

## A NEW APPROACH OF ROMANIA'S MONETARY INTEGRATION – AN ADJUSTED MODEL

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### **Abstract**

Recent crisis evolutions have changed both the hypothesis in terms of monetary integration inside the Euro Zone for future members, but also the type of approach needed in order to achieve two major objectives' sets. These aims can be described as sustainability and medium and long term macroeconomic volatility control. This paper envisages pointing out Romania's necessary approach concerning the Euro adoption process based on a set of variables determining a so called convergence array. Components are determined leaving from the depth of the real convergence and catching-up process, from the structural analysis of the Romanian economy and its GDP evolution during recent years and getting to the out-put variation, foreign debt directing towards more or less productive investments. In order to get a clearer perspective of Romania's growth perspective, we test the OeNB's Forecasting Model for Selected CESEE Countries for Romania.

**Keywords:** Euro; convergence; monetary integration; economic crisis;

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## **1. Introduction**

Even if the Maastricht treaty has previously established some clear monetary objectives to be achieved by candidate countries to the European monetary union, challenges have always existed for central and eastern European economies and for Romania also. Recent crisis developments have pushed these challenges even further, from a medium term realistic stability perspective, to a focus upon sustainability, medium and long term macroeconomic volatility control. Budgetary and debt issues became even more acute, and previous concerns in terms of the adjustment of budgetary rules, stability and prevention of asymmetric shocks have once more raised the problem of a common fiscal policy. Central and eastern European economies transition to the Euro, is now concentrated on achieving a real and sustainable catching up process.

This paper aims to put into perspective Romania's Euro accession process from a sustainable growth point of view – the only element capable of providing medium and long term macroeconomic stability perspectives. Also, the attractiveness of the single European currency as a stability instrument is briefly evaluated and argumented for, even if Romania is under the no opt-out clause that makes the Euro a certain future. This is significant also due to the inconsistency potential and the instability creation factor in the combination between the Maastricht criteria and existing vulnerabilities. According to all these elements, candidate countries and Romania also, must use appropriate instruments meant to ensure a certain degree of flexibility and adaptability for the economy confronted with asymmetric shocks. This is the main aim for the construction of this new model.

## **2. Literature review**

The enlargement of the Euro Area has been a largely debated phenomenon, but still, the crisis has proven that no real solutions have been found in order to ensure macroeconomic stability, neither for member, nor for candidate countries. Assessments have generally spin around the Maastricht criteria fulfillment, the optimum currency area perspective but also real convergence in terms of the GDP per capita evolution – the catching up

process. Even from the early 1990's the EU enlargement perspective has raised new issues for both theory and practice.

The Maastricht treaty has been seen a concrete measure and estimation of monetary performance inside the EU. As early as 1994 Heinemann (1994) discussed both the nominal convergence achievement for Visegrad countries and empiric basis of the optimum currency area, but also proposed "a stabilization fund that could have at low costs provide a substantial help for a successful EMS membership and the further monetary integration of Central Europe". Conclusions point out to the fact that central and eastern European countries' obstacles towards monetary integration consisted mainly in high inflation rates and an incomplete real integration as measured by the degree of cyclical correlation.

The optimum currency area analysis seems appropriate, once monetary integration has proven to reshape markets. The essential contributions setting the basis for the optimal currency areas theory and analysis come from Mundell (1961), McKinnon (1963) and Kenen (1969). Their aims can be located in the area of identifying the main criteria determining monetary integration. From the cost –benefits analysis for a certain acceding economy, if the result is a positive one, then, the monetary area is an optimal one.

Bolle et al (2004) point out the fact that the introduction of the euro in Central Europe, would be attended by considerable economic, political and social risks. The cost-benefit analysis for acceding countries may prove significantly different while considering the short, medium or long time perspective, but also upon the scope of development in achieving real convergence. Here, flexibility is a key issue. The crisis has seriously harmed inflexible inertial economies once the impact of asymmetric shocks has been felt. This why, we consider growth an essential element for Romania. The main questions concerning this matter are around the sustainability of growth, but also, around the stabilization period necessary for an acceding economy.

According to Arfa (2009), acceding countries can satisfy OCA criteria ex post even if they do not satisfy them ex ante. This might have created a positive and encouraging start-up point for countries like Greece, who have, unfortunately, proven that structural imbalances only grow deeper once they generalize and are affected by external negative impulses. Not even a gross capital formation growth beyond average margins, during the heavily

indebting period of time since the EU accession did not ensure an ex ante positive evolution foreseeing the coordinates of an optimal currency area.

