ANALYSIS OF THE IMPACT OF ECONOMIC FACTORS UPON THE FDI INFLOW IN SEE AND CEE COUNTRIES

Summary

Purpose – The goal of this paper is to explore the possible influence of certain economic factors over the FDI inflow in South-East European (SEE) countries and Central and Eastern European (CEE) countries. We compare the situation in 7 countries from the region of South-East Europe: Albania, Bosnia and Herzegovina, Croatia, Kosovo, Macedonia, Montenegro and Serbia and 7 countries from the region of Central and Eastern Europe: Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovenia, and Slovakia.

Research method – We apply a holistic approach based on panel data for a twenty-two-year period from 1995 till 2018. The analysis was effectuated through a panel unit-root test. The dependent variable is FDI net inflow (as % of GDP). The study takes into account the following economic variables: annual percentage growth of GDP; labor productivity as GDP per person employed; government consumption as percentage of GDP; inflation rate as annual percentage of GDP deflator; labor force with advanced education (% of the total working-age population with advanced education) and labor taxes and contributions (% of commercial profits).

Results – The results indicate that there are differences between the factors that influence the FDI inflow in these two groups of countries. For the South-East European countries government spending,
labor force with advanced education, inflation and labor taxes and contributions were the factors that have significant influence over the FDI inflow. For the Central and Eastern European countries all of the included independent variables appear to be significant factors in attracting FDI inflow.

**Originality / value** – In the literature we can rarely find analyses of economic determinants for FDI inflow in the selected groups of countries. Also, the period of twenty-two years from 1995 till 2018 provides novelty of the results and of the conducted analysis.

**Keywords:** foreign direct investment, South-East Europe, Central and Eastern Europe, panel data analysis, economic factors

**JEL Classification:** F21, F60, C23

1. Introduction

The level of FDI inflow into an economy is strongly linked to the level of development, economic and political stability, trade openness and other macroeconomic factors. The goal of this paper is to measure the influence of certain economic variables upon the attractiveness of FDI in two regions: the region of South-East Europe (SEE) and Central and Eastern Europe (CEE). The countries of SEE that are included in the analysis are: Albania, Bosnia and Herzegovina, Kosovo, Macedonia, Montenegro, Serbia and Croatia. Most of these countries are EU candidate countries, with the exception of Croatia which became the EU member in 2013. The analyzed countries from the Central and Eastern Europe are: Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovenia and Slovakia. They are all EU member countries.

After the fall of socialism, both groups of countries had to introduce reforms for reshaping their economic and political systems, creating new institutions and transforming the ownership of capital. Therefore, both groups of countries are known as transition countries although they differ regarding their cultural and historical heritage, traditions, population and size of the territory as well as the level of economic development.

For the purpose of our analysis we have run multiple regressions using panel data for the period of twenty-two years, 1995-2018. The paper is structured as follows: in Section 2 we provide literature review on FDI in the transition economies; in Section 3 we make a brief overview of the FDI inflow in the countries of SEE and CEE; in Section 4 we explain the model and the results from the regressions; and in the last section we present the conclusions from the analysis.

2. Literature review

After the collapse of the Soviet Union in 1989, the Central and Eastern European countries went through a process of transition from centrally planned economies to capitalist market ones. In order to achieve economic recovery they implemented
a strategy aimed at attracting foreign direct investment. In 2001, Kalotay [2001, p. 259] found that the systemic impact of FDI through privatization had been positive in Central and Eastern Europe and more substantial than it was expected at the beginning of the transition process. The same strategy for increasing economic growth was implemented in the countries of the Western Balkans after the collapse of former Yugoslavia.

Dunning and Rojec [1993] were among the first who applied this model upon the transition economies and related the inflow of FDI with the opportunity of increasing productivity in manufacturing industries that already existed in these countries; the opportunity of introducing innovations and improvements of the existing production, processes and organizational structures; the promotion of new allocation of resources among different sectors; the opportunity to get access to new markets; and the acceleration of structural changes within the economy as well as a decrement in costs needed for technological changes.

However, the amount of FDI inflow depends on the success of the policy of attraction of FDIs and on the economic and political factors in the country. There is mixed evidence in the theoretical and empirical literature regarding the various economic factors that influence FDI [Deichmann et al., 2003; Asiedu, 2006; Mohamed, Sidiropoulus, 2010; Hunady, Orviska, 2014; Tintin, 2013]. Bevan and Estrin [2004] found that FDI from Western Europe in the rest of Europe is related inversely to unit labor costs and to the distance between the countries. Hence, investment to the region has been both market-seeking and efficiency-seeking.

