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FOREIGN DIRECT INVESTMENTS – AN ESSENTIAL FACTOR FOR ECONOMIC GROWTH IN TRANSITION ECONOMIES

Empirical studies

Keywords
Foreign direct investments
Economic growth
Financial system
Transition economies

JEL Classification
F01, F21, F43

Abstract

The purpose of this analysis is to analyse the connection between foreign direct investments and economic growth in transition economies during a period of increased integration of financial systems in the global financial system.

The research focuses on the relationship between foreign direct investments and economic growth during 1970-2013, by means of methods such as the graphic, the regression and the correlation ones. The research findings show that there is a direct and strong connection between the inward financial flows of foreign direct investments and the GDP during the period under analysis in transition economies. In transition economies, a high inward flow of foreign direct investments leads to an increase of the Gross Domestic Product per capita, while a positive development of the standard of living will attract new inward FDI flows, since transition economies are seen as attractive recipients/hosts for foreign direct investments.

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1. **Review of the professional literature concerning the relationship between foreign direct investments and economic growth**

According to the research in the field, the relationship between foreign direct investments and economic growth is based on the neoclassical and endogenous growth models. (Adhikary, B., 2011)

The neoclassical and endogenous growth models are seen as a theoretical basis for FDIs, thus enabling the development of a country's economic growth hypothesis. According to the neoclassical growth theory, FDIs are the ones that channel the funds needed by an economy, towards the secondary sectors that have a capital deficit, which, in turn, leads to a higher rate of economic growth through the increased marginal productivity of capital. Note that, from a neoclassical perspective, economic growth needs capital investments in the form of a long-term commitment Adams, 2009). Neoclassical economists also believe that FDIs are more reliable and less volatile sources of capital for developing economies that can thus lead to increased economic growth (Borenzstein and collab. 1995, Lipsey 1999, Moosa 2002, Moosa & Cardak 2006).

On the other hand, endogenous growth theories state that a country's long term development is not only influenced by material investments but also highly depends on the efficiency employed in using those investment flows. Therefore, the endogenous growth model focuses on incorporating organisational, management, technical and human skills and technological progress, as well as on the accretion of endogenous know-how in growth theories that are often due to foreign direct investments (Mankiw et al. 1992, Pugel 2007). In the endogenous growth model, long term economic growth is seen as a function of technological progress derived from technological transfer and the dissemination of knowledge (Romer 1994, Nair -Reichert and Weinhold 2001).

There are papers in the professional literature that underline the relationship between FDIs and the GDP as bidirectional. Thus, the changes in the volume of inward FDI flows will affect the GDP, while changes in the GDP can, in turn, affect the amount of inward FDI flows to the recipient country. If a country undergoes constant and stable economic growth, this may have a positive influence on the foreign investors' willingness to continue investments, while an increase of foreign investments will subsequently lead to an expansion of the market and, evidently, economic growth. Different economic sectors of the recipient country have reached different results showing that the benefits brought by foreign direct investments vary widely across different economic sectors (Alfaro, 2003). An empirical research conducted by the author for the period 1981-1999,

reveals that the total FDI volume exerts an ambiguous effect on economic growth. Thus, FDIs in the primary sector tend to have a negative effect on economic growth, while investments in the secondary sector lead to positive outcomes. As far as the tertiary sector is concerned, the relationship FDI – economic growth is barely identified.

2. **Analysis of the relationship between inward foreign direct investment flows and the GDP per capita in transition economies**

As seen in Figure 1, on a global level, the gross domestic product per capita has had a particular trend, both on each category of countries, as well as during various periods, thus outlining both a mixed and complex development. Note the presence of a significant delay between the level of economic development in developed countries and emerging and/or transition economies. The identified correlations have highlighted either the presence of a close or significant direct relationship or an insignificant one, as well as a bivalent relationship between the two variables that were taken into account in this correlation.

The analysis of the relationship between inward flows of foreign direct investments and the GDP per capita in transition economies can be conducted by means of the graphical, the regression or the correlation method. These methods enable researchers to identify the presence, the purpose and the type of the relationship, as well as to measure the intensity of the relationship between the two variables under consideration.

