

THE IMPACT OF EU STRUCTURAL FUNDS ON SUSTAINABLE REGIONAL DEVELOPMENT IN ROMANIA

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Abstract: Through the Structural Funds, between 2008 and 2013, Romania has received a considerable infusion of capital from the EU. The purpose of these funds was to reduce the social and economic gap between the EU15 and Romania, being negotiated even the absorption strategy of these funds. In the same time, CEEC (Central and Eastern Europe Countries) received the same financial aid in order to support the growth rate and the sustainable development among employment, public administration or industry. This paper presents a comparative analysis on CEEC with a strong focus on Romania, taking into consideration relevant indicators for the period between 2007 and 2013. The tested hypothesis in this paper refers at the impact of EU structural absorption rate on employment rate, as the European Commission pointed out that this financial support aims at stimulating employment rate among new EU members. The collected information are processed by using a proper tool, a panel data regression with fixed effect. The results indicate that inflation, economic growth, average wage and structural absorption rate are influencing employment rate in a mixed way among CEEC. As focusing on Romania and its particularities on these indicators, there are observed some differences comparing with other CEE countries.

Keywords: *absorption rate, structural funds, unemployment rate, economic growth, average wage.*

1. Introduction

Since the moment of EU enlargement in 2004, there were doubts about the effectiveness of common policies and their impact on national economies. Structural funds were designed to reduce the economic gap between the EU 15 and the new member entered in 2004, as well those who joined the EU in 2007. Since 1998 there has been a change of vision on the Structural funds, in the sense that the funds were designed to bridge the gap between advanced countries and the poorest in terms of economic development (Cappelen, 2003), and creating a stronger cohesion within the EU. Regarding to this, the EU has developed a series of tools to meet those objectives, namely ERDF (European Regional Development Fund) and ESF (European Social Fund). ERDF's goal is to support infrastructure and jobs, while ESF tend to integrate the unemployed and other vulnerable social groups (Ederveen, 2002). Moreover, the EU aims to reduce disparities in the standard of living of the Member States by providing financial support in areas experiencing a low GDP/capita, inefficient industries and high unemployment (Ederveen, 2002).

This paper attempts to provide a clear perspective on the Structural funds and their impact on unemployment in Romania and CEEC. In order to reach relevant results there were taken into account other 9 countries among CEE, only ex-communist countries. These countries are: Bulgaria, Hungary, Czech Republic, Poland, Slovakia, Estonia, Latvia, Lithuania, Slovenia. It is considered that these countries have a number of common features, inherited from the communist era, such as centralized government, excessive bureaucracy, economy market partly to ready for a competing with EU15 countries. CEE in general, and Romania in particular, received the Structural Funds with an open mind, but with a bad absorption technical tools. At least for the first 2-3 years after 2007, when the new European financial stage started, absorption rates did not exceed 15% in any of the analyzed countries (KPMG, 2010).

The paper is structured in three major parts, except this introduction. Literature review section provides suited opinions on European funds impacts. The research methodology

section presents the analysis of panel data all with processed information and in the last section are presented the results and conclusions of the research, as interpreting the statistical indicators.

2. Literature review

The literature presents different views on the impact of structural funds on unemployment in a country. Moreover, the impact of these funds is different for the analyzed states, since they do not have an equal EU funds absorption rate or identical Operational Programs (Jedlicka, 2014). Note that one of the main goals EU was not only a politically united Europe, but also economically, both industrially and in terms of revenue (Cappelen, 2003). In these conditions, it is assumed that poorer regions should receive more aid regarded to cohesion process, fact demonstrated by several studies (Ederveen, 2002a). Among rich countries, however, there exists a tendency to give aid to poorer countries unless there is some national association (Martin, 1998), but actually controlled by the Commission which is directing the distribution of funds (Ederveen, 2002b).

