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ANALYSIS OF FACTORS AFFECTING THE VOLUME OF FOREIGN DIRECT INVESTMENT

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Abstract

This paper investigates the determinants of Foreign direct investment (FDI) in selected 78 countries. The paper uses the data sets from 2000 to 2018, according to World Bank Statistics. The chosen empirical model is based on FDI theories and previous empirical studies on this subject. Due to availability of data, selected counties are divided into 4 groups (advanced economies, developing countries, transition economies and low income counties). The results indicate trade openness is significant factor for FDI inflows in selected countries.

Keywords: Foreign direct investment, grows rate of per capita GDP, age dependency ratio, gross domestic savings, trade openness, inflation, real interest rate.
JEL Codes: E22, E44.

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1. Introduction

International capital migration has a paramount role to develop the World Economy since it results in the strengthening of foreign economic relations and political ties. Besides, increasing foreign trade turnover, the international capital migration brings about economic development accelaration and product increase. At the same time, it improves, in the world market, the competitiveness of manufactured goods and technical capacity of importing countries; this, in turn, leads to the higher employment rate in the country. However, in the world economy, investors do not donate capitals to other countries and regions without any feasible reasons. To achieve the capital investment, foreign investors should be attracted to the country's economy and interested to invest in this country and the region forming a material interest towards them. It is, nowadays, very controversial to develop a favorable investment atmosphere in the country and analyze the factors that influence positively or negatively the volume of investment at a time.

2. Literature Review

According to the purpose of attraction, foreign investment is classified into foreign direct investment (FDI) and portfolio investment. Based on emperical studies, a higher priorty is given to the foreign direct investment as it is considered to have a much more positive influence on the economy. Being the main source of financing for production, FDI is regarded as an optimum way to develop human capital with the help of new modern technologies and advanced management skills. In many developed countries, however, enterprises do not have sufficient capital, technology, modern management, technical and skilled resources; these shortcomings obviously indicate their demand on the involvement of FDI in their economy.

FDI will not only expand the country's aconomic access to global capital markets, but also its ability to trade goods and services. This is because FDI provides an increase in the country's export potential, which in turn leads to an increase in GDP. In particular, emperical analysis shows that 1% increase in FDI staying relative to GDP would lead to 0.4% rise in GDP. In developed countries, 14% increase will lead to 5.6% rise in GDP.

A number of factors (economic, political, social and technological) can be shown as the reason for an uneven distribution of FDI in countries around the world. Researchers analyzed the change in investment volume considering various factors.

F. Campos and Yu. Kinoshita's researches consider institutional changes and the level of trade openness to be the main factors influencing the size of the FDI involved in 25 transition countries between 1990 and 1998.

According to P. Sahoo's study, the FDI volume in 5 South Asian countries (India, Pakistan, Sri Lanka and Nepal) was immensely affected by national market size, labor force growth rate, the infrastructure index and trade openness.

E. Cleeve asserts that the change in the volume of investment in 16 African countries is characterized by factors, such as the market size, level of infrastructure development, labor quality and cost. Besides, the author says that the introduction of political and macroeconomic stability, protection of property rights and other investment incentives will be somehow interrelated with the changes in investment.

As has been stated in the study conducted by M. Salahuddin and R. Islam for 97 developing countries in 1973-2002, the level of trade openness for investment is one of the most important factors.

P. Mauro's, based on the results of his researches on several countries, followed the "corruption indicator" which is inversely related to the volume of investment [7]. Analysizing institutional factors, A. Brunetti and B. Weder listed law inefficiency, high levels of corruption, and instability in real exchange rates as the factors that had the highest negative effect on the investment volume.

An empirical analysis of the factors influencing the volume of investment shows that factors such as the level of trade openness, infrastructure index, labor potential and price, tax burden, exchange rate, interest rate are important for the volume of foreign investment in the economy. However, due to the fact that the study covers the period up to 2012, there, over the last decade, have been many economic, financial and institutional problems in the world economy, significant changes in the geography of investment flows require a re-examination of factors affecting investment.