In order to conduct the suggested analysis, we have used the data provided by the UNCTAD statistics for transition economies. The data has subsequently been processed by means of the SPSS 22 software.

The evolution of inward FDI flows and of the GDP per capita in transition economies during 1970-2013, is presented in the dual axis system outlined in Figure 2. The figure shows that the two indicators presented for the period 1970-2013 have had a different evolutionary trend.

In order to analyse the influence of inward FDI flows on the GDP, we have presented the xOy axis system with the pairs of values related to the two variables in transition economies, during the period 1970-2013.

An analysis of the evolution presented in Figure 3 reveals that there is a direct relationship between inward FDI flows and the GDP per capita in transition economies, during the period 1970-2013. The relationship can be approximated in a linear model:

$$y = a + bx$$

$$GDP_{\frac{\square}{cap}} = a + b * FDI$$

The model coefficients have been estimated based on the least square method, by means of the SPSS 22 statistical software, while the results measured for the coefficients of the linear model have been summarized in Table 1.

Based on the values identified in the above table, we can draw the estimated equation of the model Gross Domestic Product per capita in transition economies, for the period ranging between 1970-2013, thus:

$$GDP/capita = 2277,530 + 0,056 * FDI$$

The value of the Pearson correlation ratio presented in Table 2, shows that the inward FDI flows directly influence the GDP per capita in transition economies during the period ranging during 1970-2013, with a very strong relationship between the two variables. The correlation ratio equals 0,888 for the linear model. The calculated coefficient of determination and shows that the variation of the GDP per capita variable is influenced up to 78,9% by the FDI flows variable, while the remaining percentage difference is due to random factors.

In order to check whether there is a bivalent relationship between FDI flows and GDP per capita in transition economies, we have measured the correlation between the two variables by means of the Spearman coefficient, calculated with the SPSS 22 software. (Table 3) – we are trying to find whether a high level of inward FDI flows leads to a higher GDP per capita in this category of countries, as well as whether a significant level of GDP per capita attracts a higher level of inward FDI flows.

The results arrived at for the Spearman coefficient show that, in the long run, the relationship between the GDP per capita and the inward FDI flows is not valid both ways in transition economies for the period during 1970-2013. The value of the Spearman coefficient amounts to 0,237, which is statistically insignificant. A high amount of inward FDI flows in transition economies will lead to economic growth. However, a high level of GDP per capita is not a triggering factor of inward FDI flows.

For a shorter period of time, 2000-2013, the values of the two variables under analysis were graphically depicted in the dual axis system in Figure 4.

Note that the short-term trend of the two variables for the period 2000-2013 is very similar. The inward FDI floes have followed the evolutionary trend of the gross domestic product per capita in transition economies.

The Spearman correlation coefficient has a very high value, close to +1 (0,938), which is considered significant (the related sig. value is below 0,01).

The results for the Spearman coefficient presented in Table 4, show that the relationship between the GDP per capita and inward foreign direct investment flows is valid both ways in transition economies for the period during 2000-2013.

The analysis of the relationship between the amount of inward financial flows and economic growth, both before and after the global crisis, reveals both a mixed and complex image. Thus, the relationship between economic growth and financial flows depends on the presence of a strong financial market, on the type of FDI flows, on the economic structure, as well as on the existing global growth models. Thus, after reviewing the research findings, we believe there is a strong relationship between foreign direct investments and economic growth.

3. Conclusions

In light of the changes occurring on a global scale after the inception of the financial crisis of 2007, the economic policy measures adopted by most countries tend to differ from encouraging foreign direct investments to ceiling them. Some see foreign direct investments as an essential factor that encourages sustainable economic growth, while others believe that foreign direct investments can lead to unfair competition for domestic products, as well as a lack of control over domestic capital.