At the level of the CEE countries, the differences between nominal incomes appear to be factors that generate a series of tensions, so that there are as many recommendations on the adoption of measures to accelerate the integration of new member states (Boeri, 2000). Moreover, by the end of 2007, countries with a GDP/capita less than 75 % of the average level of the EU, have received direct support from the EU budget to reduce gaps in the labor issues (Becker, 2008).

It implies therefore that a greater contribution from the EU would have a positive impact on the unemployment rate on the short run. However, it was considered that in some circumstances, the year next to fund allocation did not evidence any significant effect on the growth rate of incomes, so that the outcomes among supported countries did not actually meet the Commission's intentions (Bouvet, 2005). In general terms, both ERDF and ESF do not provide a massive contribution on job building (Commission, 2006). In ERDF's case, the financial aid is driven to SME sector, to infrastructure projects and to administrative capacity building, so that job creation is not directly stimulated within these economical fields, but only in an indirect way, by increasing consumer expenditure and after a certain time, the employment rate would increase. As about ESF, job creation is the main goal of it, but this would become reality only if national governments will trigger inclusive tools for vulnerable social categories (Bouvet, 2005). In the same vein, it was considered that structural funds do not generate an important positive impact aside from the scenario of investing the financial aid in capital subsidies (Mohl, 2011).

From other perspectives, structural funds are having an impact on employment rate, as labourers might remain in regions with low GDP/capita, instead of migrating to richer regions (Boldrin, 2001). A particular social category seem to benefit from EU funds, namely high-skilled population (Mohl, 2011). It is considered that high-skilled population is able to understand the benefits, thus they are trying to get involved in EU financed projects. Also, major projects in education, research and public administration are dealing with high-skilled employees, so that there is a logical chain within this equation. In the same paper (Mohl, 2011), we can observe 4 reasons why EU funds are not creating positive impact on employment rate. The first refers at directing EU funding to investments directly to human capital. Second refers at the „*positive effect on technological progress*”, which might determine an unclear impact on employment rate. Third argument regards again to high-skilled labourers, and the fourth argument is taking into consideration the length of business cycle, as this could block the increase of employment rate.

As a set of conclusions from this review, it can be considered that the impact of EU funds is not clearly positive, but more insignificant. These results are exposed after an

aggregate analysis on the entire EU policy. One certain conclusion is that EU financial aid is not establish on an effective cost-benefit analysis (Ederveen, 2002a), mainly because of the short-term approach, instead of a long-time goal.

3. Econometric investigation: impact of EU funds absorption rate on unemployment rate

3.1. Research methodology

In order to create an adequate analysis on unemployment rate among CEE countries, we have employed a regression on panel data analysis, because of the cross section availability. Taking advantage on available data from INSSE, Eurostat and private reports, we considered that this kind of analysis is the appropriate one. Within the analysis, we tested both random and fixed effects, while the outputs have shown that fixed effects are appropriate in this case and have influence upon the results.

We considered unemployment rate as dependent variable, while as independent variables have been considered the following: EU funds absorption rate, Total investment, Inflation (average consumer prices), General government net lending/borrowing, Salary. So that, using the regression equation ($Y_i = \alpha + \beta_1 * X_{1i} + \beta_2 * X_{2i} + \epsilon_i$), our regression is:

$$\text{Unemployment} = \alpha + \beta_1 * \text{Absorption} + \beta_2 * \text{Investment} + \beta_3 * \log \text{Salary} + \beta_4 * \text{Inflation} + \beta_5 * \text{Growth}$$

The analysis contains 6 periods, between 2008 and 2013, as this is an unitary sample for all 10 tested countries, regarding to EU funds allocation. Redundant fixed effect tests have been provided to prove our assumptions about availability of fixed effects. Absorption rate has been employed using its first difference to avoid unit root in the time series, while salary is logged because it was nominal value per worker earning. As in some cases we could not find the exact absorption rate for some countries for 2007, the observation number is 52, so that the panel is unbalanced.

