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Can Foreign Direct Investment Sustain CEE Countries' Economic Growth and Development?

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Abstract
The role of foreign direct investment (FDI) in economic growth is perceived differently by the experts in the field. Some researchers argue that foreign direct investment can sustain the economic growth both directly, by supplementing the internal capital directed to the acquisition of fixed assets and indirectly, by stimulating the local investments. On the other hand, researches conducted at microeconomic level frequently underlined that "FDI per se" does not boost economic growth, as the effects of FDI on economic growth and domestic investments depend on many different conditions existing in the host country. The purpose of this study is to underline several major aspects related to the relationship between the foreign direct investment inflows and the economic growth and development of poorer EU member states, analyzing empirically a set of representative macroeconomic indexes covering three main directions – the volume of inward FDI; the economic growth of the receiving economy; the existing conditions in the host country. The results of the presented analyses demonstrate that a high volume of FDI inflows can sustain the economic growth of the Central and Eastern European countries but not necessarily will generate spillover effects, boosting the productivity and competitiveness of all firms, including domestic companies, and influencing, significantly and positively, their economic development.
Keywords: foreign direct investment, economic growth, development, sustainability, spillover effects.
JEL Classification: E22, E27, O40

Introduction

Evolution of European countries that joined the EU in 2004 (Slovenia, Slovakia, the Czech Republic, Poland, Hungary, Estonia, Latvia and Lithuania) and respectively 2007 (Romania and Bulgaria) has been very different, according to specific conditions existing at the time of integration and the strategy adopted in order to achieve the main objective, namely the real convergence with EU-15 countries. Slovenia, Slovakia and Estonia, countries

that significantly reduced the income differential as opposed to the EU-15, joined to the eurozone in 2007 (Slovenia), 2009 (Slovakia) and 2011 (Estonia).

Economic crisis has also differently affected these countries "according to particular conditions existing at the time of turmoil and economic measures taken by the responsible decision makers in order to minimize its effects" (Iacovoiu, 2013). At the level of year 2009 all above mentioned countries were facing decrease, sometimes significant (Estonia), in the growth of the real GDP rate, with the exception of Poland that registered a positive growth of real GDP by 1.6 percent. In the following years, namely between 2010 and 2012, other countries were able to report positive growth rates of real GDP, as for example Estonia, Slovakia and Bulgaria (Appendix, tab.no.3).

Therefore, a realistic evaluation is imperative in order to develop a unitary and coherent strategy, and proper direct the existing potential. In this context, given the fact that all economic models reflect the true functional relation between the accumulation rate and the growth rhythm of the national income, intermediated by the capital quota, the EU member states, specially the poorer countries, should understand the importance of direct investments as the main driver of economic recovery and apply measures to support the entrepreneurial environment. Moreover, taking into consideration the insufficiency of the internal resources, a question arise - *Can the own efforts targeting the economic development and growth be intensified and completed by attracting foreign direct investments?*

The purpose of this paper is to answer this question analyzing empirically the relationship between the foreign direct investment (FDI) inflows and the economic growth and development for some of the European states mentioned above.

Literature review

Theory provides differing conclusions concerning the growth effects of foreign direct investments. While the significant increase of FDI flows is obvious (over 60 percent of private capital flows), the growth effects remain uncertain.

Some experts in the field (Romer, 1993; Dunning, 2000; Rappaport, 2000) argue that foreign direct investment can sustain the economic growth both directly, by supplementing the internal capital directed to the acquisition of some fixed assets and indirectly, by stimulating the local investments, contributing, through triggering effects, at the development of the productive activities upstream or downstream the activity object of the foreign company. Thus, technology and business know-how transfer to poorer countries may have considerable spillover effects, boosting the productivity of all firms, not just those receiving foreign capital.

On the other hand, macroeconomic studies of particular countries regarding the effects of FDI on economic growth "must be viewed skeptically", as researches conducted at microeconomic level frequently underlined that foreign direct investment does not boost economic growth (Carkovic and Levine, 2002). Using new statistical techniques and two new databases, the two researchers found that "the exogenous component of FDI does not exert a robust, positive influence on economic growth" and "FDI per se" does not accelerate economic growth.