The two indicators under analysis for transition economies – foreign direct investments and gross domestic product per capita – have had a different evolutionary trend during 1970-2013. The relationship between the inward foreign direct investment flows and the GDP per capita in transition economies for the period ranging during 1970-2013 can be approximated to a linear model. The value of the Pearson correlation ratio shows that inward foreign direct investment flows directly influence the GDP per capita in transition economies during 1970-2013. The calculated Spearman coefficient shows that the relationship between the GDP per capita and inward foreign direct investment flows doesn't work both ways in transition economies during 1970-2013. A high level of GDP per capita in transition economies doesn't necessarily attract higher inward foreign direct investment flows. We have also found that the evolution of the two variables is very similar during the period 2000-2013. The inward foreign direct investment flows have followed the evolutionary trend of the GDP per capita in transition economies. The identified Spearman coefficient has a very high value, which is considered significant. The relationship between the GDP per capita and inward foreign direct investment flows is valid and significant both ways

in transition economies during the period 2000-2013.

The objective of the present research was to identify the correlation between the migrating nature of financial flows and the development level of those countries affected by crises, particularly transition economies.

The long term relationship between inward FDI flows and GDP per capita is taken into account in the development of national strategies that are aimed at attracting foreign direct investments.

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Table no. 1 Coefficients of the linear model

	Unstandardized coefficients		Standardised coefficients		
	B	Std. Error	Beta	t	Sig.
Inward FDI flows in transition economies	0,056	0,004	0,888	12,542	0,000
Constant	2277,530	171,051		13,315	0,000

Table no.2 Estimates for the Correlation ratio, the coefficient of determination and the Standard error for the linear model

Correlation ratio ($\frac{R)}{888}$)	Coefficient of determination ($\frac{R2)}{7}$)	Adjusted coefficient of determination ($R2 \ ajustat$)	Estimated standard error
0,888	0,789	0,784	986,829

Note: The independent variable consists in the Inward FDI flows in transition economies

Table no.3 The Spearman correlation coefficient for the period during 1970-2013

		Inward FDI flows	Gross Domestic Product per capita
Inward FDI flows in transition economies	Correlation coefficient	1,000	0,237
	Sig. (2-tailed)	.	0,122
	N	44	44
Gross Domestic Product per capita in transition economies	Correlation coefficient	0,237	1,000
	Sig. (2-tailed)	0,122	.
	N	44	44

[**]*the correlation is significant at a 0,05 level (2-tailed).*

*Table no. 4. The Spearman correlation coefficient for the period 2000 -2013*

		Inward FDI flows	GDP per capita
Inward FDI flows in transition economies	Correlation coefficient	1,000	0,938[**]
	Sig. (2-tailed)	.	0,000
	N	14	14
Gross Domestic Product per capita in transition economies	Correlation coefficient	0,938[**]	1,000
	Sig. (2-tailed)	0,000	.
	N	14	14

[**]*The correlation is significant at a 0,05 level (2-tailed).*
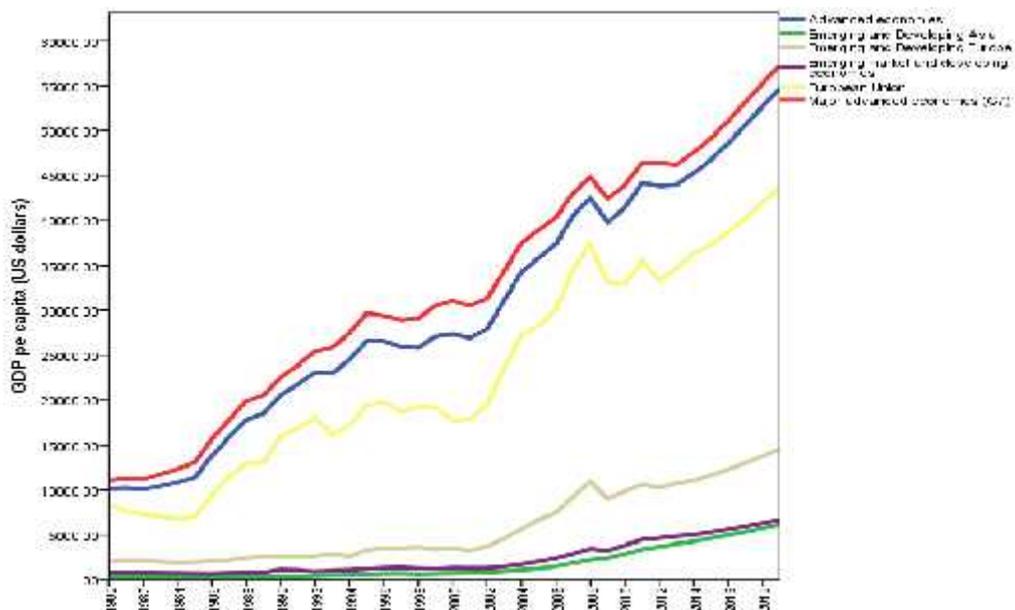
Source: author's own, processed based on the World Economic Outlook, IMF, 2014

