

## INFLUENCE OF FOREIGN DIRECT INVESTMENTS ON ECONOMIC DEVELOPMENT OF THE REPUBLIC OF SERBIA

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Milan Šušić

University of Business Studies, Banja Luka, Faculty of Business and Financial Studies,  
Bosnia and Herzegovina  
i.susic51@gmail.com

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**Abstract:** The paper analyzes the importance of foreign direct investment and their impact on the new economy as well as the motivation factors for foreign direct investments. Process of integration of the world economy influences the changes in the attitude of the countries of the recipients of capital in relation to foreign direct investments. Today, there is a favorable climate on the investment in developing and transition countries, because these countries no longer watch with suspicion. FDI entry controls are customized adapting to selective state policies in order to boost their investment volume.

The effects of foreign direct investment in developing and transition countries are not equal, as all countries do not have the same performance. The success of securing FDI inflows depends on the chosen strategy of each country and on the overall level of social and economic development of the country. The ability to government and domestic companies is to optimally take advantage of foreign direct investment. The paper analyzes the positive and negative effects of direct foreign investments for certain macroeconomic indicators of the Republic of Serbia.

**Key words:** *importance of foreign direct investment, FDI investment motives, macroeconomic factors, economic growth and development, Republics Serbia.*

### INTRODUCTION

Foreign investment, in its widest sense, implies all types of investments of foreign legal and natural persons in the economic activities of a country. Foreign Direct Investment (FDI) are starting to become more intensified in theoretical and

empirical research of economists after the Second World War. The continuous globalization process resulted in the changing attitude of many countries about the importance of foreign direct investment. Developing countries in the FDI are no longer looking at suspicions, but on the contrary, in their economies, they seek to create favorable business conditions that will be attractive and supportive for foreign investors. The role of national governments is the proper choice of a quality strategy for attracting foreign direct investment are of paramount importance.

Since foreign direct investments of transnational companies are recognized as one of the basic channels by which developing countries gain access to state-of-the-art technologies whose diffusion plays an important role in explaining economic growth, there is also a competitive struggle to attract foreign investors. However, with all the positive effects that transnational companies can have on the recipient's country, the potential social costs that may arise should be assessed. Foreign direct investment does not represent a solution to all problems and their positive impact depends on the conditions prevailing in the host country.

We see that the attitude towards foreign direct investment has changed over the past twenty years. The growth of globalization and liberalization has caused the need to support new, more productive activities, that is, there is a need for the production of goods and services capable of sustaining competition and survival on the market. Today, most of the countries are considered to be an important source of funds for activating their own potentials necessary for development. Today, developing countries, which for a long time have been cautious and omitted from participating in international operations, liberalized in the early 1990s the regime and policies for attracting foreign investment.

Foreign investments, in addition to obtaining capital, significantly contribute to internal and external liberalization of national economies, reintegration into international division of labor, change of ownership through privatization, sectoral restructuring of the economy, introduction of modern managerial and marketing knowledge, easier acceptance of developed technologies, intensification of research development activities, as well as easier access to important international financial institutions and markets around the world.

Today, foreign direct investment is one of the key elements of the transformation process in the market economy in the countries of the Visegrad Group, where existed a centrally planned economy was developed. It was considered that foreign direct investment would lead to the accelerated economic growth of these countries, however, they did not always yield the expected positive results. However, it is assumed that the development effects of FDI will occur later if an appropriate policy towards foreign direct investment is adopted and consistently applied.

At the end of the last millennium, the Republic of Serbia was confronted with

numerous problems, which had a negative impact on its economic development. The deep economic crisis caused by long-term isolation, war conflicts, obsolete technology and the lack of capital for the overcoming of key development problems prevented a better development of the country. In addition, from the aspect of external liquidity and solvency, Serbia was among the most influential countries in transition. For the above reasons, foreign investments represent the most important development opportunity of Serbia, but also of other transition countries, which are trying to improve their national economies and rank among the competitors on a global scale. In order to do this, they must carefully devise strategies to attract foreign investment, since only in this way can they provide a congressional position in a modern business environment, which is an important condition for the faster development of their economies.

Foreign capital has a significant impact on the integrative processes of industrialized countries, and has affected developing countries for the past ten years. In a large number of countries, there is a tendency of liberalization of national regulations governing foreign investment, which, with numerous bilateral and multilateral agreements, leads to the creation of a more favorable climate for the implementation of foreign investment projects, on a global level. In the literature it is basically emphasized that the realization of investments and trade constitutes the basic "support pillars" of the globalization of the world economy.

It is important to point out that there is a significant conditionality between the legal regulations of national legislations and the inflow of foreign capital, as well as its contribution to export orientation and faster growth of gross domestic product, market openness, technological development, reduction of unemployment of the country of receiving capital.

## **MOTIVATIVE FACTORS FOR FOREIGN DIRECT INVESTMENTS**

Movement of capital in the international capital market depends on the mutual interest between the provider and the beneficiary of the capital. The goal of a foreign investor is to achieve maximum profits, while the goal of capital users is to develop rapidly without losing their economic independence. Capital investor realizes profit using advantages such as: capital, new technologies, knowledge and experience, new brands, management, marketing, etc. At the same time, the beneficiary of the capital has its interests, such as: reducing the differences in technological development, the rate of economic growth, the inflow and outflow of foreign exchange, the increase in competitiveness, employment, the standard of living of its population. Every investor who wants to invest in any country must be motivated. In order for foreign investors to invest capital in a country, they must be motivated to invest. Although the main motive of foreign investors is the achievement of profit, it is possible to distinguish two basic groups of foreign investors. The first group includes export-oriented investors, and the second group includes investors oriented to the domestic market.

