The Impact of Foreign Direct Investment on Economic Growth: The Case of Romania

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Abstract: In the context of the current trends there is highlighted the interest in the emerging economies to attract foreign capital in the form of foreign direct investment (FDI) as a source of external financing and economic recovery factor. FDI are objectively necessary for these countries given their role in increasing the competitiveness of emerging economies. Although foreign direct investments in emerging economies are well under the required level, the impact of FDI on emerging economies is different from one country to another, depending on a number of factors, on the actual conditions existing in each country, including the role that there is attributed to FDI within development strategies of the emerging economies. Theoretical and empirical studies have attempted to explain the phenomenon of FDI through their economic and financial implications, considering their resilience, stability and dominant character of all types of foreign investments. The purpose of the paper is to analyze the trends of FDI flows and the impact that FDI inflows exert on the economic growth of Romania. The results show that FDI has a positive effect on the economic growth for the period analyzed 2000 - 2013.

Keywords: FDI impact; FDI inflows; economic growth

JEL Classification: E22; F21; O40

1 Introduction

The Foreign direct investments (FDI) are a major vectors of economic growth in the worldwide economy. The importance of FDI has increased significantly over the past decades, due the economic and financial globalization and financial markets liberalization. FDI inflows have known a strong increase both in developed and developing countries. Developing economies have gained a higher role in the global market, becoming key beneficiaries of FDI inflows.

During the period 2000 – 2007, FDI inflows in emerging and developing economies, including Central and Eastern European countries (CEE) have known a strong

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increase stimulated by the policies and strategies carried out. They managed to attract an important share of the total FDI, providing to investors major opportunities to expand their businesses and enhancing the economic growth.

In the context of the current trends there is highlighted the interest in the emerging economies to attract foreign capital in the form of FDI as a source of external financing and economic recovery factor. Although foreign direct investments in emerging economies are well under the required level, the impact of FDI on emerging economies is different from one country to another, depending on a number of factors, on the actual conditions existing in each country, including the role that there is attributed to FDI within development strategies of the emerging economies.

The paper is structured in the following sections: section two provides the literature review regarding the relationship between FDI and economic growth and also provides a trend analysis regarding FDI inflows and FDI stock in Romania, during the period 2000 - 2013, followed by a description of the model studied in the paper in third section, the results and discussion are presented in fourth section and the main conclusions in fifth section.

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2. Literature Review

2.1. Theoretical and Empirical Framework

Theoretical and empirical studies have attempted to explain the impact of FDI on economic growth under various aspects. The impact of FDI on economic growth has been the subject of much research which have highlighted the positive effect of FDI on economic growth.

Kida (2014) examined the models of economic growth and the dynamic interaction between models from the Solow Model to New Endogenous Models and the results indicated that FDI affect the economic growth in many developing countries, but there were also many cases as developed countries that showed that economic growth led to a long term increase of FDI flow.

Albu (2013) estimated a model to simulate the impact of FDI on GDP growth in the EU. The the authors' conclusions is that in order to recover economic growth a growth in FDI is needed, taking into account its major impact on the efficiency of foreign trade and its contribution to the general economic growth.

The involvement of a foreign trader in the domestic market structures contribute to the economic growth of host countries and indirectly to external equilibrium through development of infrastructure, diversification of domestic consumption by offering

a wide variety of products and increasing employment in certain professional groups. These benefits appear and become sustainable according to the dynamic of attracting these investment through the facilities offered by host countries (Juverdeanu, 2013).

An important channel through which FDI enhances economic growth is represented by the financial markets; they must be developed enough in order not to restrict their externalities. The analyses carried out by Alfaro et al. (2010), Chee (2010), Abzari, Zarei and Esfahani (2011). Financial market liberalization, under the significant influence of globalization and economic integration in the worldwide economy, has stimulated the international mobility of the foreign capital flows, increasing their flexibility and their effects on the beneficiary country, reflected in a higher rate of economic growth.

The economic and financial implications of FDI on economic growth during the last wave of globalization, are strongly correlated with the internal market features measured through various variables like: work force, technological development degree, know – how, exports, exchange rate. The results also depends on the type of the investment implemented, stimulating the development of competitive advantages based on specialized production factors (Anghel, 2002, p. 38).

The extent to which FDI influences the economic growth in a certain country is strongly affected by the internal market features and if the investment is in short-term or long-term. Highly developed markets attracts FDI and facilitates, using its instruments, their usage in the economic and industrial sectors where the foreign flows are required, increasing their efficiency and the externalities on economic growth.

Multinationals expansion in foreign markets using FDI, especially Greenfield investments, boosts the national and industrial productivity (in the beneficiary sector) and leads to an improvement of the macroeconomic indicators: unemployment decrease, increasing the incomes, the public and private consumption.

