

Foreign Direct Investment and Competitiveness. Evidences from Romanian Economy

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Abstract: *The activity of companies with foreign capital is more often in the center of attention of the public opinion, researchers and public authorities considering the positive effects but also the negative externalities that it generates on the economies of the host countries. With the liberalization of capital movements, FDI was considered the panacea that could solve all economic, environmental and social problems in the host less developed countries, but the reality is much more complex. In order to test if foreign direct investment (FDI) is caused by competitiveness in case of Romania, we considered FDI inflows externalities for national economy, net inflows (% of GDP) and Competitiveness index for the time period 2007-2018. The econometric methodology used to model FDI and Competitiveness Index is Granger Causality. The results of the study suggest that there is a unidirectional causality, flowing from Competitiveness Index to foreign direct investment. Thus, in case of Romania, foreign direct investment represents the result of competitiveness, FDI does not influence Competitiveness index.*

Keywords: FDI; Competitiveness; GDP; Economy; Romania.

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1. Introduction

The liberalization of capital movements internationally has generated significant flows of foreign direct investment, they were initially seen as a panacea for all the issues of developing countries, like the economic growth, restructuring and privatization of state-owned companies, increasing the competitiveness of the host economy, promoting the principles of the market economy, increasing revenues to the state and local budgets. However, the reality showed a less pleasant face of FDI, which generates, in addition to the expected positive effects, negative externalities such as environmental pollution, imbalance of payments, fuelling the corruption process, staff layoffs, etc. (Iacovoiu, 2007; Matei, 2004; Pelinescu & Radulescu, 2009; Popescu, 2014; Subic et al., 2010; Voica et al., 2021; Urata & Lall, 2003; Zaman & Vasile, 2011). The international market makes an allocation of resources and capabilities so that each country specializes in the production of certain economic goods for which it has a competitive advantage. Through trade, some countries import products for the export products for which they have a comparative advantage. In this allocation process, FDI can make a major contribution, directing resources to where can be used more efficiently and promote active processing (Anastassopoulos, 2007; Belaşcu et al., 2018; Bilas, 2020; Cui et al., 2020; Domazet & Marjanović, 2018; Dunning & Zhang, 2008; Jaworek et al., 2018).

Companies with foreign capital have a major impact on world trade and on the balance of payments of the host countries, being important actors both as importers of raw materials for the production process and as exporters of finished products, depending on the chosen capitalization strategy of internal markets or increasing efficiency. Many times, transnational companies are accused of negative influences on trade flows because many foreign trade activities are motivated by their desire to maximize profits by practicing intra-corporate exchanges and using the transfer price mechanism. The main contribution of FDI in host countries is to increase the productivity and competitiveness of local capabilities. Improving competitiveness can be achieved as follows: (1) increasing efficiency in the production activity; (2). creating new products, increasing the quality of existing products and widening the assortment range; (3) more efficient allocation of resources and capabilities between sectors; (4) conquering markets; (5) accelerating the speed of structural changes (Akbar & Akbar, 2015; Banica et al., 2018; Iacovoiu, 2014; Matei, 2004; Zaman & Vasile, 2012).

This article focuses on the contribution that FDI has on the competitiveness of host countries, specifically Romania, a country from the former communist bloc that opened its economy to foreign capital starting to 1990. The article is divided into five parts, in the first part the authors present the importance of FDI and underline both the positive effects and the negative externalities generated by foreign capital in the world economy. In second section, the authors present the results of the studies identified on this topic in various regions and time periods in order to identify the research gap. The Data and methodology section is followed by the presentation of the results and their interpretation. The article ends with the conclusions section in which the authors present the limits of the research and future research directions.

2. Literature Review

Considering the complexity of FDI, the specialized literature abounds in studies that are focused on certain elements such as the determining factors of foreign capital flows, the effects on national economies, methods of implantation, types of investments, the involvement of companies with foreign capital in the privatization process the impact of the covid-19 crisis on FDI, , etc. there are also review papers on this subject that try to systematize the results of previous studies (Stankov et al., 2018).

The study conducted by Rokhmawati (2021) used mediation regression analysis in order to examine the effect of foreign ownership, green investment and export on competitiveness for Indonesian economy (sample consist of 445 manufacturing companies) for period 2016 - 2017. The main conclusions of the paper were that FDI has an important contribution to increasing the competitiveness of local companies “through *transferring high standard of environmental practices and technology*” (p. 9) but GHG emission growth has a negative effect on competitiveness.

The study developed by Alvarez & Marin (2013) was focused on 41 developing countries and 34 high-income countries for period 1996–2010. The econometrical model used the high technology exports (measured as percentage of the total manufacturing exports) as dependent variable and specific internal (R&D effort, patent applications and royalty receipts and royalty payments) and external factors (inward and outward FDI stock. The results of the research demonstrated that the impact of FDI on competitiveness is different according with the host countries level of development. For developing and developed countries, the scholars demonstrated that the competitiveness improvement in high-tech markets is based on both internal and external factors. For developing countries FDI

outward stock had a dramatic influence on the competitiveness but for developed countries the influence of foreign capital is much smaller. So, the conclusion was that the competitiveness in high tech industries is complex process with many determinant factors, but innovation and firm internationalization being very relevant.