Export-oriented investors primarily expect that in a country where they want to invest capital there is a stable political climate, so that their investment would not be compromised. They demand that there is a highly skilled workforce in the country, which is a prerequisite for the production of sophisticated products. In addition, a mobile and flexible workforce, which can quickly and easily be adapted to perform various types of jobs. Foreign investors who are not export oriented, want a large part of the domestic market to market their products, expect that the country's economy has an upward growth, in order to grow consumption and a stable legal

framework that allows business under conditions that are known at the time of investment, etc. If there are such conditions in the country, the inflow of foreign capital can be realized faster and on a larger scale. However, if one of the above general conditions is not met, there is a decrease in foreign investments, that is, a reduction in the transfer of realized profit to the country of origin of capital.

### **Investment motives for foreign direct investors**

The motive of each investor is to make as much profit as possible. So, in order to investment engagement abroad, it is necessary that the country's profit rate in the country of the recipient of capital be greater than that which can be achieved in the country of origin of capital. Apart from making profits, important motives for foreign investments are the following: market size and quality, infrastructure development, labor force qualification and political, or macroeconomic stability of potential foreign investment countries. In modern business conditions, motives for foreign investments are very complex and interconnected. Capital exporting countries have many positive effects, such as: increasing national income, improving their own position in the global market, gaining an appropriate position in international political and economic relations, and the like. Thus, foreign investment motives are much wider than achieving financial profit and necessarily involve expanding the activities of the parent company globally, in one of the following ways:

*Supply-oriented* (supplies, delivery), FDI undertaken in order to obtain production resources. This is mainly about the investment of developed countries in underdeveloped countries in order to provide cheap raw materials and labor;

*Demand-oriented* (demand, demanding), FDI that are motivated by demand. In this case, capital usually moves between the two developed countries in the expectation that higher demand in the second developed market will justify investment, which will be more profitable than direct exports;

*Trade-oriented* (trade), FDI, whose motive is the expansion of trade, also explains the movement of foreign direct investment (Vidas-Bubanja, M., 1999).

Strategic motives of the TNK for investing abroad can be represented by a division given by Dunning in 1992, according to which it is possible to distinguish four types of international production: production in order to provide resources; securing the market; achieving greater efficiency and production in order to acquire strategic resources-advantages (Bahar Bayraktar-Sağlam, Selin Sayek Böke 2017).

Motives for investing abroad can be classified into three basic groups: strategic motives, subjective and economic motives (Kovač, O 1988).

*Strategic motives of investors*, consist in securing the target market and installing the necessary technology. Respecting the rationality principle, it is necessary to provide appropriate physical resources, workforce, technology, management, marketing and organizational skills at a lower cost, in order to achieve the highest efficiency of production. An important strategic motive is the choice of a country in which there is a rule of law and generates knowledge and technology. In addition, it is necessary to take into account the degree of corruption and crime in the country in which they want to invest, as well as the type of technology that the strategic partners intend to install in it.

The subjective motives of foreign direct investment are diverse, and the four most important ones are:

*a call from abroad for business engagement outside national borders*, if it comes from a reputable and high place; *foreign investment as a result of fear of losing market*; *to follow others and to go into areas that are currently attractive*; and *the strong pressure of competition on domestic markets*, can be a motive for investing and compromising competition in the competitors market (Kovač, O. 1994).

*Economic motives of FDI relate to a number of factors*: advantages of economies of scale; marketing and management experience; technological advantages and advantages of financial potentials and differentiation of production (Kovač, O. 1994).

Generally speaking, the motives for foreign direct investment relate to the following: seeking new markets, that is, extending the existing business; reduction of transport costs, that is, rationalization of foreign direct investment; exploitation of resources in order to gain control over strategic resources, which can be material (oil, coal) and human (labor); advantages of a particular location; profit making; strategic behavior; cheaper labor; lower prices of raw materials and energy; completing its production process; opening new facilities abroad, and avoiding payments the prescribed legal obligations.

### **Unique motives of capital users**

One of the motives of foreign capital users is the creation of conditions for increasing social assistance as well as the comparison of costs and social benefits generated by the inflow of foreign investments. Social benefits or gains from foreign direct investment are manifested through various positive influences. Such a creation of profits by a multinational company, which is then taxed, ensures substantial inflows into the state budget.

One of the most common fiscal measures used by Governments to attract foreign capital is exemption from paying taxes on profits for a certain period of time. Furthermore, there is the possibility of creating new jobs and related to that transfer of knowledge, technology and management skills.

Using the comparative advantages of a local economy with the economy of a foreign investor's level can be an important element for the exit of domestic production to the world market. The entry of foreign companies into the manufacturing sector can lead to the strengthening of competition, which increases the pressure on more efficient business of the rest of the sector. Another important motive of the country of capital beneficiaries is the fact that foreign direct investment is not included in the debt side of the country, and countries have additional motivation to provide as much foreign investment as possible with respect to other items in capital and financial account of balance of payments.

