DETERMINANTS OF FOREIGN DIRECT INVESTMENT AND THEIR RELEVANCE IN DECISION - MAKING PROCESS

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Abstract: Understanding the complex mechanisms of the decision - making process in the international investments, involves a good knowledge of the factors which exert influence on the foreign direct investment (FDI) transactions. The purpose of the paper is to analyze the fundamental determinants of FDI in some Central and Eastern European countries, emphasizing their importance in the investment process. In the selected economies, there will be highlighted which are the relevant factors that enhance the volume of FDI flows and how they exert their influence. Besides that, we will focus on identifying the possibilities to improve some factors influence on the dynamic of FDI inflows.

Keywords: determinants, FDI inflows, Least Square Method, influence, economic growth

JEL: C21, E22, F21

a) **Introduction**

The importance of FDI inflows into the internal markets has continuously increased over the last decades. Although many studies have carried out empirical studies to prove the economic implications of foreign flows into selected countries in the sample, an important role is played by the major factors which influence the dynamic of FDI inflows.

Internal macroeconomic conditions exert a major influence on the volume of FDI inflows in national markets. Their degree of attractiveness for foreign capital flows highlight the stability of the national business environment, as well the potential benefits the internal market might have to offer to foreign investors.

As demonstrated the presence of FDI in different countries, FDI are moving to those areas / regions that can provide factors for increasing the efficiency of investment: specialized and qualified labor in the areas of investors, suppliers of materials and components they need, educational and research institutions, administrative institutions opened in order to facilitate the foreign investors' presence in the regions and even the partnerships with them (Barsan, Masca, 2012, pp.82).

The paper is structured in the following sections: the second part focusses on the factors which exert influence on the degree of FDI attractiveness of Central and Eastern European countries based on previous relevant papers on the topic, followed by the econometric analysis on the FDI determinants in selected CEE countries and the presentation and discution of the findings. The paper ends with the relevant conclusions for the current analysis.

b) **Factors influencing the attractiveness of Central and Eastern European (CEE) economies**

Past theoretical and empirical papers have provided the scientific support for identifying the key factors which exert a significant influence on the attractiveness of CEE economies for FDI. FDI have been mostly considered an important channel facilitating the CEE countries' access to the EU integration. In this respect, FDI has demonstrated its relevance as fundamental tool in providing to the beneficiary country positive externalities by introducing new techniques and technologies, managerial and organizational abilities.

During the transition period of CEE countries, their performance has been significantly constructed on the availability of FDI inflows. Besides the new opportunities the foreign inflows provide in the beneficiary economy, transition reforms, privatization of previously state – owned enterprises, have increased the possibilities for developing new projects, joint – ventures or mergers and acquisitions.

The driving forces of FDI inflows into CEEC have benefited of increased attention in the economic literature, focusing on describing the specific role of different groups of factors: transition factors (Mateev, 2012); economic development, exchange rate regime (Aubin, et. Al.2006), announcements related to the EU accession (Bevan and Estrin, 2004; Hansson and Olofsdotter, 2010). CEE countries present different characteristics than other developing and industrially advanced economies. These countries emphasized their ability to develop and implement market – oriented policies and strategies along with the legal reforms which encourage their improvement and their progress on their way to the EU accession, stimulation FDI attraction and economic growth.

Sectorial distribution of FDI indicates the significance of privatization process in the early FDI flows, in utilities and infrastructure, as well the importance of resource investments early after 2000 (Estrin, Meyer, 2011).

Empirical analysis of Serbu (2007) on the determinants of FDI in Romania, Bulgaria, Hungary and Slovenia during the period 2000-2004 confirmed the author's insights on the importance of policies that prevail over traditional factors. The author underlines the transaction costs (proxied by distance) as significant, validating again the performance on gravitational approach. Satisfactory performance in attracting FDI in the future are foreseen given that the political factor is improved (especially for Romania and Hungary). In this way, governments can influence the actual performance in absolute terms of attracting FDI, because the state transition process is under the control of policy makers.

In the host country there are several determinants that may affect the decision of firms to invest abroad, as (Matei, 2004, pp. 24):

1) The general framework for FDI provides: economic and political stability, economic agents treat foreign market operation treaties bi / multilateral FDI, privatization policy, trade policy, fiscal and monetary policy, economic policy, in general.