Recently, the National Bank of Austria has elaborated a Forecasting Model for Selected CESEE Countries envisaging exactly the underlined aim of assessing growth perspectives for countries such as Romania - Crespo, (2009). This model consists in six structural co-integration relationships and envisages private consumption, investment, exports, imports, the nominal exchange rate and the nominal interest rate. Current testing on data from the crisis period show that worsening external environment will severely depress growth in 2012 - Worz (2012), and thus catching-up process is still slowed down. Beyond that, the Euro Area is still struggling with serious instabilities of member states economies.

#### **4. Analysis**

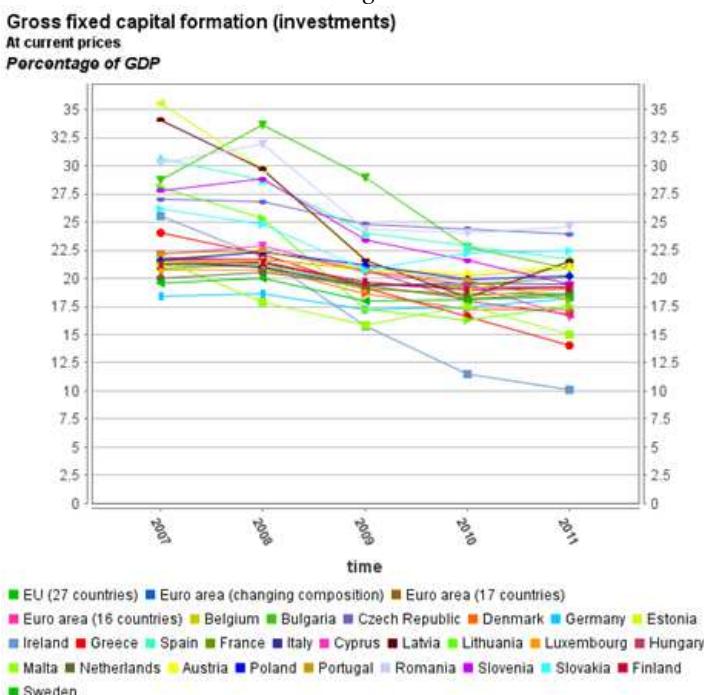
Before the economic and financial crisis settled on a global scale, but affecting in a more acute manner the EU and Euro Area member states economies. Romania's economy growth in terms of GDP increase has been rather high reaching levels between 6,5% - 7%. Ever since then the status degraded and pre-crisis levels are foreseen to be reached again no sooner than several years from now. The industrial sector registered then, a 15% monthly average growth due to an out-put increase for all industrial sectors: 10.5% for the extractive industry, 16.8% for the processing industry, and 2.5% in power, thermo, gas and water industry. Capital goods out-put also increased 18.7% according to data provided by the National Statistics Institute. Constructions sector also registered a boom for 2007 with a 27.5% increase, and with an even higher increase of the value of construction works of 31.8% compared to the previous year. Agriculture only brought 6.6% of GDP. These positive indicators provide an incomplete image unless doubled by the foreign side of the economy – a 7.6 billion euros – 76% higher than the previous year also according to the National Statistics Institute. This highly contributed to the later accumulation in terms of foreign debt.

2008 is not registered as a crisis year for Romania who again reached some positive values for the GDP evolution, compared to previous quarters. From the 8.2% growth, around 4% came from an increase in services field, followed by constructions 1.7% and net taxation 1%. Agriculture din not

influence GDP evolution for the first quarter of 2008. The main factor generating such economic growth has been the expansion of direct foreign investments for the previous two years - as the significant development period for such investment is two years.

These investments have developed and registered a 35% growth compared to previous year, when in turn grew again another 30%. According to the National Statistics Institute, the services sector contributed with 48.8% at the GDP growth and a share of 52.3% to the GDP formation. Industry and construction brought 26.7% of GDP. This has been proof for a solid and sustainable economic growth before the real settlement of the economic crisis in Romania. This is the area and the analysis focus we are looking for in this paper in order to provide an insight of Romania's real convergence beyond the GDP per capita analysis.