Potential social costs of foreign direct investment can cause a reduction in employment due to the rationalization of labor or, on the micro level, due to the demands of unsuccessful domestic enterprises. Furthermore, distortions in the labor market can occur, that is, the amount of "good" jobs can be reduced and the amount of "bad" jobs increased (workers' salaries with the same abilities or changes are changing due to foreign direct investment and mismatch in the labor market structure). In on macro level, there may be a deterioration in the current account of the host country's balance of payments, if firms they were created by foreign direct investments have got of imports more than export, for example, from their central offices abroad.

The motives of the countries of foreign direct investment users are the social benefits that will be achieved in them, in the transfer of new technologies, knowledge, as well as their significant impact on economic growth, employment, foreign trade, investment and environmental protection in the host country.

Opponents of foreign investment often stress the fear of the rise in the impact of multinational companies on economic policy and country stability, and the achievement of a monopolistic relationship between the multinational company and the country of foreign investment users.

#### **RESEARCH OF THE INFLUENCE OF FOREIGN DIRECT INVESTMENTS ON THE ECONOMIC DEVELOPMENT OF THE REPUBLIC OF SERBIA**

Foreign direct investment can significantly affect the economic development of the country of the recipient of capital. This type of investment affects the increase in income, the increase in the technical composition of the production factors, the increase in productivity and the increase in employment. „Import the capital increases budget revenues through revenue growth“ (Kragulj D., Miličević D., 2007).

The Republic of Serbia, as the last among the European countries that entered the transition process, has the advantage of using the experience of other transition countries in terms of the effects of the FDI inflow. These experiences should be used to make the most of the positive effects of FDI for the development of the domestic economy. However, given that the Republic of Serbia has begun reforms at a time when those countries in other countries are already ending, this may represent a potential restriction for higher inflows of quality FDI in its economy.

For these reasons, the Republic of Serbia must conduct an active policy towards the FDI, which implies intensive promotion of the country and targeting investors, with the continuous improvement of the domestic investment climate, with various economic policy measures.

„Foreign direct investment plays a very important role in the rapid and stable economic growth of the country: directly (through capital inflows) and indirectly (through transfer of technology, knowledge in the field of new technologies and management of the real production sector, which give us a chance to conquer new markets in the global market. and strengthening competition in the domestic economy)“.( Ivana, S. D. and Darko, M. M. 2017) In the initial period of the transition process, FDI mostly went to the existing capacities of the transition countries, enabling better use of available resources and productivity growth, and in the next phase of transition, after exhaustion of existing reserves (bringing the end of the privatization process), long-term economic growth can be achieved through „*Greenfield*“<sup>1</sup> Investments. „In the Republic of Croatia for the period from 1993 to 2005, only slightly less than 20% of total foreign investments relate to greenfield investments“ (Bilas, V. Franc, S. 2006 )

FDI influenced the process of transition in a direct and indirect manner. „Direct effects can be reduced to those effects, which are related to economic growth in key industrial branches, trade and development of trade links with the West and transfer of technology (management, consulting, advertising, real estate sales, etc.), while the indirect impact FDI looked at the construction of the country's

institutional system, encouraging privatization processes and creating conditions for competition“ ([www.ien.bg.ac.yu](http://www.ien.bg.ac.yu) (date: August 15, 2018).

„Expansion of investment activities would enable an increase in the production base necessary for the creation of economic development. Attracting a foreign economy would be a national economy profile by expanding the product range for exports. In fact, it is well known that many investors have distribution chains and sales of products“ (Šušić, M. 2018). One of the prerequisites for new product innovation, increased production and export are foreign investments for the Republic of Serbia.

Investigations into foreign investment inflows for the Republic of Serbia are shown in Table 1., an inflow of 27,020 billion euros from 2006 to 2017 was shown, while FDI inflows amounted to 17,184 billion euros in the period 2006-2012.

Table 1: Presentation of the results of the survey of certain macroeconomic indicators for the Republic of Serbia in the observed period (FDI, GDP, GDP per capita)

(<http://data.stat.gov.rs/Home/Result/170303?languageCode=en-US>, The Author 2018)

Year	FDI (in million EUR)	FDI, growth rate	GDP (in million EUR)	GDP, growth rate	GDP per capita in EUR	GDP per capita, growth rate
2006	3.323	165,84	24.435	4,90	3.297	16,26
2007	3.219	-3,13	29.452	20,53	3.990	21,02
2008	2.711	-15,78	33.705	14,44	4.586	14,94
2009	2.100	-22,54	30.655	-1,05	4.187	-8,70
2010	1.278	-39,14	29.766	-2,90	4.082	-2,51
2011	3.544	177,31	33.424	12,29	4.619	13,16
2012	1.009	-71,53	31.683	-5,21	4.400	-4,74
2013	1.548	53,42	34.263	8,14	4.781	8,66
2014	1.500	-3,00	33.319	-2,76	4.672	-2,28
2015	2.114	40,93	34.491	0,52	4.720	1,03
2016	2.129	0,71	34.617	0,37	4.904	3,90
2017	2.545	19,54	36.795	6,29	5.241	6,87
Total:	27.020		386.605		53.479	
Medium value:	2.252	25,22	32.217	4,63	4.557	5,63

<sup>1</sup> *Greenfield* investments are investments in the establishment of new companies that bring new knowledge, technology or some other assets with them, while *brownfield* investments represent the takeover of an existing company.