3. Database and research methodology

In our study, a statistical analysis was conducted in 78 countries selected on the basis of World Bank data, studying the growth rate of investment in 2000-2018 and the factors affecting investment. Next, in the statistical analysis, the selected countries were conditionally arranged for 4 groups (developed, developing, transition countries and less developed), and appropriate conclusions were drawn for each group of countries. The top 20 countries in the world, in terms of GDP, are developed countries, the 21st-40th countries in the world, in terms of GDP, as developing countries, transition countries that became independent after the collapse of the former Soviet Union and Western European countries with socialist regimes until 1991. Less developed countries were those with the lowest GDP per capita.

To carryi out the research, the following model was taken as the basis:

$$FDI_{it} = \alpha_0 + \beta_0 GR_{it} + \beta_1 DEP_{it} + \beta_1 GDS_{it} + \beta_1 TO_{it} + \beta_1 INF_{it} + \beta_1 IRR_{it} + \varepsilon_{it}$$

Here:

FDI (foreign direct investment) - the share of foreign direct investment in GDP (%);

GR (growth rate per capita GDP) - GDP growth rate per capita (%);

DEP (age dependence ratio) - the level of age dependence of the population (the ratio of the total population aged 15-64 years of the population under 15 years and over 64 years);

GDS (gross domestic savings) - Gross domestic savings (as a percentage of GDP);

TO (trade openness) - level of trade openness (Export + import / GDP), in%;

INF (inflation) - the rate of inflation;

RIR (real interest rate) - real interest rate (nominal interest rate - inflation rate);

ε *- error indicator;*

i - selected country and t - selected time;

The selected factors being studied in relation to the size of FDIs are very important for foreign investors. The GDP growth rate (GR) per capita is an indicator that determines enhancement in the standard of living and production efficiency in a country.

The coefficient of the age dependence ratio of the population indicates how much percent of people capable to work, and what percentage is in need of social protection. The level of this ratio can be explained by the lack of labor force in the country, the large number of pensioners or children in the population, the high or low birth rate, the government's social spending and high tax rates.

The Gross Domestic Savings Index (GDS) is a measure of the difference between total consumption expenditures and GDP, which means that the investment climate in the country has deteriorated, leaving the country dependent on foreign funds. The high level of this indicator will serve as a catalyst in attracting FDI and ensure high growth rates as well as increase the country's financial competitiveness.

There are several reasons for the importance of the inflation rate (INF) for an investor: its high level reduces investment returns, affects all sectors of the economy, and simultaneously includes consumer spending, unemployment, tax policy and interest rates.

The Real Interest Rate (RIR) describes the expected level of economic growth of the economy over a period of time and the real return on the investor’s investment. A negative real interest rate is negative for the country’s economy.

4. Results of statistical analysis

According to preliminary statistics, the share of foreign direct investment in GDP in all 78 countries surveyed between 2000 and 2018 averaged 4.67% of GDP, 2.6% in developed countries, 5.6% in developing countries, and 6% in transition countries. , 4% and 4.1% in less developed countries. The highest value of FDI occurred in the period of review was observed in Hungary in 2007 (51.9% of GDP). The average age of the population was 57.5 units, 49.9 in developed countries, 51.05 in developing countries, 46.8 in transition countries, and 81.1 in less developed countries. The maximum values of this coefficient were observed in Uganda and the minimum values were in the UAE.

Table 1: Descriptive Statistical Aanalysis

	Variable	Mean	StDev	Minimum	Median	Maximum
For a total of 78 countries	**FDI**	4.671	6.279	-16.418	3.000	51.896
	DEP	57.459	17.418	16.543	52.000	108.207
	GR	3.224	4.338	-17.545	3.207	33.030
	GDS	19.913	16.469	-58.544	21.296	85.366
	TO	90.20	61.27	13.70	76.20	448.30