The most important determinants of FDI inflow [Hunady, Orviska, 2014] to the CEE countries are identified as: labor cost, firing cost, GDP per capita, public debt and openness of the economy. Among the economic factors that attract FDI in the region of the Western Balkans [Vesaite, 2014] are market size and skills. Particularly for Macedonia, according to the study of Kikerkova et al. [2018], economic factors, such as the rate of GDP growth, trade openness and labor productivity were the leading factors for increasing FDI inflow.

Bevan and Estrin [2004] found that announcements on EU accession proposals had an impact on FDI for the future member countries. Countries that have implemented transition policies successfully are promised a relatively speedy EU accession, which further accelerates FDI and generates more growth and development as a result. In contrast, countries that are less successful in implementing transition policies are given longer schedules before their EU accession can take place, which may discourage FDI inflow [Estrin, Uvalic, 2014].

The role of incentives (fiscal and financial) for attracting FDI is analyzed in the academic literature as well. Tax deduction is considered to be the most significant influencing factor on attracting FDI in Central and Eastern Europe [Ginevičius, Šimelytė, 2011]. However, the results of different researches [Cass, 2007, p. 77; Zemplinarova, 1996; Cleeve, 2008] carried out in this field were basically conflicting or with a predominantly negative connotation. Kalotay [2008] analyzed the FDI inflow in Bulgaria and Romania at the beginning of their EU accession process and found that, despite the major labor cost and corporate tax advantages, these
countries attracted relatively few efficiency-seeking projects, mostly in garments and footwear.

Also, there is no proof on the statistically significant relation in attracting FDI with regard to financial and fiscal incentives [Assunção et al., 2011]. Most of the authors came to the conclusion that an active approach in granting incentives to foreign investors might have a strong negative impact upon the corruptive practices within the institutions of the system and might lead to the withdrawal of the foreign investor’s decision to effectuate the investment. Abundant tax relieves usually have a negative impact on the total effect from the attracted FDI, as they increase the costs for the host country to the extent that might overcome the total positive effect of the effectuated foreign investment.

3. Characteristics of FDI inflow in the countries of South-East Europe and Central and Eastern Europe

Improved economic and institutional reforms conditions had a positive impact upon the FDI inflow. As part of their economic transition, the countries went through an important period of capital accumulation during the last 20 years. Also, many of the CEE countries have been benefiting from EU structural funds to support both public infrastructure and private sector capital formation. During the economic transition most of the FDIs were located in tangibles (machinery, infrastructure, land, banking and retail capacities, etc.) as part of the process of integrating a number of economies from CEE and SEE into western European supply chains. The region had relied on foreign capital inflow, but with the advent of the 2008 financial crisis, the inflow of FDI collapsed and has remained at a lower level ever since. The global financial crisis had its effect over the external vulnerability of these countries with a prolonged and slow economic recovery.

FDIs in both groups of countries are highly pro-cyclical, but more volatile than GDP [Bubbico et al., 2017]. According to chart 1 and 2, the dynamics of the annual growth in GDP follow same pattern in both groups of countries. However, the growth in GDP in SEE and CEE countries is positively correlated with the net inflows of FDI. The FDI inflows had the average value of around 5.4% in SEE in the whole of the analyzed period, compared to 4.7% in CEE countries. The lower value in CEE countries is due to the decrease in FDI inflows in the post-crisis period.
Analysis of the impact of economic factors upon the FDI inflow ...

**CHART 1**

The relationship between GDP growth (annual %) and FDI inflow (% of GDP) in SEE countries in the years 1995-2018

Source: own elaboration on the basis: [World Bank].

**CHART 2**

The relationship between GDP growth and FDI inflow (% of GDP) in CEE countries in the years 1995-2018

Source: own elaboration on the basis: [World Bank].
Due to political instability and many military conflicts, the countries of South-East Europe lost the whole decade of the 1990s on macroeconomic stabilization, privatization and transformation of their systems towards a market economy. Since the beginning of the 21st century the political and economic situation within SEE countries started to change gradually. In the period from 2001 till 2008 the economic reforms and privatization process in the region started to accelerate and the region gradually liberalized trade, especially with the EU. All this led to substantial changes and improvement of the business climate in all of the countries throughout the region. Most of the economic reforms that were implemented in different countries relied on legal reforms in favor of FDI regime liberalization and pursued active policies on attracting foreign investors’ attention. These efforts led to an increment of the total FDI inflow, which reached its peak in the period before the 2007-2009 world financial crisis. Data in chart 3 confirms that the crisis in 2008 had a strong negative impact upon FDI inflow in the countries of Central and Eastern Europe and cut more than a half of the total inflow of FDI at a regional level. The recovery period lasted until 2016, when the FDI inflow started to increase again in both regions, but it was far from reaching the 2008 levels.

