourist demand of Romanian residents has seen a drop both in the overall number of tourists (from over 1,128 thousand in 2009 to over 1,076 thousand in 2010), and in the total number of overnight

stays. Most tourists chose vacations trips, which most often represented visits to friends and relatives. At the other extreme were business and other work-related trips.

The average trip was between 1-3 nights or 4-7 nights. Most travellers organized their trips on their own, while far fewer trips were organized by travel agencies, working unions, the Ministry of Labour, Family and Social Security, pension agencies, professional, cultural and religious associations, etc.

The demand for business travel abroad was mostly for the European area. Holiday travel prevailed in the European countries to which most of the relatives of the Romanians working abroad turned their attention. The habitual tourist destinations of Romanians, namely Turkey, Greece, Spain, Austria, Bulgaria, have not changed. The demand for travel in Europe for both holidays and business was accompanied, in 2009, by such destinations as America (especially the U.S., Canada, Mexico) and Africa (especially Egypt and Tunisia) and Australia, Oceania and other regions (in 2010).

### **2.8. Average tourist expenditure**

According to Eurostat, and in 2010, that average expenditure of the Romanian tourist for travel was 91 euros. For domestic travel Romanian tourists had to pay on average 70 euros and for foreign travel 411 euros. From this point of view, Romania ranked last among the EU countries. At EU level, the average tourist expenditure was 350 euros overall, 234 euros for domestic trips and 737 euros for foreign travel.

The average cost for an overnight stay was 21 euros for Romanian tourists, approx. 11 times less than for tourists from Luxemburg. For domestic travel, one night cost them 19 euros, while for foreign travel they paid the double, i.e. 38 euros.

If we refer to the EU, the highest tourist expenditure is in Luxembourg. The tourists from this country spent on average 1,700 euros for a trip, while one night cost 245 euros.

### **3. Causes for the current situation in Romanian tourism**

The current situation of Romanian tourism stems from a number of factors. It is determined not only by the economic and financial crisis, but also by the precarious state of Romanian tourism before 2008. There is a series of weaknesses of Romanian tourism which have not been corrected to this day, although authorities have made efforts during this period:

- a. The biggest deficiency of tourism in Romania is the lack of appropriate infrastructure facilities (both those which are specific to tourism and, especially, transport facilities). As concerns accommodation infrastructure, the most predominant are lower category, one- or two-star hotels. Here one should note the existence of unauthorised and rather chaotic buildings around tourist sites, as well as some overcrowded resorts. As for transport infrastructure, Romania is well below European standards. Roads are extremely poor in most of the country, the railway infrastructure is obsolete, and the air travel infrastructure does not meet European standards;
- b. Also, another significant shortcoming is the unbalanced relation between the quality of tourist services and the price levels. The latter do not meet tourist expectations in most cases, which is why many foreign tourists avoid our country;
- c. The lack and poor training of the workforce in the tourism industry is another weakness of Romanian tourism. We must also note workforce fluctuation, given the seasonal character of the activity;
- d. The lack of a diversified range of tourism-related services;
- e. The lack of environmental education of the population. There are many tourist regions in the country with an extremely high level of visible pollution. One cause is the poor management of communities in general, and especially of tourist sites.
- f. The indifference manifested many times by local authorities towards stimulating and developing this sector of activity;
- g. The partial lack of practical strategies for developing attractive tourist regions;
- h. The high number and amount of taxes paid in tourism, which raise the costs of tourism services even higher than in EU countries, and which imply higher prices overall;
- i. etc.

All these causes must be analysed in detail before establishing the measures that can contribute to stimulating and developing the tourism industry in Romania.

#### 4. Conclusions

Our paper tried to make an overview of Romanian tourism after 2008. The main conclusions that can be drawn from the study are as follows:

There have been made some improvements in the accommodation base, although some problems still remain in the tourism infrastructure, which take time to be solved properly. At the same time, we are witnessing stagnation in improving the transport infrastructure;

There was a reduction in the number of Romanian tourists who used domestic and international tourism services;

There was a reduction in the number of foreign tourists who visited Romania;

The average length of stay became shorter for both Romanians and foreign tourists;

The main accommodation types used by Romanian and foreign tourists were hotels and motels;

The net use index of accommodation was below 30%;

Few Romanian tourists used the services of travel agencies for travel, as most of them chose to practise domestic tourism on their own;

The main means of transport continued to be by road, although the country's road infrastructure is mostly inadequate for practising tourism;

The average tourist expenditure was well below the EU average;

There is increased interest of tourists for hot springs spas at the expense of the Black Sea coast and mountain regions;

The preferences of Romanian tourists who have made trips abroad are unchanged: the European, African and Asian destinations are already considered traditional for Romanians;

Most foreign tourists who visited Romania came from the EU, Asia and North America.

We believe that a series of measures are necessary in order to achieve future developments in the Romanian travel industry. Investments need to still be made in tourist and transport infrastructure; local authorities need to be involved actively in stimulating tourism; the taxes paid in tourism need to be reduced so as to determine a reduction in prices for tourist services; the quality of tourist services needs to be improved; one needs to ensure proper training of the workforce who could thus offer tourist services that meet tourist needs; resorts and tourist regions need to be reorganised following successful examples in Europe.

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## THE KNOWLEDGE SOCIETY AND THE INFORMATION SOCIETY. THE CURRENT SITUATION IN ROMANIA

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**Abstract:** *Currently, human societies are experiencing a new type of economy: the knowledge economy which is founded on a knowledge society. The main driver of social and economic growth is knowledge itself. The new economy requires a rethinking of the production theory in that traditional factors change into secondary factors, while knowledge becomes the main, essential, production factor. An information society is a prerequisite stage towards a knowledge society; hence it needs to be implemented first. Our paper aims to present the main aspects of a knowledge society, as well as the current situation of our country regarding the implementation of the information society in the background of economic recession. The statistical data shows that the information society in Romania generally experienced a positive evolution.*

**Key words:** knowledge society, knowledge, information society

**JEL classification:** D 80, D 83, I 25, O 31

### 1. Introduction

We are experiencing profound changes in the present-day society. We are witnessing a new, global transformation of the economy, into one where knowledge becomes the main driver of economic and social growth. Knowledge is not limited any more. It spreads with remarkable speed beyond the boundaries of states, owing mainly to electronic means. Knowledge is essential in ensuring sustainable development, and in the progress to what is called the conscience society. Intangibles are prevailing more than ever before. The strength of a company is not measured any more by the value of its tangibles, but rather by what, although physically unreachable, "becomes tangible due to the sharp sound of cash machines" (Ridderstråle & Nordström, 2007). Intangible assets are the main sources of income and expenses (Holt, 2010), as they represent key factors in the profitability and success of any company (Anghel, 2008). The new organisational trend is the orientation of companies towards immaterial capital. Production and services are activities that will gradually change their position in companies. If the main activity of companies used to be production, while services were merely an auxiliary activity, in time services will overtake production. Companies will turn from production companies with some services into service companies with some production (Ridderstråle & Nordström, 2007). In such a society, just as Professor Quash from the London School of Economics used to say, ideas start to value billions, while goods cost increasingly less. The information society will play a key role in the development towards a knowledge-based society.

The transition to a knowledge society means a deep restructuring of the society, whose functioning depends on information. It involves establishing a communication process in which the density and quality of the communication channels are crucial factors in the functioning of the information society (Glodeanu, 2003).

### 2. On the knowledge society and its characteristics

The term of knowledge society is not new; it dates back to D. Bell's theory of post-industrial societies. But the concept has become more popular in the '90s, especially in the U.S., due to the works of P. Drucker.

The knowledge-based society, as a global phenomenon (Andersson et al., 2010), is a new type of economy that everybody aims to achieve, and in which the primary role belongs, of course, to innovation. It is also an intermediary period between the information society and the conscience society (Drăgănescu, 2002). A number of specialists give a touch of science fiction to the concept of knowledge society by their view that in the future human intelligence could be subordinated to artificial intelligence. The so-called conscience society will be based on relationships between natural human intelligence and artificial intelligence, in the shape of new, intelligent, conscious, neobiological species – the so-called “robo sapiens” (Filip, 2002). This will determine the evolution from the “homo sapiens” to the “robo sapiens”. In such a view, the forecast is rather gloomy for man. But are we still in the realm of the possible? And how far away are we really from this scenario? We can only wait and see, together with the future generations. The future will be the only one to test such a theory, which is apparently incomprehensible to many of us. And yet, at least theoretically, it cannot be rejected.

It is needless to say that man has always based his activity on knowledge. And then the following question naturally occurs: why call the new society knowledge-based society, while society has been a result of knowledge during all its development stages? We could answer along the following lines: “In an extended view, society has always been a knowledge society, but in such a society man has sought new knowledge which would enable him to merely exploit mother nature. The true knowledge society – as an expression of the global society – tries to balance the needs of human nature, always growing and more diverse, with the regeneration needs of nature. As such, it suggests ways of development by the consumption of inexhaustible resources, starting with the resource represented by human intelligence, knowledge, propensity for innovation, entrepreneurial ability, creative associativity etc. When society arrives at the stage when it produces especially knowledge and consumes mainly knowledge, it thus becomes a knowledge society” (Dinu, 2008). Knowledge will be the new battleground for countries, corporations, and people (Ridderstråle & Nordström, 2007).

Until recently tangibles alone used to be viewed as adding value. In a knowledge-based society, it is intangibles that count increasingly in creating value and in shaping the profile of economic agents. Information means power, “hard currency” (Ridderstråle & Nordström, 2007).

If before we used to talk about the demand and supply of goods and services, from now on we will talk mainly about the demand and supply of cognitive products.

Society has evolved from the pre-agriculture society, to the agriculture society, industrial society, information society, and now the knowledge society (Goede, 2011). The last one is an economy where knowledge is acquired, created, disseminated and used effectively to enhance economic development (Chen & Dahlman, 2006). Knowledge society is defined as a vast growth of services and intangibles, wide diffusion of information and communication technologies, a more intensive use of knowledge and therefore more attention devoted to education and the quality of human resources and last, but definitely not the least important, innovation (Bučar, 2004).

But the knowledge society is the result of the development of the information society. The main tools (vectors) that enable the change of the information society into the knowledge society are grouped into two broad categories: technological instruments and functional instruments (Filip, 2002).

**Table 1: The main vectors of a knowledge-based society**

<b>Technological vectors</b>	<b>Functional vectors</b>
• Internet	• knowledge management for economic agents
• e-book technology	• management of ethical use of knowledge worldwide
• intelligent agents (expert systems endowed with artificial intelligence)	• biological and genomic knowledge
• an intelligent use of the environment by man for his activity and life	• a health-care system at social and individual level
• nanotechnology and nanoelectronics	• protecting the environment and ensuring a sustainable society
	• deeper knowledge about existence
	• generating new technological knowledge
	• developing a knowledge and innovation culture
	• developing the e-learning system

According to P. Drucker, reaching such a model of society presupposes passing through three major revolutions, in which knowledge played dissimilar roles:

1. the industrial revolution (1750-1880), as a result of which scientific knowledge was used by companies to produce tools and products;
2. the production revolution (1880-1956), as a result of which companies used knowledge to improve operations;
3. the management revolution (after 1956), which allowed companies to use knowledge in order to improve knowledge. It is estimated that 90% of the scientists of all times time are living in our days (Ridderstråle & Nordström, 2007).

The knowledge society does not suppose neglecting “traditional” economic activities. It does not exclude agriculture and industry either. It only re-organises them, and new top industries emerge around the production and use of knowledge (Glodeanu, 2003). Work and activities in agriculture and industry are altered with the use of technology, information and communications. However, the only thing that prevails is knowledge, which is multiplied and reaches all types of consumers (the population, economic agents, institutions etc.) with an incredible speed.

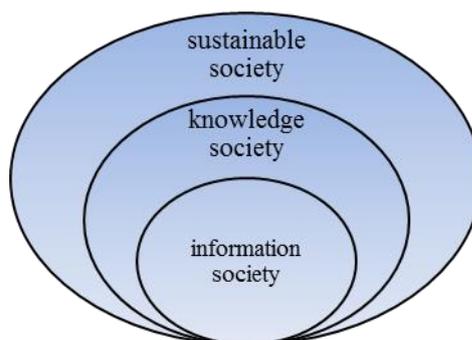
To get a more complete picture of knowledge society, it is still necessary to present its main characteristics. I. Glodeanu lists in his book “*Actorii sociali ai promovării tehnologiei, informației și comunicărilor*” (“*The social actors promoting technology, information and communications*”) some of them (Glodeanu, 2003), namely:

1. using knowledge as main resource;
2. the predominance of intellectual processes referring to producing knowledge, obtaining, processing, disseminating and using information, as well as to management processes as productive processes within the new economy;
3. using IT and cognitive technologies;
4. establishing teachers, researchers, IT specialists, managers as the main social groups also referred to as the intellectual elite.
5. establishing universities and research institutes as main institutions;
6. the existence of a global economy – the economy within the knowledge society;
7. the predominance of informal communities;
8. the establishment of cognitive products, programmes, licences, patents, theories, concepts, methods, procedures as society’s main products;
9. the division of the economy in 5 sectors:
  - a) sector I – the exploitation of natural resources;
  - b) sector II consisting of two subsectors: the classic industry and the electrical and automation industry;
  - c) sector III – services with a productive outcome in: transport, commerce and banks;
  - d) sector IV – social services: healthcare, social insurance, art, etc.;
  - e) sector V – IT services: research, innovation, education, selecting, processing and distributing information, management, media, etc.

Sector IV and V, as well as the electrical and automation industry subsector, will represent the main sectors within the knowledge economy.

The present society, also referred to as the informational society, constitutes a stage in the formation of a knowledge-based society without which a durable society cannot be developed. Thus, an ecologically sustainable society cannot exist without a knowledge society. In the absence of scientific and technological knowledge and their management, obtaining goods, structures, economic and technologic changes, so necessary to save mankind from its doom in the 21st century, will be impossible. Finding a different option for sustainability, outside the knowledge society, will be quite challenging – asserted M. Drăgănescu in his work “*Societatea informațională și cunoașterii. Vectorii societății cunoașterii*” (“*The Informational Society of Knowledge. The Vectors of the Knowledge Society*”). The knowledge society may offer solutions in solving the problem of the ecologic disaster which might occur in the not so distant future (Iancu, 2009).

The connection between the three types of societies can be graphically represented as follows:

**Figure 1: The relation between the information society, knowledge society and the sustainable society**

### 3. Information society

Information society has a great impact on the economic, social, political, cultural environment etc., by way of creating, spreading and using information. The concept of information society was launched in The White Paper on Growth, Competitiveness and Employment, published by the European Commission in 1993. Its main role was to stress the importance of accelerating the development process in the infrastructure of the information society, in order to insure growth and competitiveness within Europe, as well as to create new markets and work places.

Up to now, a series of stages necessary to the implementation of the information society have been covered.

For Romania, the transition to this new type of society was one of the state's strategic objectives as well as a prerequisite of pre-accession in UE. Our country took part in elaborating the action plan eEurope+ and accepted together with the other member states, to share its input in the development of what is known as the European Information Society. This involves the existence of a well-developed Information and Communication Technology sector, spreading the Internet and developing e-commerce.

To implement the information society the following factors are necessary (<http://www.mdrt.ro/-documente/info-integrare/romania-si-viit-europei/informatizare.html>):

- the existence of a communication infrastructure;
- new skills requiring people's active involvement in this digital era;
- a new behaviour.

The Official Gazette of Romania 276/2010 published the National Strategy e-Romania 2010-2013, by way of which the Ministry of Communications and Information Society (MCIS) has established a national strategy to guide, as soon as possible, the entire public sector towards information society and thereon towards the knowledge society. The main instrument of action is the e-Governance system. By means of it, every citizen, every business or each government user has the opportunity to become informed, to access public services online to solve administrative problems in the fastest and most favourable way. An important means of implementing e-government strategy is the e-Romania portal which includes several areas of interest.

The knowledge society has a significant impact on competitiveness, on the rapid development of communications and IT technologies and on the liberalization of telecom markets. By way of The Lisbon Strategy, European authorities have increased awareness over the need for a common vision for the modernization of society and for developing the economic competitiveness within the entire union. To achieve the Lisbon objectives, one of the main tools was the development of knowledge economy by promoting the information and communications sector. In this respect, increased use of broadband communications services is a major objective. This is acknowledged by the Government Development Strategy of Broadband Electronic Communications in Romania for the period 2009-2015. The main services, such measurable benefits, are those related to: i) easy and fast search of information, ii) the increase of quality and efficiency of the educational system, iii) the development of labour market opportunities, iv) the improved management of companies; v) creating new opportunities in the cultural and entertainment environment vi) improving quality of life in rural areas; vii) implementation of telemedical solutions.

#### 4. Brief presentation of the Information Society in Romania

The main feature of the information society is the explosive growth of digital information available through the tools of information and communications technology. In practice, the Internet plays a major role in searching and spreading information. According to Eurostat data, in the first quarter of 2011, 80% of E.U. Internet users have turned to this source to obtain information about goods and services for personal use, 56% to access online news, 54% searched for information on travel and accommodation, 54% accessed health-related information, and 40% looked for information on education, training and course offers.

Returning to Romania, in 2006, only 2.3% of our co-nationals used the Internet for professional training and education, as opposed to Finland where their number reached 23.9%.

Romanian households are still poorly equipped with PCs. According to a research report published by "The Gallup Organization Romania", in the months of March-April 2010, in 48% of all households there was no computer, and in 40% there was a desktop PC. Desktops are present especially in households where the average income per person is above 800 RON. The percentage of the households equipped with a computer is 49% in urban areas, while in rural areas it only reaches a sheer 29%.