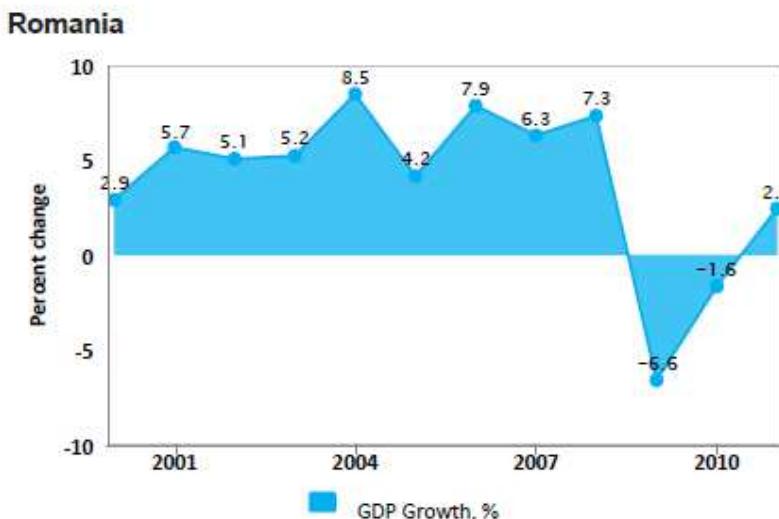
*Figure 1.*



*Source: Eurostat*

For the later period 2009 – 2010, Romania's GDP evolution registered some problems and the crisis due decrease. In 2010 the level was 1.3% lower due to a decrease in the gross added value from agriculture (-0.8%), constructions (-10.7%), trade, transport and telecommunication (-4%), and services (-2.8%). The industry increased 5.1% and also did financial services 0.8%, while net taxation has been 2.5% lower.

*Figure 2. GDP evolution*



*Source: World Economic Outlook, April 2012*

According to recent estimates from the Romanian government and the World Bank, the Romanian economy will grow 1.7 percent in 2012, given the estimations made in the 2012 Spring Projection of the National Commission for Prognosis. According to the same institution, the GDP in 2013 will expand 3.1 % and it will grow 3.6% in 2014. According to estimated figures released by the National Institute for Statistics, the Romanian economy contracted 0.1 percent in the first quarter of 2012 compared to the fourth quarter of 2011, entering technical recession. When compared to the first quarter of 2011, the

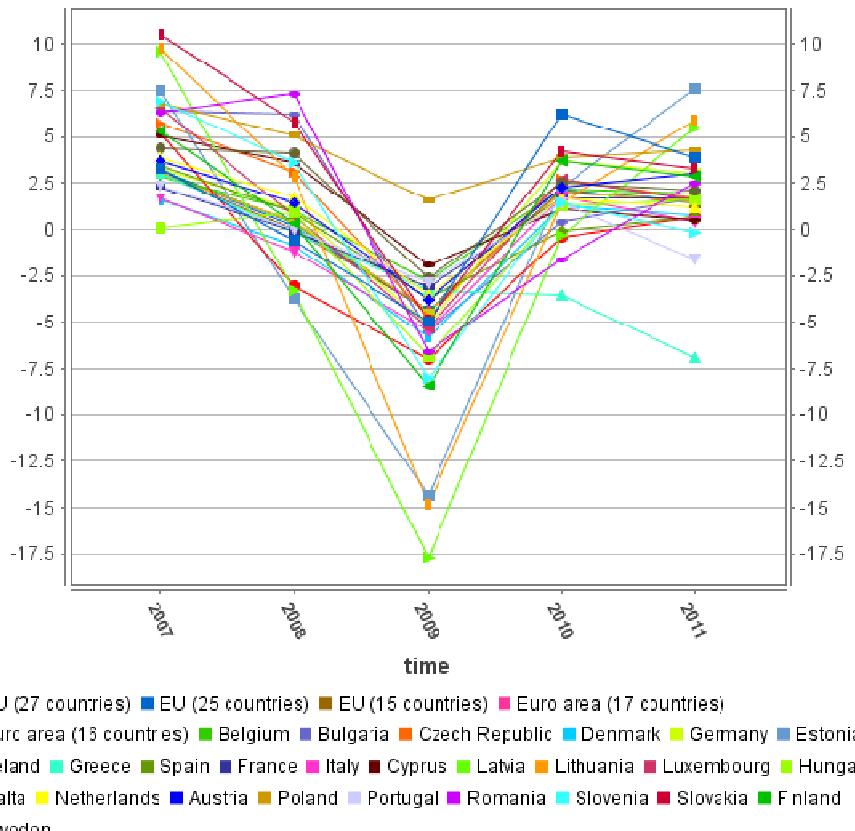
GDP recorded a 0.3 percent rise by gross series and a 0.8 percent increase by seasonally adjusted series.

Thus the new monetary integration model for Romania should consider structural GDP components such as gross capital formation – investments which we have presented in the chart below.

*Figure 3*

### Real GDP growth rate - volume

Percentage change on previous year



*Source: Eurostat*

Romania's and other CEEC's growth perspectives have been estimated by the Austrian National Bank using an internally developed model. According to Wörz, (2012), this is a structural co-integration model based on the aggregate demand model of Merlevede et al. (2003). It is based on six key macro variables: exports, imports, interest rates, exchange rates, investments and private consumption; GDP modeled as the sum of its components and has been simulated on for six separate country models for Bulgaria, Czech Republic, Hungary, Poland, Romania with country-specific variations. The model also involves expert judgment / plausibility check. According to the same author, the empirical model is based on theoretical relationships in the long run, but on a flexible adjustment mechanism for the short run and enables us to incorporate country specifics while providing a coherent framework for the CESEE region and could be easily be extended and applied to other countries.