CHART 3

FDI inflow in South-East Europe and Central and Eastern Europe
in the period from 1995 to 2018 (% of GDP)

Source: own elaboration on the basis: [World Bank].

Barlett and Prica [2012] suggested that the extent of openness to FDI inflows was a major cause of the transmission of the crisis to the region. The 2008 global
economic crisis exposed two weaknesses in the South-East Europe investment profile in terms of concentration of foreign direct investment in the financial sector and limited private sector development.

The slowdown in FDI inflow in the region was not caused only by the crisis, but generally it was the result of the completion of the privatization process and foreign investors’ lack of interest in investing in already existing enterprises. FDI inflow within the region created about 8% of the total GDP on average. Although this indicator differs throughout the countries in the region, its average for the region as a whole is significantly above the figures of the same indicator calculated for the countries of Central and Eastern Europe, where it reached 3% of GDP. Another aspect that should be pointed out is that FDI inflow was considerably higher in the countries that became EU member states than in CEFTA-2006 member countries. This is fully in line with the finding of Bevan & Estrin [2004] that the announcements on EU accession have a positive impact on FDI for the future member states.

The situation with the countries in the Central and Eastern Europe is quite opposite. These countries have started their systemic transformation much earlier than the SEE countries, namely in the early 1990s. This resulted in an increased stock of FDIs in this region. As a result of intense merger and acquisition activity, vast privatization programs and a continuously improving regulatory framework, the FDI inflow surged. The process of transformation continued by signing European agreements and the official opening of negotiations (1998 and 1999) for the actual accession of these countries to the EU. In this period, before EU accession, the total value of FDI inflows was 2587 million US dollars in 1991, and in 2001 the total value was 21.087 million US dollars (almost 10 times higher). In this period, the biggest investors were the EU countries (almost 80% of all FDIs), with 26% investments coming only from Germany. Regarding the sectors, the manufacturing sector accounted for 62% of foreign initiatives, while the wholesale and retail trade sector and the financial sector accounted for, respectively, 10 and 8% of the total number of initiatives. A minor role was played by agriculture and mining activities [Altomonte, Guagliano, 2003]. The above data suggests that FDI was a key element in the transition of these economies towards the market economy [Kalotay, 2001].

Ten countries became members of the EU in 2004, and Romania and Bulgaria in 2007. Most of the findings suggest that the membership in the EU was an important stimulus for further increase in FDI inflows [Brenton et al., 1999]. Only in one year, 2014, the FDI inflows in CEE countries doubled (to 40 billion dollars). Between 2004 and 2007 the highest value of FDI stock in CEE countries was recorded (in total 305 billion to 637 billion dollars in 2007). Hungary recorded the biggest inflow of FDIs in the analyzed period, followed by Poland. FDIs in the new EU member states grew faster than the world or the EU average [Kalotay, 2008]. Although these countries do not have large markets, the main advantages for the FDI investors are the low costs of resources and markets’ geographical proximity. Most investments were made in services, especially telecommunications and banking. When it comes to manufacturing, production of motor vehicles was particularly attractive.
It is important that most of the investments during the years moved towards high value-added activities (unlike in the countries of the South-East Europe).

In 2008, the FDI inflows started declining and did so until 2013. In 2013, the annual inflow of FDIs in CEE was 10 billion dollars. Investment had been gradually declining in the Czech and Slovak Republics, while it remained stable in Hungary and Poland. The main characteristic in the post-crisis period is that the FDIs in automobile sectors and electronics industries have been relocating to East Asia causing the number of investments in high value-added sectors to decrease. The decrease in the FDIs is also the result of the crisis in the Eurozone and the remaining uncertainty. The downturn of FDIs created a challenge for governments of CEE countries in order to recreate the FDI policies by improving innovation and research capacities of the countries and interacting with regional and global value chains.