The situation specific to the countries from Central and Eastern Europe (CEE) that are members of European Union (EU) was studied by Popovici & Calin 2015 based on the indicators used by World Economic Forum in setting the Global Competitiveness Index. The results of the study demonstrated the heterogeneous situation in the region, considering the major differences between countries in terms of the level of development, the value of the stock of FDI and FDI/inhabitant. For Romania, the scholars concluded that the *”infrastructure, institutions’ quality and innovation for improving competitiveness and increasing its FDI/capita”* are necessary (p. 63). For the same sample of ten former communist countries from Europe (Bulgaria, Romania, Czech Republic, Estonia, Lithuania, Latvia, Poland, Hungary, Slovenia and Slovakia), the study of Rusu & Roman (2018) over the period 2004–2016. The scholars used econometric analysis based on panel data. For the dependent variable, the Global Competitiveness Index was used and as independent variables, seven specific macroeconomic and business environment indicators were taken in account. The results demonstrated that differences between countries still exist even they are members of EU. The countries were grouped according to the level of development and three groups resulted Stage 1: Factor- Driven; Stage 2: Efficiency-driven, Stage 3: Innovation-driven. For efficiency driven economies (Romania and Bulgaria) *“G.D.P., inflation rate, trade, labour productivity and cost of business start-up procedures are the determinants of competitiveness”* (Rusu & Roman, 2018, p. 2056).

The impact of innovation, FDI and human capital on competitiveness of European economies, for period 2004–2018 was analysed by Simionescu et al. (2021) using the Cobb-Douglas function. The study suggested that there are some differences between the analyzed countries considering the impact of influencing factors on competitiveness, the explanation being generated by gaps in economic development. The conclusions of the study were that there is *“causal relationship between FDI stock and GDP per capita and many other factors contribute to competitiveness development at the national or regional level”* (Simionescu et al., 2021, p. 133).

The connection between competitiveness and FDI inflows was studied for ASEAN countries for the period 2007–2017 by Raeskyesa et al. (2020), using panel data analysis and Pearson correlation. The results of the paper reveal that for majority countries, there is a strong connection competitiveness and FDI inflows. The main important determinant factors

for attracting FDI are market size of host countries, the power of institutions, health situation, and primary education of local population.

The study of Horobet, et al. (2021) used machine-learning based on random forest methodology in order to analyse the correlation between FDI stocks and competitiveness for seven countries from CEE (Bulgaria, Croatia, Hungary, Czech Republic, Romania, Poland, and Slovakia) for period 2008 – 2017. In order to quantify competitiveness, the authors used 15 indicators for reflecting the main FDI determinants (some of them being used in the computation of the European Regional Competitiveness Index). The results of the study demonstrate that the main determinant factors for competitiveness are market size, labour market, economic sophistication, and digitalization.

Considering the results of these studies, the authors have identified a research gap, namely the lack of studies for Romania in the period after joining the European Union. EU membership generates an improvement in competitiveness because the free movement of products, services, people ensure cost reduction and increase the speed of transactions between EU countries. The economic and political stability generated by EU membership has increased Romania's attractiveness for foreign investors both from EU countries and from outside the European continent.

3. Data and Methodology

In order to test if Foreign direct investment (FDI) is caused by competitiveness in case of Romania, we considered FDI inflows externalities for national economy, net inflows (% of GDP) and Competitiveness index for the time period 2007-2018, annual data, due to data availability. The data were provided by World bank and Statista. The analysis was realized using EViews 12. As it can be observed in Figure 1, the Competitiveness index (CI) registers an increased trend over time, instead FDI decreased until 2011, and increased after.

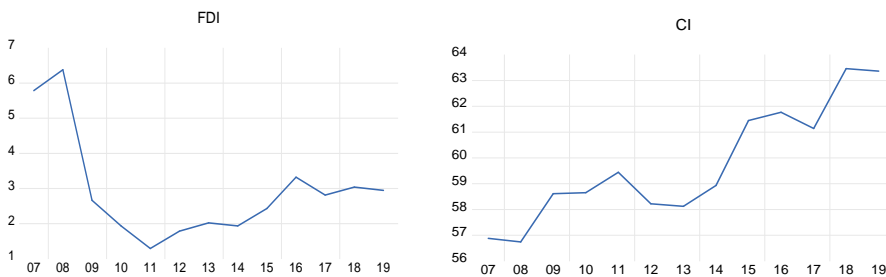


Figure 1. Trend of FDI and Competitiveness Index

Source: Authors' own conception

To examine the characteristics of the two variables included in the analysis we performed descriptive analyses of the data (Table 1).

Table 1. Main characteristics of the series

Variables	Mean	Min.	Max.	Std. Dev.
FDI	2.9499	1.2928	6.3775	1.5096
Competitiveness Index	59.7515	56.7400	63.4600	2.2596

Source: authors' calculations

As it is observed from Table 1, during the analyzed period, the FDI registered an average of 2.9499%, and a standard deviation of 1.5096%, the values oscillating between 1.2928% and 6.3775%. Regarding Competitiveness Index, the average is 59.7515, the standard deviation is 2.2596, and ranging from 56.7400 and 63.4600.