Investments that have reached a maturity stage are less volatile, being able to improve economic performance. As a foreign investment is closer to the mature stage of its life cycle, the more it is stable and the long-term effect on growth is guaranteed (Şerbu, 2007, p. 40).

Unlike other SEECs, Romania has an increasing greenfield investment sector mainly of medium size companies located along the Western border and engaged in processing (Hunya, 2002).

The impact of FDI on economic growth is linked with what kind of sectors receive FDI. According to an empirical study on 12 Asian economies, during the period 1987 to 1997, regarding FDI in different sectors and their impact on economic growth, the evidence shows that FDI in manufacturing sector has a significant and positive effect

on economic growth in the host economies while FDI inflows in other sectors do not play a significant role in enhancing economic growth (Wong, 2009).

The literature which studies the relation between FDI and economic growth is vast, highlighting the main channels through which ISD may exert a major influence on economic growth: gross capital formation, the degree of market development and free access on the markets, the employment level, technological transfers, fiscal income, commercial channel (Hermes & Lensink, 2003).

The impact of FDI on economic growth is linked and with the level of economic development, the link between FDI and subsequent growth varies considerably when host economies are classified according to locational host-country characteristics such as GDP per capita, schooling, institutional development and openness to trade (Nunnenkamp & Spatz, 2003).

Graham and Wada (2001) developed an economic growth model using a Cobb-Douglas specification, where the free factor is interpreted as the total factor productivity. The productivity changes over time because of the technological changes considered exogenous. This model highlights the contribution of FDI to economic growth through the contribution to total factor productivity growth.

Balasubramanyam, Salisu and Sapsford (1996) stress that trade openness is crucial for obtaining the growth effects of FDI. In their paper there is tested the hypothesis advanced by Jagdish Bhagwati, according to which the beneficial effect of FDI, in terms of enhanced economic growth, is stronger in those countries which pursue an outwardly oriented trade policy than it is in those countries adopting an inwardly oriented policy.

In the perspective of capital accumulation channel, relevant papers have highlighted that FDI inflows stimulate the physical and human capitals in the economy, increasing the internal competition by developing their abilities. FDI plays an important role in contributing to economic growth. A better domestic financial conditions not only attract foreign companies but also allow host economy to maximise the benefits of foreign investments (Salman & Feng, 2009). Bengoa and Sanchez – Robles (2003) managed to investigate the implication of FDI on economic growth and have concluded that “the host country requires an adequate level of human capital, economic stability and liberalized markets to benefit from long-term capital flows”.

2.2. Trends of GDP, FDI Inflows and FDI Stock in Romania, 2000 - 2013

Since 2003, FDI inflows in the Romanian economy is the subject of an investigation initiated by the National Bank of Romania and the National Institute of Statistics and the data thus obtained are a good source for research. For the period analyzed 2000 - 2013 the source with regard to trends of GDP, FDI inflows and FDI stock in Romania is based on the statistics of The World Bank and of the United Nations Conference on Trade and Development (UNCTAD). The trends of GDP, FDI inflows and FDI stock in Romania, 2000 - 2013 appear in table 1.

The reform initiated in 2000 regarding reduction of public expenditure, acceleration of privatization in Romania and the improvement of the tax system, has generated satisfying perspective, through FDI. However, unfavorable global context is felt in Romania in 2002, so the uptrend is restored in 2003. Of the US Dollars 6 436 million invested in Romania in 2004, 58 percent of net FDI flow is the foreign direct investor's equity stakes in the share capital of direct investment enterprises in Romania, 28 percent of net flow is the reinvested net earnings and 13 percent of the net FDI flow is the net credit received by direct investment enterprises from foreign direct investors – including those within the group (NBR, 2004, p. 2-3). After 2004, when Romania accession to the European Union became a certainty, there was a real leap of FDI flows, so Romania was the destination of half of FDI oriented South - Eastern Europe, explained mainly by privatization in the energy sector. Although completed in 2005, the privatization of the largest commercial banks BCR by Austrian investor is reflected only in statistics from 2006 when actual payments were made (Şerbu, 2007). FDI stock in 2005 reached US Dollars 25 817 million registering an increase of 26.02 percent as compared to 2004. Tax reforms, Romania accession to the European Union, the improvement of the business environment, the major privatizations have contributed to an increase in FDI inflows. In 2006, FDI inflows running at US Dollars 11 367 million, 75.34 percent larger than at end of 2005, of which a significant increasing share went to reinvested earnings and intra-group loans. FDI stock has continued to grow in 2006 by 76.05 percent compared to 2005. In 2007, foreign direct investment came in a decrease of 12.72 percent as compared to 2006, while the stock of FDI in 2007 came in an increase of 38.52 percent as compared to 2006. As can be seen in Table 1, the value of FDI inflows was US Dollars 13 909 million, in 2008, reaching the highest value after a decline in FDI inflows in 2007. Since 2009, FDI inflows to Romania, has registered a sharp decline of 65.17 percent as compared to 2008, induced by the global financial crisis at end of 2008. FDI stock has continued to rise in 2009 stood at US Dollars 72 008 million, accounted a rise from 18.64 percent of GDP in 2000 to almost 44 percent of GDP in 2009, even though there was a sharp drop in FDI inflows in 2009. In the years 2010, 2011 FDI inflows have continued to decline reaching US Dollars 2 522 million in 2011. FDI stock reached a decrease in 2010 of US Dollars 1 744 million compared to 2009. In the years 2012, 2013 there have been an increase in FDI