Most private capital flows are attracted to countries with economic and political stability, countries that have made progress in terms of economic reform, restructuring, including restructuring the financial sector. The best example in this regard is the differential in attracting FDI by CEE countries, depending on progress made in the transition to a market economy.

2) Economic determinants provide issues related to:

- market: market size and per capita income, market opportunities for growth, access in regional and global markets, country-specific preferences, market structure;
- use of resources: raw materials, low-cost labor, skilled labor, infrastructure development, assets;
- efficiency: cost of resources and assets linked to labor productivity and other costs - transportation and communication, the existence of regional integration agreement that favor establishment of a regional corporate networks.

3) Business determinants including investment promotion, investment incentives, related costs: corruption, administrative efficiency, social facilities (bilingual schools, quality of life), post - investment services.

The factors influencing investment in CEE economy were analyzed by researchers Julia Robert Manea and Pearce (2004). Using survey evidence where 33 TNC headquarters provided information on the investment motivations for each of their individual CEE affiliates the article characterizes the transnational corporations' strategic positioning in central and eastern European economies in terms of the relative status of seven motives for investing and the degree of use of seven sources of technology. The seven reasons for investing in CEE countries were defined as: 1) HOSTMARKET - "to establish a strong position in the market of the host country"; 2) CEEMARKET - "to achieve better access to a new regional market (that is other CEE countries)"; 3) EFFSEEK - "to improve our TNC group's competitiveness in supplying its established markets (e.g. EU)"; 4) LOWCOST - "availability of low-cost input factors (e.g. cheap labour; energy; raw materials)"; 5) LABSKILL - "the skill quality of production labour"; 6) SCIENCEINPUT - "availability of scientific inputs". 7) NATRES - "access to particular national research and technological expertise".

Based on the findings that the CEE transition economies attract a small part of FDI flows, part that is unevenly distributed in the region, Mike Pournaraskis and Nikos C. Varsakelis (2004) examines that institutional factors such as civil rights and internationalization of the national economy are critical in explaining the behavior of foreign direct investment inflows in the economies in transition. The author's findings showed that market size and degree of internationalization of the host economy explain a significant part of the cross-country variation of foreign direct investment. Institutional factors related to investment decisions strengthen these location advantages and help a country become an attractive location for such investment inflows in the economies in transition.

Focusing on the role of FDI inflows in CEE countries, Janicki and Wunnava (2004) have succeeded in presenting the common features of the host and source country, as well as revealing the most relevant strategies through which FDI can improve capital accumulation. The authors appreciate that FDI is a key catalyst for achieving and accelerating economic growth and development in the economies they have included in their analysis. This has been demonstrated previously by other studies and the dynamic of FDI inflows in CEE countries highlight their increased importance in the worldwide economy. The most important determinants were market size, host country risk, lower costs for investors into host country and trade openness.

It is widely known and recognized the role that the privatization process has had in these economies. The evolution of FDI inflows has been highly stimulated by the privatization of the state-owned companies. During the period with centralized system in these countries, the increased vertical integration has lead to the creation of monopolies. The market liberalization has required division of the production chain to smaller and competitive companies by privatizing (Barrell, Holland, 2000). Privatization process has been one of the most important factors for FDI inflows market – seeking, due to the fact that these foreign capital flows are not driven by the lower costs of production, but by the opportunity to gain a superior market share. Mukherjee and Sinha (2007) claimed that privatization of domestic companies can decrease FDI if the internal firms reduce costs and encourage foreign investor to chose export.