Analyzing these data, we see that the Foreign Direct Investment in 2007 amounted to EUR 3,219 billion euros and had a negative growth rate of 3,13 % in relation to the previous year. The inflows of foreign direct investments until 2011 are in decline, and in 2010 they amounted to EUR 1,278 billion euros and they recorded the largest decrease of 39,14 % compared to 2009. Foreign direct investment inflows from 2015 to 2017 have a positive trend, ie, gradual growth, amounted to 6,788 billion euros, and the increase in 2017 was 19,54 % compared to 2016. In the Republic of Serbia since 2014, we have a gradual recovery of the economy measured by GDP and GDP / per capita.

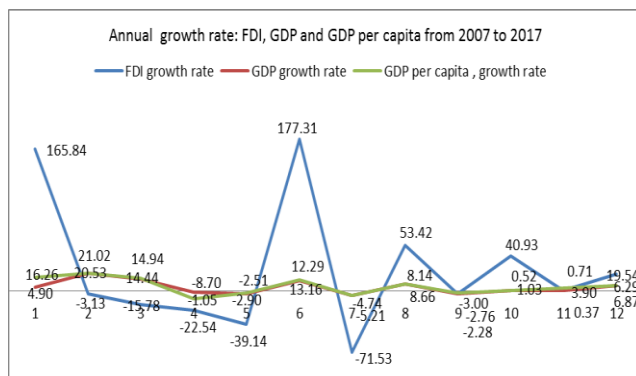


Figure 1: Graphical presentation for the research macroeconomic indicators for the Republic of Serbia in the observed period 2006-2017 (Growth Rate), (The Author 2018)

## THE RESEARCH RESULTS OF FOREIGN DIRECT INVESTMENT

The dependent variable (SDI) in relation to the observed independent variables for the Republic of Serbia in the observed period was investigated in this paper, the methodology was chosen, independent variables and statistical analysis were defined using the available data from the Republic Institute for Statistics of Serbia and the National Bank of Serbia and data from the the Labor „Significance of investments in science - regional and

national analysis“ (Obradović, Ć. J , Mitić, P. , Dmitrović, M. 2017)  
([http://data.stat.gov.rs/Home/Result/2400020401? languageCode=sr-Cyrl](http://data.stat.gov.rs/Home/Result/2400020401?languageCode=sr-Cyrl),  
([https://www.nbs.rs/internet/cirilica/80/platni\\_bilans.html](https://www.nbs.rs/internet/cirilica/80/platni_bilans.html))  
([http://www.trend.uns.ac.rs/stskup/trend\\_2017/radovi/T2.1/T2.1-3.pdf](http://www.trend.uns.ac.rs/stskup/trend_2017/radovi/T2.1/T2.1-3.pdf)).

„The positive results of foreign direct investment inflows should be shown by increasing and changing GDP, GDP /per capita, production structure, market openness and an increase in the employment rate. However, foreign direct investment can also cause negative consequences for the economy due to changes in the sector structure. This refers to the reduction in employment, followed by the dismissal of employees, due to increased productivity“ (Šušić, M. 2018). Research selected macroeconomic indicator for Serbia, measured in % g / g, shown are in Table 2.

Table 2: Results of the survey of selected macroeconomic indicators for the Republic of Serbia, (The Author 2018)

Year	PFDI_GDP	SR_GDPps	TRG_GDP	R&D_GDP	Interest rate	Unemploy. in %
2006	13.60	16.26	77,4	0.50	14.00	20.9
2007	10.93	21.02	80,1	0.45	10.00	18.1
2008	8.04	14.94	82,6	0.46	17.75	13.6
2009	6.85	-8.70	69,0	0.50	9.50	16.1
2010	4.29	-2.51	79,8	0.82	11.50	19.2
2011	10.60	13.16	82,7	0.72	9.75	23.0
2012	3.18	-4.74	89,8	0.75	11.25	23.9
2013	4.52	8.66	92,6	0.70	9.50	22.1
2014	4.50	-2.28	97,7	0.72	8.00	19.2
2015	6.13	1.03	102,6	0.70	4.50	17.7
2016	6.15	3.90	106,8	0.75	4.00	15.3
2017	6.92	6.87	113,3	0.85	3.50	13.5

## Selection of variables, data and methodology

The panel data includes the Republic of Serbia for which data is available annually from 2006 to 2017.

The general form of the multiple regression model is given in the equation 1. (Author 2018)

$$\text{PFDI\_GDP} = f(\text{SR\_GDPps}, \text{TRG\_GDP}, \text{R\&D\_GDP}, \text{Int. rate}, \text{Unem\_thousfaces}) \quad (1)$$

In this model, PFDI\_GDP is a dependent variable. This is a occurrence whose variations are expressed by independent (regressive) variables: SR\_GDPps, TRG\_GDP, R&D\_GDP, Int. rate, Unem\_thousfaces. Equation (1) is additive. If it is assumed that the relation between PFDI\_GDP and (SR\_GDPps, TRG\_GDP, R&D\_GDP, Int. rate, Unem\_thousfaces.) is linear, the model (1) is a multiple linear regression model that reads:

$$\text{PFDI\_GDP} = \beta_0 + \beta_1 * \text{SR\_GDPps} + \beta_2 * \text{TRG\_GDP} + \beta_3 * \text{R\&D\_GDP} + \beta_4 * \text{Int. rate} + \beta_5 * \text{Unem\_thousfaces} + \varepsilon \quad \dots(2)$$

In this model, PFDI\_GDP is a dependent variable, SR\_GDPps, TRG\_GDP, R & D\_GDP, Int. rate, Unem\_thousfaces are independent variables,  $\beta_0$ ,  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ ,  $\beta_4$  and  $\beta_5$  are unknown parameters, and  $\varepsilon$  is a random variable, and is still called a relational error, and its presence is a consequence of the statistical nature of the relationship between phenomena (Šošić, I. 2006).