	INF	8.157	11.104	-18.932	5.530	185.291
	RIR	5.365	8.816	-41.230	4.300	51.229
For developed countries		**Mean**	**StDev**	**Minimum**	**Median**	**Maximum**
	FDI	2.608	2.702	-3.500	2.086	16.391
	DEP	49.858	6.246	36.000	49.650	72.185
	GR	2.353	3.325	-7.795	2.000	13.600
	GDS	26.068	9.050	12.433	24.255	55.416
	TO	59.69	27.29	13.70	56.05	167.70
	INF	5.729	7.036	-18.932	3.550	52.851
	RIR	4.261	9.259	-9.633	2.569	47.700
For developing countries		**Mean**	**StDev**	**Minimum**	**Median**	**Maximum**
	FDI	5.596	7.341	-6.744	3.184	38.651
	DEP	51.048	12.488	16.543	52.214	88.493
	GR	2.282	4.245	-13.333	2.561	30.344
	GDS	27.773	9.300	7.965	26.542	53.197
	TO	116.52	99.35	21.90	81.80	448.30
	INF	6.356	8.146	-12.733	3.850	45.943
	RIR	2.913	6.402	-18.909	3.136	29.120
For countries in transition		**Mean**	**StDev**	**Minimum**	**Median**	**Maximum**
	FDI	6.415	7.463	-16.418	4.628	51.896
	DEP	46.756	5.824	37.806	46.094	71.154
	GR	4.984	5.173	-17.545	5.293	33.030
	GDS	20.16	18.24	-34.03	21.97	85.37
	TO	107.97	28.84	46.10	105.80	180.50
	INF	12.21	18.09	-18.93	7.55	185.29
	RIR	4.310	9.191	-41.230	5.034	48.056
For less developed countries		**Mean**	**StDev**	**Minimum**	**Median**	**Maximum**
	FDI	4.248	5.917	-3.753	2.728	46.494
	DEP	81.105	14.039	49.771	79.716	108.207
	GR	3.444	3.996	-15.284	3.624	28.738

	GDS	5.57	17.00	-58.54	8.53	42.04
	TO	78.97	36.79	30.70	72.90	209.90
	INF	8.737	6.907	-10.949	7.412	34.193
	RIR	9.686	8.725	-17.122	8.864	51.229

Source: Derived from Author's Own Calculations

GDP growth per capita averaged 3.2% in all selected countries between 2000 and 2018, 2.3% in developed and developing countries, and 4.98% in transition countries, and an average of 3.44% formed in less developed countries.

The level of Gross National Savings averaged 19.9% in all selected countries, 26.07% in developed countries, 27.8% in developing countries and 20.1% in transition countries. In selected less developed countries such as Tongo, Tajikistan, Kyrgyzstan, Haiti and Rwanda, the level of GNS is very low (5.57% on average) having negative values of this indicator which may have negative outcomes for the economy.

The trade openness ratio averaged 90.2% in all selected countries, 59.7% in developed countries, 116.7% in developing countries, 107.97% in transition countries, and 78.97% in less developed countries. The highest values of this coefficient were observed in Hong Kong and Singapore. Between 2000-2018, the trade openness ratio was 393% of average GDP in Singapore and 369% in Hong Kong.

The inflation rate averaged 8.1% in all selected countries, 5.7% in developed countries, 6.3% in developing countries, 12.2% in transition countries and 8.7% in less developed countries. The highest inflation rate was observed in Belarus in 2000 (185.3%) during the selected period.

The average real interest rate was 5.3% in selected countries, 4.2% in developed countries, 2.9% in developing countries, 4.3% in transition countries and 9.7% in less developed countries. The highest negative value of the real interest rate was observed in 2000 in Belarus (-41.2%).

The correlation matrix, for all selected countries, between the FDI and the available factors shows that while there is a high correlation between the FDI levels of trade openness, there is no correlation with the remaining factors.

