

THE ECONOMIC IMPACT OF THE COHESION POLICY

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Abstract

The paper aims at presenting the evolution of cohesion policy objectives over time, as well as the link with the EU's overall strategy. It will analyze the impact of the type of actions supported by the cohesion policy and their link with the provisions of the Lisbon Strategy, Göteborg Strategy and Europe 2020. The focus of this piece of work is mainly to analyze the evolution of macroeconomic indicators taking into account the structural funds.

Key words: structural funds, absorption, macroeconomic, indicators

JEL classification: E22, F15, F36, O19

1. Introduction

The Cohesion Policy was launched in 1989, although the objective of reducing disparities between regions of the European Union had been introduced long before, in the formulation of the Treaty of Rome (http://ec.europa.eu/regional_policy/sources/docoffic/official/regulation/pdf/2007/publications/guide2007_ro.pdf, http://ec.europa.eu/regional_policy/archive/policy/history/index2_ro.htm). The objective remains a fundamental one for the Cohesion Policy although the EU is very different now from the Community 60 years ago. Since its beginning, the Cohesion Policy represents the main source of funding for the EU political agenda, but the accession waves have introduced new challenges or have amplified the existing ones. The Cohesion Policy has introduced a series of

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new principles, such as the targeting of support towards less developed areas within EU Member States, the orientation of investments in a strategic manner, multi-annual programming and, last but not least, the involvement of partners at regional and local level. Since 1989, the EU budget has become multiannual. The first budgetary period spanned five years (1989-1993), the second six years (1994-1999), and the following ones were seven years long each

(http://ec.europa.eu/regional_policy/sources/docgener/panorama/pdf/mag26/mag26_en.pdf). A significantly larger financial allocation was also observed during the 1989-1993 period as compared to the previous, accompanying the EU enlargement, while during the 1994-1999 period the financial allocation of the Cohesion Policy doubled, representing a third of the EU budget. Starting with the agreement of EU Member States in 2000 to support the Lisbon Strategy,

(<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:c10241>), the Cohesion Policy is oriented towards supporting innovation. The re-launch of the Strategy in 2005 coincided with the introduction of national reform programmes in order to ensure a better coherence and acquisition of its objectives at the level of EU Member States

(http://ec.europa.eu/europe2020/pdf/lisbon_strategy_evaluation_ro.pdf). The accession of ten new Member States in 2004 increased the disparities between EU regions, since the average GDP per capita in these states was less than half of the existing average and only 56% of the population was employed, as compared to 64% at EU level of that time. The Göteborg Strategy, adopted in 2001, focused on sustainable development and was followed by an extended sustainable development strategy adopted in 2006. (<http://www.eeb.org/?LinkServID=D251F7FC-9997-D51C-7F05CB5A872C33BD&showMeta=0>).

During the 2007-2013 period, the connection between the Cohesion Policy and strategies of sustainable development intensifies. The financial allocation of the Cohesion Policy supports projects which contribute to the two strategies, while 81,5% of the total funds allocated to the Cohesion Policy were directed to the poorest Member States and regions of the EU, together with the promotion of financial engineering instruments and the creation of technical assistance mechanisms at the level of Member States. A reorientation of the Cohesion Policy coincides with the adoption of the Europe 2020 Strategy which, as compared to the Lisbon agenda, added new elements

to the political agenda of the EU, namely poverty reduction and sustainability (<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=URISERV%3Ac11325>). The Europe 2020 Strategy has five main objectives, established at European and national level, but there are differences between Member States since each of the main objectives is based on a different spatial logic (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:2020:FIN:RO:PDF>). This type of spatial concentration can be beneficial in terms of innovation, or, by contrary, in the case of concentration of poverty and social exclusion in small areas. Spatial concentration is neutral in the case of GHG emissions or renewable energy and in the case of education, the impact of concentration is mixed, because even if a concentration of early school leavers could generate negative externalities, a concentration of people with higher education generates positive externalities. The consequences of spatial concentration on employment rates are reduced. The goal of reaching identical employment rates could be interpreted as unrealistic, given the unavoidable differences between regions of the labour market in terms of size and economic structure, but also between existing labour market regulations in various regions of the EU. A different approach to the reduction of poverty is required, concerning areas where the poverty rate is high or medium. Policies to stimulate innovation and to encourage education should consider the current economic specialization of the region or city, and especially their development potential. Also, the reduction of greenhouse gases emissions requires different approaches in urban areas as compared to rural areas. There are significant differences between EU and national objectives. In general, there is a relatively larger distance in the cases of Greece, Romania, Bulgaria, Hungary, Croatia, Poland and Italy to EU objectives. However, in the case of national objectives for employment, education and reduction of poverty and social exclusion, for example, Member States with the lowest rates have set ambitious targets, thus demonstrating their desire to reduce existing discrepancies as compared to the rest of EU countries (http://ec.europa.eu/europe2020/index_ro.htm#map).