4. Explication of the model and the results

4.1. Explanation of the model

We use a panel regression OLS model in order to examine the relationship between foreign direct investments and certain economic variables. The model is described in the following equation:

\[ y_{it} = \alpha + \beta' x_{it} + u_{it} \]

where \( y_{it} \) is the dependent variable, \( \alpha \) is the intercept term, \( \beta \) is a kx1 vector of parameters to be estimated on the explanatory variables, and \( x_{it} \) is a 1xk vector of observations on the explanatory variables, \( i=1,\ldots, N \) and it stands for cross-sectional unit (number of countries), while \( t=1,\ldots, T \) and it stands for time period [Brooks, 2014].

We analyze two groups of countries containing seven countries each. The group of countries of South East Europe contains: Albania, Bosnia and Hercegovina, Croatia, Kosovo, Macedonia, Montenegro and Serbia and the group of Central and Eastern Europe contains: Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovenia, and Slovakia. In the analysis we put data for twenty-two years from 1995 till 2017. We run two separate panel regressions in order to compare the relationship between FDI and economic factors between the two country groupings.

The dependent variable is foreign direct investment net inflows as % of GDP (fdi_{it}), while the independent variables are: GDP annual percentage growth (gdp_{it}); GDP per employee measured in PPP in constant terms for 2011 as an indicator of labor productivity (productivity_{it}); labor force with advanced education (% of total working-age population with advanced education) (labor_{it}); labor taxes and contributions (% of commercial profits) (taxes_{it}); inflation measured with GDP deflator as annual percentage change (inflation_{it}) and general government final consumption expenditure as percentage of GDP (government_{it}).
Data observed in terms of economic variables is in annual frequency for the period from 1995 till 2018, and is retrieved from the World Development Indicators database, which includes World Bank National Accounts Database and OECD National Accounts Database.

Before choosing the panel regression model, pre-tests for panel unit roots were made. The panel unit root tests indicate that most of the variables are stationary (the results change slightly depending on what type of test is performed and the deterministic term involved). The first equation has the following form:

\[ \text{fdi}_{it} = \alpha + \beta_1 \text{gdp}_{it} + \beta_2 \text{trade}_{it} + \beta_3 \text{productivity}_{it} + \beta_4 \text{labour}_{it} + \beta_4 \text{taxes}_{it} + \beta_4 \text{inflation}_{it} + \beta_5 \text{government}_t + \nu_{it} \]

where \( \lambda_t \) is a time-varying intercept that captures all of the variables that affect the dependent variable and that vary over time but are constant in cross-section terms [Brooks, 2014]. The total number of observations in the first model equals 84 for CEE countries and 61 for SEE countries.

4.2. Presentation of results

We present the results for both country settings in the following table 1. As can be observed, from the six analyzed variables, for the CEE countries all variables appear to be important for attracting FDI inflows. For the SEE country setting four variables are important and two of them, namely GDP annual growth and productivity, are not statistically important. We will present the results and comment on them separately for each country group.

**TABLE 1**

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>South-Eastern Europe</th>
<th>Central and Eastern Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>0.025807</td>
<td>0.090791***</td>
</tr>
<tr>
<td>PRO</td>
<td>2.99E-06</td>
<td>-4.26E-05***</td>
</tr>
<tr>
<td>TAXES</td>
<td>-0.020611***</td>
<td>-0.031798***</td>
</tr>
<tr>
<td>GOV</td>
<td>-0.063669***</td>
<td>0.258370***</td>
</tr>
<tr>
<td>INF</td>
<td>-0.103845***</td>
<td>-0.084212***</td>
</tr>
<tr>
<td>LABOR</td>
<td>0.025830***</td>
<td>-0.034036***</td>
</tr>
</tbody>
</table>

Note: Numbers given in parenthesis are corresponding standard deviations. ***: p<0.01; **: p < 0.05; * : p < 0.1

Source: own elaboration.
From the results presented in the regression for the countries of South-Eastern Europe it can be observed that such variables as labor taxes and contributions, general government consumption, inflation and labor force with advanced education are statistically significant determinants for attracting FDI inflows in these countries. The results have shown that two of the most expected variables to have a positive and significant influence on FDI inflows, namely GDP and productivity, appear not to be significant for this group of countries. This notion can be confirmed with the explanation of the main characteristics of FDI in these countries, which was previously given in this paper. It clearly shows that the investment flows were at considerably lower level, especially when compared with the ones that went to CEE countries. This was mainly due to the postponed political and economic transformation of this group of countries.