It is considered that unemployment rate is generally influenced by salary level, by inflation and investment volumes, even if there is a latency between the money infusions and labour effect. So that if there is a big amount of foreign or governmental investments, the employment rate will increase after a certain period of about 6-8 months, but not earlier. Inflation is creating impact on employment rate as well, as the short-run Phillips curve demonstrates this (Eliasson, 1999). Also, the economic growth is in direct relationship with job creating process in CEE countries, as it is described in analytical papers (Hull,

2009). Beside these indicators, we considered that there is an opportunity in testing a new variable in the EU funding context. This is the reason for which we considered the absorption rate as adequate for testing in CEE countries, focusing on Romania.

3.2. Results dissemination

According to our estimation the following coefficients have been obtained:

$$\text{Unemployment} = 0.07 * \text{Absorption} - 0.45 * \text{Investment} - 9.97 * \log \text{Salary} - 0.26 * \text{Inflation} + 0.17 * \text{Growth}$$

In Tabel no.1 there are illustrated the coefficients and the test results, as it was performed by the data mentioned above. The R-squared and adjusted R-squared level in our model is 0.91 and 0.88 which is very closed to 1. This means that the estimated model fits its

actual situation and that the exogenous variables are clearly influencing the unemployment rate by a 91% ratio. Also, probability of F statistic is 0 which means that our model is adequate for the hypothesis that the proposed independent indicators are influencing the dependent variable. Durbin-Watson is 1.988 which demonstrates the absence of autocorrelation between the error terms, so that the model is correct for our assumptions. All independent variables are statistically significant at 1% confidence level, except absorption rate which is significant at 10%. Initially in the model has been included budget deficit based on assumption, that recent crisis has urged governments to cut the deficit, which has been directed by curtailing public employees such as Romania, Spain, Greece. Meanwhile, the results have revealed the deficit being non statistically significant, so we have eliminated it from our final output.

Tabel no.1 – Panel data regression

Dependent Variable: UNEMPLOY

Total panel (unbalanced) observations: 52

$UNEMPLOY = C(1) + C(2) * D(ABSORP) + C(3) * INVEST + C(4) * LOG(SALARY) + C(5) * INFLATION + C(6) * GROWTH$

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	113.5022	30.64627	3.703622	0.0007
C(2)	0.072803	0.040287	1.807095	0.0789
C(3)	-0.450181	0.079485	-5.663746	0.0000
C(4)	-9.978265	3.277504	-3.044471	0.0043
C(5)	-0.265156	0.092704	-2.860257	0.0069
C(6)	0.172692	0.044745	3.859431	0.0004

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.919700	Mean dependent var	10.40535
Adjusted R-squared	0.889316	S.D. dependent var	3.568731
S.E. of regression	1.187290	Akaike info criterion	3.417821
Sum squared resid	52.15735	Schwarz criterion	3.980680
Log likelihood	-73.86336	Hannan-Quinn criter.	3.633608
F-statistic	30.26928	Durbin-Watson stat	1.988330
Prob(F-statistic)	0.000000		

Source: Authors calculation

By analyzing the results, it is clearly that there is a direct relation between unemployment rate and absorption rate as the coefficient C2 is positive. Still, the 0.072 value is not a high one, thus there is negligible influence among these indicators. Also a positive relation is developed by economic growth, with a level of 0.172 for coefficient C6. This is a relatively low influence level as well, meaning that at 1 point economic growth increase, the unemployment rate would increase with 0.172 points. While the positive correlation between growth and unemployment could be explained by recent crisis which influence we could not manage to eliminate in our regression.

