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DETERMINANTS OF FOREIGN DIRECT INVESTMENTS: THE CASE OF THE REPUBLIC OF NORTH MACEDONIA

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Abstract

The occurrence of foreign direct investment (FDI) in various countries is essential for economic stability and development. This research paper aims to analyze and identify the factors that most strongly influence the determination of FDI in the Republic of North Macedonia. For this research, regression analysis is used as a methodology to analyze the empirical data. This analysis includes various potential factors that are proposed to influence FDI, such as gross domestic production, the average annual inflation rate, the number of employed persons, the index of economic freedom and the index of perception of corruption.

The results of this research present empirical evidence on the impact of each of these factors on attracting FDI. This evidence can help countries and the business sector to find more effective ways to stimulate and attract FDI, which can have significant consequences for economic growth and development. This research not only contributes to clarifying the determinants of FDI, but also provides practical guidelines for making political and business decisions that will increase investments and improve the conditions for economic growth and stability.

Keywords: Foreign direct investments, descriptive statistics, regression analysis, GDP, number of employed persons.

JEL classification: C1, C2, G32.

1. Introduction

Foreign direct investments (FDI) represent an important aspect of global economic dynamics and are a reflection of the global integration of economies. They represent investments made by companies or individuals from one country to another country in order to gain control or significant participation in the business operations of the target country. FDI has the potential to affect many aspects of the target country, including economic growth, technological progress, and trade relations (Opoku 2020). Countries with higher GDP usually attract more FDI. Higher GDP often reflects maturity of the economy and the owner, which creates more opportunity for investment. A high GDP, to foreign investors indicates that the country has sufficient spending power and market potential for their products or services (Szkorupová 2014). Investors usually look for countries with a stable macroeconomic environment, and GDP can be an indicator of this stability. Countries with low inflation and a low degree of political risks often have higher GDP, which makes them more attractive for FDI. In addition, higher GDP may indicate a higher potential for obtaining income from investments (Greenaway 2007). The impact of GDP on FDI can be significant and complex. Although higher GDP can be considered as a positive indicator for attracting FDI, other factors such as infrastructure, innovation and regulations are important for creating an attractive investment environment (Hamid 2022).

2. Literature review

In academic literature, many researches can be found related to the problem of FDI inflow and its determinants. Although macroeconomic determinants have a different effect on foreign direct investments depending on the economic characteristics of the country, however, according to many relevant analyses, they are a crucial factor in making a decision by investors about the destination. Based on some research related to American FDI in Europe, it is concluded that determinants that contributed to attracting and growth of American FDI in Western Europe are: market profitability, liberal governments in the target countries, stimulation of economic liberalism, technological capacities of the countries, and the cultural closeness that American and European businessmen have (Ab, Irfan and Muthian 2012). The available research that focuses on FDI and the factors that contributed to attracting within developing countries, such as the Republic of North Macedonia, based on the experiences of the countries, mentions: the comparative costs of labor, the size of the potential country (destination), the regime of the exchange rate (fluctuating, fiscal or management-fluctuating), the political situation, that is, political stability as key factors for choosing a destination (Agarwal 1980). Schneider & Frey in their research claim that the degree of development of the country plays a leading role in whether investors, especially those from the American continent, will invest in the country or not (Schneider and Frey 1985). According to Saini & Singhania's research, FDI inflows in developing countries have similar determinants, so in the same countries key determinants are those related to politics and macroeconomic conditions such as: economic growth (GDP growth), the index of economic freedom, the degree of trade openness and so on. Economic growth, according to many researchers, is a key determinant for attracting FDI, therefore research by Iamsiraroj (2016) indicates a strong connection between FDI and economic growth, namely the research incorporates 124 economies of different profiles, which makes this statement with a high degree of relevance (Iamsiraroj 2016). Research related to the determinants of FDI in the Republic of Kosovo, takes into account several independent variables such as: tax rates, labor

costs, economic growth and market size, and interest rates, stating that these are determinants of FDI. Taxes have a positive impact on FDI because they have already been reduced to a competitive level with neighboring countries, economic growth also has a strong positive impact, whereas the growth of labor costs has a negative impact on FDI in the country (Sahiti, Sahiti and Zeqiri 2020). Linhartova & Owusu in their research where the regression model is applied, have taken into account a series of independent variables including: the gross domestic product, the index of economic freedom and the index of perception of corruption and the results indicate that the growth of GDP has a significant positive effect on attracting FDI, and the index of perception of corruption has a negative effect on attracting FDI in the Czech Republic (Linhartova and Owusu 2018).