The econometric methodology used to model FDI and Competitiveness Index is Granger Causality. For this, first step consists in examining the series stationarity. Augmented Dickey-Fuller (ADF) test (Dickey and Fuller, 1979), Philips-Perron (PP) test (Phillips & Perron, 1988) and Kwiatowski, Phillips, Schmidt, Shin (KPSS) test (Kwiatowski et al., 1992) has been used to test the unit roots of the variables (Dickey and Fuller, 1979). A variable x Granger causes another variable y if values of x in the past conduce to forecast the current level of y considering all other appropriate information. This implies the concept of causal ordering.

The simplest test of Granger causality requires estimating the following two regression equations:

$$\sum_{i=1}^p \sum_{j=1}^p y_{t-i} = \beta_{1,0} + \beta_{1,y} y_{t-i} + \beta_{1,p+j} x_{t-j} + \varepsilon_{1t} \quad (1)$$

$$i=1, j=1$$

$$\sum_{i=1}^p \sum_{j=1}^p x_{t-i} = \beta_{2,0} + \beta_{2,y} y_{t-i} + \beta_{2,p+j} x_{t-j} + \varepsilon_{2t} \quad (2)$$

where p represents the number of lags that adequately models the dynamic structure and the error terms ε are white noise (Stern, 2011).

4. Empirical Results

In order to test the stationarity were used Fisher ADF, PP test, and KPSS tests. The results of unit root test are presented in Table 2, indicating that the variables are stationary after the first difference.

Table 2. Unit root tests for the full sample

Variables	Augmented Dickey-Fuller		PP test		KPSS test	
	Statistic	Prob.	Statistic	Prob.	Statistic	Critical value (10% level)
FDI						
Level	-2.0080	0.2791	-2.3554	0.1722	0.2269	0.3470
First difference	-3.7366	0.0228	-3.1480	0.0522	0.2693	0.3470
Competitiveness Index						
Level	-0.5960	0.8370	-0.2041	0.9138	0.5165	0.3470
First difference	-4.0085	0.0135	-4.9589	0.0032	0.4583	0.3470

Source: authors' calculations

Next, we performed the Granger causality analysis. The results presented in Table 3 indicated the causality relations according to Fisher test.

Table 3. Causality test

Null hypothesis	F-Statistic	Prob.	Decision
FDI does not Granger causes CI	0.3181	0.7391	Accept
CI does not Granger causes FDI	4.0273	0.0778	Reject

Source: authors' calculations

As shown in Table 3, there is a unidirectional causality, flowing from Competitiveness Index to FDI. Thus, in case of Romania FDI represents the result of competitiveness, instead FDI do not cause Competitiveness index.

5. Discussions and Conclusions

Globalization has been characterized by the prominence of FDI which has been considered to be a primary source of economic development in post-communist countries. Furthermore, there is a positive association between FDI and GDP. FDI can cause national competitiveness as it enables technological and knowledge transfer and thereby helps a host

country to develop (Hunya, 2001; Sengupta & Puri, 2018; Zlatković, 2016). In addition, competitiveness enhances economic growth which in turn leads to improved living standards. Consequently, governments tend to create favourable conditions to attract FDI inflow. A country's competitiveness level can attract FDI inflow but political stability, and property rights also determine FDI inflow (Ali, 2017; Gigauri & Damenia, 2019).

It is noteworthy that the pandemic and subsequent economic crises triggered changes in all levels of our society forcing economic agents to move towards more sustainable economic models (Androniceanu et al., 2021; Gigauri, 2021). Sustainable growth is possible through economic development and Competitiveness defines the level of a country's productivity and prosperity. Thus, companies and governments need to be managed in a way that generates wealth. In this regard, public and private sectors can support an encouraging environment for competitiveness such as an improved governance system, increased efficiency of public institutions, human capital development, and advances technological infrastructure.

This research aimed to test the correlation between FDI and competitiveness in the case of Romania. For this reason, the data about FDI inflows externalities for the national economy, net inflows (% of GDP), and Competitiveness index were analysed. The study covered annual panel data from the year 2007 to 2018. To achieve its objectives, this research used econometric methodology. The research results show a unidirectional causality that FDI is caused by competitiveness in Romania, whereas FDI does not lead to the Competitiveness index. These results are similar with the findings by Dunning and Zhang (2008) who argued that competitiveness stimulates FDI inflows. Although the competitiveness of national economy considerably depends on foreign direct investments, the inflow of FDI increases the competitiveness of the economy (Milovic & Jocovic 2017).

The authors of the presented research are aware of the limits of the research considering the analysis carried out for Romania for the period 2007-2018. Future studies should examine the same phenomenon in other post-communist countries. Furthermore, further research will expand the analysis to the countries of CEE that are members of the EU in order to identify the gaps generated by the different levels of development that are registered in the region despite the membership of the European Union.

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