The results from the statistically important variables are mainly as expected. They indicate that higher level of inflation rate and higher level of labor taxes and contributions would lead to lower level of investment inflows. Khan and Mitra [2014] claim that high rates of inflation distort the economic activities, leading to a lesser inflow of capital. A low and stable inflation rate acts as a sign of internal economic stability. The negative sign of the general government consumption variable indicates that higher level of government expenditure would lead to lower level of FDI inflow. Although it seems non-logical, in most of the SEE countries it was the reality. Despite huge numbers of government incentives for attracting FDI, the level of FDI did not rise. The positive and significant influence of the labor force with advanced education variable shows that a 1% increase in this labor force would lead to a 2.5% increase in FDI inflows.

The results from the regression on SEE countries provide evidence that investment flows in these countries are probably determined by other non-economic variables, i.e. institutional variables. The results of the research conducted by Kikerkova et al. [2018] have shown that both economic and institutional factors were important for attracting FDI inflows into the region of SEE.

The results from the regression for the countries of Central and Eastern Europe are slightly different. All six variables appear to be statistically significant for the process of attracting FDI inflow in the region and these are: GDP annual growth, productivity, labor force with advanced education, general government final consumption expenditure, inflation and labor taxes and contributions.

The positive signs of the coefficients of GDP and productivity are logical and expected, as they indicate that GDP growth and higher level of productivity should lead to higher level of FDI inflows in these countries. The values of the coefficients are also considerable and indicate that 1% of GDP growth could lead to a 9.07% increase in FDI inflow, or even a 1% increase in general government consumption could lead to a 25.8% increase in FDI inflow.

The negative signs of the inflation and labor taxes and contributions variables are the same as in the case of SEE countries. They indicate that higher level of inflation and higher level of labor taxes could lead to a decrease in FDI inflow. The variables that measure the influence of productivity and labor force with advanced education
on FDI inflow are also statistically significant and with negative sign. These results show that higher level of productivity and higher level of education of the workers could lead to lower level of FDI inflow. Although these results may not seem logical, they can be explained by lower level of industrialization of these countries and their lagging behind the global value chains and investments with higher value added.

If we compare the results obtained from both regressions, we will notice that different variables have their impact upon attracting FDI inflows into the countries. The situation with the SEE countries is rather vague, as it shows that two of the most important economic variables appear not to be significant for attracting FDI inflows in these countries. FDI inflows in this region have been lagging behind, especially when compared to the situation in CEE countries. As for the region of Central and Eastern Europe, although it is visible that higher rates of GDP growth and increased level of government expenditure could lead to an increase in FDI inflows, the negative influence of productivity and labor with advanced education indicates lower level of industrialization and lower level of value added production.

5. Conclusions

The paper tries to give a comparative explanation of the main characteristics of FDI inflows, as well as to display the influence of certain economic variables on the attraction of FDI in two different country settings. We try to compare and elaborate on the situation between Central and Eastern European countries on the one hand, and South-Eastern European countries on the other. The common characteristic of these groups of countries is their socialist background until the beginning of 1990s and their gradual transition towards capitalist market economies.

However, the process of transition and transformation of the economic systems was different for these two groups. The CEE countries managed to go through the transition process in a shorter period of time and within a decade and a half became the EU members. On the contrary, the SEE countries went through a longer transformation of their economic systems, which was followed by political instability and turmoil. These factors have considerably influenced the lower level of FDI inflow. The economic and financial crisis has had its negative effects over FDI inflow, especially in the CEE countries, and investment flows still cannot reach the pre-crisis level in either of the groups of countries. Another negative aspect of the investment flows in both groups of countries is the lower level of industrialization, manufacturing being the major source of innovation and productivity growth.

The results of the regressions have also indicated that different variables have their impact upon attracting FDI inflows into the countries. For the SEE countries it is visible that FDI inflows are not determined by the main economic factors, but are probably determined by other institutional factors. For the CEE countries the results are better, as they indicate that higher level of GDP growth and government consumption should go hand in hand with an increase in FDI inflow. The negative
side of the picture is that the level of FDI inflow is negatively correlated to the level of productivity and labor force with higher level of education. This indicates that, although these countries have higher level of FDI inflow compared to SEE countries, their structure shows that they are still lagging behind highly industrialized economies.

The results indicate that both groups of countries need to work more on their FDI policies. The influence of the crisis and the low level of industrialization as well as weak and moderate integration into international trade and production networks are the main backdrops that are common for both country settings. Governments should take these results into consideration when creating future FDI policies for taking into account improving innovation and research capacities and possibilities to interact with regional and global value chains. The final goal is to enable positive influence upon future FDI inflow in both regions and thus support and enhance their economic growth.

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