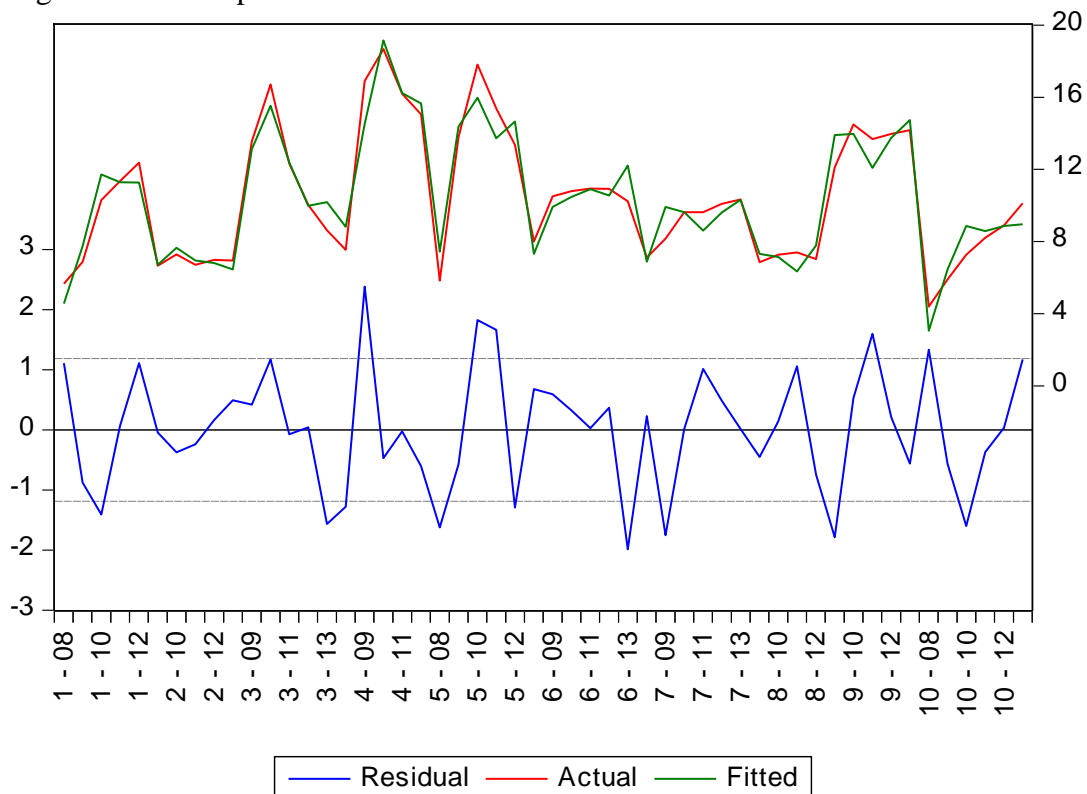
Investments, inflation and salary are the exogenous variables, that determined a higher value for unemployment rate, and this is normal both in crisis and non-crisis period. In the

whole CEE area, the investment volume decreased during the crisis and after, so that the unemployment rate increased with a 0.45 ratio. This is not a very strong influence, but still an important one, because it demonstrates, that for 1 point reduction of investment, the unemployment rate would increase with 0.45. The same situation is in inflation's case, with a -0.26 coefficient, not very strong, but in the correct orientation.

As about the salary, it has a strong influence in our model, with a -9.97 coefficient, meaning that a reduction with 9.97 point on log salary would create a 1 increase in unemployment rate.

Figure no.1 illustrates the graphic description of our estimated model. By a visual analysis, the residual indicator is following the same distribution as for the model. The actual model is fitting the real model, so that our estimation might be correct one.

Figure no.1 – Graphic illustration of econometric model



Source: Made by authors

3.3. Economic meaning

For CEE countries, the model expresses an unclear influence of EU absorption rate as talking about unemployment rate. In these countries, there have been a lack of effective governmental decision making, the fact being demonstrated through frequent governmental shifts. In Slovakia, before and after the crisis, the Social Democrat party managed the government, while during the crisis, the Democratic and Christian Union handled the situation (EU portal).