The Treaty speaks in general terms about reducing development disparities without particular reference to the types of disparities concerned which resulted, in an initial phase, in a focus on reducing disparities regarding the GDP per capita and the unemployment rate, other issues such as poverty and social exclusion, environmental quality or durability being taken into consideration later on. The selection of other indicators in addition to GDP

was achieved after finding that, in some cases, the increase in average revenue could lead to part of the population, while the majority could face a reduction in revenue (Raportul Stiglitz, 2009, p.17). A discrepancy between official statistics and the reality at grassroots level could have undermined confidence in such an indicator. In 2009, the European Commission identified five ways to improve measurement of progress, including the addition of social and environmental indicators to the GDP and a better reporting of issues related to distribution and inequality (Comisia Europeană, 2009, *Dincolo de PIB - Măsurarea progreselor într-o lume în schimbare*, COM(2009), p.4). Under these circumstances, the Cohesion Policy was required to look "beyond GDP" (Comisia Europeană, 2008, *Cartea verde privind coeziunea teritorială: transformarea diversității teritoriale într-un avantaj*, COM(2008), p. 13). Even in these conditions, Cohesion Policy funds that can be allocated in the 2014-2020 period are still essentially based on GDP.

1.1 The Cohesion Policy: Economic rationale for Cohesion Policy interventions

There are three main schools of thought regarding the determinants that Cohesion Policy should address. On the one hand there are the "primary" factors which determine development, which are country or region specific. On the other hand, there are "secondary" factors built or influenced by human activity and, finally, factors which focus on the impact of commercial and economic integration on development (Comisia Europeană, 2014, *Al șaselea raport privind coeziunea economică, socială și teritorială: investițiile pentru ocuparea forței de muncă și creștere economică*, p.201-205). The distinction between primary and secondary nature factors may not be very clear. Some factors, such as the relief cannot be changed. Others may change over time, such examples being the rural or urban character of a region or the structure of human settlements. From the policy perspective, they could be considered intrinsic factors. The general structure of economic activity or the level of training of the workforce are factors susceptible of more rapid change, even if over a fairly long time. Many EU territories have succeeded in overcoming obstacles of a "primary nature", thus becoming "high income" regions. Given that, in a dynamic economy such as that of recent decades, the inherent characteristics in question can either stimulate or hinder growth, the Cohesion Policy has focused on the "secondary" determinants of development and on

the factors of development in the third category - increased economic integration of EU regions. Moreover, the whole motivation of the Cohesion Policy has been, from its outset, the strengthening of regions' capacity to develop in the context of a single market in which goods and services are freely traded across national borders. Economic theory and empirical data indicates a number of reasons that could explain the delay in development. These reasons may be more or less associated to secondary factors. Firstly, there are insufficient investments in public capital which may explain the much lower level of development. Examples are different. Former communist bloc countries have infrastructure problems. In other countries, public investment has been concentrated around the capital and in its nearby areas and less in the remote areas, which may delay their development. On the other hand, the location of a city or region as compared to others determines to a large extent its degree of accessibility. In case transport improved, accessibility of regions or cities would increase, which would, in turn, entail an increase in their competitiveness and more competition through facilitating other manufacturers' access to the respective markets. The quality of the workforce has a major effect on productivity and thus on economic development. An efficient and innovative, flexible and adaptable workforce contributes to the possibility of reorientation of economy towards new opportunities, depending on market developments.

The introduction of new products in the market or the use of new manufacturing procedures can also have an important impact on economic development. In the long term, innovation is the engine of economic growth and adopting and adapting innovations developed in some areas may allow regions which are more remote from boundaries of knowledge to reduce their gaps. An important aspect is the quality of governance which directly influences the development of a country. Only an efficient administration can identify an appropriate mix of investments and has the ability to use funds efficiently. The main challenge of the Cohesion Policy is to identify the optimal combination of measures which could focus on human capital, institutions, infrastructure or innovation in order to address the factors underlying delays in development.