3. Research methodology

The research is composed of descriptive statistics, multiple linear regression model, and data from secondary sources are used in the research. When choosing a data source, and in order to increase reliability, relevance and quality of the research, several criteria were taken into account: the relevance of the institution, the date of publication, the degree of contribution, and others. The descriptive statistics refers to the inflow of foreign direct investments in the Republic of North Macedonia for the period from 2011 to 2020 as a dependent variable and to the other independent variables in the model. The multiple linear regression model is composed of 6 variables, of which the annual inflow of FDI in RNM as a dependent variable, and several selected macroeconomic parameters that, according to the available literature, have a significant impact on the inflow of FDI in RNM as independent variables.

Multiple linear regression is expressed through the following formula:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 \dots \beta_n X_n + \varepsilon \quad \text{Eq (1)}$$

Y – Value of dependent variable

β_0 – Constant

$\beta_1, \beta_2 \dots \beta_n$ – Regression coefficients

$X_1, X_2, X_3 \dots X_n$ – Value of independent variables

ε – Residuals

The period from 2011 to 2020 is taken as the period for research, the value of the dependent variable and the independent variable in the model is taken as the value of the current year. Consequently, the formula of the multiple linear regression model for this paper is:

$$FDI_t = \beta_0 + \beta_1 EGR_t + \beta_2 INF_t + \beta_3 EMP_t + \beta_4 IEF_t + \beta_5 CPI_t + \varepsilon \quad \text{Eq (2)}$$

t – year span from 2011 to 2020

- **Dependent variable:**

Variable	Acronym	Unit	Source
Annual inflow of FDI in RNM	FDI	FDI _t	National Bank of RNM

- **Independent variables:**

Variables	Acronym	Unit	Source
Gross domestic product	GDP	β_1	State Statistics Office of RNM
Average annual inflation rate	INF	β_2	National Bank of RNM
Number of employed persons	EMP	β_3	State Statistics Office of RNM
Index of economic freedom	IEF	β_4	World Bank
Corruption Perception Index	CPI	β_5	Transparency International Macedonia

- **Hypotheses:**

X1 –Macroeconomic parameters in the regression analysis have a significant impact on the annual inflow of FDI in RNM

X1.1 – The rate of economic growth has a significant impact on the annual inflow of FDI in RNM

X1.2 – The average annual inflation rate has a significant impact on the annual inflow of FDI in RNM

X1.3 – The number of employed persons has a significant impact on the annual inflow of FDI in RNM

X1.4 – The index of economic freedom has a significant impact on the annual inflow of FDI in RNM

X1.5 – The index of perception of corruption has a significant influence on the annual inflow of FDI in RNM

4. Research results

Based on the data from Table 1, it can be concluded that the average annual inflow of FDI in RNM for the period 2011-2020 is 286.4 million Euros, it is characteristic that the mean value of

the inflation rate is within the target, and the mean value of the corruption perception index is 39.7, which according to international standards indicates the presence of a relatively high level of corruption. According to descriptive statistics, the distribution of FDI is more protruding than normal, which indicates that the values in most years show a deviation from the mean value, and according to the distribution of the other variables, it can be concluded that the values of the same do not show a deviation. The dependent variable, inflation, the number of employees and the corruption perception index have a positive symmetry to the right, and the rest of the variables have a left distribution of frequencies, that is, most of the observed years, the values are lower than the mean value.

Table 1: Descriptive statistics (Source: Authors' calculation, 2023)

	FDI	GDP	INF	EMP	IEF	CPI
Mean	286,412	574175,7	1,399336	720051,7	85,24	39,7
Standard Error	45,65123	26219,49	0,478928	16975,7	0,549788	1,342055
Median	234,46	576874,2	1,28375	714770,5	86	39,5
Mode	#N/A	#N/A	-0,3	#N/A	83,6	35
Standard Deviation	144,3619	82913,3	1,514502	53681,88	1,738582	4,24395
Sample Variance	20840,34	6,87E+09	2,293716	2,88E+09	3,022667	18,01111
Kurtosis	2,137339	-1,50312	-1,02227	-0,93944	-0,22979	-2,19336
Skewness	1,333291	-0,02387	0,450379	0,117128	-0,58316	0,009376
Range	502,86	228497	4,204754	158311	5,8	10
Minimum	111,22	464186	-0,3	639340	82	35
Maximum	614,08	692683	3,904754	797651	87,8	45
Sum	2864,12	5741757	13,99336	7200517	852,4	397
Count	10	10	10	10	10	10
Largest(1)	614,08	692683	3,904754	797651	87,8	45
Smallest(1)	111,22	464186	-0,3	639340	82	35
Confidence Level(95,0%)	103,2702	59312,6	1,083409	38401,7	1,243706	3,035939

According to the correlation analysis, the annual inflow of FDI has a correlation with GDP, the number of employed persons and the index of economic freedom, and the fall of inflation and the index of perception of corruption causes the growth of FDI. The strongest relationship exists between the gross domestic product and the number of employed persons.