**Table 2: The number of Romanian households with Internet access**

Indicators	Year 2006	Year 2007	Year 2008	Year 2009	Year 2010	Year 2011
<b>1. Percentage of households with Internet access (%)</b>	14	22	30	38	42	47
<b>1.1. Deviation in percentage from EU27 average</b>	-35	-32	-30	-27	-38	-25
<b>1.2. Deviation from Sweden (ranked first in the EU)</b>	-63	-57	-64	-48	-46	-44
<b>1.3. Deviation from Bulgaria (ranked last in the EU)</b>	-3	3	5	8	9	2
<b>2. Percentage of households with broadband Internet access (%) – ranked 27<sup>th</sup> in the EU</b>	5	8	13	24	23	31
<b>2.1. Deviation in percentage from EU27 average</b>	-25	-34	-36	-32	-38	-37
<b>2.2. Deviation from Sweden (ranked first in the EU)</b>	-46	-59	-58	-55	-60	-55

Source: calculations based on Eurostat data

According to the last census, the number of Internet users in Romania is 9.1 million (i.e. below 50%). As opposed to other countries, Romania is not doing well in terms of households with Internet connection. However, even if the percentage of Romanian households connected to the Internet is 25% behind the EU average, we still record some positive results during the period 2006-2011. The increase is more noteworthy if we compare 2006 and 2011, amounting to 33%. Romania's deviation from the EU average was thus reduced by about 10% in the last year, compared to 2006. But if we are to compare to Sweden, the leading EU member in this field, the difference is more significant, although it decreased over the period. The negative difference reached 44% in 2011, which meant 44% fewer households connected to the Internet in our country than in Sweden. As compared to Bulgaria, ranked the last in the EU in this regard, positive differences are quite small. For example, our country has 2% more households connected to the Internet compared to Bulgaria.

Expanding broadband networks is a vital condition for the knowledge society. Still, in Romania, the percentage of households with broadband Internet access is low, although it recorded annual increases leading to 31% in 2011. Here, Romania ranks last in the EU. The difference from the EU average reaches 37% in 2011, and 55% compared to Sweden, ranked first in this criterion.

**Table 3: The number of Internet users and of individuals who attended computer skills courses over the last three months - %**

Indicators	2006	2007	2008	2009	2010	2011
<b>1. Percentage of individuals who have used the Internet over the last 12 months (%) – last place in the EU</b>	25	28	32	37	40	44
<b>1.1. Deviation from EU27 average (%)</b>	-30	-32	-32	-30	-31	-29
<b>2. Percentage of individuals who attended computer skills courses over the last three months</b>	6	6	6	5	5	:
<b>2.1. Deviation from EU27 average (%)</b>	1	1	0	-1	:	:
<b>2.2. Deviation from Lithuania (first place in the EU) - %</b>	-4	-7	-6	7	-6	:
<b>2.3. Deviation from Croatia (last place in the EU)* - %</b>	:	4	4	2	3	:

Source: calculations based on Eurostat data

\* based on the lowest values over these years

We can notice an annual growth in the percentage of Internet users over the last 12 months from 25% in 2006 to 44% in 2011. The negative deviation from the EU average has not changed in a significant proportion. According to the percentage of people who attended a computer skills course over the last three months, Romania was generally 5% above the EU average.

The favourite place of Romanians to access the Internet is at home (42% according to the report of “The Gallup Organization Romania” in 2010), followed as secondary locations by work or school (16%). If we refer to how often Romanians access the Internet, we notice that this is another field where their position is not privileged at all. Only 40% of Internet users accessed the Internet over the last three months, as opposed to 71%, the EU27 average. 24% of individuals accessed it daily or almost daily, and 37% accessed it at least once a week. In this regard, Romania ranks last in the EU, whereas Sweden is the leader with the following figures: 93% of Internet users have accessed the Internet in the last three months, 80% daily or almost daily and 91% least once a week. In 2011, however, Romania is the first in the EU according to the share of its population who has never accessed the Internet (54%), while Sweden is at the other extreme with 5%.

The situation is no different regarding the percentage of firms connected to the Internet. Romania occupies the last place (79% in 2011, well below EU27 average, 95%).

Given that it enables people to purchase anytime and anywhere, e-commerce has become extremely popular in the EU. It also becomes easier for consumers to obtain information for a wide range of goods and services. While in 2011, 58% of Internet users in the EU purchased goods and services online, in Romania the percentage of this type of consumers was the lowest, reaching only 25%. According to the National Institute of Statistics, the share of the turnover of online selling firms was 28.3%, up 0.3% over the previous year. In 2010, e-commerce with online payment increased by 38% over the previous year, reaching a turnover of 127.8 million euros. Even if Romania is below the EU average in terms of e-commerce, this field was secluded from the crisis. Many companies have turned to the online environment, regarding it as an additional means to reach the customer. Its success can also be explained by the quick ability of Internet users to grasp the benefits of online commerce: speed, convenience, lower prices, and greater variety of goods (<http://www.economistul.ro/comert-electronic-navigand-in-ape-sigure-a4160/>). Romcard data shows that in 2011, e-commerce in Romania grew by 24% compared to 2010, as turnover reached 158.9 million euros.

E-government also places Romania last in the EU. According to Eurostat data, in 2009, only 6.3% of the population searched for information on the websites of public authorities (7% in 2010), and 41% of all firms on the market (50% in 2010). It appears that the interaction between citizens and government remains low both in the number of users as well as in the share of bilateral interactions. There are however significant differences between the number of particulars and legal persons who use the online services provided by the government. The main reason for the difference between the two categories of users (general public and firms) is that the available online services are mostly targeted at businesses.

If we turn to the percentage of companies that used e-learning applications for training, it recorded a number of 47% for 2009, which is this time above the 24% EU27 average. The following year, 2010, saw an increase of 1% of firms with e-learning applications.

The same source, Eurostat, points out that, of the 302.379 million euros registered at EU level and used for information technology, Romania spent only 1.521 million euros in 2010, approximately

0.5% of the total. The highest amount spent for this purpose was recorded in Germany, namely 65.364 million euros (21.62%).

In 2010, according to a study conducted by The Gallup Organization Romania, about 6 in 10 households are equipped with at least one fixed telephone line. As expected, the penetration rate of fixed telephone services is significantly higher in urban areas (72%) than in rural ones (47%). In late June 2011, the penetration rate of fixed telephony per 100 inhabitants was 22.8, and the total number of subscribers was 4.02 million. For legal persons the rate is significantly higher, approximately 94%.

According to the same source, mobile services have a higher coverage of the population, as compared to fixed telephony. 82% of Romanian households use such services. Just as with fixed telephony, the penetration rate of mobile services is significantly higher in urban areas (89%) than in rural ones (73%). 77% of Romanians aged 16 or more use a mobile phone. Mobile services are used in 95% of the companies and institutions in Romania. Their penetration rate is lower in public institutions (85%). In companies with turnover below 100,000 euros the rate is 94%, and in firms with turnover over 5 million euros it reaches 100%.

As for TV rebroadcast firms, 92% of Romanian households use their services, with a higher penetration rate in urban areas (95%) than in rural ones (88%).

## 5. Conclusions

The new society grants knowledge a prominent place among production factors. If until recently tangibles were the ones that were regarded as creating value and profit to companies, from now intangibles (which store tacit knowledge) will take over this role.

Romania has a lot to do in order to catch up with the other EU member states in all aspects of the information society. Nevertheless, one needs to note that, although the economic and financial crisis affected the whole world, including our country, the information society has continued its natural progress, as evidenced by statistics. Although Romania is below the EU average at several indicators characteristic of the information society, statistics show that in recent years, since the onset of the crisis, there was however an increase in the following aspects:

- number of Internet users;
- number of households with broadband Internet access;
- number of individuals who used the Internet in the last 12 months;
- number of firms using e-learning software applications;
- number of interactions between the citizens and the government;
- volume of e-commerce.

The penetration rates of fixed and mobile telephony are high enough in urban areas, and, at the same time, the share of households using TV rebroadcasting services is over 90%.

The growth of all these indicators proves that the information society manages to find sources of further development even in the background of an adverse economic environment. Furthermore, this may become a driver for economic development through the feedback it can provide.

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## FISCAL DISCIPLINE IN THE PIIGS COUNTRIES IN THE LIGHT OF THE NEW FISCAL TREATY. WOULD IT HAVE BEEN DIFFERENT?

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**Abstract:** *In this paper we analyze the fiscal discipline in the PIIGS countries during the last three decades using the Maastricht convergence criteria. We also explore the effects of the new rule established by the recent Fiscal Treaty on the fiscal positions of these countries. The analysis shows significant budgetary adjustments in the post-Maastricht period in all the PIIGS countries. By contrast, the public debts have been increasing even after the introduction of the 60% of GDP ceiling, except for Ireland. The 0.5% of GDP limit for the structural deficit would have led to significantly better fiscal positions if the rule would have been introduced ten years ago.*

**Key words:** Fiscal discipline, Fiscal rules, PIIGS, EMU

**JEL classification:** E 61, E 62, E 65, H 60

### 1. Introduction

Since the launch of the Economic and Monetary Union (EMU), the fiscal health and discipline was appreciated as an essential condition for the stability of the monetary union. In the Euro area the macroeconomic stabilization at national level can be achieved through the fiscal policy. The fiscal policy must assume its role as an instrument of macroeconomic adjustment, given the lack of national monetary policy and the rigidity of the other available instruments (the rigidity of the labour market, of the wages and the prices, the low business cycle synchronization).

The EMU was since the beginning a very challenging economic adventure, characterized by a common monetary policy, but without a fiscal union, making it difficult to identify clear-cut solutions to the problems faced nowadays. The creation of the monetary union in Europe has introduced an asymmetry in the level of monetary and fiscal governance. The main challenge is that monetary policy is given to a central supranational authority, which has the main goal to provide price stability in the medium term in the Euro area, whereas the fiscal policy is still within the hands of the national governments. Thus, the national fiscal policy remains the only instrument that can be used by the member states in order to provide macroeconomic stabilization.

The recent international crisis and especially the European sovereign debt crisis has relaunched the debate on an appropriate fiscal policy at the European Union (EU) level. Our research is based on the fact that there are different views on this matter. On the one hand, there are voices that support a fiscal union for the Euro area in order to become sustainable. De Grauwe (2006) takes this view further, advocating for a political union needed to ensure the success of the EMU. On the other hand, there are voices blaming extended fiscal powers for Bruxelles (Mckay, 2005).

European countries have experienced more than a decade under the rules stipulated in the Maastricht Treaty (MT) and the Stability and Growth Pact (SGP), which set numerical limits on government deficits (3% of GDP) and public debt (60% of GDP). Although these numerical rules are attractive because they are predictable and transparent, EU countries experience shows that national states, taken individually, are not very effective in providing fiscal discipline. Nevertheless, the fiscal criteria stipulated in the MT and the SGP require fiscal discipline before entry to the EMU, taking the EMU closer to an optimum currency area according to the Mundell's criteria (1961).

The European macroeconomic imbalances were further highlighted by the crisis, forcing EU member states to come up with new rules in order to provide a tighter legal framework for fiscal policy. A new Treaty on Stability, Coordination and Governance in the Economic and Monetary Union (TSCG), commonly known as the Fiscal Treaty, was signed on March 2012 by 25 member states (all the EU member states, except for UK and the Czech Republic).

This new fiscal architecture is in the spotlight, raising many debates on the need of fiscal convergence among the Euro area member states and even on the need of a fiscal European union. At a conceptual level, the new agreement does not bring many new elements, but it introduces an automatic mechanism for correction and penalty in the case of major macroeconomic slippages. The 3% of GDP budgetary deficit and 60% of GDP public debt limits have already existed, as established by the MT. In addition, the SGP requires a fiscal position close to balance or in surplus in the medium term. The novelty of this Fiscal Treaty is the introduction of the 0.5% of GDP limit for the structural budgetary deficit. This element quantifies what the SGP stipulates by the generic phrase “close to balance or in surplus” in the structural budget. In conclusion, limiting the structural deficit is not a new tool for fiscal discipline, the new Fiscal Treaty adding only some automatic adjustment rules and penalties when a country exceeds the limits.

The adoption of the Fiscal Treaty is an important step forward by introducing a mechanism that automatically corrects fiscal slippages, increases fiscal discipline and leads to better coordination among the European member states. However, we consider that the Fiscal Treaty is far from being a sufficient safety net to ensure proper functioning of the monetary union.

In this paper, we analyze the fiscal discipline in some EU member countries (Portugal, Ireland, Italy, Greece and Spain known under the acronym PIIGS) in the last three decades. We measure the fiscal discipline using as benchmark the Maastricht criteria. We analyze the fiscal positions of the countries in the pre-Maastricht years, the post-Maastricht and pre-EMU period and the EMU decade. In addition, we employ an empirical analysis in order to measure the impact of the 0.5% GDP limit for the structural deficit, had it been introduced 10 years ago.

The novelty of our study is based on at least two main characteristics. First of all, such an analysis on the fiscal performance of the PIIGS countries is missing in the literature, as far as we know. Secondly, there is no such work regarding the effect of the new fiscal rule introduced by the Fiscal Treaty in the PIIGS countries.

In the next section, we briefly summarize the existing theoretical and empirical studies the fiscal convergence in the EU. In section 3, we describe our methodology and data. Empirical results are reported in section 4. The last section concludes.

## 2. Literature review

A popular view among economists, policymakers and other categories of stakeholders is that the MT and the SGP have significantly reduced the ability of the national governments to implement the fiscal policy in order to stabilize the economy and to provide adequate public infrastructure. This view is considered by Gali and Perotti (2003), by estimating the impact of the fiscal rules on the budgetary deficit over the period 1980-2002. The main findings do not support this opinion, showing that the discretionary fiscal policy in EMU states became more counter-cyclical in time. In addition, the results show that the EMU states had pro-cyclical fiscal policy during the pre-Maastricht period, feature that disappeared in the post-Maastricht period.

The central argument of those who oppose limits to fiscal policy is that fiscal policy could be a powerful tool to control business cycles. Therefore, limiting the governments in managing the fiscal policy leads to an increase in the amplitude of business cycles (Levinson, 1998). On the other side of the debate are those in favor of setting limits to fiscal policy. The proponents of restrictions argue that the limits on fiscal policy guarantee that governments will not run excessive deficits and unsustainable levels of debt and will eliminate the possibility of the fiscal policy being itself a source of macroeconomic volatility.

There is almost a consensus in the specialized literature that budgetary restrictions reduce the possibility of running excessive deficits and increase the size of surpluses. Bohn and Inman (1996), Alesina and Bayoumi (1996) find that surpluses are larger in states with tight constraints and that increased surpluses are due to reduced spending. Moreover, in the presence of unexpected budgetary deficits, states with constraints reduce deficits faster, through a large adjustment in government spending (Alt and Lowry, 1994; Poterba, 1994). However, these findings suggest that while balanced budget rules are effective in limiting the size of deficits, they also impose costs because of the large adjustment in government spending that is required during downturns. Wagner and Elder (2002) suggest that states with tighter constraints save more during good times and then use them during recessions to avoid large reductions in spending. But this hypothesis is especially true when the savings are transferred

automatically as deposits and not used discretionary when it comes to withdrawals (Gonzales and Paqueo, 2003).

Other researchers underline the importance of the fiscal discipline and convergence for the macroeconomic stability. The fiscal constraints mean more coordination at the national level, which lead to lower deficits (Onorante, 2004). Moreover, using fiscal policy in a discretionary way may induce significant macroeconomic instability (Fatás and Mihov, 2003), which means that the fiscal convergence can enhance business cycles synchronization by eliminating idiosyncratic fiscal shocks. In addition, the reduced fiscal deficits (or higher surpluses) increase the coherence of business cycles across countries (Darvas, Rose and Szapáry, 2005; Artis, Fidrmuc and Scharler, 2008), making the countries within a region better candidates for a currency union. Further, diminishing the space available for discretionary fiscal policy can eliminate an important source of asymmetric shocks, making monetary integration a faster process.

Baskaran and Hessami (2011) conclude in their recent article that the EMU led to soft budget constraints in the PIIGS countries. In particular, the SGP was insufficient to prevent the PIIGS countries from reverting to their traditional deficit-prone fiscal policies. Therefore, one of the main reason for the recent sovereign debt crises is the inability of these countries to enforce the rules of the SGP and the relaxation of consolidation efforts. Den Haag (2011) considers that the macroeconomic imbalances which have accumulated over the last decade in the Euro area – mainly in the PIIGS countries – are a result of the catching-up process in terms of per capita income levels through public or private debt.

### 3. Methodology and Data

First of all, we test for the fiscal discipline of the PIIGS countries in the last three decades by analysing their distances from the convergence criteria as set in the MT: fiscal deficit up to 3% of GDP and public debt up to 60% of GDP. The analysed period time is divided into three sub-periods, as follows: pre-Maastricht period (1985-1992), the post-Maastricht and pre-EMU (1993-1998) and during EMU (1999-2011). In the case of the public debt, the data series are available only since 1990, so the pre-Maastricht period will be considered 1990-1992. For each sub-period we compute the average of the budgetary deficit/public debt expressed as percentage of GDP. Unfortunately, there are no available data for Spain in the pre-Maastricht period.

Secondly, we recalculate the budgetary deficits based on the 0.5% of GDP limit for the structural deficit, replacing the effective structural deficits by 0.5, during 2000-2011. The formula used for assessing the new level of the budgetary deficits is:

$$BD_{i,t} = -0.5 + CCBD_{i,t} \quad (1), \text{ where}$$

$BD_{i,t}$  – budgetary deficit of country  $i$  at time  $t$ ;

$CCBD_{i,t}$  – cyclical component of the budgetary deficit of country  $i$  at time  $t$ .

We used annual data series taken from Ameco, one of the European Commission databases. The budgetary deficits and the public debts are expressed as shares of the GDP. The structural deficit is expressed as share of the GDP, being cyclically adjusted based on the potential GDP, according to the European Commission methodology.

### 4. Main findings

We divide this section in two parts as follows: the first one resumes the results regarding the fiscal discipline in the PIIGS countries over the three sub-periods defined above, while the second one displays the effects of the structural deficit rule on the effective budgetary deficits.

#### 4.1. Diverging effects of the Maastricht convergence criteria

We first analyse the evolution of the budgetary deficits in the PIIGS. All the PIIGS countries adopted the single European currency in 1999, at the same time the EMU was founded, except for Greece, which entered the Euro area in 2001. These means by default that all the PIIGS countries had budgetary deficits under 3% of GDP at the beginning of the EMU, since this is one of the five nominal convergence criteria that has to be met before entering the Euro area.