2. The impact of the Cohesion Policy

2.1. Evaluation of the impact of the Cohesion Policy at EU level

A series of information regarding the effect of the Cohesion Policy on the objectives of the programmes it co-finances is available. This data reflects the extent to which the Cohesion Policy contributes to the achievement of general policy objectives, namely strengthening the capacity of national and regional economies, and promoting sustainable development, economic, social and territorial cohesion. The figures demonstrate the scale of the activity supported by the Cohesion Policy and the types of projects and measures co-financed. In some cases, they also indicate the result of expenses incurred and results achieved following the investments in question. However, it is not the figures that reflect the success of the Cohesion Policy in itself, in terms of added value or difference in the evolution of economies at national or regional level, number of employed people, quality of citizens' life, improvements in the balance between economic activity and the degree of employment at regional level or social and territorial cohesion in general. The objective is to correlate financial support offered to other relevant factors, in order to, on the one hand, identify the accomplishments of the policy measures in question and, on the other hand, to assess whether the allocated funds were spent efficiently and if changes should be made for the next period. In the case of programmes financed by the ERDF and the Cohesion Fund during the 2007-2013 period, more than 800 assessments at the level of Member States were conducted. (Network of Experts, 2014). According to the analysis conducted by the Network of experts in evaluating ESF, until the end of 2013 only, over 700 assessments in the Member States were conducted (<http://ec.europa.eu/esf/main.jsp?catId=3>). In general, the assessments were not focused primarily on programme results, but on analysing the processes and procedures involved in fund management, selection of projects for funding etc., to determine whether the relevant tasks were carried out effectively and to identify possible improvements. Many others consisted largely in measuring progress in programme implementation, including identifying difficulties in their execution and verifying the achievement of planned objectives. A positive element is, however, the increased use of more rigorous techniques such as counterfactual impact assessment, a technique specifically designed to isolate the impact of funding by comparing the

beneficiaries of financial aid to a “control group” which received no support. Applying counterfactual methods requires the existence of an appropriate control group and of sufficient data to compare its behaviour and performance to the group of beneficiaries of financial support. This type of assessment can be used in the case of enterprises or innovation activities, but cannot apply to most investments in infrastructure. Counterfactual evaluation can be applied most easily to programmes co-financed by the ESF in the case of interventions such as training, incentives for employment and labour market services (career orientation, guidance) (European Commission, 2012, *Design and Commissioning of counterfactual impact evaluations. A practical guidance for ESF Managing Authorities*, p.34-43). The use of appropriate quantitative techniques in order to fully understand the effectiveness of different interventions requires not only an in-depth analysis of the mechanisms and processes involved, but also, most of the time, an accompanying on the ground analysis. In order to measure the impact of the Cohesion Policy in the 2000-2006 period, and respectively 2007-2013, the European Commission conducted an impact assessment study. The model used is an extension of QUEST III, including a representation of the effect of investment in human capital and of endogenous technological progress, which is why it is so appropriate to assess structural interventions within the Cohesion Policy. It also includes explicit transnational connections, bilateral trade relations, all of them to identify the effects of outsourcing and the interaction between EU Member States. (Comisia Europeană, 2014, *Al șaselea raport privind coeziunea economică, socială și teritorială: investițiile pentru ocuparea forței de muncă și creștere economică*, p. 231).

The results of these simulations have shown that, in the longer term, in terms of productivity growth, the impact of investment becomes stronger, resulting in increased production potential of economies or in their ability to support growth, which means that GDP can grow without generating inflationary pressures. Assuming that the effects of additional investments made as a result of funding are as expected, the simulations show that enhancing the production potential of the economies receiving funding is both sustainable and of larger magnitude than the short-term effects of stimulating the demand by means of injecting capital. The vast majority of studies published after 2005, based on larger data sets, covering longer periods, found that the Cohesion Policy has, to a large extent, positive results (Midelfart-Knarvik, K.H. and Overman, H.G. (2002); Ederveen, S. *et al.* (2006) Hagen,

T. Mohl, P. (2009). Even though most studies have concluded that the Cohesion Policy has contributed to the reduction of regional disparities in terms of economic performance, they have emphasized, however, the lack of homogeneity of its effects (De Freitas, M.L. *et al.* (2003) Rodriguez-Pose, A. and Garcilazo, E. (2013). Moreover, a series of other studies have pointed out that there are many factors that determine the success or failure of policy in a particular context and the extent of its impact. These factors are related in particular to the administrative capacity of institutions and the effectiveness of governance, to national policies applied and to the performance of neighbouring regions. (Becker, S.O. *et al.* (2012); Ederveen, S. *et al.* (2002); Bouvet, F. and Dall'Eerba, S. (2010). There is also recent evidence that policy performance is affected by the distribution and allocation of funds between policy areas, a fundamental element to recent reforms.