inflows, but FDI inflows low level of US Dollars 2 748 million in 2012 and US Dollars 3617 million in 2013 is far below the US Dollars 13 909 million amounted in 2008. As can be seen in Table 1, Romania had the highest stock of FDI in 2013. FDI stock increased from US Dollars 78 010 million in 2012 to US Dollars 84 596 million in 2013, accounted an increase of 8.44 percent compared to 2012 and amounting to 44.61 percent of GDP in 2013.

By economic activity, FDI was channelled primarily to manufacturing (31.1 percent of total), financial intermediation and insurance (14.2 percent of total FDI), trade (11.2 percent), electricity, natural gas and water (11.1 percent). Within manufacturing industry the largest 3 recipients were: oil processing, chemicals, rubber and plastic products (5.9 percent of total FDI), transport means (5.7 percent) and metallurgy with a 4.1 percent of total FDI (NBR, 2014, p. 8). From a territorial point of view, FDI went mainly to development regions benefiting from a development physical infrastructure as Bucharest-Ilfov region (61.4 percent), the following development regions benefiting from a significantly reduced FDI flows were: the Centre region accounted 8.6 percent, the South-Muntenia region (7.7 percent), the West region (7.6 percent), and the North-West region accounted only 4.5 percent of FDI flows.

The top 4 countries by share of FDI stock as of 31 December 2013 were the Netherlands (24.4 percent of the FDI stock at end-2013), Austria (19.1 percent), Germany (11.2 percent) and France (7.6 percent), the same ranking since 2009 (NBR, 2014, p.11).

Table 1. Trends of GDP, FDI Inflows and FDI stock in Romania, 2000 - 2013

	GDP	FDI inflows	FDI stock
2000	37 305	1 057	6 953
2001	40 586	1 158	8 339
2002	45 989	1 141	7 846
2003	59 466	2 196	12 202
2004	75 795	6 436	20 486
2005	99 172	6 483	25 817
2006	122 696	11 367	45 452
2007	170 617	9 921	62 962
2008	204 339	13 909	67 911
2009	164 344	4 844	72 008
2010	164 792	2 940	70 264
2011	182 611	2 522	71 344
2012	169 396	2 748	78 010
2013	189 638	3 617	84 596

Source: based on the data base of The World Bank and of the United Nations Conference on Trade and Development (UNCTADstat), http://unctadstat.unctad.org/wds/TableViewer/tableView.aspx, http://data.worldbank.org/indicator/NY.GDP.MKTP.CD/countries?display=default

3. Data and Methodology

The purpose of the paper is to analyze the impact that FDI inflows exert on the economic growth of Romania. In order to achieve the purpose of the paper, there were selected data during the period 2000 - 2013 using World Bank database and UNCTAD database for the variables: FDI inflows and GDP growth rate, used as measure for national economic growth and it is tested the existence of a causal correlation between the selected variables in Romania.

To demonstrate the long – term relationship between FDI inflows and GDP growth rate în Romania, there have been proceeded with the following steps. Firstly, was tested the stationarity of the two selected variables using the Augmented Dickey – Fuller Test. This test provides evidence on whether the variables under investigation has a unit root, based on the model below:

"Equation 1" through ordinary least squares (OLS) technique, where is the independently and identically distributed zero-mean error term

$$y_t = \alpha + \rho y_{t-1} + \delta t + u_t \qquad (1)$$

After testing the stationarity of the FDI inflows and economic growth, there will be investigated the long – run correlation between them, using Johansen Co-integration test. Johansen test approaches the analysis of cointegration by taking into consideration the number of the independent linear combinations (k) for m time series variables which yields a stationary process.

$$X_{1,t} = \alpha + \beta_2 X_{2,k} + \beta_3 X_{3,k} + \ldots\ldots + \beta_k X_{k,t} + \varepsilon_t \qquad (2)$$

The last step is represented by the test of the relationship using Least Square method. The results of this analysis will confirm or infirm the existence of a causal connection between FDI inflows and GDP growth rates.