**Table 1: Budgetary deficit (% GDP) in PIIGS**

	pre-Maastricht (1985-1992)	post-Maastricht (1993-1998)	EMU (1999-2011)	2011 Target: -3% GDP
Portugal	-5.8	-5.2	-4.7	-5.83
Ireland	-5.7	-0.6	-3.8	-10.3
Italy	-11.4	-6.5	-3.3	-3.97
Greece	-11.6	-7.7	-7.1	-8.9
Spain	-	-4.9	-2.3	-6.65

Source: AMECO database, European Commission, Authors' work

Note: There are no available data for Spain in 1985-1992

After the introduction of the Maastricht convergence criteria, all the PIIGS countries have reduced their budgetary deficits (we lack data for Spain in the pre-Maastricht period). Indeed, from the descriptive analysis we can observe an increase in the budgetary discipline entailed by the nominal convergence criteria. The largest budgetary adjustments were made by Ireland and Italy, which reduced their deficits by 5.1, respectively 4.9 percentage points. Portugal also diminished its deficit to a lesser extent, by 0.4 percentage points. Despite all these budgetary efforts, on average, only Ireland kept the budgetary deficit under the 3% of GDP limit.

During the EMU period, Spain was the only country with a budgetary deficit average of less than 3% of GDP. In the last three decades, Greece had the worst budgetary position. Given the austerity measures taken by the European countries in order to provide macroeconomic stability in times of crisis, all the PIIGS countries had budgetary imbalances in 2011, with effective deficits over the 3% of GDP limit. The best performance was achieved in 2011 by Italy, with a budgetary deficit of almost 4% of GDP; by contrast, Ireland's deficit exceeded 10% of GDP.

Despite the positive effects of the Maastricht convergence criteria on the budgetary deficits levels, the impact on public debts is not so encouraging. The PIIGS countries have based their catching-up process in terms of real convergence on higher debts.

**Table 2: Public debt (% GDP) in PIIGS**

	pre-Maastricht (1990-1992)	post-Maastricht (1993-1998)	EMU (1999-2011)	2011 Target: 60% GDP
Portugal	53	55.7	66.2	101.56
Ireland	93.1	75.9	46.3	108.12
Italy	99.3	118.8	109.1	120.47
Greece	74.9	97.9	113.1	162.83
Spain	44	63	51.4	69.59

Source: AMECO database, European Commission, Authors' work

Three of the PIIGS countries had public debts higher than 60% of GDP before the MT came into force. Spain and Portugal had the lowest public debts, of 44%, respectively 53% of GDP. The introduction of the Maastricht convergence criteria establishing the limit for the public debt at 60% of GDP had no great impact on the PIIGS fiscal positions. Ireland was the only country which had reduced its public debt in the years after the MT and before the EMU, still exceeding the 60% limit. In the years before the creation of the EMU, the highest public debt average within the PIIGS countries was recorded in Italy, with no less than 99.3% of GDP in the pre-Maastricht subperiod and 118.8% of GDP in the post-Maastricht subperiod.

The decade of the single common currency brought not so much improvement on the PIIGS fiscal positions regarding the public debt. On the one hand, the public debt average in Ireland and Spain was under the 60% limit imposed by the MT, showing more fiscal discipline. On the other hand, the public debt average in Portugal increased above the limit, to 66.2% of GDP, while in Italy and Greece the average exceeded 100% of GDP. The economic growth and convergence in these countries was mainly conducted through debt.

The recent economic and financial crisis had a negative impact on these countries' public debts, so that in 2011 Spain was the single country in the PIIGS group with a public debt of less than 100% of GDP. The fiscal imbalances were highlighted by the crisis despite all the efforts of ensuring macroeconomic stability: the public debt exceeded 160% of GDP in Greece and 120% of GDP in Italy.

For a while, the fiscal imbalances were masked by the cyclically strong revenues, but because of the economic recession, the disequilibriums became more evident.

#### 4.2. The new fiscal rule

Taking into account the new European fiscal rules for limiting the structural deficit, we additionally analyse the structural component of the general deficit. In this section we refer to the potential budgetary deficit as the one obtain by the formula (1).

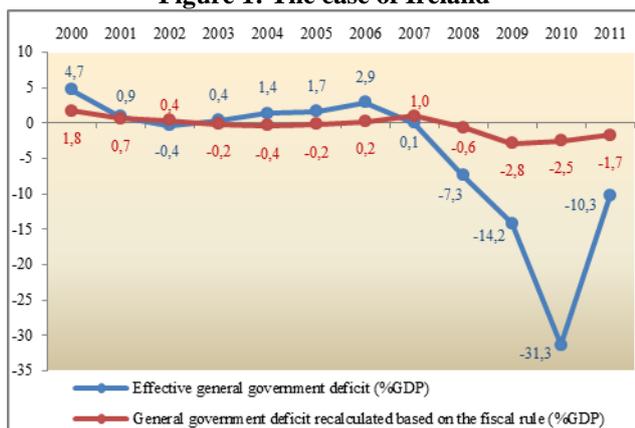
Greece, Portugal and Italy report lack of fiscal discipline in the last decade, recording effective budgetary deficits much more larger than the potential ones, because of the discretionary fiscal policies applied by their governments in order to artificially increase the living standards of their population. The recent crisis led governments to austerity measures which worsened the budgetary positions in all the PIIGS countries, bringing Ireland and Spain in the group of the “sinners”.

If the new fiscal rule would have been in force when the recent crisis hit, the public finances of the PIIGS countries would have been healthier now. For example, looking at the year 2009 in the figures below, we can observe that none of the PIIGS countries would have broken the 3% limit for the budgetary deficit.

Ireland recorded the highest divergence from the potential budgetary deficits, of no less than 28.8 percentage points in 2010 (see Figure 1). But the Irish problems are somewhat different than the fiscal problems of the other PIIGS countries who suffer from high and structural public deficits because of the unsustainable welfare spending. During 2000-2007, the budgetary position was on surplus every single year. The situation had worsened in times of crisis. The Irish government was running a deficit over 30% of GDP in 2010 because they have taken all the bad debts of the banks to save them from collapse. In 2011, Ireland is still the biggest sinner of the PIIGS countries.

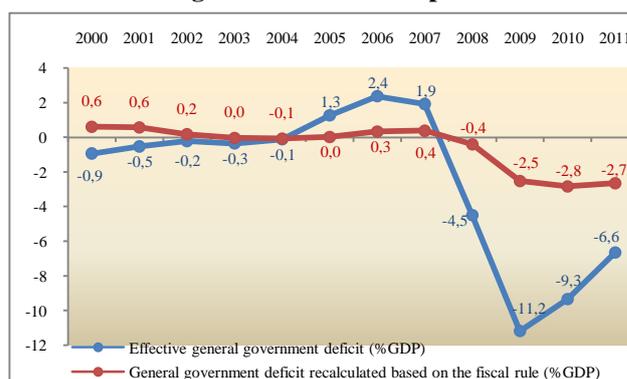
Spain kept its budgetary deficits in the 3% of GDP limit (even surpluses) in the years before the crisis, the effective deficit being close to the potential one (see Figure 2). The gap between the two deficits increased when the crisis started and the government was forced to adopt austerity measures. According to the new fiscal rule all of these could have been prevented if the 0.5% of GDP limit for the structural deficit would have been introduced few years ago.

Figure 1: The case of Ireland



Source: Authors' work

Figure 2: The case of Spain



Source: Authors' work

Portugal, Italy and Greece run excessive budgetary deficits every single year in the last decade. The potential deficits shows us an abuse in using discretionary policy made by their governments in times of economic growth.

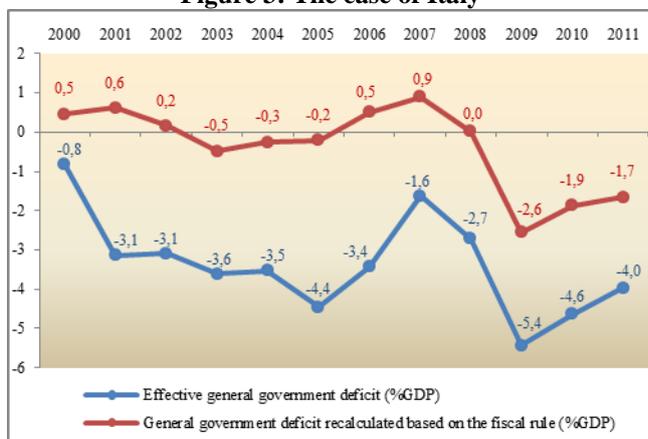
Italy has violated the fiscal rule of 3% of GDP for the budgetary deficit every year between 2001 and 2006 (see Figure 3). The Maastricht criteria was honored only before entering the Euro area and the absence of an automatic penalty in the case of violating the rule led to discretionary fiscal policies. Still, the Italian government has not run excessive deficits like the Greek ones. The problem that Italy is facing now is the public debt of no less than 120% of GDP which is on an upward trend.

In Portugal, since the entry into the Euro area, the budgetary deficit was usually over the limit of 3% of GDP provided by the MT (see Figure 5). The effective deficit was with no exception higher than the potential one. This is also true for Greece, with one mention: the amplitude of the Greek budgetary deficits is even bigger that in the case of Portugal (see Figure 4). Both countries recorded maximum

public deficits in 2009, but in Greece it was almost 6 percentage points higher. The problem in Greece is deeper because of an excessive public sector, a poor collection of the taxes and a critical fiscal evasion.

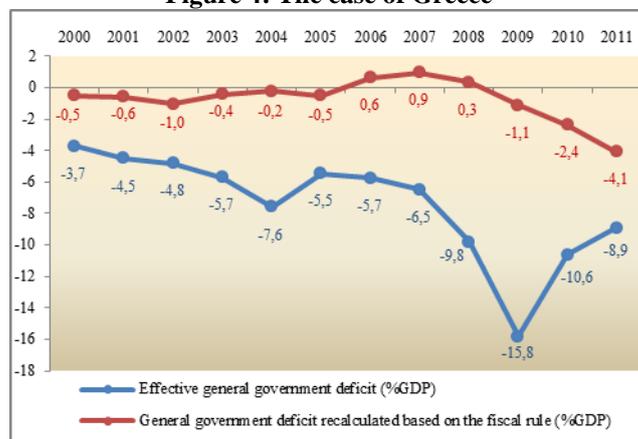
The results show us that if the new fiscal rule would have been in force few years before the recent crisis, the problem of the excessive budgetary deficits in the PIIGS countries could have been avoided. However, this main result express an economic point of view without taking into account the political willingness to respect the limit imposed for the structural deficit.

**Figure 3: The case of Italy**



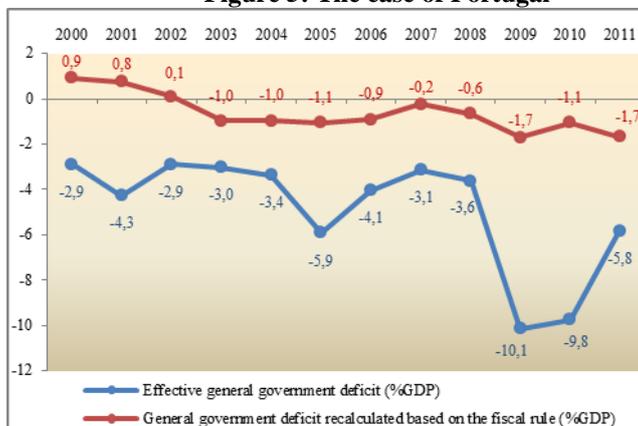
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**Figure 4: The case of Greece**



Source: Authors' work

**Figure 5: The case of Portugal**



Source: Authors' work

**5. Conclusions**

The main findings of the current paper support the idea that fiscal rules lead to more fiscal discipline and convergence only when they are complied with. In the MT framework, the absence of automatic penalties challenges the effectiveness of the fiscal rules. The introduction of the numerical convergence criteria was not sufficient for enhance coordination at the European level. The political willingness remains the key element for the fiscal discipline achievement.

The paper shows that the introduction of the Maastricht convergence criteria led to lower budgetary deficits in all the PIIGS countries. However, the effect on public debts is somehow opposite. Ireland was the only country which had reduced its public debt in the years after the MT and before the EMU, still exceeding the 60% limit.

This research sheds light on the impact of introducing the new 0.5% limit for structural deficit of the beginning of 2000s. Our results support the idea that the new fiscal rule would have prevented the PIIGS countries from running large and unsustainable budgetary deficits. We think that this rule represents a necessary step into the right direction within the EMU. Though, we consider it is not sufficient to prevent the pro-cyclical fiscal behaviour that can overheat the economies or deepen the recessions phases. First of all, without a fiscal union, the problem of external financing for the PIIGS remains open, even if the budgetary deficits are diminished. Secondly, the new rule does not limit

governmental interventions in rescuing the cases of “too big to fail”. Thirdly, the “one size fits all” , in our case “one rule fits all”, remains under question.

## 6. Acknowledgements

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**Annex: Budgetary deficits in the PIIGS countries, 2000-2011**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Budgetary deficit (%GDP)</b>												
Portugal	-2.89	-4.27	-2.90	-3.02	-3.38	-5.92	-4.05	-3.15	-3.64	-10.15	-9.76	-5.83
Ireland	4.71	0.89	-0.35	0.40	1.37	1.66	2.91	0.07	-7.34	-14.19	-31.31	-10.29
Italy	-0.83	-3.14	-3.10	-3.61	-3.53	-4.45	-3.43	-1.63	-2.71	-5.43	-4.63	-3.97
Greece	-3.73	-4.51	-4.81	-5.70	-7.59	-5.46	-5.75	-6.50	-9.80	-15.81	-10.61	-8.91
Spain	-0.94	-0.53	-0.21	-0.35	-0.11	1.27	2.37	1.92	-4.50	-11.18	-9.34	-6.65
<b>Cyclical component of the budgetary deficit (%GDP)</b>												
Portugal	1.41	1.26	0.61	-0.48	-0.47	-0.57	-0.41	0.26	-0.15	-1.19	-0.56	-1.17
Ireland	2.29	1.19	0.89	0.32	0.13	0.31	0.70	1.50	-0.10	-2.34	-2.02	-1.23
Italy	0.96	1.11	0.66	0.02	0.24	0.29	1.00	1.39	0.52	-2.05	-1.37	-1.15
Greece	0.01	-0.08	-0.53	0.06	0.27	-0.01	1.12	1.45	0.84	-0.63	-1.87	-3.58
Spain	1.11	1.08	0.68	0.47	0.43	0.53	0.84	0.89	0.10	-2.02	-2.33	-2.15
<b>Cyclically adjusted budgetary deficit (%GDP) – Adjustment based on potential GDP</b>												
Portugal	-4.30	-5.54	-3.51	-2.54	-2.91	-5.35	-3.64	-3.41	-3.49	-8.95	-9.20	-4.66
Ireland	2.42	-0.30	-1.24	0.07	1.24	1.35	2.20	-1.43	-7.24	-11.85	-29.29	-9.06
Italy	-1.79	-4.25	-3.75	-3.63	-3.77	-4.74	-4.43	-3.02	-3.23	-3.38	-3.26	-2.82
Greece	-3.73	-4.43	-4.28	-5.76	-7.87	-5.45	-6.87	-7.95	-10.63	-15.19	-8.75	-5.33
Spain	-2.05	-1.61	-0.89	-0.82	-0.54	0.74	1.53	1.04	-4.59	-9.16	-7.01	-4.50
<b>Budgetary deficit recalculated by the new fiscal rule (-0.5% + cyclically budgetary deficit)</b>												
Portugal	0.91	0.76	0.11	-0.98	-0.97	-1.07	-0.91	-0.24	-0.65	-1.69	-1.06	-1.67
Ireland	1.79	0.69	0.39	-0.18	-0.37	-0.19	0.20	1.00	-0.60	-2.84	-2.52	-1.73
Italy	0.46	0.61	0.16	-0.48	-0.26	-0.21	0.50	0.89	0.02	-2.55	-1.87	-1.65
Greece	-0.49	-0.58	-1.03	-0.44	-0.23	-0.51	0.62	0.95	0.34	-1.13	-2.37	-4.08
Spain	0.61	0.58	0.18	-0.03	-0.07	0.03	0.34	0.39	-0.40	-2.52	-2.83	-2.65

Source: AMECO database, European Commission, Authors' work

**THE SAVINGS - INVESTMENT IMPULSE****TILEAGĂ Cosmin***Ph. D. Associate professor, Faculty of Economics, Lucian Blaga University, Sibiu, Romania, cosmin.tileaga@yahoo.com***NIȚU Oana***Ph. D., Faculty of Economics, Ovidius University, Constanta, Romania, oana.oprisan@yahoo.com***NIȚU Claudiu Valentin***Ph. D. Student, Faculty of Management, Dimitrie Cantemir University, Bucharest, Romania, valynitu@gmail.com*

**Abstract:** *Regarding the link between saving and investment process we tried to interpret in terms of our own rationality starting from classical and JM Keynes's vision. For the propensity to save to become a factor of development and progress is necessary to make the investment savings. The impulse to invest is the result of combined action of a number of factors. The conclusion that finally emerges is that the saving is not identical to the investment, although, in general, saving is used so that it brings to fructification some amount saved, which evokes the concept of investment.*

**Key words:** saving, investment, income

**JEL classification:** E 2, E 21, E 22

**1. Introduction**

In the classical vision, saving precedes investment, while for Keynes, it follows them. The investment is not rising from savings, but investments are those that contribute to income and, because of that, they generate savings.

Narrow, investment is a use of income which is materialized into an advance to capital (or assets) for an income.

In a broader sense, investment is any spending decision leading to the acquisition of an asset, to obtain further cash flow, which purpose is to increase the wealth of the business owners. In this context, the money converted into physical assets are similar to investments (the purchase of buildings, machinery, equipment, land, stock up production). Transformation of money into financial assets is the placement.

**2. Save vs. investment**

Saving and investment decision, in the small producer case, belongs to the same entity. It saves and simultaneously invests. Saving volume of a small manufacturer is measured by the difference between income and consumption available to him. He is permitted to invest their own savings. In this case, saving and investment is the same thing. There is, also, an identity between saving and investment reasons.

In developed market economies, the investment, I mean the capital formation, is supplied by non-financial companies. When a company is able to invest, the owner is motivated to use a large share of profits. So, saving businesses depends, in this way, on the investments they made. The investment is a fundamental economic act which causes an increase in future income (from which also follows a change in consumption and savings) and, implicitly, condition the size of using the factors of production.