Foreign direct investments include investments in money, goods, debt conversion into equity, intercompany borrowings and reinvested earnings as shown in the balance of payments.

All other variables are independent. Where, SR\_GDPps denotes the growth rate of GDP per capita at current prices, which is the proxy variable for market size and growth. According to the theory and previous research, the expected sign of a GDP growth rate per capita should be positive, since a larger and more developed market offers more opportunities to foreign investors. TRG\_GDP denotes the share of trade in GDP, which is the proxy variable for the degree of market openness, which

is calculated as a sum of exports and imports as a share in GDP. For investors it is very important that the country is open and that there are no trade restrictions. It is therefore expected that greater openness will attract more foreign direct investment.

„R & D\_GDP represents gross domestic expenditure on research and development (GERD) as a% of GDP, which is a proxy technology variable. Research and development is a good indicator of both technology and human capital. At the same time, research and development creates a new technology that reduces the technological gap to other countries. It is a signal to foreign investors that the host country has already reached the required level of human capital for the independent advancement of technology“ (Šušić, M. 2018). It is believed that higher investment in research and development is attracting more foreign direct investments, as companies seek educated and high-quality workforce. However, opinions are divided. Interest rate is the rate on borrowing money or loans. This rate is normally according to the creditworthiness of the borrower-borrower and the funding objectives. The terms and conditions attached to these rates vary code individual country. If interest rates on borrowed money are high in the country, a smaller inflow of foreign direct investment is expected, ie a negative sign of the coefficient with the variable Interest rate. Unem\_thousfaces represents the total volume of unemployed persons, which is the proxy variable for unemployment. The unemployment rate is very important for every country, and for the Republic of Serbia, it shows us the decline or growth of unemployment in the country annually. If the unemployment rate in the country has a downward trend, a higher inflow of foreign direct investment is expected, or a positive sign of a coefficient with a variable unemployment.



In line with the problem, the subject and objectives of the research, and the hypotheses: Market growth significantly influences the FDI inflow; Openness of the country significantly influences the inflow of FDI; Investing in R & D has a significant impact on FDI inflows; Interest rate significantly influences FDI inflows; Unemployment significantly influences FDI.

Graphical and tabular display methods, static panel data, and correlation analysis are used. The graphical and tabular display methods represent the movement of the selected model variables in the period t.

In order for a dynamic assessment to be a good condition, the condition is the lack of a problem of bias, inefficiency and asymptotic bias. The model analysis starts from certain assumptions concerning the nature of the variables involved. These assumptions are true: a) The relation between the dependent variable and the selected set of independent variables is linear, as described by the equation (1); b) Independent Variables are not random variables and their values are fixed; c) The matrix X is a full rank  $x_i$ ; it is assumed that the variables are independent of each other, and  $R(X)=k+1$ ; d) Random variables  $\varepsilon_i$  have a centered distribution with a constant variance of  $\sigma^2$  and they are mutually non-linear.

## RESEARCH RESULTS

In the following Table 3., the results of the study of the Descriptive Statistics for the sample from 2006 to 2017 are given, using the IBM SPSS Statistics v21 program.

Table 3: Descriptive statistics of the entire sample from 2006 to 2017 (The Author 2018)

Descriptive Statistics					
Varijable	N	Minimum	Maximum	Mean	Std. Deviation
PFDI_GDP	12	3.18	13.60	7.1425	3.14278
SR_GDPps	12	-8.70	21.02	5.6342	9.38960
TRG_GDP	12	69.00	113.30	89.5333	13.33903
R&D_GDP	12	.45	.85	.6600	.14257
Interest rate	12	3.50	17.75	9.4375	4.14664
Unemployment in %	12	13.5	23.9	18.550	3.5018
Valid N (list.)	12				

Table 3. of the descriptive statistics can show the observed studies for the average values for the selected variables. In addition, the average net inflow of FDI amounts to 7,1425 % of GDP in the observed period with an average deviation from the arithmetic mean of 3,14278 %. Based on the conducted research, the inflow of FDI as a percentage of participation in gross domestic product for the observed period ranged from 3.18% to 13.6%. The average growth rate per capita is 5,6342 %, in the observed period with an average deviation of arithmetic mean of 9,3896 %. The smallest rate of growth per capita in 2009 was -8.7%, and the highest growth rate per capita in 2007 was 21.02%. The share of trade in GDP in the average is 89,5333%, which leads us to conclude that the degree of market openness is not satisfactory in the observed period, as there are trade restrictions. For investors it is very important that the country is open and that there are no trade restrictions. It is therefore expected that greater market openness will attract more foreign direct investment. The minimum value of this indicator is 69% and the maximum is 113,3 %. The average deviation of the share of trade in GDP from the average is 13,339 %.