2.2. Evaluation of the impact of the Cohesion Policy in Romania

In the 2007-2013 programming period, for the first time Romania has benefited from Community funds under the Cohesion Policy, with an allocation of almost 20 billion Euros. More specifically, the amount of Structural and Cohesion Funds allocated to Romania was 19.668 billion Euro, of which 12.661 billion allocated through the Structural Funds under the “Convergence” Objective, 6.552 billion Euro allocated through the Cohesion Fund and 0.455 billion allocated to the “European Territorial Cooperation” Objective (including transfers to IPA and ENPI, the Instrument for Pre-accession Assistance and the European Neighbourhood and Partnership Instrument). Romania’s strategic objectives, planned activities and funding sources in the multi-annual perspective were included in the National Development Plan (NDP). This plan was the basis for the National Strategic Reference Framework (NSRF) that identified the link between national and regional priorities and Community priorities supported by the European Commission. The NSRF specified the annual allocation of European funds for each objective, each instrument and each operational programme. NSRF was implemented through the Operational Programmes elaborated within the “Convergence” and “European Territorial Cooperation” objectives. Romania managed the allocated structural funds through 7 operational programmes. Three programs were co-financed by the European Regional Development Fund (Regional Operational Programme, Sectoral Operational Programme

Increase of Economic Competitiveness and Operational Programme Technical Assistance), two programmes have been co-financed by the European Social Fund (Operational Programme Human Resources Development and Operational Programme Administrative Capacity Development) and two programmes were financed by both the ERDF and the Cohesion Fund (Sectoral Operational Programme Transport and Sectoral Operational Programme Environment). (<http://old.fonduri-ue.ro/documente-programare/programe-operationale>).

The analyses carried out at the beginning of the 2007-2013 programming period anticipated that the Cohesion Policy programmes in Romania would contribute to an overall increase in gross domestic product (GDP) of up to 15% for 2007-2013 and at the same time, create and retain approximately 200,000 jobs. It was expected that, due to these investments, the share of population with access to modern broadband would increase by more than ten times. Moreover, in 2013, the National Commission for Prognosis initiated a study on the impact of structural funds in Romania, based on the HEROM model (HERMIN for Romania). Similarly to all HERMIN models, the HEROM model consists of three main blocks: the supply side, which is treated separately for each of the four sectors, the absorption block and the distribution of the income component. Behavioural equations were calculated starting from the annual database since 1989 or 1990. (Comisia Națională de Prognoză, *Impactul fondurilor structurale în România. Evaluare cu ajutorul modelului Herom*, p.2-3). The HEROM model is a structural one, based on micro-economic foundations, namely the supply side includes the incorporation of the main mechanisms by which the Structural and Cohesion Funds influence the productive potential (direct externalities on the output). Indirect externalities of production factors (capital and labour) were also included. Based on the model, simulations were carried out for the 2007-2020 period, and the sensitivity analysis. (Comisia Națională de Prognoză, *Impactul fondurilor structurale în România. Evaluare cu ajutorul modelului Herom*, p.26). As is known, the Cohesion Policy programmes include a complex system of measures. In order to estimate the overall effect of structural funds, measures under the Cohesion Policy programmes have been aggregated into categories with economic significance and programme allocations have been aggregated into three types of expenditure: investments in *technical infrastructure*, investments to *improve human capital* and *direct aid* for investments in the industrial sector, market services and agriculture. Among

funding sources, there are transfers from the EU in the form of subsidies for public authorities, co-financing from public funds and co-financing from private funds. Based on the HEROM model, as soon as funds were allocated for the 2007-2013 programming period, two scenarios were run, which were considered “standard” in the impact studies, both covering the 2007-2020 period.