**3. Factors underlying investments**

For the propensity to save to become a factor of development and progress is necessary the savings to convert to investments. The impulse to invest is the result of combined action of a number of factors. In essence, as in fact we know, the decision to invest of an individual occurs when, from the sale of the results, he obtains future revenues that will exceed the costs of the project or the output. The relationship between investment and development is very current and widely discussed in the literature. JM Keynes considered that there is an impulse to increase the volume of new investments. They are caused by: physical conditions of the supply of the industries producing capital goods, state of confidence

in the expected income, psychological attitude to liquidity and the amount of money. We emphasize first that, under present conditions, investment impulse is dependent on several factors:

a) *The investment demand*, determined by the marginal efficiency of capital and interest rate. The effective size of the current investment increases to the point where there is no category of capital goods whose marginal efficiency exceeds the current interest rate.

b) *The efficiency, in the perspective of a better capital*, which depends on the ratio of offer price of a capital good and its performance in perspective. Anticipating the long term future of the good economic performance is psychological, so depending on quality of forecast made, and also the self-trust with which it is made. Between the trust state and marginal efficiency of capital an interaction is created that affects the volume of investments.

c) *The risks arising from investment activity itself*, as a risk of the entrepreneur determined by the doubts regarding expected revenue and the lender's risk, determined by the possible insolvency of the borrower by unmaterialisation of expectations. The risk in business is higher, the loan interest rate will be higher.

d) *State responsibility* for public sector investment. This consists in the way and the ability to drive greater consumption of capital goods, with impact on investment growth, while the lack of this capacity or its reduction may have adverse effects.

e) *Fluctuations in profits from existing investments*. Generally, as a subject of these fluctuations there are the seasonal activities and some activities caused periodically, getting some extent due to the situation of transition through which the economy passes (companies investment in the needed equipment for collection activity, recovery and export of metal quantities).

f) *The condition of the national economy*. The state of a declining economy, characterized by a strong instability of economic, social and political, can not stimulate investment impulse.

g) *Global economic situation*, by varying the phase of expansion or recession put their imprint on the national economy, especially in the context of more obvious globalization trends.

Investment in new objectives are important in increasing the national heritage, which represents real investment in an economy that occur when produce and sell equipment or new cars. Analyzing the procurement of capital goods versus consumer purchases, it is found that it is easier to postpone the purchase of capital goods than to postpone the purchase of consumer goods, investment spending is less stable than consumption spending. Producing a decline in investment spending leads to lower demand for loans, which in turn implies a decrease in the cost of the loan. If capital cost is reduced, it becomes an impulse for the decision to invest, so that it resumes some investments that have been postponed, resulting in a total investment recovery effect. If the investment that had to be done is postponed or canceled, further cost savings will require through consumption expenditure to remove inactivity. The result would be unsold goods, reducing production and income until the saving will reduce the savings rate to a level required by investors willing to spend, a high savings not giving equally high rates of investment.

#### 4. Income - savings - investment

Saving depends primarily on income. People tend to save more as their income increases, increasing revenue growth, will increase their savings, in relation to revenue. Sometimes, the desire to save gradually come to exceed willingness to invest, in which case, the objective of saving a greater amount will be hampered by an insufficient aggregate demand, leading to lower production, resulting in a higher unemployment until reduced revenues obtained by those who save will cause them to stop saving at a higher rate than investors want to spend. It is known that representatives of both theory based on supply and demand agree that higher real income depend on the appropriate rate investment corresponding. However, while proponents of economic theory based on the offer believes that increased investments depends on increasing the impulse to save, representatives based on demand theory believes that saving will adjust its own care, given that it can maintain investment costs, the solution was the maintained demand for goods, so that investors want to buy capital goods.

If it can be maintained a chronic tendency to insufficient demand, determined by the force of the powerful saving, over investors desire to spend, this could prejudice the conduct of investment activity given by the state of confidence, that the aggregate willingness to invest to really drop, which would generate the "paradox of thrift". Paul Hayne, describing this paradox in keynesian perspective, was said: "*an increased desire to save is deteriorating so much the interest in investing, that production and income fall below the level at which savers can even support their saving rate desired before*". Representatives of the economic theory based on offer appreciate that the fear of superproduction or underconsumption is

unsubstantiated, saying that the superproduction is not a problem because it is essential to increase production so that people can enjoy the things needed to live, in conditions becoming better. In this context the government function in the economic system is not to stimulate the demand, but to defend the impulses, particularly by maintaining property security. Natural desire of people to improve their living conditions make them produce, save, invest and therefore continually to increase the production, thus, the consumption, through the increasingly demand will be the critical factor that will be "care of itself."

It is claimed by this explanation, the fact that the aggregate demand will always be appropriate and that the real economic problems are actually supply failures. However, the Great Depression of the '30s removed this optimistic conviction, bringing evidence, such that aggregate demand can lead to serious problems in an economic system. Keynesians argue that the economy is not inert stable in the absence of disruptive changes in money supply. In their vision, disturbances are coming from uncertain volatility of private sector expenditure decisions, especially investment, which can be amplified by the functioning of markets. The Keynesian concept, aggregate demand may be insufficient to maintain chronically high levels of output and employment. In these conditions, saving trend will delay the growth process, removing a part of some demand-side impulses. Classical theory believes that aggregate demand is always "welcome" and saving accelerate economic growth, supporting new investment in capital goods, with consequences for productivity and supply growth.

Elements that must be taken into account in any investment process are:

- *Incomes*, because, generally, are dependent on investment income to be derived from overall economic activity, in the conditions at a time.
- *Costs* whose evaluation is complicated when the service life of an asset is acquired for several years, capital costs must be calculated depending on certain factors. The interest rate for a short period, has a great importance, because the investment may be deferred for a further period, not very long, if the interest rate is not considered convenient.
- Expectations - the main determinant element of investment. Investments depends directly on expectations and projections about future events. Forecast and analysis in this sense attempt to eliminate uncertainty and to reduce investment risk. Projects or investment programs lead primarily to increased stock of fixed capital, being the main factor to achieve modernization and economic development by creating new structures in accordance with perspective and strategic options of society.

## 5. Investments in economy

At the economy level, the investment concept means that all costs are for the purchase of capital goods to increase the wealth of society.

Purchase of durable consumer goods, shares and bonds, of some land surfaces, are investments in the economic sense because their use does not contribute to the technical capital and national wealth, but only change their owner.

In relation to the use of purchased capital goods, investments are divided into:

- Replacement investments, in replacement of fixed capital goods removed from office because of their impairment. The source of these expenses is the amortization;
- Development or net investment, for real technical capital volume increase, I mean net capital formation, whose source is formed by saved income.

Sum of replacement investment and net investment, development, forms gross capital investment that contribute to gross technical capital formation.

Gross investment consists of investment in capital goods (durable), excluding costs for household goods, which are included in private consumption and durable goods, which includes the production of the intermediate state and stock investment, the change in stocks of raw materials, half finished and finished products by own production, for sale.

When in economy gross investment amount is less than the amount of replacement investment has been a reduction in real technical capital, a phenomenon of uninvestment.

In terms of the owner, we have *private investment* - by the private sector - and *public investment* - by state, and in terms of countries (where performed), we have *domestic investment* - which is conducted within national borders of a state, and *foreign investment* which is made in other or to other countries.

Also, after the field is done, we have *industrial, agricultural investments*, etc.. There are also other criteria for the classification of investments.

Income of a period corresponds, on the one hand, to an application for consumer goods (C) and capital goods (investment) (K), disposable income spent being equal to:

$$VND = C + K \quad (1)$$

on the other hand, of an equal value of income for consumption and savings, when disposable income obtained is equal to:

$$VND = C + E \quad (2)$$

In this case, savings and investment in the national economy, considered as a closed system, can only be equal, representing a surplus of income over consumption expenditures:  $I = E$ .

Equality of the two quantities arises from the fact that they represent, for the community economy, two sides of the same process.

Thus, while the economies expresses the collective behavior of the individual consumer, the investment reflects the collective behavior of the entrepreneur.

When  $E > I$ , the economies represent a loss of income, recording an economic decline. At the same time, economic growth makes that, in time, the growth rate of consumption to reduce, having a negative influence on the profits. But acting through levers to stimulate the investment, the equality between E and I is created, at a higher disposable income, due to the multiplier effect that occurs in the economy.

The decision to invest is based on comparative analysis of a series of economic indicators such as:

- the ratio between present value of income which follows to be obtained from the investment, and the investment cost;
- ratio between updated income rate and real interest rates (or opportunity cost of investment).

According to the first economic criterion, the decision to invest is favorable if the present value of income is higher or equal to the size of the investment cost. If the investment cost is higher than the present, the investment should not be built.

As an investment income is a future income, it must be updated, brought to the present size.

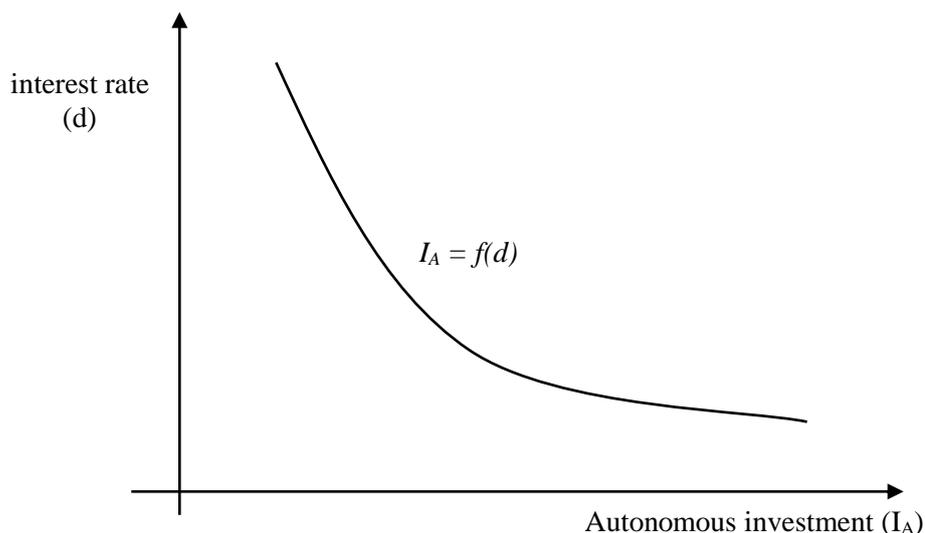
The equation for calculating the present value ( $V_p$ ) of an income that will get over n years ( $V_n$ ) is:

$$V_p = \frac{V_n}{(1+d)^n} \quad (3)$$

where  $d = \text{nominal interest rate}$

This present value is a coincidence with the size of a money deposit created now, providing, over n years, an income which includes the interest accrued on initial income. Dependence of investment in relation to interest rate evolution is illustrated in the figure below:

Figure 1 – Investment function



For determining the cost of investment it must be taken into account the functioning period of the investment; if the period is a few years, then the costs are updated by the same rules as income.

*Example of application of this criterion:*

*Suppose that the investment has a cost of 100 million m.u. which was conducted in a year. Over a year, investment brings an income of 30 mil. m.u., in the second year, has an income of 40 million m.u., and the third year, 50 million m.u.*

*We believe that the nominal interest rate is 10%, and the whole capital is worn in three years.*

$$V_p = \frac{30\text{mil.}}{(1+0,10)} + \frac{40\text{mil}}{(1+0,10)^2} + \frac{50\text{mil}}{(1+0,10)^3} = 97,7\text{mil.u.m.} \quad (4)$$

*Since the investment cost is higher than the income brought by the investment made in each of those three years, the investment should not be made.*

Regarding the economic criterion, the rate of the net income is determined by reporting the net profit updated to the cost of investment, and real interest rate is the difference between the nominal (market) rate and the inflation rate.

When the rate of net income (RVN) is greater than or equal to real interest rates, investment can be achieved.

*Example*

At an investment of 100 million m.u., a net profit of 30 million m.u., at an interest rate of 10% and an inflation rate of 5%, the net income rate is:

$$R_{VN} = \frac{30\text{mil.}}{100\text{mil.}} \times 100 = 30\% \quad (5)$$

and real interest rates  $d' = 10\% - 5\% = 5\%$ .

Since net income rate is 30%, higher than real interest rate, which is 5%, the investment is justified.

In an economy, at a certain level of income, investments increase or decrease depending on the joint action of several factors. At the same time, understanding the meaning of each factor action requires to consider the influence of others is neutral.

In all of these factors, the most important are:

- demand for investment, future yield of capital good;
- profit fluctuations in existing investments, state policy in investing;
- general condition of the national economy;
- global economic situation;
- repayment period of investment;
- maintenance and operation costs of the produced capital goods;
- dominant type of technical progress and the degree of acceleration of innovations and inventions;
- capital goods stock size in relation to developments in production requested by the market;
- investors' expectations about the evolution of sales and profits in which they invest;
- the level of taxation in relation to profits, etc..

## 6. Conclusions

Income is the primary determinant element of consumption and savings. Rich people save more than the poor, both in absolute terms and as percentage of income. The very poor can not save at all. However, as long as I can borrow or I can spend the gathering, they tend *not to save*. This means they can spend more than they gain, declining acquired economies or sinking further into debt. Milestone of modern society, changing individual psychology, the idea of what investment as classical notion means, all that changes. In a knowledge society, innovation is the instrument by which entrepreneurs exploit the changes as opportunities to start new businesses, new investment.

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## ROMANIAN ECONOMIC PROGRAMS AND STRATEGIES FROM THE EU INTEGRATION PERSPECTIVE, IN TERMS OF COMPETITION INTERNATIONALIZATION IN THE EUROPEAN MARKET ECONOMY

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**Abstract:** *The Competition Policy is - by its two components: in a specific language known as "antitrust" and state aid - a barometer of market operation, a component of a functional market economy. Although this chapter makes no direct reference to macroeconomic indicators, the promoted policy is defined by discipline, the behavior of economic actors in the market. The success of the competition policy is reflected in the existence of a strong cultural competition expressed at the level of the economic operators by respecting the game rules set by the legislation.*

**Key words:** competition policy, strategies, markets

**JEL classification:** F 10, D40

### 1. Basis of Competition Policy in Romania

"The Competition Policy", the sixth chapter of the negotiations for EU membership for Romania which formally opened on 15 February 2000, imposed additional requirements from other chapters to which "Copenhagen criteria" has been applied as a template. The *acquis* on chapter 6 is considered to be the rigid core of the Internal Market, being the only chapter to which the implementation of the *acquis* should have been done well before accession.

The Competition Policy is - by its two components: in a specific language known as "antitrust" and state aid - a barometer of market operation, a component of a functional market economy. Although this chapter makes no direct reference to macroeconomic indicators, the promoted policy is defined by discipline, the behavior of economic actors in the market. The success of the competition policy is reflected in the existence of a strong cultural competition expressed at the level of the economic operators by respecting the game rules set by the legislation.

The basic principles of the competition policy in all candidate countries, including Romania, have been stated by the European Association Agreements. The European Agreement establishing an association between Romania, on the one hand, and the European Communities and their member states, on the other hand establishes provisions on competition policy in Chapter II - "Competition and other provisions with an economic character" and the items included the related chapters.

Unlike most of the *acquis communautaire*, for which the European Association Agreement provides the need to work towards gradual harmonization of legislation, the competition policy provisions are binding firm, with explicit reference to the corresponding articles of the Treaty on European Union: art. 81 (prohibition of agreements between operators), art. 82 (prohibition of abuse of dominant position) and art. 87 (prohibition of state aids).

By The Europe Agreement, Romania will assume the following commitments:

- "to progressively adjust any state monopolies of a commercial character so as, to ensure that by the end of the fifth year after the entry into effect of the agreement, there will be no discrimination between the citizens of Romania and member states, on the conditions under which goods are purchased and sold" (33).
- prohibit any agreement between companies, decisions of companies associations and concerted practices between companies which have as their object or effect the prevention, restriction or distortion of competition (Art. 64 (1) (i));

- to prevent abuse by one or more companies which have a dominant position in Romania or the Community as a whole or a substantial part of it (art. 64 (1) (ii));
- prohibit any public aid which distorts competition by favoring certain companies or the production of certain goods "(Article 64 (1) (iii));
- to apply "to the public enterprises and enterprises which have been granted special or exclusive rights, from the third year after entry into effect of the principles of the Treaty , establishing the European Economic Community, notably Article. 90 principles from April 1990 of the Bonn Conference for Security and Cooperation in Europe (in particular the provision referring to the freedom of decision of the entrepreneurs ) "(66), and to ensure that these businesses operate without distort competition and does not introduce discrimination between Romania and the European Community.

Community competition policy has a direct relevance to the candidate states even before joining and independent of this event, the obligations assumed in this area with double features: refers to economies with unknow central planning tools and represents the first international contractual commitments of the associated countries. Thus, to fulfill the obligations under Art. 64, the development of rules was considered and consistent criteria with similar provisions of the Treaty establishing the European Community, creating an appropriate legal framework and institutional framework for implementation. In Romania, being no specific legislation before 1989, taking over the *acquis communautaire* in the field of competition and state aid began by the time framework laws were developed: Competition Law. 21/1996 which entered into effect on 02.01.1997 and Law. 143/1999 on State aid which came into effect on 01.01.2000 and continued through secondary legislation.

While it is true that at the market level, allocation of resources is achieved normally much better than public regulators can, subject to market conditions can not be determined automatically, the competition authority's role is to ensure that the markets remain competitive. Effective and efficient application of the competition policy requires the creation of autonomous competition authority: Competition Board authorized by Art. 17 (1) of the Competition. 21/1996 to develop secondary legislation and apply the law in order to protect, maintain and stimulate competition and a normal competitive environment. By the same law (art. 34 (1)) was created and a second body with responsibilities in the application of competition policy and state aid: Office Competition - a special body of government, within the Ministry of Finance.

## 2. The current situation

### **The evolution of antitrust policy**

It is recognized at a worldwide level that the "essential role of the competition policy to ensure economic liberalization which allows markets to develop to a free and fair competition".

The role of the competition policy is even more evident because, with its instruments it is intended to reduce the potential for market distortion by large state enterprises and / or by their successors from privatization. Elements for proper Romanian markets functioning, found expression in the Competition Law no.21/1996 which aims to protect, maintain and stimulate competition to benefit consumers, aimed at creating conditions for assessing the behavior of economic agents based on uniform principles.