Table 2: Correliance Coefficiency Matrix for Selected 78 Countries

	FDI	**DEP**	**GR**	**GDS**	**TO**	**INF**	RIR
FDI	1.0000						
DEP	-0.0178	1.0000					
GR	0.102	0.0322	1.0000				
GDS	0.0949	-0.4238	0.1250	1.0000			
TO	0.7309	-0.2919	0.0506	0.14.03	1.0000		
INF	0.0144	0.0735	0.1435	-0.0339	-0.0826	1.0000	
RIR	0 .0158	0.2956	-0.0485	-0.2041	-0.1041	-0.4219	1.0000

Source: Derived from Author's Own Calculations

According to the correlation matrix for developed countries, there is not any significant link between the FDI size of this group's countries and the selected factors. However, while there is a weak direct relation between the FDI and the Gross National Funds, there is a weak negative correlation between the FDI and the age of the population. Based on a pairwise comparison of factors, it can be seen that in developed countries there is an inverse relation between the level of age dependence and the size of the Gross Domestic Savings, the positive connection between the Gross National Savings and the GDP growth rate per capita.

Table 3: Correliance Coefficiency Matrix for 20 Developed Countries

	FDI	**DEP**	**GR**	**GDS**	**TO**	**INF**	**RIR**
FDI	1.0000						
DEP	-0.3895	1.0000					
GR	0.2861	0.3558	1.0000				
GDS	0.4254	-0.4967	0.63205	1.0000			
TO	-0.0611	-0.1870	-0.00287	0.2423	1.0000		
INF	0.0745	-0.01670	0.43767	0.4506	-0.38104	1.0000	
RIR	0.1507	0.00280	0.15150	0.0651	-0.1572	0.16145	1.0000

Source: Derived from Author's Own Calculations

There is a strong correlation between the FDI and the level of trade openness for developing countries. The implementation of state policies supporting exports and imports in the countries of this group, most of the world's largest companies and firms' relocation their production in these countries had a positive impact on FDI volumes and served to ensure high economic growth. At the same time, the high level of trade openness, in this group of countries, has led to an increase in the volume of gross national funds.

Table 4: Correliance Coefficiency Matrix for 20 Seşected Developing Countries

	FDI	**DEP**	**GR**	**GDS**	**TO**	**INF**	**RIR**
FDI	1.0000						
DEP	-0.2925	1.0000					
GR	0.1401	0.2779	1.0000				
GDS	0.2321	-0.4694	-0.1364	1.0000			
TO	0.8759	-0.4987	-0.0270	0.5128	1.0000		
INF	-0.3401	-0.1755	-0.0928	0.1446	-0.2769	1.0000	
RIR	-0.0183	0.3845	0.3076	-0.1742	-0.0117	-0.2136	1.0000

Source: Derived from Author's Own Calculations

Although there is no strong correlation between FDI and selected factors for countries in transition, the countries included in this group (Uzbekistan, Turkmenistan, Azerbaijan, and Kazakhstan) have achieved high economic growth in recent years, and the volume of FDI attracted to these countries is growing year by year.

Table 5: Correliance Coefficiency Matrix for 18 Selected Transition Countries

	FDI	**DEP**	**GR**	**GDS**	**TO**	**INF**	**RIR**
FDI	1.0000						
DEP	-0.0118	1.0000					
GR	0.4065	0.2299	1.0000				
GDS	0.4259	-0.3229	0.2056	1.0000			
TO	0.1323	-0.3499	0.0320	0.0641	1.0000		
INF	0.3603	-0.0989	0.1396	0.1703	0.1104	1.0000	
RIR	-0.0937	0.42382	-0.1314	-0.4428	-0.3142	-0.8501	1.0000

Source: Derived from Author's Own Calculations

From the correlation coefficient matrix for less developed countries, it can be seen that there is a positive connection between the FDI volume and the level of trade openness. However, the volume of FDIs involved in these countries remains low due to the instability of the political system, poor infrastructure, and very slow economic growth.