According to Robert Lipsey (2000) the bidirectional relationship between FDI and the economic growth is, on one hand, due to their impact on the economic environment of every country and, on the other hand, the positive influences that the sustainable economic growth has over the received foreign capital inflows, as, for a given country, the periods of vivid economic growth are characterized by the attraction of major foreign direct investments inflows. In the survey published in year 2000, the researcher submitted the results of a

regression analysis that targeted a country's economic growth over a period of 5 years, by making use of the following economic indicators: Investment rate in GDP (INV); FDI inflows as percentage in GDP (FDI); Real GDP growth rate (ROG); The level of education at the beginning of the period (SCH); Modification of the labour force occupation rate (PART); Modification of the prices in the analysed country as compared with the international prices (PR); Real GDP/capita level as compared with the one registered in USA at the beginning of the period (RGDP/US). The conclusions of the research have been, in essence, the followings:

① The impact of the FDI inflows received during the previous years over the economic growth rate is elusive, mainly due to the fact that the foreign direct investments effects intermingle with those of the other economic growth factors;

② A significant FDI impact over the economic growth has been observed into combining the foreign direct investments and the labour force education.

E. Borensztein, J. De Gregorio and J-W. Lee (1998) investigating the effects of FDI on economic growth and domestic investments concluded that:

①FDI contributes to growth in larger measure than domestic investment, beings an "important vehicle for the transfer of technology";

②The contribution of FDI to economic growth "is enhanced by its interaction with the level of human capital in the host country". However, "FDI is more productive than domestic investment only when the host country has a minimum threshold stock of human capital";

③FDI inflows "crowds out domestic investment, but do not appear to be very robust".

Thus, the conclusion underlined by the study was that "the main channel through which FDI contributes to economic growth is by stimulating technological progress, rather than by increasing total capital accumulation in the host economy". Confirming and completing this hypothesis, Bengoa and Sanchez-Robles (2003)[1] argue that "the impact of FDI on economic growth depends on many different conditions existing in the host country".

Other researcher, using the Brocka (2005) model analyzed the connection between foreign direct investment inflows and economic development in the case of Romania on the basis of 5 variables (nominal, gross domestic product; gross fixed capital formation; employment; exports; FDI inflows) covering the period of time 2000-2009 (Misztal, 2010). He notes the positive and significant influence of FDI received on gross domestic product dynamics, emphasizing also the fact that "foreign direct investments were not the most significant cause of economic growth in Romania".

Finally, the studies conducted by some of the Investment Development Path theorists (Narula and Dunning, 2010; Narula and Guimón, 2010) underline the fact that any empirical analyse of the interactions between FDI and development needs to be focused not only on the volume of inward FDI, but on the quality of foreign direct investments received by a country, because "increased FDI does not necessarily imply a proportional increase in economic development". According to them, foreign direct investment that "contributes to enhancing domestic technological strengths" and "matches the country's development aspirations and strategies" generates spillovers, stimulating the economic development of the host country with positive impact on FDI inflows.

[1] The study analyze the relationship between FDI inflows and economic growth in Latin American countries, concluding that the inflows of foreign direct investment has indeed a positive impact on the growth of the country.

Therefore, the economic development[2] of any given country requires more than a "receptive" economy to technological inputs, the FDI impact on the economic growth depending not only on their volume but also of the existing conditions in the receiving economy, the field concerned, the motivation of foreign investors and the investing business strategy (De Mello, 1999; Brenton, Di Mauro and Lucke, 1999; Zhang, 2001; Johnson, 2006). Although the effects of foreign capital on development are difficult to quantify, practice showed that, generally, foreign direct investments significantly influence the economic growth of the host country the moment the value of "inward FDI stock as percentage in GDP" exceeds the 40% level (Iacovoiu, 2009).

Research Methodology

Based on the researches presented above, in order to better emphasise the relationship between the foreign direct investment inflows and the economic growth and development of the host country we will analyze a set of representative macroeconomic indexes covering three main directions – the volume of inward FDI; the economic growth of the receiving economy; the existing conditions in the host country.

The volume of foreign direct investment inflows is underlined by the *inward FDI stock as a percentage of GDP (IFDIS)* and *FDI inflows per capita (FDIIC)*.

The *economic growth* of the receiving economy is given by the *real GDP growth rate* of the analyzed EU countries.