The Competition Law establishes:

- agreements and concerted practices;
- abuse of dominant position;
- merger control.

Briefly, any agreement between companies and concerted practices are prohibited, which have as their object or result the prevention, restriction or distortion of competition on the Romanian market or part of it. The law provides for the possibility of individual or block exemption of restrictive trade practices by comparing the advantages and disadvantages of general interest that might cause such practices. Holding a dominant position on the Romanian market is not prohibited. Businesses abusing their dominant position by use of anti-competitive acts enter under the surveillance of the law, affecting trade or harming consumers. Merger made by legal acts by which the transfer of ownership or the use of property is made, rights and obligations of an undertaking by merger or acquisition directly or indirectly

control on one or more undertakings are prohibited if it creates or strengthens a position by exploiting a dominant position leads or could lead to restriction or distortion of competition.

Merger may be allowed if after the analysis on the criteria established by the law and specific regulations are estimated to be compatible with a normal competitive environment and the economic agents involved, prove that they met a number of conditions to increase economic efficiency and export competitiveness, providing real benefits to consumers through lower prices.

The Competition law provides sanctions aimed at discouraging use of anticompetitive practices by market participants.

For applying the law and taking into account the EU *acquis* in the competition, the Competition Council adopted on 28 February 1997 a set of regulations and applicable instructions, as of March 6, 1997:

- Regulation of economic concentrations, which were taken to Regulations no. 4064/1989 on the control of mergers and 3384/1994 on the notification of concentrations.
- Regulation for the application of art. 5 and 6 of the Competition Act on anti-competitive practices, which were taken provisions of Regulation no. 17/1962 on the application of Article 85 and Article 86 and Regulation. 3385/1994 on the form, content and other details on how to notify the Commission under Regulation No. 17/1962.
- Regulation on granting block exemption of agreements, decisions or concerted practices from the prohibition in art. 5 (1) of the Competition. 21/1996 which established categories of agreements were exempted:
  - for exclusive distribution agreements (harmonization with Regulation no. 1983/1983 block exemption of exclusive distribution agreements);
  - for exclusive purchasing agreements (harmonization with Regulation no. 1984/1983 block exemption of exclusive purchasing agreements);
  - research and development agreements (harmonization with Regulation no. 2821/1971 and no. 418/1985 on the exemption of certain categories of research and development agreements);
  - specialization agreements (harmonization with Regulation no. 2821/1971 and no. 417/1985 on the exemption of certain categories of specialization agreements);
  - agreements for technology transfer and / or know-how (harmonization with Regulation no. 2353/1996 block exemption of licensing agreements for technology transfer);
  - franchise agreements (harmonization with Regulation no. 4087/1988 on the exemption of certain categories of franchise agreements);
  - distribution agreements, service and spare parts on warranty and post warranty for vehicles (harmonization with Regulation no. 1475/1995 on the exemption of certain categories of motor vehicle distribution agreements and provision of related services);
  - Insurance Agreements (Regulation. 1534/1991 and Regulation. 3932/1992 on the exemption of certain categories of agreements in insurance).
- Guidance on the definition of relevant market for determining the significant market.
- Guidelines on calculation of turnover in cases of anti-competitive under Art. 5 and 6 of The Competition Act merger cases.

The evolution of the *acquis communautaire* and the actual conditions on the Romanian market exhibited by maturing economic actors have imposed fines on regulations, both the regulations regarding mergers and vertical restraints on regulation, specialization agreements, research agreements - development and the horizontal cooperation.

### **Amending the Regulation**

By adopting the new regulation on merger authorization (MO no. 591 bis/9.08.2002), which came into effect at that time, it was intended to adopt the *acquis* in the field of concentration and the experience accumulated by the Competition Council after five years of merger control. Regulation includes explanations designed to clarify the obligations of the Competition Council and those the involved parties in a merger transaction:

- the period within which a merger transaction must be notified to the Competition Council, stating the starting point to run the notification. Notification must be submitted to the Competition Council within 30 days of signing the legal document under which the merging is taking place,

and within seven days, the parties are obliged to inform the Competition Council on the operation which is to be notified.

- the procedure which has to be followed to obtain permission of presentation of a simplified notification form.
- the time limit in which the Competition Council may request filling an incomplete notification or 20 days from the registration date of the notification.
- irreversible steps can be taken by the parties involved in a merger transaction before obtaining approval the Competition Council.

To ensure full harmonization with the *acquis communautaire* in this area and for application in Romania of similar mechanisms in the European Union, the Competition Council considered:

- adoption of guidelines on remedies is required for conditional approval of merger.
- completion of the Competition Council Regulation on the authorization of the merger with the simplified procedure of mergers and tracking and adapting to new Community policy on the authorization of economic concentrations.

### **Vertical restraints regulation, specialization agreements, research agreements - development and horizontal cooperation agreements.**

After several years of applying the "Regulation on granting block exemption of agreements, decisions or concerted practices from the prohibition in article 5. (1) of the Competition. 21/1996" felt need for improved clarity and transparency rules on the applicability of art. 5 of the Competition Act. In order to focus on economic evaluation approaches to ensure more effective protection of competition and greater legal certainty for operators, Competition Council imposed new rules:

Romanian legislation	<i>Community acquis</i>
Regulation under Article 5 (2) of the Competition. 21/1996 on vertical agreements	Commission Regulation (EC) no. 2790/1999 of 22 December 1999 on the application of articles 81 (3) of the Treaty to vertical restraints and concerted practices, OJ L 336, 29.12.1999; Council Regulation (EC) no. 1215/1999 of 10 June 1999 amending Council Regulation nr.19/65/CEE of 02.03.1965, OJ L 148 06.15.1999; Council Regulation (EC) no. 1216/1999 of 10 June 1999 amending Regulation no. 17/1962 First Regulation to implement Articles 81 and 82 of the Amsterdam Treaty, OJ L 148 15/06/1999.
Instructions for application of Article 5 of the Competition. 21/1996 for vertical restraints	Community guidelines on vertical agreements, OJ C 291/01, 13.10.2000
Regulation exempting specialization agreements between competitors from the prohibition in Article 5 (1) of the Competition. 21/1996	Commission Regulation (EC) no. 2658/2000 of 29 November 2000 on the application of Article 81, paragraph 3 to categories of specialization agreements, OJ L 304, 05/12/2000
Regulation exempting research and development agreements from the prohibition in Article 5 (1) of the Competition. 21/1996	Commission Regulation (EC) no. 2659/2000 of 29 November 2000 on the application of Article 81, paragraph 3 to categories of research and development agreements, OJ L 304, 05/12/2000
Instructions for application of Art. 5 of the Competition Policy. 21/1996 horizontal cooperation agreements	Community Guidelines on the application of art. 81 to horizontal cooperation agreements, OJ C3/02, 01/06/2001

Starting from the assumption that below a certain level of market share, positive effects will outweigh any agreements referred to their negative effects on competition, may be exempted, according to article 5. (2) of the Competition Law no.21/1996.

To ensure taking the necessary legislation to liberalize the telecommunications market from 1 January 2003, the Competition Council adopted Guidelines on the application of competition rules to access agreements in the electronic communications sector - framework, relevant markets and principles, published in MO no. 920/17.12.2002.

The amendment, in 2004 of the Competition Law no. 21/1996 provided:

- repeal the notification requirement for agreements, decisions and concerted practices falling within an exempt category;
- alignment thresholds and criteria for merger notification to the community practice;
- change from one system of sanctions in fixed amounts at a percentage;
- minimize the possibility of the Competition Council in merger its discretion by removing the provision on intervention operations after a merger in accordance with Art. 51 (3) of Law no. 21/1996
- the need for further harmonization of legislative provisions by formulating a policy similar to the European Union to companies that cooperate to detect illegal arrangements, that seriously distort competition and secondary legislation sector (automotive, mail, electronic communications, air transport, maritime transport, inland waterways transport).

### Developments in State Aid

If the adoption of the *acquis* in the field of competition and effective enforcement of regulations regarding anti-competitive practices and mergers have made progress since 1998 in terms of state aid things have developed at a pace slower.

However, when it adopted the Law on State Aid no. 143/1999 (OJ no. 370 / 03.08.1999), Romania was the first country of the associated settlement, which was appreciated by the European Commission in the Second Progress Report. The report stressed that, while the state aid remains important in some sectors of the economy, will be necessary to monitor enforcement of this law, so that it can be done in accordance with the *acquis*.

The state aid law. 143/1999 came into force on 1 January 2000 and was soon accompanied by the adoption and application of the Competition Council of two absolutely necessary regulations governing the procedure and criteria for granting state aid in Romania:

- Regulation on the form, content and other details of the notification of State aid;
- Regulation on the minimum state aid which is not subject to the notification.

The law covers state aid assessment criteria of transparency and compatibility of state aid in accordance with Art. 87 and 88 of the Treaty of Amsterdam. The two regulations were taken into account existing on EU regulations: Council Regulation no. 659/1999 of 22 March 1999 laying down detailed implementing rules of art. 93 of the EC Treaty, Council Regulation no. 994/98 of 7 May 1998 for the application of Articles 92 and 93 of the Treaty to certain categories of horizontal State aid, and text communications and letters to Member States of the EU Commission on State aid issues.

The development of the Regulation on the minimum state aid which is not subject to the notification have been considered community regulations that directly or indirectly refer to the application of minimum threshold for the granting of State aid, and especially note the use considered minimum facility in the Guidelines on State Aid for Small and Medium Enterprises (letter of March 23, 1993, DG IV IV/D/6878 the Member States to annex the cash equivalent calculation for low interest loans) and Note Commission on the the minimum rule for State aid, 96/C68/06, OJ C 68, March 6, 1996.

Threshold established by the order of the Competition Council. 251/23.12.2002 (OJ no. 49/29.01.2003 was approximately 300,000 RON (100,000 euros). An analysis of Community legislation on state aid, especially the new Community approach on the establishment of clear criteria for aid state for different areas or types of activities, the Competition Council adopted the following regulations published in the MO no. 470/2.07.2002, regulations came into effect on 01.02.2003:

<i>Romanian legislation</i>	<i>Community acquis</i>
Regulation on regional state aid and aid for SMEs	Community guidelines on national regional aid (OJ C 74, 10.3.1988) with small and medium subsequent amendments: 2000 / C 258/06 Commission Regulation no. 70/2001 of 12.1.2001 on the application of article 87 and 88 of the EEC Treaty on State aid for SMEs
Regulation on State aid for rescuing and restructuring firms in difficulty	Community guidelines on State aid for rescuing and restructuring firms in difficulty (OJC 288/9.10.1999)
Regulation on State aid for Research and development	Community framework on State aid for research and development, OJ C045 / 17.02.1996 Commission

	Communication amending the Framework on State aid for R & D (98 / C 48/02)
Regulation on State aid for professional training	Regulation nr.68/2001 on the application of article 87 and 88 of the EC Treaty to training aid
Regulation on State aid for environmental protection	Instructions issued by the European Commission State aid for environmental protection, [2001 / C 37/03]

Regulations aimed especially those directions - horizontal and regional aid, which focuses mainly on issues of major importance for Romania (regional aid for SMEs, and rescue and restructuring businesses in difficulty). Regulations transposing into Romanian legislation the horizontal community rules and substantive rules on eligibility, intensity, equivalent net state aid.

Community regulations on block exemption on the recommendation of the European Commission in Romania will continue to be notified to the Commission State aid in the European Union which are subject to block exemption regulations. Exception to this rule are only aids that meet the requirements specified in the "Regulation on minimum state aid which is not subject to the notification". In 2002, the European Commission Communication was presented on adopting the proposal, the Association Committee established by the Europe Agreement establishing an association between Romania, on the one hand, and the European Communities and their Member States, on the other part of the national and regional aid maps on which to evaluate regional aid to Romania. The Association Committee Decision maximum aid intensity applicable in Romania will be limited to 50% net grant equivalent. The maximum aid intensity may be increased by 15 percentage points in gross size, for aid to SMEs.

Given their impact on Romanian companies which were affected by economic transition conditions, we present the main provisions of the Regulation on State aid for rescuing and restructuring firms in difficulty.

The regulation establishes the criteria that applies to the Competition Council to examine the conformity of state aid for rescuing and restructuring firms in difficulty with Law no. 143 on State aid. Regulation of particular importance in the current business cycle in Romania directly targeting companies in reorganization and bankruptcy proceedings; application must maintain a competitive market structures. Regulation does not apply to operators of coal and steel sector.

By regulation, a firm will be considered as being in difficulty when it is unable, whether through its own financial resources that can either obtain them from the owners / shareholders or creditors, to stem losses which, in the absence of intervention outside of the public authorities, will remove the economic cycle. This category includes business start-up even if they have a precarious financial position. A company belonging to a group is eligible only if they can demonstrate that their difficulties are society and is not an arbitrary allocation of costs within the group and that the difficulties are too serious to be handled by the group.

Regulation contains clear provisions on conditions that may be authorized State aid for rescue and restructuring aid:

	State aid for rescue	State aid for restructuring
Features	- Temporary / award during the company must prepare a restructuring plan or liquidation	- Is based on a feasibility study and long-term coherent society revival
	- Exceptional - exceptional measures because, by their nature, they tend to distort competition	
Forms	- Limited to loans or loan guarantees	The criterion "private investor"
		- Can take various forms: capital injections, debt relief, loans, tax breaks and social security contributions to state or state guarantees for loans
Terms of authorization of individual state aid notified to the Competition Council		
	- Be a firm support liquidity in the form of loan guarantees or loans / interest rate - at least comparable to the reference rate is the interest on loans by commercial banks; - Concern loans to be repaid within 12 months after the last installment to the	- Subject to application of the restructuring plan; - The plan must cover a period as short but to revive the long-term company - Return on capital estimated to be sufficient to allow the company restructured to

	<p>company;</p> <ul style="list-style-type: none"> <li>- Justified by serious social reasons;</li> <li>- Subject to the presentation within 6 months from approval of restructuring or liquidation plan or proof that the loan was repaid in full and / or guarantee has expired;</li> <li>- No repeat aid may be authorized</li> <li>- Authorization of rescue aid does not necessarily attract the authorization of State aid for restructuring.</li> </ul>	<p>compete in the market themselves.</p> <ul style="list-style-type: none"> <li>- Application of the "last time" in aid;</li> <li>- Avoiding distortion of competition by allowing aid environment;</li> <li>- The amount and intensity - limited to the minimum necessary</li> </ul> <p>Special provisions for:</p> <ul style="list-style-type: none"> <li>- Restructuring aid in assisted areas;</li> <li>- Aid for restructuring their SME</li> <li>- Aid to cover social costs of restructuring</li> </ul>
Conditions for authorization of state aid schemes for SMEs		
	<ul style="list-style-type: none"> <li>- Notification of individual allocations;</li> <li>- Scheme to specify the maximum level of aid may be granted the company as part of the rescue operation and / or restructuring, including the plan is modified</li> </ul>	
	<ul style="list-style-type: none"> <li>- Within six months of performing the analysis of the company;</li> <li>- Presentation of a restructuring or liquidation plan</li> </ul>	<ul style="list-style-type: none"> <li>- Full implementation of the restructuring plan;</li> <li>- Conditions of individual aid</li> </ul>

A specific principle of this regulation is the "first and last time" that the restructuring aid to be granted once, in order to avoid certain companies assisting in improper proportions.

Special emphasis is given to the restructuring plan to be very well founded and must demonstrate that society will be reinvigorated on the long term. The restructuring plan must be developed in such a manner as to enable society to progress towards a new structure to provide them long-term viability.

In the first months of 2003 the Competition Council adopted the following regulations and guidelines:

- Guidelines on state aid as collateral;
- Guidelines on State aid and risk capital;
- Multisectoral Regulation on transitional rules applicable regional aid for large investment in industry-specific, multi-sector regulation transposes the EU applicable C107/07.04.98 up to 30.12.2003 for specified sectors;
- Multisectoral Regulation on regional aid for large investment projects, implement new sectoral framework regulation applicable in the EU C70/19.03.2002 after the old frame (referred to previous position) for specified sectors, applicable from July 24, 2002 in the steel, and synthetic fiber industries and automobiles, applicable in Community sectoral regulations such place 01.01.2003.

Aligned with the *acquis communautaire*, these guidelines establish criteria for and method of evaluation of state aid granted in cases and areas specified.

Secondary legislation in state aid over the coordinates of their basic Community regulations on inventory, monitoring and reporting provisions of state aid and financial relations between public authorities and public undertakings:

- Government Decision no. 599/6.07.2000 for approving procedures for reporting, monitoring and enforcement information no. 143/1999 on State aid (OJ no. 340/21.07.2000) came into force on July 21, 2000. Procedures is a system on which it can respond consistently to any intervention in the economy, in order to ensure transparency in the field.
- Government Emergency Ordinance no. 97/2002 on transparency in state aid and financial relations between public authorities and public undertakings as well as completing art. 6 of Law no. 143/1999 on State aid (OJ no. 631 of 26.08. 2002).
- Law no. 18 of 9 January 2003 approving Government Emergency Ordinance no. 97 of 16 August 2002 (Official Gazette no. 38 of 23.01.2003).
- Government Decision no. 26 of 16 January 2003 on transparency of financial relations between public authorities and public enterprises and financial transparency within certain undertakings (OJ no. 87 of 02.12.2003).

By amending the Law on State Aid no. 143/1999 aims to:

- Ensure effective control of state aid by requiring the notification of State aid schemes and individual state aid to the projects of administrative and normative acts;

- Clarity in stating the forms of state aid;
- Elimination of qualitative evaluation of positive and negative effects of State aid approval decision or unauthorized and introduce clear criteria and conditions of the *acquis communautaire*.

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## ECONOMICAL CRISIS, A PATH TO CHANGE OR TO CHAOS?