Table 6: Correliance Coefficiency Matrix for Selected 20 Less-Developed Countries

	FDI	**DEP**	**GR**	**GDS**	**TO**	**INF**	**RIR**
FDI	1.0000						
DEP	0.1733	1.0000					
GR	-0.0892	-0.5486	1.0000				
GDS	-0.0725	0.1668	0.0158	1.0000			
TO	0.5255	-0.3011	-0.0925	-0.28575	1.0000		
INF	0.0401	-0.1331	0.0714	-0.0871	0.1924	1.0000	
RIR	0.0434	0.2819	-0.2742	0.0933	-0.3450	0.2668	1.0000

Source: Derived from Author's Own Calculations

Based on the selected model chosen in the study, 95% accuracy was chosen as the main criterion to create the final regression model with FDI volume and factors influencing it, the R-critical value> 0.05 observed variables were omitted from the model. As a result, the final prediction model looked different for the selected group of countries. In particular, GR, GDS, INF, RIR were omitted because the R-critical value> 0.05 was observed in the regression model for the selected 78 countries. Depending on the regression model, it can be concluded with 95% accuracy that for all selected countries, an increase in the age dependency ratio per unit would result in an 8% decrease in FDI and increase of trade openness to 1 unit in FDI by 7%. It is suggested to use this model as a prediction model because the value of R^2 (58.65) can be satisfactory the selected model.

In the final regression model for developed countries, only the TO indicator retained its place in the model; nevertheless, due to the low value of R^2 (7.5%), it is not appropriate to use this model as a forecast model.

Since the R-critical value for the variables DEP, GR, GDS, INF, RIR was greater than 0.05 when constructing the forecast model for developing countries, only TO retained in the model. For this group's countries, an increase in trade openness of 1 unit would lead to an 8% rise in FDI. Due to the high value of R^2 (77.2%), the selected model can be used to predict the size of the FDI.

In the regression model for transition countries, only the GR index remained in the model, but since the value of R2 is low (7.2%), it is not important to use this model as a prediction model.

In the regression model for less developed countries, TO stay permanent as a variable that affects the size of the FDI. However, the fact of the value of R^2 in this model's not being very high (27.6%) does not allow qualitative forecasting of the volume of FDI attracted to less developed countries with the indicator of the level of trade openness.

5. Conclusion

Based on the results of our research, it can be concluded that for developed countries the role of foreign investment in improving the structure of the national economy, solving the problem of unemployment and increasing export potential, mastering advanced management techniques is insignificant. In the countries included in this group, foreign investment is more invested in high-capacity industries to produce investment goods.

For developing countries, transition countries and less developed countries, the role of foreign investment in improving the sectoral structure of the national economy, solving the problem of unemployment, increasing export potential and adopting advanced management techniques is high. Besides, foreign investment in countries remaining in these groups replenishes and stabilizes the capital market. Foreign investment will stabilize the consumer market and have a direct impact on its development, as more and more mining, resource-intensive and labor-intensive sectors, as well as import-substituting consumer goods.

References

Tarzi, S. (2005). Foreign Direct Investment into Developing Countries: Impact of Location and Government Policy, *The Journal of Social, Political and Economic Studies, 30(4),* 497-516.

Dobson, W., and Hufbauer, G., (2005). World Capital markets: Challenge to the G10, Institute for International Economics, Washington, D.C.in: Tarzi, S., Foreign Direct Investment into Developing Countries: Impact of Location and Government Policy, *The Journal of Social, Political and Economic Studies, 30(4),* 497-516.

Nauro F. Campos and Yuko Kinoshita (2005). *Why Does FDI Go Where it Goes? New Evidence from the Transition Economies*. IMF Working Paper.

Sahoo, P., (2006). *Foreign Direct Investment in South Asia: Policy, Trends, Impact and Determinants.* ADB Institute Discussion Paper No. 56

Cleeve, E., (2008). How Effective are Fiscal Incentives to Attract FDI to Sub-Saharan Africa?, *The Journal of Developing Areas, 42 (1),* 135-153.

Mohammad Salahuddin., Md. Rabiul Islam (2008). Factors Affecting Investment in Developing Countries: A Panel Data Study. *The Journal of Developing Areas, 42(1),* 21-37.

Mauro, Paolo.(1995). Corruption and Growth. *Quarterly Journal of Economics, 110* (7) 681-712.

Brunetti, Aimo and Beattice Weder (2002). *Investment and Institutionla Uncertainty: A Comparative Study of Different Uncertainty Measures*. IFC Technical Paper 4. Washington, D.C.