4. Results and Discussion

The results of the Augmented Dickey – Fuller test, provided in table 2 and highlight for a significance level of 5 percent, that both FDI inflows and GDP growth rate are stationary at first difference.

Table 2. Augmented Dickey – Fuller Test Results

Variable	Level	Prob.	1st Difference	Prob.
GDP	-2.663466	0.1062	-5.545231	0.0011*
FDI Inflows	-2.516884	0.1375	-3.587189	0.0242*

*Source: Author's calculations (Note: *for a significance level of 5 percent)*

FDI inflows and GDP growth rates are stationary at 1st difference; however, having the same degree of stationarity allows us to investigate the long-run correlation between them. The findings of the Johansen Co-integration test are provided in Table 3.

Table 3. Johansen Co-Integration Test Results

Unrestricted Cointegration Rank Test (Trace)			
Hypothesized		Trace	0.05
No. of CE(s)	Eigenvalue	Statistic	Critical Value
None *	0.857626	23.83413	15.49471
At most 1	0.195427	2.391879	3.841466
Trace test indicates 1 cointegrating eqn(s) at the 0.05 level			
* denotes rejection of the hypothesis at the 0.05 level			
**MacKinnon-Haug-Michelis (1999) p-values			
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)			
Hypothesized		Max-Eigen	0.05
No. of CE(s)	Eigenvalue	Statistic	Critical Value
None *	0.857626	21.44225	14.26460
At most 1	0.195427	2.391879	3.841466
Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level			
* denotes rejection of the hypothesis at the 0.05 level			
**MacKinnon-Haug-Michelis (1999) p-values			

Source: author's calculations

The values from Table 3 confirm the existence of one cointegration equation for a 0.05 level, with an associated probability of 0.0220. The regression equation is then tested through Ordinary Least Square method (Table 4). The findings emphasizing the fact that GDP growth rate is positively and strongly influenced by the value of FDI inflows.

Table 4. Least Square Method Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FDI_FLOWS	0.001244	0.000323	3.849223	0.0027
C	-0.180680	1.064669	-0.169705	0.8683

Source: author's calculations

In Romania, the economic analysis has shown that FDI inflows exert a strong and positive impact on the GDP growth rate, confirming the previous findings of the relevant papers in the area as Nistor (2014).

The results of Johansen Co-integration test and Least Square method have demonstrated in Romania the existence of a long – run relationship between FDI

inflows and GDP growth rate. The findings have supported us into reaching the conclusion that an increased rate of economic growth in Romania is highly influenced by the volume of the FDI inflows in our country. The development of Romania is strongly determined by the volume of foreign capital inflows, policy makers implemented over time various strategies to attract an increased volume of FDI.

5. Conclusion

The impact of FDI on recipient countries is a topical issue and extensively discussed in the literature, and the potential impact has become recognized to the company authorities, the host - country or to the economists that analyze FDI phenomenon. The contribution of FDI to economic growth generally should be valued separately, in relation to the types of flow. The different forms of FDI flows have an asymmetric impact on growth due to their contrary nature (Şerbu, 2007). FDI is a major source of growth capital inflows, a source of the formation for some modern management systems and organization, a source of job creation, of advanced technologies and "know - how" that led to a more rapidly modernization of the economic sectors. The paper has examined the trends of FDI flows and the impact that FDI inflows exert on the economic growth of Romania for 2000 - 2013. FDI inflows reached a record value of US Dollars 13 909 million in 2008 and the FDI stock reached the highest value of US Dollars 84 596 million in 2013. FDI went mainly to those regions with a higher level development and with the most modern physical infrastructure, to the detriment of the some areas in the North - West and West regions. FDI were channeled mostly to traditional activities in the areas of highly polluting industries, oil processing, chemicals, metallurgy. Regarding the impact that FDI inflows exert on the economic growth of Romania for 2000 – 2013, the results show that FDI has a positive effect on the economic growth for the period analyzed 2000 – 2013 but the analysis undertaken has several limits, which it will be taken into account in further researches. Firstly, the study is limited to only two variables, meanwhile an increased performance on GDP growth rate is influenced by various factors, other than FDI inflows. Secondly, the period is restricted to a period till 2013, the data for 2014 being unavailable at the time of the current study. Further, we intend to expand the current analysis, including into the panel many emerging economies, showing the impact of FDI inflows in different countries, from various regions.

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