2007-2013 period was chosen as the period of Structural Funds injection, and the post-transfer effects on the economy were traced in the 2014-2020 period. An absorption rate of 100% was estimated for the “EU funds included” scenario. The key findings of the simulation were that if structural funds had been 100% spent, in 2013, the GDP should have been almost 15% higher, which meant an annual growth rate 2 % higher for the “EU funds included” scenario as compared to the “without funds” scenario. Moreover, in 2020, it was concluded that investments will be about 20% higher due to the impact of structural funds, corresponding to an annual growth differential of 0.95%. Regarding the labour market, in the scenario corresponding to the use of funds, growth was estimated in the service and manufacturing industry sectors in relation to the total supply of labour force (active population) on the whole of the Romanian economy. (Comisia Națională de Prognoză, *Impactul fondurilor structurale în România. Evaluare cu ajutorul modelului Herom*, p.36) In 2015, after nine years of implementation of the EU Cohesion Policy in Romania, we can speak not only about the large number of financed projects, but especially about the significant impact the European funds have had and still have as an important source of investments, on the administrative system, the legal system and on the increase in professionalization of human capital, through the significant impact on economic and social development. Using the 19.7 billion Euros allocated through the Cohesion Policy Funds, Romania’s achievements, so far, are as follows: 40,000 jobs created, 5,000 companies supported to develop, 400 medical units and schools modernized, over 300 km of highway built and over 1,600 km of county road rehabilitated. (<http://www.fonduri-ue.ro/presa/comunicate/1721-intalnirea-anuala-pentru-anul-2015-intre-serviciile-comisiei-europene-si-autoritatile-romane-de-gestionare-a-fondurilor-ue>).

Table 1: Progress end 2015. Indicators at the level of NSRF priority themes /vs. targets

Transport infrastructure	Investments in environment	Social infrastructure
Railway infrastructure rehabilitated: 127,05 Km/ vs. 209,185 Km	No. of new/ rehabilitated wastewater treatment plants: 107/ vs. 200	No. of Medical Units rehabilitated: 58/ vs. 62
New TEN-T road infrastructure: 312,44 Km/ vs. 372,945 Km	No. of projects for renewable energy: 32/ vs. 30	No. of Social centers rehabilitated: 172 / vs.223
TEN-T road infrastructure rehabilitated: 289,29 Km / vs. 302,796 Km	No. of localities with new/ rehabilitated water facilities in regional system: 312/ vs. 430	No. of beneficiaries for social infrastructure rehabilitated: 47 853 / vs. 10 000
County road infrastructure rehabilitated: 1 667,95 Km/ vs. 877 Km	New integrated system for waste management: 1/ vs. 37	No. of beneficiaries for pre-university education infrastructure rehabilitated: 93 399 / vs. 40 000
City road infrastructure rehabilitated: 198,43 Km/ vs. 325 Km		
Territorial development	Development of Human Capital	Increasing competitiveness
No. of integrated urban development plans (PIDU) accepted (No.): 94/ vs. 30	New jobs created : 17 232 (ROP) + 7 312 (SOP HRD) + 16970 (SOP C) = 41 514/ vs. 38500	No. of microenterprises supported: 1 976/ vs. 1 500
No. of urban development projects (No.): 352/ vs. 60	Education staff trained: 256 668 pers. / vs. 75 000	No. of SMEs assisted: 2 729/ vs. 2 000
No. of beneficiaries for PIDU projects: 8 203 338/ vs. 400 000	No. of participants at the vulnerable groups programmes: 72 901/ vs. 13 000	No. of tourists in the rehabilitated accommodation structures: 989 301/ vs. 400 000
	No. of long-term unemployed participants in integrated programmes: 122 017/ vs. 65 000	No. of tourism projects contracted: 233/ vs. 221

Source: data made available by the European Funds Ministry

As shown in the table above (Table 1), in comparison to targets set out for indicators in the NSRF, by the end of 2015, in some cases targets are significantly exceeded, they are met in others, or the values are far from the original estimates. Especially indicators measuring territorial development exceeded by far the estimated targets. The situation is similar in the case of human resources. It can thus be seen that in Romania, the number of people belonging to vulnerable groups who participated in programmes dedicated to them was over five times higher than originally estimated. Three times as many people in the education sector were trained and the number of jobless people who attended integrated programs was nearly twice as high. In terms of competitiveness, the number of enterprises supported to develop exceeded the