We can conclude that R & D expenditures are not a high expenditure of GDP. On average, the Republic of Serbia invests in research and development of only 0,66 % of GDP. The minimum investment value in R & D is 0,45 %, and such a small level of investment was achieved in 2007, while the maximum investment value is a modest 0,85 % of GDP, while the EU recommendations are up to 3 % of GDP. Investing in research and development is one of the highlights of the technological development of the country. From the above results, it is visible that the Republic of Serbia lags considerably in technological development for the developed countries of the world.

The average interest rate on loans amounted to 9,4375 %, the minimum was 3,5 % and the maximum 17,75 % in 2008. The average deviation of the interest rate from the arithmetic mean is 4,14664 % in the observed period.

The average unemployment rate is 18,55 % with a standard deviation of 3,5018 %, while the minimum unemployment rate is 13,5 % in 2017, while the highest unemployment rate was 23,9 % in 2012. The results of the survey show that the trend of economic recovery and unemployment reduction in the Republic of Serbia started in 2012.

Using the results of the survey of the selected macroeconomic indicators for the Republic of Serbia (Table 2) with the help of IBM SPSS Statistics v21 software program, a regression analysis was performed that determined the functional dependency between the dependent variable (PFDI\_GDP) and the independent variables (SR\_GDPps, TRG\_GDP, R & D\_GDP, Interest rates and unemployments in %). The results of the survey for the observed sample are shown in Table 4.

Table 4: Determination coefficients between variables

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.879 <sup>a</sup>	.773	.583	2.02866
a. Independent variables (Constant): SR_GDPps; TRG_GDP; R&D_GDP; Interest rate; Unemployment in%.				
b. Dependent Variable: PFDI_GDP				

The results of the research shown in Table 4 indicate the dependence between the dependent variable (PFDI\_GDP) and the independent variables (SR\_GDPps; TRG\_GDP; R & D\_GDP; Interest rates and Unemployments to %). The results of the study show that 77,3 % of the variation of PFDI\_GDP is explained by the variability of the independent variables, ie 77,3 % of the PFDI\_GDP variation is determined

by the change: SR\_GDPps; TRG\_GDP; R & D\_GDP; Interest rate; Unemployment in %. The results of the F-test (F value 4.080 and the value p = 0.058) indicate that the dependence between independent variables (SR\_GDPps; TRG\_GDP; R & D\_GDP; Interest rate; Unemployment in %) and to dependent variable (PFDI\_GDP) is statistically significant. Independent variables can be a statistically significant indicator in estimating percentage share of foreign direct investment in gross domestic product (PFDI\_GDP) over the coming years. Table 5 shows the results of the Coefficients determination between variables.

Table 5: Coefficients determination between variables

Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients		Standard. Coefficient.	t	Sig.
	B	Std. Error	Beta		
(Constant)	23.525	9.420		2.497	.047
SR_GDPps	.265	.083	.791	3.179	.019
TRG_GDP	-.133	.093	-.563	-	.203
1 R&D_GDP	-2.917	7.916	-.132	1.428	-.368
Interest rate	-.336	.238	-.443	-	.207
Unemployment in %	-.049	.214	-.055	1.413	-.229

a. Dependent Variable: PFDI\_GDP

Analyzing the research listed in Table 5. by using the IBM SPSS Statistics v.21 program, the author set the Estimated model with the calculated parameters for the observed sample, which reads as follows:

$$PFDI\_GDP = 23,525 + 0,265*SR\_GDPps - 0,133*TRG\_GDP - 2,917*R\&D\_GDP - 0,336*Interest\ rate - 0,049*Unem\_thousfaces$$

Statistically significant is the parameter in front of the SR\_BDPps variable from which it can be determined that the GDP growth rate per capita has a positive and statistically significant effect on the variable PFDI\_BDP. ie. parameter is statistically significant at a level of significance of 10% and 5%.

The parameter shows that when the GDP growth rate per capita increases by 1 percentage point, the net inflow of FDI as a percentage of GDP is growing by an average of 0,265 percentage points, with other variables unchanged. The set hypothesis envisages a positive relationship between market size and foreign direct investment. The results confirm the hypothesis that indicates that the Republic of Serbia has the opportunity to secure and realize foreign direct investments. Furthermore, it also implies that economic growth could be a driving force for increasing foreign direct investment.

The parameter in front of the variable TRG\_GDP is negative (-0,133) and statistically significant, which leads to the conclusion that country openness has a negative impact on PFDI\_GDP. The hypothesis suggests that a reduction in the country's openness is needed for a faster and more quality inflow of foreign direct investment. The parameter shows when the share of trade in GDP is increased by 1 percentage point, the net inflow of FDI as a percentage of GDP decreases by an average of 0,133 percentage points, with other variables unchanged. Since openness is measured by the share of trade in GDP, a lower level of openness provides greater opportunities for direct foreign investment. In addition, FDIs can enable economic growth and reduce income disparities between poor and rich countries by spreading knowledge and technology, and contributing to greater national productivity with their results.

The parameter in front of the variable PR & D\_ GDP is negative, statistically significant at the level of 5% and 10%, that is, the impact of PR & D\_GDP on the inflow of foreign direct investment is indirect. The hypothesis points to a statistically significant and positive relationship between technological development and foreign direct investment.

Therefore, the increase in investment in research and development will reduce the FDI net inflow of funds, i.e. parameter the R & D\_ GDP variation it says when research and development in GDP would increase by 1 pp, then the net inflow of FDI as a percentage of GDP would drop by an average of 2,917 p.p with other variables unchanged.