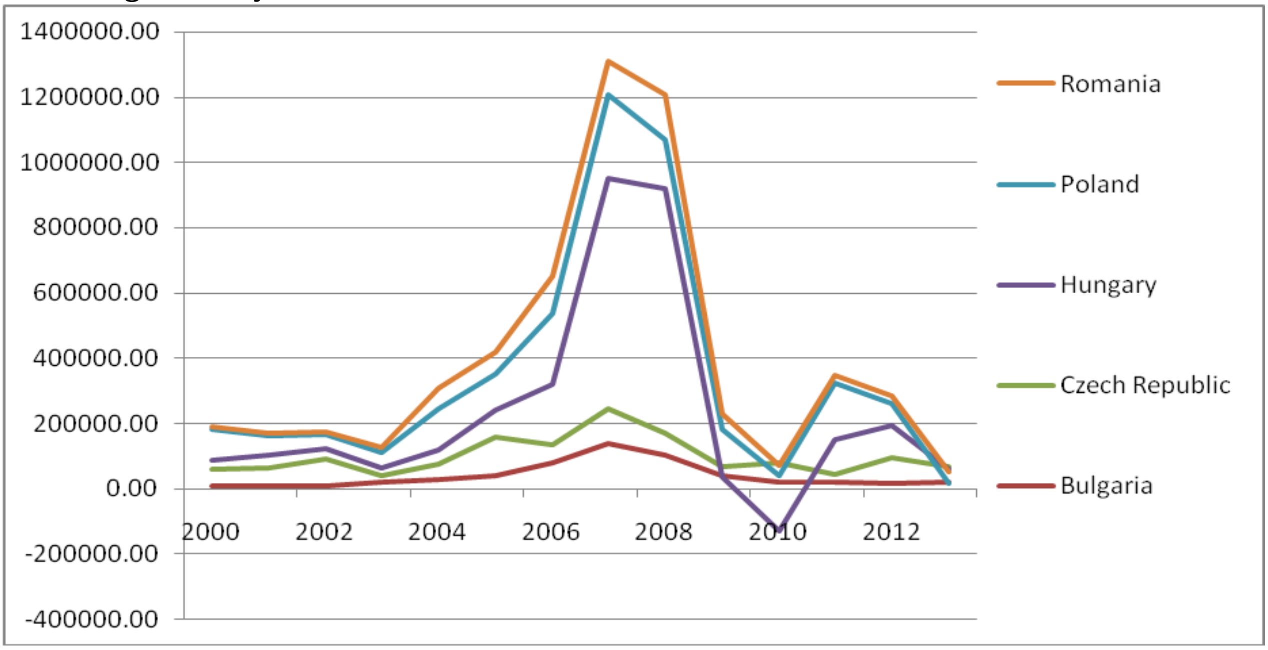
Recent dynamic of foreign direct investments, during the economic crisis, has provided strong evidence on the importance of internal conditions in ensuring the host country's wealth and boosting economic growth. Gentvilaite (2010) has studied the impact of the macroeconomic conditions and perspectives on the determinants of FDI inflows in ten CEEC. However, even if at first sight, these economies have similar features, the author has identified significant differences between them.

Negative evolution of the global market has determined a strong decrease in the FDI inflows in CEEC. The worldwide slowdown of economic activity had reduced the access to finance and collapsing export markets have determined FDI retirement and have increased the CEE vulnerability. Their impressive growth in 2000 has been highly dependent on the external market economies of Western Europe and increased volume of FDI inflows (Sakali, 2013).

c) **Empirical analysis on the determinants of FDI in CEE countries**

Central and Eastern European Countries have become over the past decades attraction business centers for foreign investors. These economies have succeeded in achieving higher rates of economic growth in their catching-up process to developed economies. The volume of the FDI flows in the selected economies is highly dependent on the internal features of these countries. The dynamic of FDI inflows in selected countries from CEEC is represented in the figure below.

Fig. no. 1 Dynamic of FDI inflows in selected CEEC, 2000 - 2012



Source: authors contribution; made using data from World Bank Database

The figure above confirmes the ascending evolution FDI inflows has had in CEEC during their way the EU market. The volume of foreign capitals in these countries has recorded a significant increase, mainly in Romania, Poland and Hungary. The policies and incentives they have used were successful in attracting foreign investors, but the perspectives for development they bring in front for them also have had a strong effect on their decision.

The macroeconomic instability in the worldwide environment has led to a general decrease in FDI inflows to overall beneficiaries. After reaching their peak in 2007, these selected countries have recorded a strong negative dynamic of FDI, due to investors' strong adversion to risk and lack of trust in the market efficiency.

The analysis of FDI determinants has been carried out for four CEEC – Romania, Bulgaria, Czech Republic and Hungary. The aim of the analysis is to emphasize which are the determinants of FDI volume in these economies, highlighting if the economic internal characteristics influence significantly or not, the investors decision process.