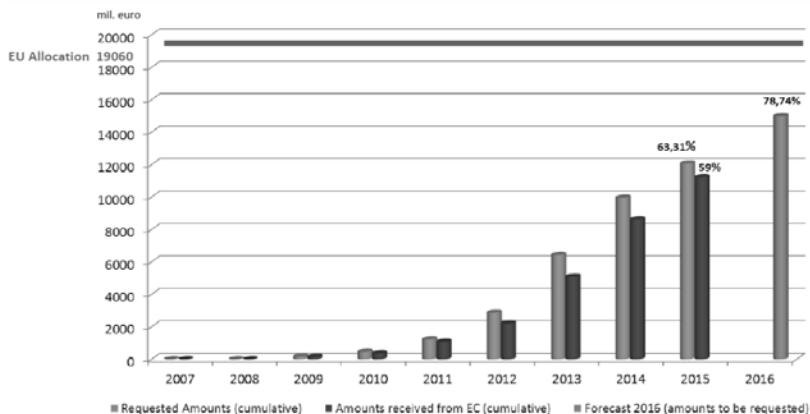
number originally estimated and, in the tourism sector, the number of tourists who stayed in modernized structures is over two times higher than estimated. Analysing the social infrastructure component, regarding the number of beneficiaries of rehabilitated social infrastructure, Romania has achieved nearly five times more than had been proposed. The same is true for the number of beneficiaries of rehabilitated educational infrastructure. We are close to the proposed targets also in terms of the number of rehabilitated medical units or social centres. As regards the transport infrastructure, twice as many kilometres of county roads as estimated were built and the kilometres of highway newly constructed or rehabilitated approach the Romanian target for this programming period. For environmental investments, only the number of projects for renewable energy has reached the proposed target.

The causes of not achieving the initial targets are multiple and differ from one operational programme to the other. They may have their origins in the very writing of the operational programme which supported certain investments by setting too ambitious targets or may be due to problems of programme management, project implementation at the level of the beneficiaries or different interpretations of national regulations, causes which, either individually or taken together, have led to blockages. At the same time, exceeding targets can be interpreted as not necessarily indicative of success. It is possible that the initial targets were not ambitious enough for the allocated funds or costs have been overestimated. It is not less true that the economic crisis, which affected both the domestic market and the use of structural funds, also had an influence on these costs.

The results measured by the above indicators were achieved by implementing a number of 16,002 projects. Their distribution according to development regions shows that most projects were implemented in the Bucharest Ilfov region where there is the largest concentration with 4,125 projects implemented, followed by the North West region with 2,335 projects, the Centre region with 2,007, the North East region with 1,848, the South region with 1,618, the East region with 1,500, the South West region with 1,343 and the West region with 1,226. As a conclusion it can be noted that, at least in terms of figures, the Structural Funds have contributed to the territorial development, human resources development, have stimulated competitiveness, and have contributed to improving the transport and the social infrastructure and, to a lesser extent, to solving environmental problems. And all these achievements were possible while using, until 31 December 2015, only 63.3%

of the total allocation for Romania, representing expenditure paid and submitted to the EC for reimbursement. By that date, the EC had reimbursed 59% of the allocation for the 2007-2013 period.

Figure 1. Financial status at 31.12.2015/Forecast 2016



Source: data prepared by the author based on information from

Interpretation of this data needs to be correlated with a simulation through HEROM model. Since funds in the model are classified into 3 categories, namely infrastructure (road, rail, air), direct aid (influencing investments in industry and market services) and human resources (training for employees or unemployed), funds reimbursed by the EU in the 2009-2015 period were outlined according to these 3 categories, highlighting operational programmes related to each of them.

Funds reimbursed to the EU in the 2009-2015 period were also highlighted, as compared to the allocations for the 2007-2013 period, for the same 3 categories (Table 2).

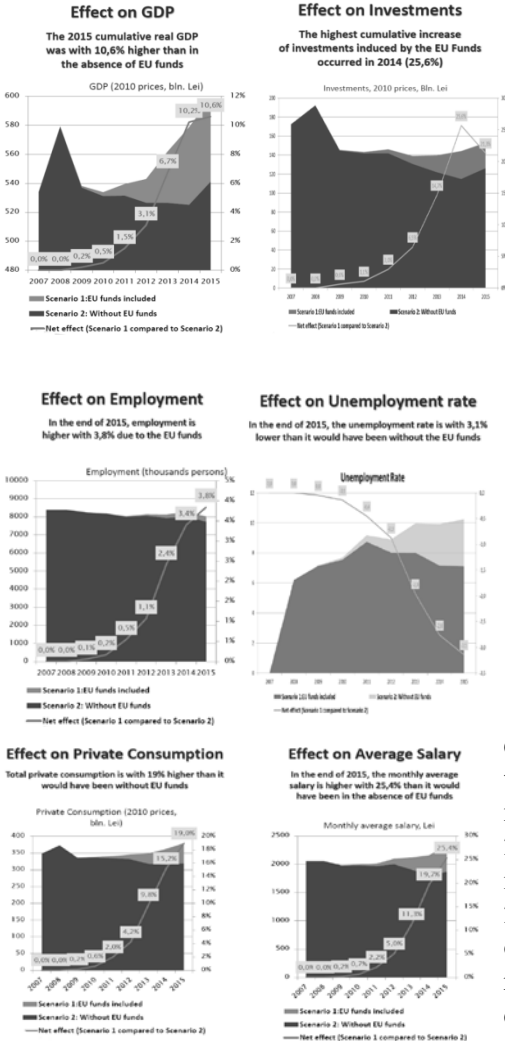
Table 2. The simulation took into account the amounts received from EC between 2009 – 2015