FDI in theory should be higher that the higher level of human capital in a country that is needed for technology to be accepted. However, in countries with low human capital, the impact of FDI may be even negative, and that is our case. The Republic of Serbia, as a developing country, produces part of the same goods as the developed country, but with outdated technology, and some goods are not produced at all due to the lack of technological knowledge. Even when using similar technologies, developing countries use them less efficiently because they do not have the necessary skills and abilities.

The parameter with the variable interest rate (Ks) is negative and statistically significant, which leads to the conclusion that the interest rate in the Republic of Serbia negatively affects the FDI balance. The parameter is significant at a level of significance of 10 %, which confirms the hypothesis statistically significant but negative relationship between interest rate and FDI. High interest rates can be a consequence of inflation, and foreign investors avoid investments in an unstable economy. Hence, the increase in interest rates will reduce the FDI net inflow of funds, i.e. the specific parameter with the Ks variable if interest rates on loans would decrease by 1 p.p., then the net inflow of FDI as a percentage of GDP would increase by an average of 0,336 p.p with other variables unchanged.

Parameter in front of the variable Unemployment in % is negating and statistically significant, indicating that unemployment has a negative impact on FDI in the Republic of Serbia.

The increase in unemployment in % will reduce the FDI net inflow of funds, i.e. the parameter with the variable Unemployment shows when unemployment in % will decrease by 1 pp, then the net inflow of FDI as a percentage of GDP would increase by an average of 0,049 p.p with other variables unchanged.

The paper presents the results of the research for unemployment (Table 6).

Table 6: Results of functional dependence between PFDI\_GDP as dependent variable and the Unemployment as independent variables

Model Summary			
R	R Square	Adjusted R Square	Std. Error of the Estimate
.031	.001	-.099	3.295
The independent variable is Unemploymentin.			

Table 6 shows the results of the research, ie, functional dependence between PFDI\_GDP as dependent variable and Unemployment as independent variables. The results indicate that 9.9% of the PFDI\_GDP variation is explained by the volatility of the Unemployed. Based on data obtained with F-test (F value 0.805 p value 0.726), it can be concluded that the ratio between Unemployment and PFDI\_GDP is statistically insignificant, i.e determination coefficient is not a coincidence because unemployment is not a statistically significant indicator in the coming years in the assessment of the level of PFDI\_GDP. The following Table 7 shows the results of the Coefficients determination between variables.

Table 7: Coefficients determination between variables (PFDI\_GDP - Unemployment in %).

Coefficients					
	Unstandardized Coefficients		Standar. Coefficin.	t	Sig.
	B	Std. Error	Beta		
Unemploy.	<b>-0.028</b>	.284	-.031	-.098	.924
(Constant)	<b>7.657</b>	5.347		1.432	.183

The results of the research indicate using coefficient B or  $\beta$ , how an independent variable influences the dependent variable, and then the we get consequently obtains a regression equation that shows that the reduction in Unemployment in % of one percent results in an increase in PFDI\_GDP of 0,028 percent.

$$PFDI\_GDP = 7,657 - 0,028 * Unem\_thousfaces$$

Figure 2 shows the dependent variable PFDI\_GDP. and independent variables Unemployment. From the picture you can see that the reduction of unemployment leads to a minimal increase in FDI.

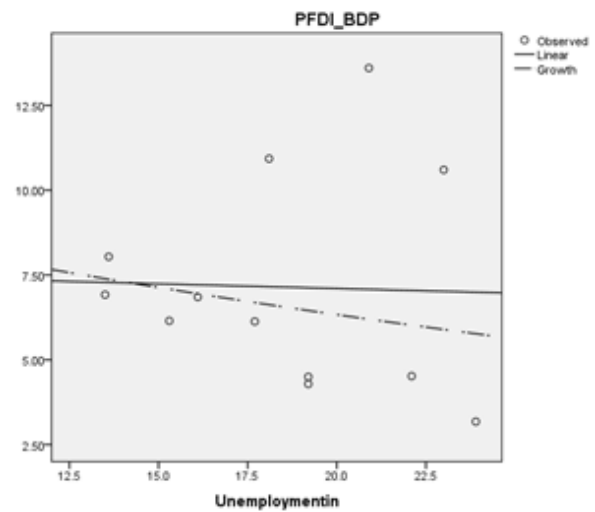


Figure 2: Graphic representation of the functional dependency between the dependent variable (PFDI\_GDP) and the independent variable Unemployment in% „In order to gain a good insight into the relationship between the observed variables, it is necessary to make a correlation analysis that will provide information on the strength and method of aligning certain variables. Prior to the calculation of the correlation coefficient, a check of the normality of the position of the observed data was made using the statistical package 3B Stat and it was concluded that all variables do not have a normal position. This conclusion pointed to the need to calculate the Spearman coefficient of correlation (rho)“ (Šušić, M. 2018). Table 8 shows all calculated correlation coefficients by Spearman, using the IBM SPSS v.21 program.

Table 8. Correlation coefficients of variables according to Spearman. (Author 2018.)