We have selected the following variables to achieve the goal of our paper, over the period 2000 – 2012, using the World Bank database and we have constructed the below regression equation:

$FDI_{it} = \alpha + \beta_1$ [illegible] (1),

where:

1. FDI inflows – the volume of the FDI inflows in these economies;
2. Export – we consider this indicator relevant to measure the influence of the economy in the worldwide markets; the high volume of the exports emphasize the increased participation of the country in the foreign markets;
3. Inflation rate – as a relevant indicator to macroeconomic stability. Recent dynamic of foreign markets, during the current economic and financial crisis, has proved the increased volatility of worldwide markets and become a key determinant for the foreign investors decision to expand their activity.
4. Urban population – is representative for the degree of urbanization of the selected country, as a social determinant of FDI.
5. GDP per capita – measures the economic development of the selected country and should highlight that the increased level of this indicator in one country will enhance the volume of FDI attracted
6. Wage level, per total population – is an important determinant in the decision making process of foreign investors. Foreign capitals are generally allocated in those economies, which can ensure them an improved level of the infrastructure. However, the countries with lower levels of wage represent attractive destinations for foreign flows. To achieve the purpose of our article, first of all, we have tested the stationary of the variables included in the analysis using Augmented Dickey – Fuller Test.

d) **Results and discussion**

The econometric analysis of FDI determinants in selected countries – Romania, Bulgaria and Hungary has been carried out using Eviews. The method used is Least Square Method, based on data from World Bank Data Base, over the period 2000 – 2013.

The results of the Augmented Dickey – Fuller test are presented in Tabel 1 from the Anexe 1. The value in the table emphasize that most of the variables included in the econometric analysis are stationary at first and second difference, only few exceptions of indicators are stationary at level: export and wage (Romania), FDI (Hungary).

Table 1. Augmented Dickey Fuller test results

Variable	Romania	Bulgaria	Hungary
lnFDI	-3.412197*/ (0.0345)	-3.385505**/ (0.0419)	-2.936240/ (0.0727)
Export	-5.051812/ (0.0035)	-3.524213*/ (0.03425)	-3.769944**/ (0.0217)
lnGDP_cap	-4.992110*/ (0.0031)	-4.309748*/ (0.00825)	-2.157342*/ (0.0024)
Inflation	-3.706112*/ (0.0217)	-3.950681**/ (0.0190)	-4.278663**/ (0.0103)
lnUrban population	-4.155764*/ (0.0107)	-3.370003*/ (0.0395)	-6.797693*/ (0.0006)
School	-3.411780/ (0.0376)	-5.191341*/ (0.0029)	-3.278866*/ (0.0425)
Wage	-6.822128/ (0.0003)	-3.209289*/ (0.0503)	-3.572609*/ (0.0322)

Source: authors calculation in Eviews

Note: *, ** - significant at first difference, respectively at second difference at a level of significance of 5 %

The Least Square Method has been developed to determine which the main determinants of FDI inflows in those three economies. The dependent variable is FDI, meanwhile the others are independent variables. The results of the econometric test are provided in the table 2.

Table 2. Least Square Method Results

Source: authors calculation in Eviews

Variable	Romania		Bulgaria		Hungary	
	Coefficient	Prob.	Coefficient	Prob.	Coefficient	Prob.
GDP_CAP	37418.03	0.0300	26147.23	0.5329	608744.9	0.0641
urban_pop	1208350	0.4234	-100533.5	0.3402	-22231401	0.3043
Exports	22902.09	0.3955	7656.144	0.6206	-469043.8	0.0288
Inflation	52984.05	0.0583	8041.619	0.8608	1185508	0.0260
wage	102256.7	0.1347	234751.7	0.2028	3035618	0.0815
C	-8192748	0.1171	771104.83	0.3447	10210799	0.3103

The results in table 2 emphasize in the case of Romania a strong interdependence between the volume of FDI inflows and the GDP per capita. FDI inflows in Romania are significantly determined by the level of macroeconomic development in our country. This shows that, the policies and decisions taken by policy makers to increase national attractiveness to foreign flows, using various incentives have achieved their goal.

At a 10 % level of significance, the inflation rate exerts a direct influence on the FDI inflows. Using inflation rate as an indicator for macroeconomic stability, the findings emphasize that, during times characterized by instability and vulnerability in the internal markets, foreign investors decide not to invest in countries having an increased inflation rate.