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**Abstract:** *Economical crisis cause radical changes to all spheres of economical and social life. Change can be beneficial or catastrophic. For some countries, change caused by economical crisis are beneficial, those countries testing their capacity to reevaluate their economical potential and trying to relaunch their economy by making use of other principles than purely economical ones. Those which do not succeed in managing crisis enter financial collapse and this is just one step away from chaos and war. Attitude towards change is very important. When something happens to us, we must accept what is happening and try to find fixes to get out of that situation while taking as little damage as possible. If we adopt the attitude of he which has already lost, trying to blame one another, while not trying to do anything to get to safe waters, we will certainly drown one by one. Only by education, by raising our degree of collective knowledge, solidarity and mutual understanding can be overcome the current global economical crisis.*

**Key words:** economical crisis, change, research, innovation

**JEL classification:** A 10, E 00, O 11

In Romania, the economical crisis has taken countless aspects and manifested differently from one time period to another, producing important changes in the economical, financial, institutional, social, etc. systems. Immediately after the fall of the communist system and the passing to a new form of economical organization and functioning, based upon a market economy, the Romanian economy entered an ample process of change, which may be compared to a tsunami which devastated the so called economical balance existing up to that point.

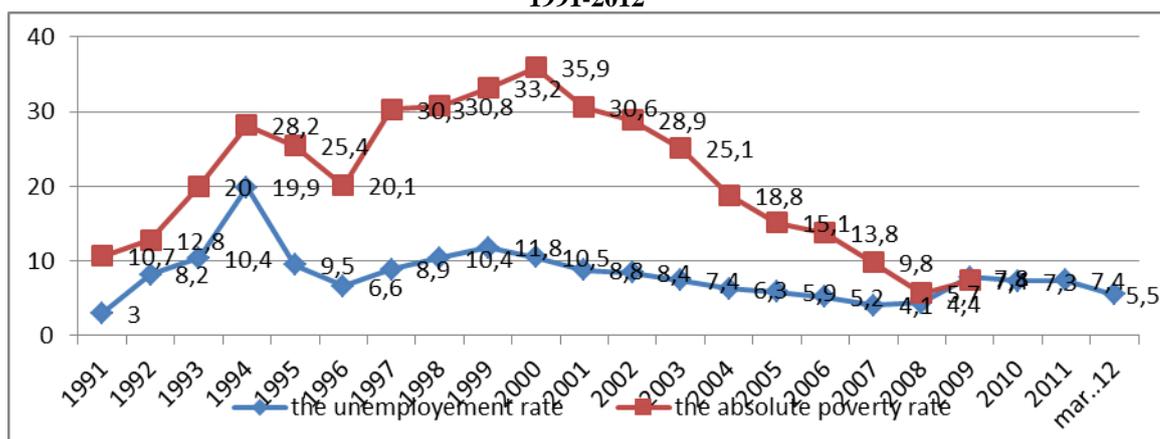
During the 1990-2000 period, the economy has known a winding evolution, starting off with a deep depression, then a short period of recovery followed by yet another depression, however of smaller scale, and only starting from the year 2000 did we register a revival of the economical activity.

The transition to a market economy and the reforms applied just after the nineties practically meant the demolition without it being replaced with some other viable and sustainable system from an economical, social and political point of view. The reform was done chaotically, not contributing to the restoration of economical balance, based upon which economical growth and development could have been assured. Due to the rushed privatization, our national wealth suffered, important companies and companies of national interest becoming property of other states, while others were sold for as little as one dollar, the whole of our commercial fleet was sold off, the APCs were shut down and the land law was poorly thought out and implemented, much of the population's privatization not producing the expected results etc.

Ten years after having crossed over to market economy, Romania's economy started off, and as such a series of macroeconomical indicators registered increases: real GDP/person, industrial production, agricultural production, energy production, and economical delays compared to other countries decreased thanks to achieving high rhythms of economical growth in the 2000-2008 period. The promotion of efficient investment holds an important role in the creating of new jobs and the gradual relaxation of the monetary revenues of the population which stimulated internal demand, an increase in production and development of companies.

Work and the occupation of workforce are the most tense issues with which today's world faces because they serve to increase nation's wealth and also to create a better life for everybody. If we were to analyze the unemployment rates in the 1990-2000 period, we'd see that the unemployment rate oscillated, resulting in maximal values in 1994 (10,9%) and 1999 (11,8%) and minimal values in 1991 (3%) and 1996 (6,6%) (see figure 1).

**Figure 1: The unemployment rate and the evolution of the absolute poverty rate in Romania 1991-2012**



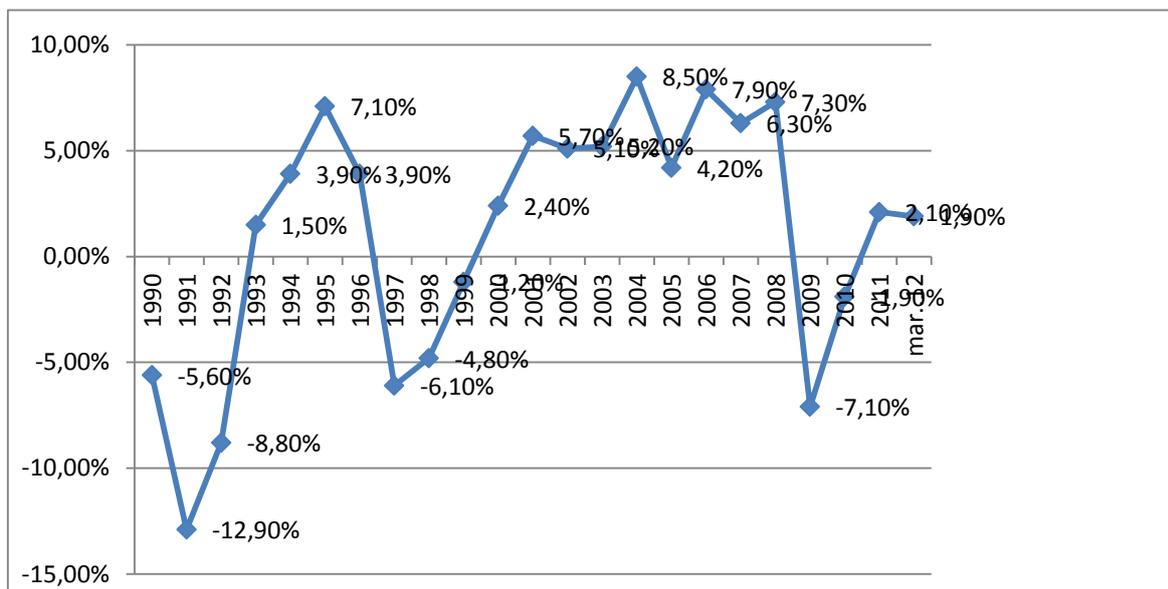
Source: INS, ANOFM, ICCV, 1991-2012

The privatization and restructuring of the Romanian economy have significantly influenced the labor market, causing massive layoffs and the rise of an unemployment phenomenon, phenomenon officially admitted to exist in 1991, once Law 1/1991 concerning the social protection of the unemployed and their professional reintegration was passed. In 1990, unemployment was seen as a catastrophic phenomenon due to fears over a phenomenon which hadn't existed up to that point, but also due to the disastrous state of the economy, due to the chronic state of degradation the labor market was in and the lack of real social protection, today the phenomenon of unemployment is not feared so greatly, but long-term unemployment has negative effect on society, but especially on the individual concerned. On an individual level, unemployment causes multiple financial, moral, familial losses, loss of work skills, behavioral deviations, poverty, exclusion and marginalization.

Analyzing the evolution of unemployment rate for the 2000-2008 period, we find that the unemployment rate of this period was behind the economic cycle, because Romanian entrepreneurs have not forgotten the oscillating shocks and risks to which they were exposed after 1990 for ten years. After the year 2000, Romania's economy registered, after one decade, an at first slight economic growth, but afterwards for 8 years the economy grew considerably. As such, in the 2000-2004 period, or economy grew very much, although the unemployment rate did not vary as much, staying behind the economic cycle, because entrepreneurs did not trust that our economy was truly being relaunched and to this end they delayed creating new work places.

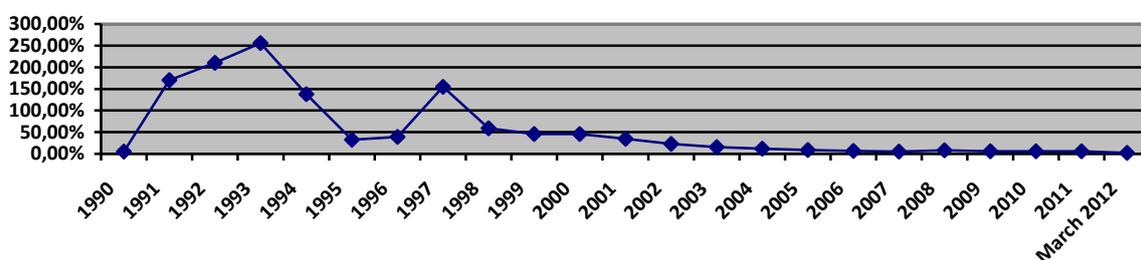
The positive shock took a very long time to propagate across the labor market, and because of this, the unemployment rate needed 31 quarters (almost 8 years) to come down from 10,5% in the year 2000 to 4,4% in 2008. During this time, investors were not completely confident in the quality of the work force and replaced the work factor with capital to stimulate and accelerate collections and investments. Business prospered, currency became stronger, and only when demand became more elastic did employers finally start to hire and the unemployment rate started to go down, but very slowly, going down slower than the economy improved. As such, an unemployment rate of 4,4% (in truth faking a state of complete occupation) could have been achieved much earlier. This evolution was due to the economic growth process (meaning real GDP/individual growth- figure 2), the re-launching of the economy, the increase of economic results both at a microeconomic level and also a macroeconomic one, the increase in work force occupation rates, the lowering of inflation (figure 3) and increase of purchasing power. So, we can say that Romania, for 8 years, had an economic cycle expansion phase, from all points of view.

Figure 2: Growth rate in Romania during 1990-2012



Source: INS, 1990-2012

Figure 3: The inflation rate in period 1990-2012



Sours: INS, 1990-2012

Once with the start of the economical crisis at the end of 2007, all global economies entered a recession phase. This phase started off with a massive decrease in aggregate demand and a financial-banking jam. The effects of the global crisis spread amazingly fast and hit all economies, manifesting on all continents. In 2008, Romania did not feel much of the effects of the crisis, but the psychological and social effects of the global crisis triggered in the attitude of buyers, and as such the aggregate demand went down, and from this point there was but one step to an economical, financial and banking jam.

At the end of 2008, the economical shock hits the capital fluxes and through the global transmission effect of the crisis, the unemployment rate jumps sky-high, and in 5-6 quarters lost all progress of the previous eight years. This happened due to the fact that the economical agents did not forget the negative shocks of before 2000 and because they did not wait for recession to hit and fired people in advance of it. The propagation of the positive shock was done over a long time while the negative shock had immediate effect upon the labor market. Given that we have a crisis on emerging markets, these are very vulnerable to international shocks because investors pull back, practically throwing the economy in the air, coin devalues, banks collapse and a series of unbalances and failures of the market momentum.

The deep economical crisis of the 1990-2000 period emphasized a series of imbalances at a social level, as such the poverty rate rose dramatically, hitting 35,9% in the year 2000, then registering a drop up to 2008 hitting a value of 5,7%. There is a reverse ratio between economical growth and the dynamics of poverty, however more economical growth does not bring less poverty. The curve at which poverty falls is slower and slower, because increases in GDP and retractions of poverty do not automatically relate, there being several unknown factors in the equation (the psychological, cultural, religious etc. factors). One negative phenomenon is that the Romanian society has gotten used to being poor and no longer

reacts to adverse situations: austerity budgets, ridiculous wages, bad quality goods which we buy for more money, social, medical, educational, cultural services of poor quality, improper living conditions etc.

Crisis may be a path to change if accepted and seen as a normal phenomenon which repeats itself from one economical cycle to another, varying in intensity by time period and country to affect. Starting from the year 1907 and up to today, humanity has withered through over 10 major crisis, of which two were especially violent and lengthy: The Great Interwar Depression (1929-1933) and the World Economical Crisis (2007 to today). If we were to do the math, these two great crisis took place 80 years apart and we believe that the rhythm of change will increase exponentially, as the world is changing at a phantastic rate, even from one day to the next. New information could anytime rock our understanding of the world and undermine our whole mental construction, forcing us to change our way of thinking and our beliefs.

The rhythm at which change occurs has increased from one generation to the next. If our grandparents and greatgrandparents lived their entire life without nothing brutally changing their view of the world, today such events happen from day to day, if not once every few hours. *What is it that changed they way we live the experience of change?* The speeding of the rhythm of change is occurs due to our ability to communicate at a global level, discussing anything, there being the possibility to relay anything in just seconds through the computer. During these times, one may perform surgical operations from afar, via a computer. One may hold international conferences with participants from different corners of the world, without them ever moving. One may shop online from any country, etc.

The multiplication and diversification of needs, our desire to satisfy as many and as complex of our needs in as little time as possible generates a chain reaction from which we cannot escape. Science and knowledge have progressed at a rapid pace precisely because they must keep up with humanity's needs and wants, leading to increasing consumption of resources and production factors, practically forgetting that our resources are limited by the planet's potential. Ignoring this aspect shows that we are wasteful, that the tension between needs and resources is not relieved, but instead it is intensified and amplified. At the same time, we are in no way happier than our greatgrandparents and grandparents were, who had only rudimentary means of satisfying needs at their disposal, we do not have more time for ourselves, we can no longer enjoy the fruits of our work in peace, we no longer have time to spend with our children and families, we no longer enjoy the little things but instead we desire what is material (cars, villas, yachts, luxury jewelry, etc.) comes first in our lists of choices, we are no longer safe, etc. All these change our way of thinking, our customs, our lifestyle, our convictions, our beliefs not once every generation, but during our own existance.

*Now we ask ourselves, is crisis a change for the better or for the worse?* If we were to answer by making use of a popular saying, the answer would be that "a kick in the back is a step forward" or any revolution or revolt brings change, obviously everybody wants change to bring on an improvement in living standards, and probably for most, change is beneficial, but there always also are those which are put at profound disadvantage as a result of change. Hit hardest are those vulnerable from an economical and social point of view, those with small and static revenues, those which have children, the elderly, the disabled to take care of, those who have only primary school training, those who refuse to change or to adapt to the new situations etc.

If an economical crisis is not correctly managed, the global financial-banking system may crash, and the whole world may be engulfed in unimaginable protest and violence, which can degenerate into war and chaos, and individual freedom may be limited, while democracy may be lost (Soros, 2012). So as to prevent all of this, we must immediately find solutions to help the economy recover, and George Soros believes that president Barack Obama's proposition increase taxes for the rich may be a fix, it being preferable to lower wealth rather than lose it all.

Attitude towards change is very important because it can help relaunch economical initiatives or just the same, it can kill off any attempt at innovation. Innovation is the freedom to think and create new solutions to exit the crisis by taking up economical and social risks and responsibilities, especially during times of financial collapse. Romania is part of the laggard group of countries members of the EU in terms of innovation, alongside Latvia, Bulgaria and Lithuania. The most innovative is Sweden, followed by Denmark and Germany (which is first at applying innovations in production) and Finland. Peter Droell (chief policy development and industrial innovation in the European Commission) has noticed the striking correlation between budget allocations for research and development in the 2004-2009 period and the economical growth of 2011, at the peak of the crisis, saying that member states which invested in

research and development and innovation were stronger during the crisis and came out of it earlier (Marchievici, 2012).

Romania is the last EU member country per what regards the percentage of the GDP allocated to research and development, meaning that in 2010 it spent 2413,4 million RON, this being 0,47% of the GDP, coming down by 0,01 percent compared to 2009, as opposed to the EU average of 2%. Of the whole of these expenses, 42,9% were routed towards fundamental research, 50% applicative research and 7,1% experimental research. In terms of the number of articles written, Romania takes up the 20th place of 27 EU member countries, and at a global level it sits on the 35th spot with 11.106 articles, first place being held by the USA with 502.804 articles, second place held by China with 320.800 articles and third place being held by Great Britain with 139.393 articles. In developed countries, investment for research comes from private investors, not like in Romania, from the government (54,4%) and only 32,3% from companies (1).

A study done by Reuters in November 2010 shows that China will become the world's most important center of innovation by 2020, overtaking the USA and Japan, as such the search and development expenses of Asian countries having been of 387 billion dollars in 2008, as opposed to 348 billion dollars in the US and 280 billion dollars in Europe (Bucureveni, 2012).

Investment in research and development have been directed towards innovating some new technologies which will use alternative and regenerating resources to produce cheaper goods and services, superior from a qualitative point of view and having lower costs, allowing the development of a sustainable economy not requiring massive investment. Romanian companies should invest more in innovation and new technologies, but these are poorly capitalized and are directed towards obtaining as high profit as possible in as little time as possible.

Also, Romanian investors do not have a long term vision of their own dealings, and they invest the profit they gain into inactive objectives which do not bring profit, but quite the opposite, are simple money eaters (villas and luxury holiday homes, extravagant cars, trips, costly trips, etc.). Quite often we ask ourselves, why is tourism in Turkey profitable? It's profitable because investors aim to recover the investment they put into buildings, confort and services over a long term, of 20-30 years and not over night, by asking for high prices and offering poor service. But all of this is what you learn from certain sources, education sadly lacking in Romanian investors.

Education plays an essential role in the consolidation of economical and human growth and development, investing in human capital being as important as investing in physical capital. This crisis context is a tough one, in which only well run systems will succeed, and in such context, through education, research and development you may find solutions to the current crisis issues. In the European area, the document which guides member states towards actions in the domain of education is the 2020 Agenda, which is the successor of the Lisbon Strategy and expresses the political intent and commitment of the EU to become the most competitive economy of the world, based upon developing knowledge.

In Romania, the crisis has negatively influenced the development of the educational system. If up to 2008, the budget allotted to education had been greatly increased, to nearly triple, from 3000 million dollars in 2005 to 8000 million dollars in 2008, beginning from 2009 the budget for education dropped below 6000 million dollars, receiving only 2,1% of the GDP (2). In the year 2010, education received even less, 1,08% of the GDP, and for the 2011-2013 period, the Government announced massive cuts to the education budget : 1,03% in 2011, 1,08% in 2012, and 1,29% of the GDP for 2013, all this while both the Pact for Education and the Law of National Education stipulate that education must receive 6% of the GDP, given that schools and high-schools have been put in the administration of town hall (3).