The main equations of the model are:

$$c_{priv} = \alpha_1 * gdp + \alpha_2 * (ir - \Delta cpi) + \alpha_3 * wage \quad (1)$$

$$inv = \beta_1 * gdp + \beta_2 * (ir - \Delta ppi) + \beta_3 * priv\_credit \quad (2)$$

$$exp = \gamma_1 * tp + \gamma_2 * \left( er * \frac{cpi_{ea}}{cpi} \right) + \gamma_3 * gdp\_ea \quad (3)$$

$$imp = \delta_1 * gdp + \delta_2 * \left( er * \frac{cpi_{ea}}{cpi} \right) \quad (4)$$

$$ir = \phi_1 * ppi + \phi_2 * \Delta gdp + \phi_3 * er + \phi_4 * ir\_ea \quad (5)$$

$$er = k_1 * (m3 - m3_{ea}) + k_2 * (gdp - gdp\_ea) \quad (6)$$

Data used are quarterly statistics provided by Eurostat from 1995 and historical data have been extrapolated based on monthly WIIW data and data from national sources. All series are in logs, except interest rates and inflation data.

*Table 1. OeNB February 2012 CESEE Interim Projections Update: External and Domestic Uncertainties Impair Growth*

Projection growth year on year growth %	2010	2011	2012	2013
CEE 7	2.1	2.9	1.6	2.5
Bulgaria	0.3	1.8	2.0	2.8
Czech Republic	2.6	1.9	0.9	2.7
Hungary	1.2	1.8	-0.4	1.3
Poland	3.9	4.3	2.6	3.1
Romania	-1.6	2.5	1.1	2.4
Croatia	-1.1	0.2	-0.9	1.5

*Source: Wörz J - FORCEE: The OeNB's Forecasting Model for Selected CESEE Countries, 2012*

Simulation points out the fact that the economic and financial crisis and its effects are far from over in 2012, affecting both general economic situation and also the convergence and catching up process for these countries involved in the euro adoption process. Tight liquidity in all these countries, including Romania also contributes to fragile economic prospects and the need for consolidation. Romania is close, but still below the average of the CEE 7 countries analyzed and needs structural and macroeconomic policy instrument in support of its growth. Romania must put together accurate structural reforms meant to ensure a certain degree of flexibility for the economy. The strength of the growth based economy should also benefit from the coordination between central bank, the government and public bodies - Tanasie (2012).

Thus the convergence array for Romania, as an adaptable and flexible quantifying instrument in assessing the countries convergence – both from a nominal and a real perspective should include the following elements – investments – gross capital formation, private consumption, exports and imports shares, the interest rate and the exchange rate against the Euro -

incorporating the long-run equilibrium relationships and short-run adjustment dynamics for a specific monetary integration model based on growth projections generated from the OeNB model.

Using all these variables in an interconnected and dynamically dependent manner should provide a specific insight into the Romanian catching-up process, with a focus on growth and real convergence perspectives. This perspective is an adapted one according to the convergence array and specific macroeconomic variables directly determining the catching-up process with a deeper insight into growth.

## **5. Conclusions**

Even if the recent economic and financial crisis has somewhat raised questions concerning classic convergence criteria and the correspondence between nominal convergence achievement and sustainable growth. CEEC's such as Romania situated under the *no-opt clause* do not have a choice or the alternative of remaining outside the Euro-Area, even under the recently raised issue of the Euro adoption attractiveness under current disequilibrium in countries all over Europe. The single European currency has been envisaged as a stability instrument and a monetary support for the development of member state economies, but still, they struggle to achieve sustainable growth in order to prevent asymmetric shocks dispersion and contagion.

Romania's case needs an accurate estimation of real convergence and growth aiming the catching-up progress. Recent developments have shown that a precautionary approach as part of main economic policies and especially of public expenditure is a must in order to ensure medium and long term economic stability while using the Euro.

OeNB's growth model is a useful and relatively simple model of estimating medium term growth of selected CEEC's countries using a set of variables part of what we propose to be the *convergence array* for Romania, in a dynamic and adapted approach of real convergence. Simulation show average growth rates for Romania for the next few years confirming initial hypothesis based on the higher growth registered by the gross capital formation.

Beyond achieving nominal and real convergence indicators, Romania needs to have a structurally sound economy based on sustainable medium and

long term growth. A strict focus on monetary indicators has determined a switch from the real economy with a negative impact. Monetary instruments will never be able to compensate for the lack of real economy positive results. During the last period of time, even beyond a statistical depression reported for the last quarter, sound economic perspectives come up given the growth in gross capital formation. This provides the basis for future growth and a correct estimation and timing of the euro adoption process envisaged for 2014 -2015.

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