			Correlations					
			PFDI_GDP	SR_GDPps	TRG_GDP	R&D_GDP	Interest rate	Unemployment in %
Spearman's rho	PFDI_GDP	Correlation Coefficient	1.000	<b>.790**</b>	<b>-.301</b>	<b>-.563</b>	<b>.193</b>	<b>-.256</b>
		Sig. (2-tailed)	.	.002	.342	.056	.549	.422
		N	12	12	12	12	12	12
	SR_GDPps	Correlation Coefficient	.790**	1.000	-.063	-.500	.284	-.046
		Sig. (2-tailed)	.002	.	.846	.098	.372	.888
		N	12	12	12	12	12	12
	TRG_GDP	Correlation Coefficient	<b>-.301</b>	-.063	1.000	.542	<b>-.760**</b>	<b>-.252</b>
		Sig. (2-tailed)	.342	.846	.	.069	.004	.429
		N	12	12	12	12	12	12
	R&D_GDP	Correlation Coefficient	<b>-.563</b>	-.500	<b>.542</b>	1.000	<b>-.434</b>	.048
		Sig. (2-tailed)	.056	.098	.069	.	.159	.883
		N	12	12	12	12	12	12
	Interest rate	Correlation Coefficient	.193	.284	<b>-.760**</b>	-.434	1.000	.372
		Sig. (2-tailed)	.549	.372	.004	.159	.	.234
		N	12	12	12	12	12	12
	Unemployment in %	Correlation Coefficient	<b>-.256</b>	<b>-.046</b>	<b>-.252</b>	<b>.048</b>	<b>.372</b>	1.000
		Sig. (2-tailed)	.422	.888	.429	.883	.234	.
		N	12	12	12	12	12	12

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The research shows (Table 8) that the dependent variable PFDI\_GDP has the strongest correlation with the independent variable SR\_GDPps (rho = 0,790), then with the independent variable Interest rate (rho = 0,193), and the other variables have correlations that are indirect: R & D\_GDP (rho= -563), TRG\_GDP (rho = -0,301) and Unemployment (rho = -0,256) Correlation with unemployment is insignificant and this ratio is indirect, i.e. that an increase in the percentage participation of PFDI\_GDP leads to a decrease in unemployment under the condition that the other variables are immutable. The obtained data also indicate that the correlation coefficient is statistically exceptionally high for the variable SR\_GDPps (rho = 0,790), and its sign indicates that the growth of PFDI\_GDP indicates the growth of SR\_GDPps, i.e. the size of the market in a

significant percentage, provided that the other variables are unchanged.

Research shows that the correlation between the dependent variable PFDI\_GDP and the independent variable Interest rates are weak (rho = 0.193), ie with the percentage growth of PFDI\_BDP there is a low percentage growth of the Interest rate., provided that the other independent variables invariable. If we analyze market openness (TRG\_GDP) and Unemployment, we see that higher market openness leads to a reduction in unemployment (rho = -0,252), and in the case of investments in technological development (R & D\_GDP), it can be concluded that higher investments in technological development lead to a minimal increase in unemployment, is (rho = 0,048). Market growth (SR\_GDPps) leads to a minimal reduction in unemployment, since rho = -0,046.

## CONCLUSION

The movements in the world economy give an increasing importance to the increase in foreign direct investment. Transitional countries, such as the Republic of Serbia, have become increasingly open to international operations, have adapted their social systems to become attractive for foreign direct investment. Multinational companies can significant positive effects on the growth and development of the Republic of Serbia, but they do not have to., and they are primarily reflected in the possibility of transferring technology, knowledge, capital inflows, etc. However, the Republic of Serbia needs to assess the possible risks of such entry, because foreign direct investments are not an automatic solution to all problems, the positive effect is also related to the environment itself within the host country, or the absorption capacity of the host country. By engaging in international integration processes, the Republic of Serbia opens possibilities for faster and more stable development. The significance of the realization of foreign direct investments can be of invaluable importance for the development of the country, so the goal of the Republic of Serbia is to attract as many foreign investors as possible.

The inflow of foreign investments for the Republic of Serbia is 27.020 billion euros in the period from 2006 to 2017, while FDI inflows amounted to 17.184 billion euros in the period 2006-2012.

There is a statistically significant link between the variables PFDI\_GDP and SR\_GDPps, as determined by Regression analysis., from which it can be determined that the GDP growth rate per capita has a positive and statistically significant influence on the dependent variable PFDI\_GDP. The parameter shows that when the GDP growth rate per capita increases by 1 percentage point, the net inflow of FDI as a percentage of GDP is growing by an average of 0,265 percentage

points, with other variables unchanged. Also, i conclude that there is the strongest correlation between these two variables ( $\rho = 0,790$ ), and the rho sign indicates that the growth of PFDI\_GDP indicates the growth of SR\_GDPps, i.e. market growth in a significant percentage, provided that the remaining variables are unchanged. From the further analysis i conclude that the reduction of unemployment leads to higher market openness ( $\rho = -0,252$ ), that the reduction of the interest rate leads to higher investments in technological development ( $\rho = -0,434$ ) and market growth (SR\_GDPps ) leads to a minimal reduction in unemployment ( $\rho = -0,046$ ). Higher market openness (TRG\_GDP) will lead to technological development (R & D\_GDP) ( $\rho = 0,542$ ), ie, if market openness rises by 1 pp, then investments in technological development will increase by 0,542 p.p.

The results of the analysis show that FDI inflows, on average, go towards developed economies, ie, countries with a higher level of GDP per capita, lower interest rates, more open markets, quality workforce structure.

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