The existing conditions in the receiving economy related to the sustainability of the economic growth factors are highlighted by the following indexes:

Global Competitiveness Index (GCI) is calculated based on "a set of parameters that are grouped into nine categories, namely: institutions; infrastructure; macroeconomics; health and primary education; secondary education and continuous training; the efficiency of markets; technological preparation; the degree of sophistication in business; the ability of innovation" (WEF, 2006).

Global Innovation Index (GII) is calculated "as the simple arithmetic average of the three variables, namely: the power of research and development; the number of patents registered with the United States Patent and Trademark Office; the number of scientific articles" (UNCTAD, 2006).

Employment Rate (ER) is calculated "by dividing the number of persons aged 20 to 64 in employment by the total population of the same age group" (EUROSTAT).

Labour productivity per hour worked (LP) is calculated as „real output (deflated GDP measured in chain-linked volumes, reference year 2005) per unit of labour input (measured by the total number of hours worked)", providing „a better picture of productivity developments in the economy than labour productivity per person employed" (EUROSTAT).

Life-long learning (LL) is calculated reporting the number of persons aged 25 to 64 who stated that they received education or training in the four weeks preceding the survey to the total population of the same age group (EUROSTAT).

Research and development expenditures (R&D) is calculated as a percentage of GDP (R&D intensity), using "all expenditures for R&D performed within the business enterprise sector on the national territory during a given period, regardless of the source of funds" (numerator). This index comprise "creative work undertaken on a systematic basis in order to

[2] In the sense of this study, it is based on sustainable economic growth factors, namely innovative and technological capabilities and highly skilled workforce that generates higher levels of productivity and economic competitiveness.

increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications" (EUROSTAT).

The analyzed data are covering the years 2006 and 2011 for the following EU member states: the Czech Republic, Estonia, Hungary, Poland, Slovakia, Slovenia, Bulgaria and Romania (Appendix).

The grouping of the analyzed states according to the mentioned criteria was done considering the average of the recorded values of the above countries for all specified indexes (real GDP growth rate; GCI; GII; ER; LP; LL; R&D) except inward FDI stock, as follows:

1) High contribution of FDI = the inward FDI stock represents over 40% of GDP;
2) High economic growth = the rhythm of economic growth is over the average value of the real GDP growth rate;
3) High economic development = at least five of the six indexes analyzed in respect to the sustainability of the economic growth factors (GCI; GII; ER; LP; LL; R&D) recorded higher levels than the average value.

Results and Discussions

According to empirical data for the year 2006 (tab.no.1), the positions held by analyzed countries regarding the level of inward FDI stock as a percentage of GDP and FDI inflows per capita are similar or very close. Thus, states that have accumulated a significant stock of foreign capital (over 40% of GDP), namely Estonia (1), Hungary (2), Bulgaria (3) and Slovakia (4), received significantly increased FDI inflows per capita (position 1 for Estonia, 2 for Bulgaria, 3 for Slovakia and 4 for Hungary) as compared with Romania (6-6), Poland (7-7) or Slovenia (8-8).

Table 1. The hierarchy of analyzed EU states according to the values of the macroeconomic indexes (2006)

Countries	IFDIS	FDIIC	GCI	GII	ER	LP	LL	R&D
Czech R.	**5**	**5**	3	2	3	2	3	2
Estonia	**1**	**1**	1	1	1	5	2	3
Hungary	**2**	**4**	5	4	7	3	6	4
Poland	**7**	**7**	4	6	8	6	4	5
Slovakia	**4**	**3**	6	3	4	4	5	6
Slovenia	**8**	**8**	2	5	2	1	1	1
Bulgaria	**3**	**2**	7	8	5	8	8	7
Romania	**6**	**6**	8	7	6	7	7	8

Source: Appendix – table no.1

The evolution of Estonia, the Czech Republic and Slovakia emphasizes the existing bidirectional relationship between the inward FDI and the economic growth of the host country, as at the level of year 2006 when received foreign direct investment has accumulated into significant stock (over 40% of GDP) the rhythm of the economic growth was very high (over 6.96%) with positive influence over the attracted foreign direct investment flows. It has to be notice that FDI received by Estonia and the Czech Republic has produced externalities in the form of technology transfer and spillover effects, leading to the development of innovative capabilities (position 1 for Estonia and 2 for Czech Republic), R&D activities (positions 3 and 2) and improved labour force training (positions 2 and 3) with positive impact on competitiveness (position 1 for Estonia and 3 for Czech Republic).