In the case of Bulgaria, the foreign investors decision is not determined by the variables included in this analysis. However, FDI inflows in Bulgaria might be driven by other economic, socio – cultural or political factors, which may represent the topic for further analysis.

For Hungary, the analysis has revealed, at 5 % level of significance that FDI inflows are strongly and positive influenced by the inflation rate. This correlation confirms that a stable macroeconomic environment is a catalyst for attracting a higher volume of foreign capital flows. The volume of exports is negatively influencing the FDI inflows, meanwhile, for a 10 % level of significance internal wages and GDP per capita become important variables in the decision making process.

e) Conclusion

The decision to invest in a particular country is based on detailed and complex analysis of various factors, economic, social and political that meet the requirements of companies wishing to expand their business abroad through FDI. Determinants of FDI are intensively studied in theoretical and empirical literature. Various past studies have focused on different samples of countries, developing studies using modern econometric techniques – cross sectional analyses, panel data methods.

The purpose of the paper is to analyze the fundamental determinants of FDI in some Central and Eastern European countries, emphasizing their importance in the investment process.

There was shown, using Least Square method that FDI inflows are influenced by the internal stability, measured by inflation rate, in Romania and Hungary. There was demonstrated the strong correlation between FDI inflows and GDP per capita, in the case of Romania and Hungary. However, the empirical analysis has not proved any connection between FDI and selected variables in the case of Bulgaria.

Further analysis will be developed including an expanded sample of countries, both members of the EU and candidates, for different periods of time to make relevant comparations in their evolution and on the factors exerting influence in certain times.

Reference

Aubin, C., Berdot, J.P., Goyeau, D., Leonard, J..(2006) Investissements directs americains et eurpeens dans les PECOs: Quel role des effets de change? *Revue economique,* 57(4), 771 – 792

Barrell, R., Holland, D. (2000) Foreign Direct Investment and Enterprise Restructuring in Central Europe, *Economics of Transition*, Vol. 8, p. 477-504

Barsan, M., Masca, S., G. (2012) Investitiile straine directe. De la paradigma eclectica (OLI) la paradigma evolutiei investitiilor (IDP), Ed. Universitatii "Alexandru Ioan Cuza" Iasi 2012

Bevan, A., Estrin, S. (2004) Foreign investment location and institutional development in transition economies, *International Business Review,* 13(1): 43 – 64

Estrin, S., Meyer, K. E. (2011) Foreign direct investment in transition economies: strengthening the gains from integration. In: Vos, R., and Koparanova. M. (Ed.), Transition and Diversification: Globalization and Policy Challenges for Economies in Transition. Oriental Longman and Zed Hope, Chapter 7

Gentvilaite, R. (2010) Determinants of FDI and its Motives in Central and Eastern European Countries, Bachelor thesis.

Hansson, A.Olofsdotter, K. (2010) Tax differences and foreign direct investment in EU 27. *Scandinavian Working Papers in Economics,* Department of Economics, Lund University, Sweden

Janicki, H.P., Wunnava, P.V (2004) Determinants of foreign direct investment: empirical evidence from EU accession candidates, *Applied Economics*, 36, p. 505-509

Manea, J. Pearce, R. (2004) Industrial restructuring in economies in transition and TNCs' investment motivations at unctad.org/en/docs/iteiit20045a2_en.pdf

Mateev, M. (2012) Country risk and foreign direct investment in transition economies: a panel data analysis, *International Journal of Management Accounting Research*, Fall, forthcoming

Matei, L. (2004) Investitiile straine directe - Functii si evolutii. 1990 - 2000, Ed. Expert, Bucuresti, Romania

Mukherjee A., Sinha, U.B. (2007) Welfare- reducing domestic cost reduction, *Review of International Economic,* Vol. 15, no.2, p. 294-301

Pournarakis, M., Varsakelis, N. (2004) Institutions, internalization and FDI: the case of economies in transition at http://unctad.org/en/docs/iteiit20045a5_en.pdf

Sakali, C. (2013) Determinants of Foreign Direct Investment (FDI) in Bulgaria, *Journal of Economics and Business,* Vol. XVI – 2013, No. 1 (73 – 97)

Serbu, S., G. (2007) Investitiile straine directe. Determinanti, Efecte si Politici de Promovare, Editura Casa Cartii de Stiinta, Cluj Napoca

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