In Estonia, before the crisis, the government's orientation was a conservative one, while after entering EU, the government is oriented to liberalism. In Estonia's case, the liberalism orientation marked positive results, as this country faces the highest absorption rate among analyzed countries. But even if Estonia has this high absorption rate, according to our model and to statistical data, in 2010 they did not managed well in terms of unemployment level, and turned into a 16.707 rate. This is related also with the external investments volume, because in 2009 the total investments decreased with 37%.

For Latvia and Lithuania, the results are kind of similar to Estonia. Baltic countries are having the highest absorption rates, but still low impact on unemployment rate both in short and long term. These countries decided to employ EU funds to national infrastructure, innovation within SME sector and public sector investments.

In Poland, after entering the EU, the government was a conservative one, and after 2007 it shifted to liberal-conservative. This might be one reason for a fast growing of absorption rate in this country. But still, our econometrical model indicates that even Poland had a rapid absorption rate in this period, the impact on unemployment rate was insignificant, because this indicator grew as well. In this case, one inference on results might be the limitation of exports to EU 15, as these countries reduced the imports during the crisis and after. At this moment, the unemployment rate in Poland is still high, and it seems that EU structural funds are not helping to much.

In Hungary, the actual government is a national conservative one, since May 2010. During the hardest period of crisis, the prime-minister was independent, and the government before was social-democrat. In Hungary, our model present the same situation as in Poland: even there is a clear growth for absorption rate, there is no impact on employment. One of the main reasons is that the actual government did express euroscepticism several times, and because the Hungarian operational programs did not match the main economical vulnerabilities.

Slovenia is another case of high absorption rate with no impact on unemployment rate, according to our econometrical model. Regarding to governments, when entered the EU and after the allocation of EU funds, Slovenia's government was liberal and democratic. During the crisis, the government turned to social-democratic party, and after the crisis it turned again to democratic party. At this moment, the government is having a centre-left orientation. This frequent shift forced Slovenia to ineffective manage EU funds in order to counter unemployment growing rate. One major benefit of EU funds in Slovenia's case is that they managed to develop big infrastructure, education and health systems.

In Romania's case, the results are quite different, as unemployment rate did not hardly increase within the analyzed period. But absorption rate could not have a big impact in this case, because the level was really low. Some of the important facts that led to this situation are the salary cutting in 2010, massive migration before the crisis and small foreign investments after the crisis. During the entering in EU, the allocation of EU funds and the economic crisis, the government had a democratic orientation. In 2012, the social-democrats gained the governmental power and are still managing the situation. In Romania's case, some operational programs did aim at unemployment reduction, while other did not take into consideration at all this issue. It is uncertain, although, that Romania had a strong benefit by using EU structural funds regarding to unemployment rate. The average wage did increase, but all the decisions on this variable have been political, not based on any cost-benefit analysis or economic forecasting. More than this, the big EU financed projects have been negotiated based on political arguments, not on macroeconomic variables.

4. Conclusion

Even the European Commission's intentions are clearly good regarding to labourers, it seems that among CEE countries there is no major impact on this indicators. Our regression indicates that EU structural funds are not having a significant impact on unemployment rates. Analyzing some particularities for each country, there are evidences that governmental policies did not consider very important the unemployment indicators and focused on other national aspects. Major infrastructure, health system, administrative capacity or environment, innovation in technology and so on, all of these are apparently more important as major goals. Global industrial transformations are another reason for these results. Important companies

among Europe are migrating to countries where they can find cheaper labourers and low taxes. Meanwhile, European Commission intends to solve one of the biggest problems among the whole EU: increasing unemployment.

As it was mentioned while making our regression we have faced some limitations. Objective limitation is related to data availability, namely the 2007-2013 period, as this was the period within all 10 analyzed countries did receive EU structural funds. Also, between 2008-2010 period, the economic crisis created massive impact on unemployment rate and on industrial performance, so that this effect was not eliminated from our model. It is proposed in the further studies to take into consideration the crisis as influential indicator and make the regression with and without crisis participation.

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