As compared with this group of CEE countries, Hungary and Bulgaria although have accumulated a significant inward FDI stock (73% and respectively 65.8% of GDP) recorded a

relatively lower rhythm of economic growth (below 6.96%) and did not benefit significantly from the technology and business know-how transfer in terms of increased competitiveness based on innovation, R&D activities and the labour force education.

Romania, Poland and Slovenia have registered much lower levels of the inward FDI stock and flows (positions 6-6 for Romania; positions 7-7 for Poland and 8-8 for Slovenia) and divergent evolutions in what concern the economic growth and development. For example, Romania had a similar evolution as compared with Bulgaria regarding the economic growth (7.9%) and the externalities produced by capital investments (GCI-8; GII-7; LP-7; LL-7 and R&D-8) though the inward FDI stock and flows were much lower (positions 6-6 against 3-2). Comparatively, although the economic growth in Slovenia has been much lower (5.8%) it had an intensive feature, based on higher competitiveness and productivity generated mainly by the local companies' investments.

Matching these tendencies, we may group the states submitted to analyses, according to the mentioned criteria, into major categories (tab.no.2).

Table 2. FDI – ECONOMIC GROWTH for the analyzed EU countries (2006)

	High contribution of FDI (inward FDI stock over 40% of GDP)	**Low contribution of FDI** (inward FDI stock below 40% of GDP)
High economic growth (over 6.96%)	**Estonia, Czech Republic** Slovakia	Romania
Low economic growth (below 6.96%)	Hungary, Bulgaria	**Slovenia**, Poland

Note: **Bold** – the country meets the criteria for economic development (sustainable economic growth factors)

The results of the presented analyses (synthesized above) point out some major aspects in respect to the relationship between inward FDI and the economic growth and development of CEE countries at the level of year 2006, namely:

① FDI inflows supported economic growth in five of the eight analyzed countries, namely Estonia, the Czech Republic, Slovakia, Hungary and Bulgaria.

② Received foreign direct investments produced externalities in the form of technology transfer and spillover effects, sustaining the economic development of Estonia and the Czech Republic.

③ Inward FDI does not significantly support the economic development of Slovakia, Hungary and Bulgaria although these states have benefited of a high inward FDI stock.

As compared with 2006, in 2011 (tab.no.3) the positions held by analyzed countries regarding the level of inward FDI stock as a percentage of GDP and FDI inflows per capita are different, as for example: the Czech Republic (4-1); Estonia (2-7); Slovenia (8-2); Bulgaria (1-6).

Table 3. The hierarchy of analyzed EU states according to the values of the macroeconomic indexes (2011)

Countries	IFDIS	FDIIC	GCI	GII	ER	LP	LL	R&D
Czech R.	**4**	**1**	2	3	1	2	3	3
Estonia	**2**	**7**	1	1	2	5	2	2
Hungary	**3**	**3**	5	2	8	4	6	4
Poland	**6**	**5**	3	7	5	6	4	5
Slovakia	**5**	**4**	6	5	4	3	5	6
Slovenia	**8**	**2**	4	4	3	1	1	1
Bulgaria	**1**	**6**	8	6	6	8	8	7
Romania	**7**	**8**	7	8	7	7	7	8

Source: Appendix – table no.2

It has to be notice that states where the existing conditions, in terms of competitiveness, productivity, innovation capabilities and labour force education, are comparatively better, as for example Slovenia and the Czech Republic, attracted significantly higher foreign direct investment (positions 1 and 2 regarding the level of FDIIC) as compared with Bulgaria and Romania that received much lower FDI (positions 6 and 8 regarding the level of FDIIC).

Even though the Czech Republic and Slovenia recorded growth rates lower than other countries, including Romania and Bulgaria (Appendix-tab.no.3), the data presented demonstrate that it is sustainable, based on higher levels of productivity due to both the improved human factor training and the development of innovative capabilities.

It has to be noticed the evolution of Estonia that develops further, sustainable, recording the highest growth rate among the analyzed states, in 2011 (8.3%). Therefore, innovative and technological capabilities and the labour force education, in whose development and improvement contributed to a great extent, foreign direct investment made in the previous period (both in 2006 and in 2011 IFDIS exceeds 75% of GDP) were

sustainable economic growth factors (growth rates of over 3% between 2010 and 2013) especially important in the context of global economic crisis.