Table 2: Correlation analysis (Source: Authors' calculation, 2023)

	FDI	GDP	INF	EMP	IEF	CPI
FDI	1					
GDP	0,47357	1				
INF	-0,05	-0,5288	1			
EMP	0,33682	0,97526	-0,5093	1		
IEF	0,20236	0,25879	-0,4556	0,20146	1	

CPI	-0,3135	-0,9023	0,31753	-0,8723	-0,194	1
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According to the regression statistics, it can be concluded that there is a very strong relationship between the inflow of foreign direct investments as a dependent variable and the independent variables. 63.7% of the variability of the annual inflow of FDI is explained by the variability of independent variables, and the remaining 36.3% is explained by the variability of variables that are not covered in the research.

Table 3: Regression statistics (Source: Authors' calculation, 2023)

Multiple R	0,9157
R Square	0,83851
Adjusted R Square	0,63665
Standard Error	87,0195
Observations	10

Based on the results of the regression analysis (Table 4), it can be concluded that two of the five independent variables have a significant impact on the inflow of FDI in RNM, namely, GDP ($p=0.02$) and the number of employed persons ($p=0.04$). Also, inflation and the index of perception of corruption have an impact on the inflow of FDI, but the same according to the regression is not significant ($p>0.05$).

Table 4: Regression analysis (Source: Authors' calculation, 2023)

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	-1401,9237	2447,2219	-0,5728633	0,5974012	-8196,5009	5392,6535
GDP	0,0079374	0,0019686	4,0319437	0,0157083	0,0024716	0,0134031
INF	58,963316	27,213448	2,1666977	0,0961649	-16,593329	134,51996
EMP	-0,0073539	0,0025322	-2,9041735	0,0439338	-0,0143843	-0,0003234
IEF	7,9031203	19,378094	0,4078378	0,704278	-45,899095	61,705335
CPI	42,062887	17,761096	2,3682597	0,0769667	-7,2498211	91,375596

5. Discussion

Foreign direct investments, as a form of inflow of foreign capital, have a significant positive effect in the domain of the economy and social policy of the host country, therefore developing countries, including the Republic of North Macedonia, strive for and create policies to attract FDI. According to the results of previous research, it can be concluded that the growth of GDP is one of the key determinants for attracting FDI in a country, the results of our research confirm this, according to the regression analysis, the growth of RNM has a significant positive impact on the growth of FDI and accepts hypothesis 1.1. Also, the growth of employed persons has a significant impact on the inflow of FDI, but it is also negative, primarily because the growth of the workforce means a decrease in unemployment, an increase in wages and an increase in

competition on the labor market, whereas on the other hand, one of the basis of policies for attracting FDI of developing countries, especially the countries of the Western Balkans, is the cheap labor force and the high unemployment rate, which means that hypothesis 1.3 is accepted. The results of the research are largely consistent with the results of research on this topic in the countries of the Western Balkans region, where, in the Republic of Serbia, in addition to economic growth, the exchange rate plays a major role, which, unlike RNM, is fluctuating. and in Montenegro it is characteristic that the transition process, which is still ongoing, primarily for political reasons, has a significant role in the inflow of FDI. It is characteristic of the research that it is adopted only on the macroeconomic determinants, which, besides the ones mentioned, have a visible presence, there are also a number of other factors that affect the inflow of FDI, such as legal norms, environmental regulations, the degree of technological development, etc. This type of research can contribute to the creation of quality policies to attract FDI and the creation of macroeconomic policies that will be aimed at stimulating businesses and the economy as a whole.

6. Conclusion

The inflow of FDI into a national economy depends on many internal and external factors, but in literature and practice there are several key determinants in making the decision on the destination for investment. Although the determinants depend on the characteristics of the country, in practice, economic growth is a key determinant for attracting FDI, according to the results of the research it can be concluded that in the case of the Republic of North Macedonia GDP growth has the most significant effect on attracting FDI. Consequently, the country must focus on policies that will stimulate economic growth and development.

In order to stimulate FDI, the Government and government institutions must take specific steps in the direction of:

- 1) Stimulation of capital investments, especially in the part of the road infrastructure which is a condition for economic development, from one and more to the attractiveness of the country for TNCs;
- 2) Creation of an acceptable tax policy with a special reference to the profit tax, which would be competitive with the tax policy of neighboring countries and would motivate the companies previously located in the territory of RNM to reinvest the profit;
- 3) Adaptation of educational programs in accordance with the needs of companies and the trends of developing countries and are based on competencies.

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