Beyond the statistical data, the perception of all citizen regarding education is an unfavorable one, performance attained being poor on all levels of education, because for 20 years, the educational system has undergone frequent legislative and organizational changes, which were imposed once with changing the the government system, without there being a continuity to the programs and projects started by the old government. All these have produced chaos in the educational system and an attitude of laxity and of treating school programs superficially, both by teacher and by pupils, because the current state is always changing and you never know what will finally happen. Teachers are no longer motivated to get seriously involved in the training of the pupils, their salaries having been reduced by 25% as part of the budget policy, due to ranking coefficients and also due to the unitary wage law. In October 2009, the gross wage in education was of 2.085 RON, and in October 2010 of 1.300 RON.

In developed countries, the effects of the crisis upon the educational systems were fairly limited, some even increasing funds allotted to education to counteract the effects of the crisis and to prepare the

economy for a relaunching. In turn, Romania reduced funds allotted to education for all levels, from preschool up to university education.

Education, research and innovation make up the so called *triangle of knowledge* (Giarini, Marita, 2005). Knowledge is gained by learning for the whole length of our lives, research implies those activities done with the purpose of obtaining, processing and use information from all domains of activity to develop the knowledge or experience accumulated in an educational system, and innovation is the result of ample research aimed at increasing economical efficiency by discovering new techniques and technologies of production. If all three sides are well rooted in the culture of a people and if we realize that these are the basis of a healthy society and that only by education and culture can we raise our level of civilization, then everything will lead to that positive, beneficial change for all members of society. But if the foundation of a house is rickety, frail, sick then that house may fall at any time, and society will always be sick and will forever needs injections to fix fissures caused by small crisis. The crisis shook the triangle of knowledge and if we do not try to fortify the foundation through coherent and sustainable educational policies, then every brick we put in the wall will crumble and things will get worse over the next years.

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## HUMAN RESOURCES CONTRIBUTION TO ECONOMIC GROWTH

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**Abstract:** *The paper aims to highlight the role of human resources on economic development. People, in terms of experience, talent, knowledge, skills, intelligence, are part of intellectual capital. Superior training of staff, coupled with providing a general state of good health, which, in turn, ensure a long and productive life, find expression in the development of society, translated into a number of licenses, patents, know-how, prestigious brands, in other words, progress. Therefore, we consider that the economic growth is depending further human development, correlated with level of income per capita level. We chose three of the most developed countries in the world, and three from developing countries and we analyzed the human development index in relation to the life expectancy at birth, education level and income per capita value.*

**Keywords:** human capital, Life expectancy at birth, Education Index, Human Development Index

**JEL classification:** I 15, O 15, P 46

### 1. Introduction

Competition favors only the powerful, inventive, inspired and very well trained staff business. Therefore, successful companies tend to be those that innovate permanently, using the new technologies, the skills and the know-how of their employees. They can do that as long as their high educated employees enjoy good health and welfare.

Human resources represent a hidden component in the economy of a company and thus their contributions are more difficult to identify, assess and copy. At the same time, in the new economy, human resources become is more obvious that they are the engine of the economic growth and development (Stiglitz and Walsh, 2005).

### 2. People Viewed As An Important Resource To Company Development

A group of people, with a certain level of training, working together to achieve some common objectives, form an organization. Their objectives must be sufficiently complex and extensive that they cannot be achieved through the efforts of one individual and justify the founding of an organization (Brătianu, 2007). Thus, a company is an organization because it contains one or more groups of people, aiming at producing goods and services which satisfy a number of human and social needs. In that order, we can say that the company is an organization of organizations. As P. Druker stated, almost every citizen of a developed country is the employee of an organization. For him, the organization represents the chance to get a job and a salary. For him, the organization represents the opportunity of professional fulfillment. (Druker, 1993).

Peoples are intangible resources for the company, so they are a part of those resources that cannot be seen, touched, and measured directly. The concept of human intangible resources refers to people as integrators of other properties besides physical properties, like: experience, talent, skill, intelligence, knowledge, creativity. As any other intangible resource, they do not have a physical form, nor do they hold physical properties, their features and behavior are different. (Brătianu, 2006).

According to specialists, all intangible resources of a company become more important than tangible resources. Human resources are strategic in getting competitive advantages, helping to create a solid reputation for the company and also possibly leading to its expansion.

The specialized literature presents human resources as a part of *intellectual capital* concept, that, in the knowledge-based economy, becomes the ultimate source for generating power. The concept of *intellectual capital* has been defined and soundly argued for the first time in the literature by Thomas A. Stewart, one of the editors of the famous American magazine, *Fortune*. Basically, it is the sum of everything that each employee knows in a company and can be used in developing its competitive capacity (Stewart, 1999).

Intellectual capital is a term that is used to signal the presence of another type of capital, different from the physical and financial capital (Peltoniemi, 2006). In Stewart's view, "intellectual capital is the intellectual material - knowledge, information, intellectual property, experience - that can be put to use to create wealth." At the basis of this definition there are two main ideas. *The first idea* refers to the fact that in a company there is a certain intellectual material composed of knowledge, intellectual property and experience, which does not appear in the financial balance of the organization, but which may well contribute to the achievement of products and services. That is the intellectual potential. *The second idea* refers to the ability of this capital to turn in the technological and managerial processes into a series of active operational elements, creating value. Intellectual capital is intangible, and bears a close relationship with knowledge in its various forms, either tacit or explicit. Intellectual capital also offers opportunities for achieving higher ranking performance.

A part of intellectual capital, *human resources* refer to professional skills of employees, their experience, intelligence, talent, ability to solve problems, etc.; these are crucial values of the organization, since they are difficult to identify, measure and cannot be reproduced (Ghe. Holt, 2010).

### 3. Human Resources Development

Among the factors which try to explain the differences between countries in terms of economic development, we may mention culture, geographical position, education, democracy. Some specialists argue that cultural differences explain the differences between the levels of economic development of the countries in that some countries have hard working, enterprising people (USA, Japan, Germany), while other countries do not. *Culture* plays an important role, but it is not the only factor that explains economic success. The example that supports this assertion is the economic success of expatriates outside their countries of origin. In terms of *geographical position*, there is the idea that in some countries close to the Equator the heat prevents people from working and exposes them to disease (Africa). It is also considered that for the countries without an opening to the sea the transport costs are excessively high and therefore these countries cannot participate in international trade. There is a grain of truth in support of these ideas, but there are also many counter examples and the most remarkable is Switzerland (Baumol, 2009).

*Education* plays a particularly important role because people with higher education are more likely to conceive businesses or to be employed in services with a favorable status, especially in the current society, which is an informational society, a knowledge society.

*Human capital* is closely related to educational level and health status. However, *education* is the very essence of human capital, its importance being far superior to the health-related components. The educational side takes two distinct forms: on the one hand, the skills gained from participation in the *formal education* systems, knowledge certified by a diploma – the so-called *formal education*; on the other hand, the knowledge and skills acquired during life by their own efforts, interacting with various experts from various fields – the so-called *informal education*.

*Health* depends to a large extent on the educational side. Specialized studies show that most educated individuals opt for high-quality medical services, taking into account the best alternative for maintaining optimal health parameters.

Aggregate human capital at the national level, in particular, has been used to characterize the level of development of a country or to explain its economic growth. With the transition to a new stage in the definition of development through the enrichment of the concept with social aspects, specific indicators for measuring development have been developed. Thus, in 1990, the **Human Development Index (HDI)** was created.

Every year since 1990, the Human Development Report has published the Human Development Index (HDI), which was introduced as an alternative to conventional measuring instruments for national development, such as income level and the rate of economic growth. HDI calls for a broader definition of welfare and provides a composite measure of three dimensions of human development: health, education and income.

To observe the influence on the index, we propose below a brief analysis of main components of HDI in 2011 in six countries: USA, Japan, Germany, Romania, Bulgaria and Turkey.

**The first category** of countries analyzed included the United States, Japan and Germany.

**Table 1: Human Development Index: Health, Education and Income for the U.S.A, Japan and Germany in 2011**

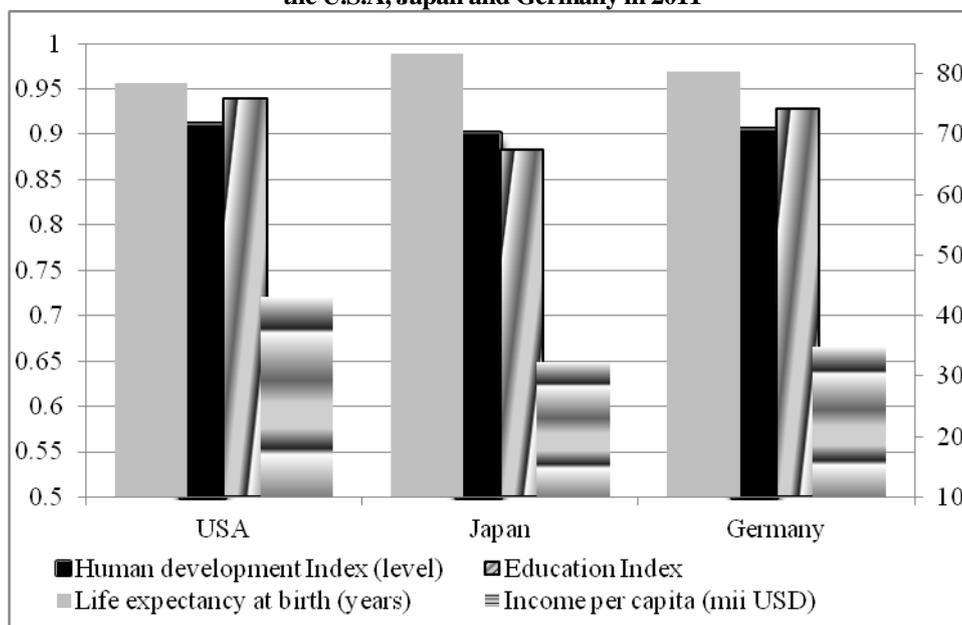
	USA	Japan	Germany
Human Development Index (rank)	4	12	9
Human development Index (level)	0.910	0.901	0.905
Life expectancy at birth (years)	78.5	83.4	80.4
Education Index	0.939	0.883	0.928
Income per capita (USD)	43017	32295	34854

Source: Human Development Report, 2011

In 2011, the HDI for the United States of America is 0.910, which gives the country a rank of 4 out of 187 countries with comparable data; for Japan is 0.901, which gives it a rank of 12 and for Germany is 0.905, which gives it a rank of 9.

Human Development Index, Life expectancy at birth, Education Index and Income per capita for the U.S.A, Japan and Germany in 2011 are graphical represented below:

**Figure 1: Human Development Index, Life expectancy at birth, Education Index and Income per capita for the U.S.A, Japan and Germany in 2011**



Source: Based on above data

Figure No. 1 reflects the evolution of the HDI in the United States of America, Japan and Germany in relation with the evolution of the Health, Education and Income level. The very high level of HDI in USA is due almost equally to the three factors mentioned above. The level of Income has the lowest influence, and the level of Education has the highest influence; however, the differences are small. In Japan, both overall and for each of the factors influencing this indicator. Both the HDI level and the levels of the other three indicators are very high, the gap between them being notable. We can notice that Health has the greatest influence on the level of HDI, this indicator getting closer to the maximum, while Income is ranked third in the order of the influences on the level of human development. The high level of in Germany is due primarily to Health and secondly to Education, being counterbalanced by the lower level of Income. The Health level is the closest to the maximum limit, while the Income level is below the HDI indicator, alleviating the growth of the indicator because of the increasing level of health and education of the population.

**The second category** of countries considered in the analysis consists of Romania, Bulgaria and Turkey.

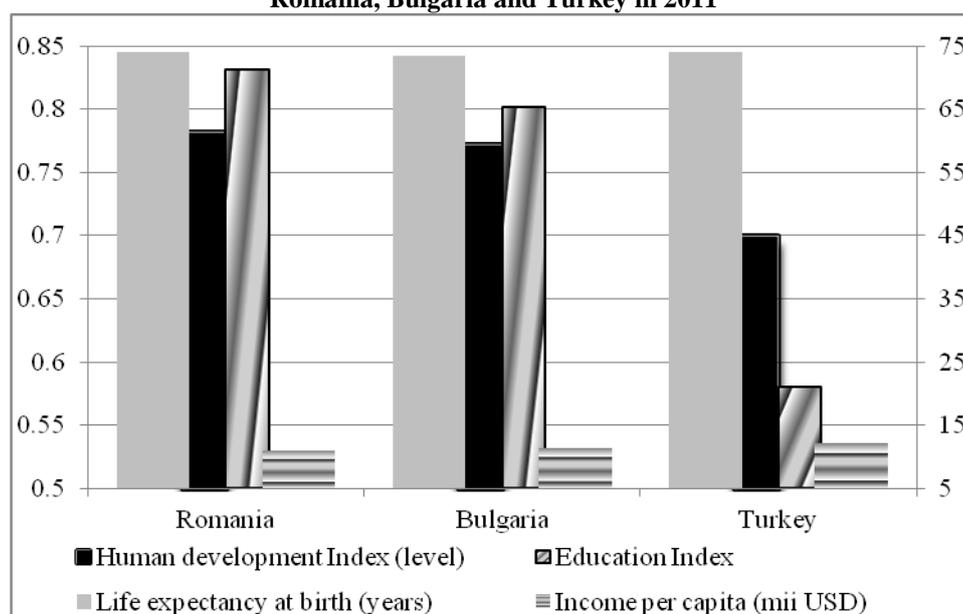
**Table 2: Human Development Index: Health, Education and Income for Romania, Bulgaria and Turkey in 2011**

	Turkey	Romania	Bulgaria
Human Development Index (rank)	92	50	55
Human development Index (level)	0.699	0.781	0.771
Life expectancy at birth (years)	74.0	74.0	73.4
Education Index	0.580	0.831	0.802
Income per capita (USD)	12246	11064	11412

Source: Human Development Report, 2011

In 2011, the HDI for Romania is 0.781, which gives it a rank of 50 while for Bulgaria is 0.771, giving a rank of 55, above the regional average, and the HDI of 0.699 for Turkey placed it on 92nd rank out of 187 countries with comparable data. The HDI for Europe and Central Asia has increased from 0.644 in 1980 to 0.751 at present, leaving Turkey under the level of the region.

Next, we represented below the Human Development Index, Life expectancy at birth, Education Index and Income per capita for Romania, Bulgaria and Turkey in 2011.

**Figure 2: Human Development Index, Life expectancy at birth, Education Index and Income per capita for Romania, Bulgaria and Turkey in 2011**

Source: Based on above data

The high level of Romania's HDI, represented in figure no. 2 is especially due to the good Health status of the population and to Education. The level of Health and Education indicators is located above the HDI level, but their high values are attenuated by a significantly lower level of Income.

The figure no 2 also highlights the HDI for Bulgaria in relation with Health, Education and Income. We can notice that the Health and Education level exceeds the Human Development Index, Health recording the highest level. Incomes are below the HDI development and rank last as compared to the other two, being considered the factor that attenuates the progress made in the Health and Education field in terms of HDI.

Figure above reflects the evolution of HDI for Turkey too, in relation with the level of: Health, Education and Income. We can notice that the Health level increases above the level of the HDI and gets the closest to the maximum limit, and the growth of HDI is directly proportional with Income. The level of Education records the lowest development, below the HDI evolution and also it ranks last as compared to the other two countries in the analysis.

The HDI trends tell an important story both at national and regional levels and highlight the significant gaps in well-being and life chances that continue to divide our interconnected world.

In the table below we collected HDI values recorded by some of the countries, taken as example in our analysis, and values recorded of country groups according to the development and worldwide in the period 1980-2011.

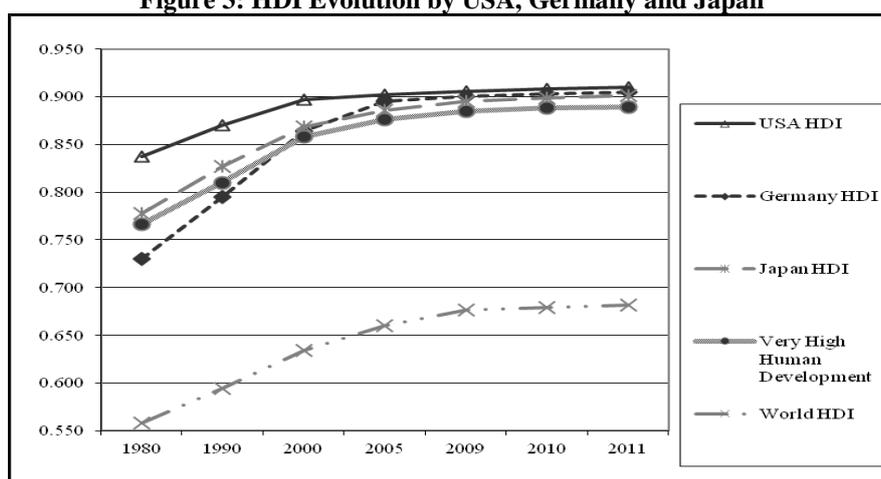
**Table 3: HDI Evolution between 1980 and 2011**

	1980	1990	2000	2005	2009	2010	2011
USA HDI	0.837	0.870	0.897	0.902	0.906	0.908	0.910
Germany HDI	0.730	0.795	0.864	0.895	0.900	0.903	0.905
Japan HDI	0.778	0.827	0.868	0.886	0.895	0.899	0.901
Turkey HDI	0.463	0.558	0.634	0.671	0.690	0.679	0.699
Very High Human Development	0.766	0.810	0.858	0.876	0.885	0.888	0.889
World HDI	0.558	0.594	0.634	0.660	0.676	0.679	0.682

Source: The Human Development Reports, 1992, 2002, 2007, 2011

Evolution HDI can be easily observed and analyzed by graphical representations of data that are presented in the next figures. For eloquence, we included in the graphical representation the values of representative groups of countries and the worldwide values:

**Figure 3: HDI Evolution by USA, Germany and Japan**



Source: Based on above data

Figure No. 3 reflects the changes in the level of human development in the 1980-2010 period in the United States of America Germany and Japan compared with aggregate value of index for countries with very high human development and worldwide index value(interpreted here as the region-sample for analysis). The HDI for the very high human development countries area rose from 0.766 in 1980 to 0,889 in 2011, as indicated in the figure and table above. The United States of America are above the group average and well above the world's HDI evolution from the beginning of the period analyzed, their detachment being clearly marked since 1980. The figure above reflects a very high human development for the United States of America, hovering over the period considered above the level of the other countries of the world and even above that of the other developed countries. Since 2000, we can observe closeness between the HDI level of the United States and that of the very high human development countries, because of the slowdown in the U.S. indicators.