Matching these tendencies, we noted that regardless of the changes in the period 2006-2011, including those due to the economic crisis, the distribution of the analyzed states according to the mentioned criteria is relatively similar (tab.no.4).

Table 4. FDI – ECONOMIC GROWTH for EU countries (2011)

	High contribution of FDI (inward FDI stock over 40% of GDP)	**Low contribution of FDI** (inward FDI stock below 40% of GDP)
High economic growth (over 3.01%)	**Estonia**, Slovakia	Poland
Low economic growth (below 3.01%)	**Czech Republic**, Hungary, Bulgaria	**Slovenia**, Romania

Note: **Bold** – the country meets the criteria for economic development (sustainable economic growth factors)

Modifications occurred are primarily due to the change of economic growth rhythm for all analyzed countries (in 2011, the rate of economic growth significantly reduced compared to 2006), mainly due to the effects of economic crisis. In this context, we note that the data presented demonstrate that CEE states that occupied better positions in what concern the competitiveness, productivity, innovative and technological capabilities, the labour force education and R&D activities have received higher FDI inflows per capita.

Conclusions

A high volume of foreign direct investment inflows may support the economic growth of the host country, as in the case of Estonia, the Czech Republic, Slovakia, Hungary and Bulgaria, but not necessarily will generate spillover effects, boosting the productivity and competitiveness of all firms, including domestic companies, and influencing, significantly and positively, the economic development of the receiving country. Among the CEE countries analyzed only in Estonia and the Czech Republic inward FDI produced externalities in the form of technology transfer and triggering effects, sustaining the economic development. Moreover, the presented analyses showed that Slovakia, Hungary and Bulgaria although they benefited from a high inward FDI stock which sustained the economic growth, did not recorded a significant economic development in terms of increased productivity and competitiveness based on innovation, R&D activities and labour force education.

Also, we note that in 2011, in the context of economic crisis which has resulted in a dramatic reduction of the economic growth rate in most analyzed countries, CEE states that occupied better positions in what concern the competitiveness, productivity, innovation

capabilities, labour force education and R&D activities have received higher FDI inflows per capita.

Therefore, as the globalization and production internationalization processes deepen, the foreign direct investment represents an opportunity for poorer EU member states not only for the technology transfer, but also for the development of technological and innovation own capabilities, thus sustaining the economic growth and development, to a larger or smaller extent, according to every country existing conditions.

The results of the presented analyses have important policy implications in the sense that it demonstrate the fact that pro-active measures are needed for any CEE state in order to attract the kind of FDI that could stimulate technological progress and the improvement of the labour force education, boosting the productivity and competitiveness but, in the same time, matching the economic development aspirations and strategies of the receiving country.

In our opinion, taking into consideration the insufficiency of the internal financial resources due to economic crisis, massive FDI inflows have the potential to sustain the economic growth of these countries, helping them to overcome the challenges related to the return on an upward slope[3], but it is not sufficient in terms of sustainable economic development. The theories and analyses presented show that only inward FDI oriented towards the activities that incorporate a higher degree of local resources and most of all, technology and knowledge, could encourage the improvement of the existing production factors quality and the creation of specialized production factors with positive impact upon the productivity and competitiveness of the local companies, through spillover effects, thus sustaining the economic development of these countries.

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[3] In the year 2013 forecasts for the analyzed states either a slight economic growth, in the case of Estonia, Poland, Slovakia, Hungary, Bulgaria and Romania or negative developments for Slovenia and the Czech Republic (Appendix-tab.no.3).