	FINANCIAL ALLOCATION	TOTAL PAYMENTS 2009-2015	% from total allocation
EU fundss Human Resources and Administrative Capacity	3.684,14	1.882,90	51,11%
POS DRU	3.476,14	1.712,34	49,26%
PO DCA	208,00	170,56	82,00%
EU Funds Infrastructure	12.666,62	7.711,68	60,88%
POS MEDIU	4.412,47	2.555,95	57,93%
POR	3.966,02	2.534,85	63,91%
POS T	4.288,13	2.620,88	61,12%
EU Funds Direct aid	2.706,89	1.622,20	59,93%
POS CCE	2.536,65	1.498,40	59,07%
PO AT	170,24	123,80	72,72%
Total EU Funds	19.057,65	11.216,78	58,86%

Source: data prepared by the author based on information from [http://old.fonduri-ue.ro/documente-suport/rapoarte\(for 2009,2010\)](http://old.fonduri-ue.ro/documente-suport/rapoarte(for%202009,2010)) and <http://old.fonduri-ue.ro/> (for 2011-2015)

Using this data, the HEROM model was used to simulate the effect of European funds on a number of five sectors, namely GDP, investments, employment rate, private consumption, average salary in the absence of funds and with their usage at the end of year 2015.

Figure 2 The HEROM model used to simulate the effect of European funds on a number of five sectors: GDP, investments, employment rate, private consumption, average salary



As is apparent from the above statistics, real gross domestic product was, cumulatively, at the end of the period, 10.6% higher with the EU funds than in their absence. Also, the cumulative increase in investment, driven by European funding, has reached a maximum level of 25.6% in 2014.

Moreover, the unemployment rate at the end of 2015 was 3.1% lower than it would have been in the absence of funds while the employment rate is 3.8% higher due to the use of funds.

The total volume of private consumption exceeds by 19.0% its estimated level corresponding to the hypothesis that EU funds had not been implemented over the 2008-2015 period. A significant increase (25.4% cumulatively for 2008-2015) is also noted in the case of the average level of remuneration per employee compared to the simulated situation without EU funds.

Source: Simulations made available by the National Commission for Prognosis

3. The estimated impact of the Cohesion Policy 2014-2020

At the European Commission level, an analysis was carried out in order to assess the anticipated impact of operational programmes in 2014-2020, which is based on two models. The first model is QUEST III, developed and used by the Directorate General for Economic and Financial Affairs (DG ECFIN). This model integrates the latest techniques for modelling DSGE (dynamic stochastic general equilibrium) based on microeconomic principles concerning the assumed behaviour of individuals, businesses and other organizations. Since it produces results at national level, it is complemented by a second model, RHOMOLO, designed to estimate the impact of the Cohesion Policy in the NUTS regions (Brandsma, A. *et al.* (2013). QUEST-generated estimates regarding the effects of the Cohesion Policy for 2014-2020 cover all the 28 Member States. They indicate that, due to the financed investments, EU GDP would be 0.4% higher compared to the baseline scenario (i.e. in the absence of policy) by 2023, when the programming period would effectively end, and the EU-13 GDP would be 2.6% higher. However, the EU-15 GDP is projected to be only 0.2% higher than the baseline scenario (Sixth Cohesion Report, Figure 8.10, p.269).