Figure No. 3 also shows the evolution of the human development in Japan during 1980-2010, compared with the same variables. Knowing the evolution of HDI for countries with very high human development, Japan is above the group average and well above the evolution of HDI in the world, its detachment being significantly marked from the beginning of the analyzed period, namely 1980. The figure above reflects a very high human development in Japan, which recorded an upward trend over the period analyzed, similar to that of OECD countries, and of the world.

The evolution of Germany in terms of human development shown in the figure no 3, place it in 1980 below the countries with very high human development, but above the global HDI. Since 2000, Germany has exceeded by far the group of countries with very high human development average and the level curve corresponding to high HDI, so that in the year 2010, it recorded a very high level of human development.

Figure no. 3, shows that the United States of America have recorded an upward trend of the Human Development Index during the entire period of analysis, occupying the first place among the

countries considered in the analysis, followed by Japan and Germany. Japan holds the second position in our rankings, but only in the 1980-2000 period, while from 2005 to 2010, Germany is ahead of Japan. All three countries are part of the countries with a very high Human Development Index.

The countries with very high human development are usually developed countries, members of OECD. It is known that the 34 OECD countries hold 70% percent of the world's production and trade in goods and services and over 90% of foreign direct investments worldwide (source: www.oecd.org).

The value for developing countries we chose are presented in the table below:

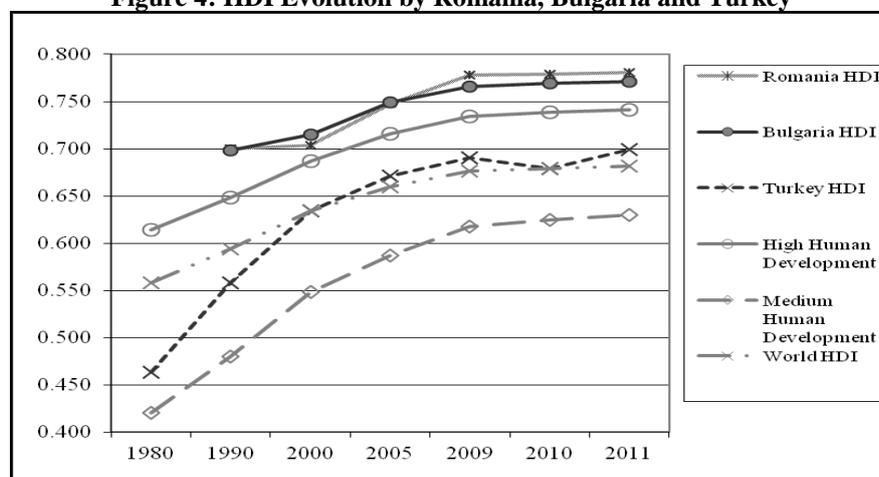
**Table 4: HDI Evolution between 1980 and 2011**

	1980	1990	2000	2005	2009	2010	2011
Turkey HDI	0.463	0.558	0.634	0.671	0.690	0.679	0.699
Romania HDI		0.700	0.704	0.748	0.778	0.779	0.781
Bulgaria HDI		0.698	0.715	0.749	0.766	0.769	0.771
High Human Development	0.614	0.648	0.687	0.716	0.734	0.739	0.741
Medium Human Development	0.420	0.480	0.548	0.587	0.618	0.625	0.630
Low Human Development	0.316	0.347	0.383	0.422	0.448	0.453	0.456
World HDI	0.558	0.594	0.634	0.660	0.676	0.679	0.682

Source: The Human Development Reports, 1992, 2002, 2007, 2011

The next figure includes the HDI evolution for Romania, Bulgaria and Turkey, considered as part of the group of countries with high human development:

**Figure 4: HDI Evolution by Romania, Bulgaria and Turkey**



Source: Based on above data

We can observe the evolution of the human development level in Turkey, during 1980-2010, compared to the countries with high human development and the evolution of HDI in the world. The HDI for Europe and Central Asia has increased from 0,644 in 1980 to 0,751 in 2010 (The Human Development Reports, 2011). Turkey is below the high level of human development curve and below the evolution of HDI in the world since the beginning of the analyzed period, namely 1980. Since 1995, we can see an accelerating growth of the HDI in Turkey above the average level of the HDI development in the world, so that in 2000 it exceeds the global average, but stays below the high human development curve. Turkey falls into the category of the countries with a high human development for the entire period.

Figure no. 4 reflects the evolution of Romania's human development level, in the 1990-2010 period, too. Since the beginning of the analyzed period, we can notice Romania's position above the group average, above the HDI average in the world and above the high HDI curve level. If between 1990 and 1995 we can see a decrease in the indicator level, starting with 1995 the trend changes, the growth becoming more accelerated after 2000, and since 2005, the evolution of Romania's HDI is much more clearly differentiated as compared to the reference levels, hovering above them. The figure above shows that Romania falls in the category of the countries with high human development, even if it has recorded some decreases of the indicator.

Bulgaria's evolution regarding the human development level in the 1985-2010 period is also represented in the figure no. 4. We can see from the beginning of the analyzed period that Bulgaria's HDI is above the HDI average in the world and above the high level human development curve. We can notice that Bulgaria has recorded an upward trend as compared to the analyzed region, which positions it in the category of high human development countries.

We can notice that in 1990 Romania leads in terms of HDI evolution, but in the next period, 1995-2000, Bulgaria recorded a slight increase in the HDI evolution, getting ahead of Romania. In the 2005-2010 period, Romania recorded an upward trend, being on first place in our rankings. Turkey recorded an upward trend during the analyzed period, namely 1990-2010, but remained well behind the other two analyzed countries in terms of HDI evolution.

#### 4. The Relationship between Income and Education

The authors aim at highlighting the role of education and its impact on the overall level of human development for the two categories of countries covered by the study, namely: the countries with a *highly increased* human development index and the countries with an *increased* human development index.

Correlation coefficients highlight the relationship between human development and the various influence factors, including those related to Education, that occupies a place of prime importance.

These coefficients take values between -1 and +1. The more the coefficient value is close to 0, the more the connection between the independent indicator (x) and the dependent indicator (y) is weak; when the result is close to -1, the independent indicator strongly influences the dependent indicator in the opposite sense; when the result is close to +1, the link between the two indicators is strong and direct (in the same sense) (Ionciă et al, 2006).

Assuming that Education has a major influence on human development, we will use the Spearman correlation coefficient to check the intensity of this correlation for the countries that were the subject of our case study, based on the data in the table below:

**Table 5: HDI Index and Education Index for 2010**

No. crt.	Country	HDI Index (y)	Education Index (x)	Rank y	Rank x	d <sup>2</sup>
1.	Bulgaria	0,771	0,802	5	5	0
2.	Germany	0,905	0,928	2	2	0
3.	Japan	0,901	0,883	3	3	0
4.	Romania	0,781	0,831	4	4	0
5.	S.U.A.	0,910	0,939	1	1	0
6.	Turkey	0,669	0,580	6	6	0

$$Sp = 1 - \frac{6 \sum d^2}{n(n^2 - 1)} = 1$$

$$d = r_x - r_y$$

$$\sum = 0$$

The value 1 of the correlation coefficient indicates a *perfect, direct and strong* relationship between the level of Education and the Human Development Index.

On the other hand, based on data from next table, the Spearman correlation coefficient shows a *strong direct* relationship - but *not perfect* - between the Education level and the economic development level, quantified by GNI per capita at PPP.

**Table 6: The education Index and GNI per capita at PPP in 2010**

No. crt.	Country	Education Index (x)	GNI per capita at PPP (y)	Rank x	Rank y	d <sup>2</sup>
1.	Bulgaria	0,802	11.412	5	5	0
2.	Germany	0,928	34.854	2	2	0
3.	Japan	0,883	32.295	3	3	0
4.	Romania	0,831	11.046	4	6	4
5.	S.U.A.	0,939	43.017	1	1	0
6.	Turkey	0,580	12.246	6	4	4

$$Sp = 1 - \frac{6.8}{6.35} = 1 - \frac{8}{35} = 0,771$$

$$\Sigma = 8$$

The above analysis enables us to state that the Education level exerts a great influence on human development, while the Income contribution is less significant.

### 5. Human Development and Economic Growth

Aggregate human capital at the national level, in particular, has been used to characterize the level of development of a country or to explain its economic growth.

Economic growth is defined as an increase in the results of an economic system in a given period of time and a certain space. Economic development is a process whereby the real income per capita in a country increases over a long period of time, the percentage of the population living below the absolute poverty line is reduced and the distribution of incomes becomes more equitable. This concept has evolved over time from economic growth to sustainable development, understood as *development that meets the needs of the present generation without prejudice to the interests of future generations* (Ionică et al, 2004).

Human development is a paradigm that means much more than the increase or decrease of national revenue. It is about creating an environment in which people can fully develop their potential and can lead productive, creative lives in accordance with their needs and interests. People are the real wealth of nations. Development means expanding the opportunities for people to live a life that they can value. Therefore, it means more than just economic growth, which is just a means - a very important one, indeed – to expand people's opportunities.

To increase opportunities, it is essential to build human capabilities – a series of things that people can do or be in life. The basic capability for human development involves leading a long and healthy life, being informed, having access to the resources needed for a decent standard of living, being prepared to participate in the community life. Without these factors, many options are not available, and a lot of opportunities in life are beyond our reach.

*"The objective of development is to create a supportive environment for people to enjoy a long, healthy and creative life"*, said Mahbub ul Haq (1934-1998), founder of The Human Development Report. The human development approach arose as a result of growing criticism to the development approach of the 1980s, that presumed a close link between national economic growth and the expansion of human individual choices. Many experts, including Dr. Mahbub ul Haq, a Pakistani, an economist who played a key role in formulating the human development paradigm, have recognized the need for an alternative model of development.

We shall try to understand the correlation between the economic growth and HDI in different countries, expressed by income per capital and the level of index

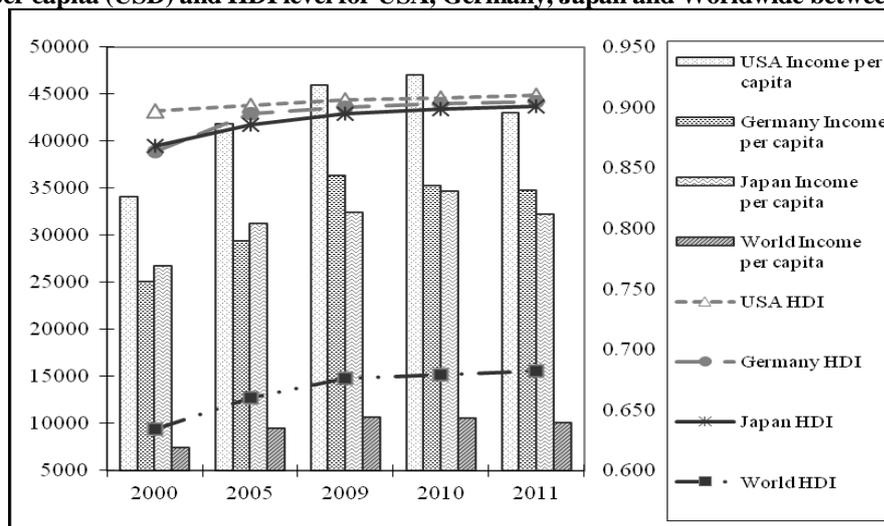
**Table 7: Income per capita for USA, Germany, Japan and Worldwide between 2000-2011 (USD)**

Country	2000	2005	2009	2010	2011
USA	34142	41890	45989	47094	43017
Germany	25103	29461	36338	35308	34854
Japan	26755	31267	32418	34692	32295
World	7446	9543	10715	10631	10082

Source: The Human Development Reports, 1992, 2002, 2007, 2011

*The data from the table above were used for the next graphic representation>*

**Figure 5: Income per capita (USD) and HDI level for USA, Germany, Japan and Worldwide between 2000-2011**



Source: Based on above data

In Figure 5 we see that the upward trend of HDI in the United States is accompanied by a similar trend of income per capita till 2010. In 2011, income per capita registered a decline in the U.S., but this does not appear to significantly influence the growth rate of human development, keeping it on a slightly upward trend, showing that there are sufficient resources to maintain a high level of living. Also, we see that variations upwards or downwards of income per capita are more pronounced than those recorded by the human development index.

Germany recorded lower levels, both in terms of income per capita and HDI levels. We see, however, faster growth of per capita income until 2009, then the index recorded a significant decrease due to economic crisis, but less pronounced than the growth rate of previous years. Human development index in 2000 recorded a level markedly lower than the U.S., but the visible upward since 2009 made that the HDI of Germany significantly closes to that of the United States. Not even Germany can reveal a strong link between the evolution of human development index and per capita income, justified by the fact that HDI increase even when income decreases.

HDI evolution in Japan is significantly similar to Germany, registering an upward trend throughout the period, more rapidly between 2000 and 2005 and slower in the rest of the interval. Also, the evolution of income per capita in Japan resembles to that of Germany, except that upward trend, in fact, slower, maintained until 2010, showing a less sensitive economy to the crisis challenges.

All three countries we analyzed, are considered highly developed countries, in terms of both indicators, registering well above the global average.

Global human development index has registered an upward trend during the analyzed period, more rapidly till 2009 and more slowly between 2009 and 2011. The 2009 seems to be the changing trend moment of per capita income, but changes are more attenuated than in the three countries considered in the analysis.

To fulfill our research, we must include the three countries with high human development, as Romania, Bulgaria and Turkey, also, compared with the global level in terms of income per capita and HDI. The table below meets the official values of income per capita for the three countries:

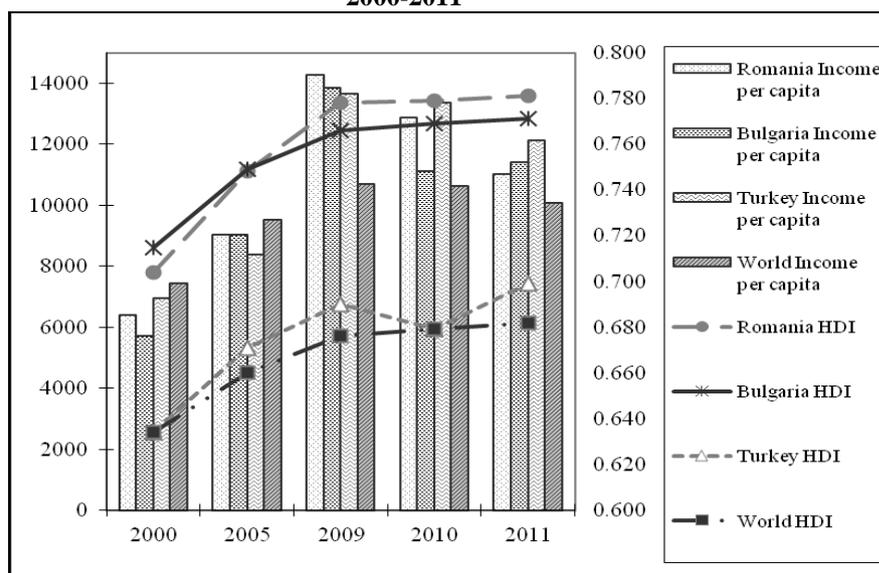
**Table 8: Income per capita for Turkey, Romania, Bulgaria and Worldwide between 2000-2011 (USD)**

Country	2000	2005	2009	2010	2011
Turkey	6974	8407	13668	13359	12146
Romania	6423	9060	14278	12884	11046
Bulgaria	5710	9032	13870	11139	11412
World	7446	9543	10715	10631	10082

Source: The Human Development Reports, 1992, 2002, 2007, 2011

Together with data regarding HDI level, we use the values in the table above to get the next figure:

**Figure 6: Income per capita (USD) and HDI level for Turkey, Romania, Bulgaria and Worldwide between 2000-2011**



Source: Based on above data

All the considered countries are above the global level we analyzed before in terms of HDI level during the period.

In 2000, Bulgaria Registered the highest level of HDI among the considered countries, followed shortly by Romania. Turkey registered a significantly lower level, close to the global average. In 2005, the situation changed. Romania and Turkey improved their rate of growth, in order that Romania equalized the Bulgaria's growing level, and Turkey overcame the global index. In 2009, Romania significantly took over the first place among the considered countries, and kept this rank till the end of the period of analyze. A similar evolution was available for Turkey between 2005 and 2009, but in 2010, the trend downwards to the global level. 2011 represents a year of revival for Turkey HDI, that came close to 0.700.

In terms of income per capita, Romania registered the best evolution, upwards till 2009. The downwards between 2009 and 2011 were significant, but the level in 2011 remained higher than in 2005.

The Bulgarian income growth between 2005 and 2009 was faster considering a lower start level in 2005 that Romania, but the decrease was significant in 2010. Bulgaria received a slow growth in 2011 in terms of income per capita.

The highest level for Turkish income per capita was also achieved in 2009, as a result of a rapid growth, especially between 2005 and 2009. The Turkish economy faced crisis better and the decrease of income per capital was slower than in the other considered countries.

## 6. Conclusions

Since the income level is lower than the Human Development Index in all the cases analyzed above, we can draw the conclusion that there is a particular concern of the population about Education, even if the Income level is lower. Thus, Education strongly influences the level of Human Development and the income is not always a determinant. It seems that people chose to give up to other expenses than those regarding education. This might be an effect of consideration that education is a long term investment, that will bring benefits in terms of human development further; income decreases, caused by the economic crisis, is not a good enough reason to give up or interrupt education process.

Education and better trained people will allow economy to overcome easier the crisis.

Particularizing to human resources, we can say that nowadays the world of ideas becomes paramount in relation to the world of material objects. Human intelligence adds great value to the organizations' wealth, while the recognition and appreciation of the importance and value of man-made intangible resources become essential features of the new economy.

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