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APPENDIX

Table 1. The values of the analyzed macroeconomic indexes (2006)

Crt. No.	Countries	IFDIS (%)	FDIIC* (USD/ capita)	GCI	GII	ER (%)	LP (Euro/ hour worked)	LL (%)	R&D (%)
1	Czech R.	54.8	533	**4.42**	**3.10**	**71.2**	**12.4**	**5.6**	**1.49**
2	Estonia	77.2	1341	**4.95**	**3.12**	**75.8**	9.7	**6.5**	**1.13**
3	Hungary	73.0	677	**4.38**	**2.88**	62.6	**11.1**	3.8	**1.01**
4	Poland	30.6	514	4	2.53	60.1	8.6	4.7	0.56
5	Slovakia	55.0	872	**4.31**	**2.97**	66.0	**11.0**	4.1	0.49
6	Slovenia	20.0	322	**4.59**	**2.81**	**71.5**	**19.3**	**15.0**	**1.56**
7	Bulgaria	65.8	1014	3.83	2.12	65.1	4.1	1.3	0.46
8	Romania	33.6	526	3.67	2.44	64.8	4.9	1.3	0.45
-	***Average value***	-	-	***4.27***	***2.75***	***67.14***	***10.14***	***5.29***	***0.89***

*Note: * Own calculations using data from World Investment Report 2007 (FDI inflows) and EUROSTAT (total population)*
Source: UNCTAD -World Investment Report 2007, EUROSTAT (statistics)
GCI:https://members.weforum.org/pdf/Global_Competitiveness_Reports/Reports/GCR_05_06/GCI_Rankings_pdf.pdf
GII: http://www.globalinnovationindex.org/gii/main/previous/GII%202007.pdf

Table 2. The values of the analyzed macroeconomic indexes (2011)

Crt. No.	Countries	IFDIS** (%)	FDIIC** (USD/ capita)	GCI	GII	ER (%)	LP (Euro/ hour worked)	LL (%)	R&D (%)
1	Czech R.	57.7	515	**4.57**	**3.31**	**70.9**	**13.3**	**11.4**	**1.84**
2	Estonia	75.5	192	**4.61**	**3.44**	**70.4**	10.8	**12.0**	**2.38**
3	Hungary	60.3	471	4.33	**3.37**	60.7	**11.1**	2.7	1.21
4	Poland	38.4	393	**4.51**	2.66	64.8	9.8	4.5	0.77
5	Slovakia	53.4	398	4.25	2.73	65.1	**12.6**	3.9	0.68
6	Slovenia	30.6	487	**4.42**	**3.15**	**68.4**	**20.2**	**15.9**	**2.47**
7	Bulgaria	89.1	252	4.13	2.69	62.9	4.8	1.3	0.57
8	Romania	37.1	125	4.16	2.58	62.8	5.5	1.6	0.48

-	***Average value***	***-***	***-***	***4.37***	***2.99***	***65.75***	***11.01***	***6.66***	***1.3***

*Note: * Own calculations using data from World Investment Report 2012 (FDI inward stock) World Bank (GDP – current USD)*
http://data.worldbank.org/indicator/NY.GDP.MKTP.CD/countries?display=default
***Own calculations using data from World Investment Report 2012 (FDI inflows) EUROSTAT (total population)*
Source: UNCTAD, World Investment Report 2007, EUROSTAT (statistics)
GCI: http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2010-11.pdf
GII: http://www.globalinnovationindex.org/gii/main/previous/2010-11/FullReport_10-11.pdf

Table 3. Real GDP growth rate (%)

Crt. No.	**Countries**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
1	Czech R.	7.0	5.7	3.1	-4.5	2.5	1.9	-1.3	-0.4[f]
2	Estonia	10.1	7.5	-4.2	-14.1	3.3	8.3	3.2	3.0[f]
3	Hungary	3.9	0.1	0.9	-6.8	1.3	1.6	-1.7	0.2[f]
4	Poland	6.2	6.8	5.1	1.6	3.9	4.5	1.9	1.1[f]
5	Slovakia	8.3	10.5	5.8	-4.9	4.4	3.2	2.0	1.0[f]
6	Slovenia	5.8	7.0	3.4	-7.8	1.2	0.6	-2.3	-2.0[f]
7	Bulgaria	6.5	6.4	6.2	-5.5	0.4	1.8	0.8	0.9[f]
8	Romania	7.9	6.3	7.3	-6.6	-1.1	2.2	0.7	1.6[f]
-	***Average value***	***6.96***	***-***	***-***	***-***	***-***	***3.01***	***-***	***-***

Note: f - Forecast
Source: EUROSTAT, http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tec00115

EUROSTAT SOURCES:
Employment rate:
http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tsdec420&plugin=1
Life-long learning:
http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tsdsc440&plugin=1
Labour productivity per hour worked:
http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tsdec310&plugin=1
Research and development expenditure:
http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tsc00001&plugin=1