Estimates for individual countries include collateral effects due to developments in other countries. Therefore, they include not only the effects of Cohesion Policy programmes conducted in that country, but also specifically take into account the indirect effects of the programmes completed in other countries, which could be in the form of increased exports to such countries. They also take into account the need to finance the expenses of the Cohesion Policy, which is assumed to generate an increase in taxes in all Member States as compared to the development of the situation in the absence of this policy. The increase in taxes, along with the modest investments of the Cohesion Policy in the EU-15 explain its limited impact on the latter (which is even negative in some countries where repressive effect caused by taxes exceeds by far the expansionist effect of investments). (Sixth Cohesion Report Figure 8.11). The estimated impact of Cohesion Policy programmes on the GDP in the main beneficiary countries varies considerably, largely reflecting the different amounts received by them (Sixth Cohesion Report Figure 8.12). Therefore, a large amount of the GDP growth in the programming period comes from an increase in demand, which is

assumed to be partially excluded by the increase in interest rates, wages and prices. The effects of the Cohesion Policy in terms of productivity growth materialize only in the medium and long term, increasing the production potential and enabling the GDP to grow without inflationary pressures (Sixth Cohesion Report Figure 8.13). By 2030, due to the Cohesion Policy expenditure, Poland's GDP - the country where its impact is most important - should be about 3.6% higher than the level that would be reached in the absence of this policy.

The consolidation of the Cohesion Policy impact over time is also reflected in the multiplier indicating the growth in GDP for every euro spent. For the EU as a whole, it is estimated that the level is about 1.5 in the period 2014-2023 and up to 3.75 in the period 2014-2030. This illustrates the fact that the Cohesion Policy contributes not only to increasing the demand in the short term, but also strengthens the growth potential of economies through effects on supply, which persist long after the completion of financing.

The Cohesion Policy has a positive impact not just on GDP but also on stimulating employment. In the short term, this effect is primarily a result of increased economic activity generated by investments co-financed by this policy. In the long term, the same investments tend to increase labour productivity and competitiveness through improvements at the level of the infrastructure, production methods, industry structure, skills of the labour force etc. Consequently, this tends to lead to a further expansion of economic activity and employment, which should persist long after expenses are incurred. Similarly to the case of the GDP, the impact on employment should be particularly important in the major beneficiary countries. For example, simulations indicate that, in Poland, employment could be 1% higher than it would have been in the absence of Cohesion Policy funds during the implementation of programmes and in the long-term could achieve a much higher level.

4. Conclusions

The geography of the Cohesion Policy has been simplified since 2007 in order to ensure that it can cover all regions, increasing the efficiency of its implementation. Successive EU enlargements have influenced the challenges that the Cohesion Policy had to address and have increased their difficulty. Thus, besides the inclusion of less developed regions in the EU, this process

has involved increasing the European Union's territorial diversity. With the introduction of territorial cohesion as an explicit objective in the Lisbon Treaty, the Cohesion Policy has placed more emphasis on sustainability and access to basic services, on the need to take into account functional geography and the importance of territorial analysis. This development is reflected in the increasing focus on sustainable growth in Europe 2020 Strategy and in the recognition of the importance of going beyond GDP in assessing territorial development. The debate regarding the way to measure progress and the role of the Cohesion Policy in this regard is ongoing. The results of the debate will probably influence the shaping of the Cohesion Policy after 2020 and the manner in which the policy is implemented in the current period. Assessing the impact of the Cohesion Policy appears to be not an easy endeavour. It turns out that Cohesion Policy progress is constantly monitored, and its effects have been assessed at different levels using many different methods.

Generally speaking, we can say that all these methods confirm the real benefits that the Cohesion Policy has produced and continues to produce in the EU Member States. This policy has contributed to many achievements and the initial changes at microeconomic level stemming from the Cohesion Policy manifest themselves later on at macroeconomic level. The use of economic models to assess the impact of the Cohesion Policy on GDP growth and employment offers the possibility to analyse both the direct and the indirect effects of interventions. As demonstrated by these simulations, the Cohesion Policy contributes significantly to GDP growth and employment, especially in the Member States benefiting from the most important financial support. Moreover, the models show that, in accordance with long-term objectives of this policy, its effects are also felt after the completion of operational programmes.

The success of the Cohesion Policy is closely linked to concentrating funds on a limited number of key priorities, to the focus on results, the establishment of coherent objectives and selecting clear targets, suitable for programmes. Estimating the impact of the Cohesion Policy is a difficult endeavour because it affects a wide range of macroeconomic variables, including GDP, employment, productivity, budget deficit and trade balance, variables which, in turn, are affected by many other factors. It has been proven that interventions have an impact on demand since, in general, the programmes have resulted in increased public, but also private, spending. They also have an impact on supply as they contribute to investments in

infrastructure, installations, equipment and technologies, as well as investments in human capital. In addition, interventions have direct and indirect effects. In fact, their central objective is to increase the development potential by stimulating these investments. Economic models have allowed for the impact of the Cohesion Policy in the short term and the long term effects which persist after the end of the programming period to be estimated.

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