Figure no. 1 Evolution of the GDP per capita in different categories of countries during 1990 - 2018e
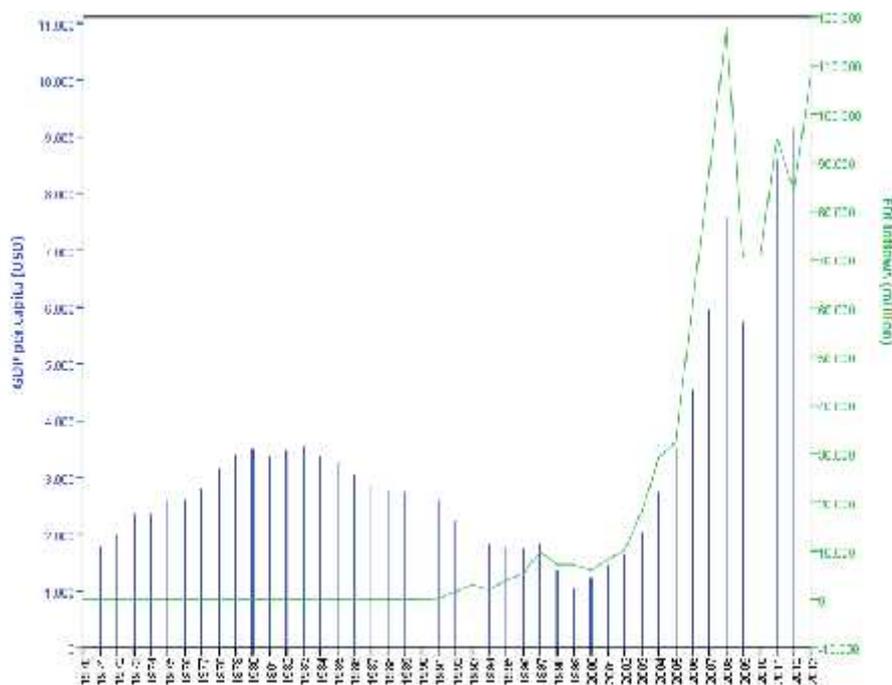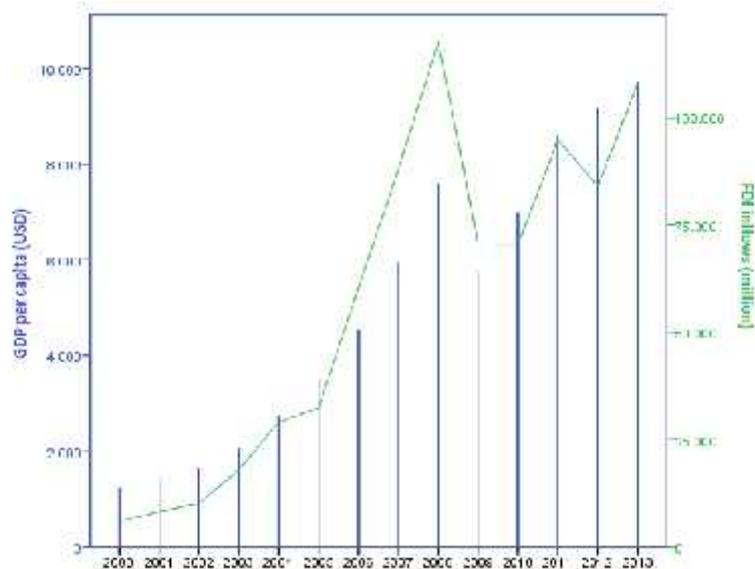

Source: author's own, based on the data provided by the UNCTAD Database

Figure no. 2 Evolution of the GDP and inward FDI flows in transition economies during 1970-2013
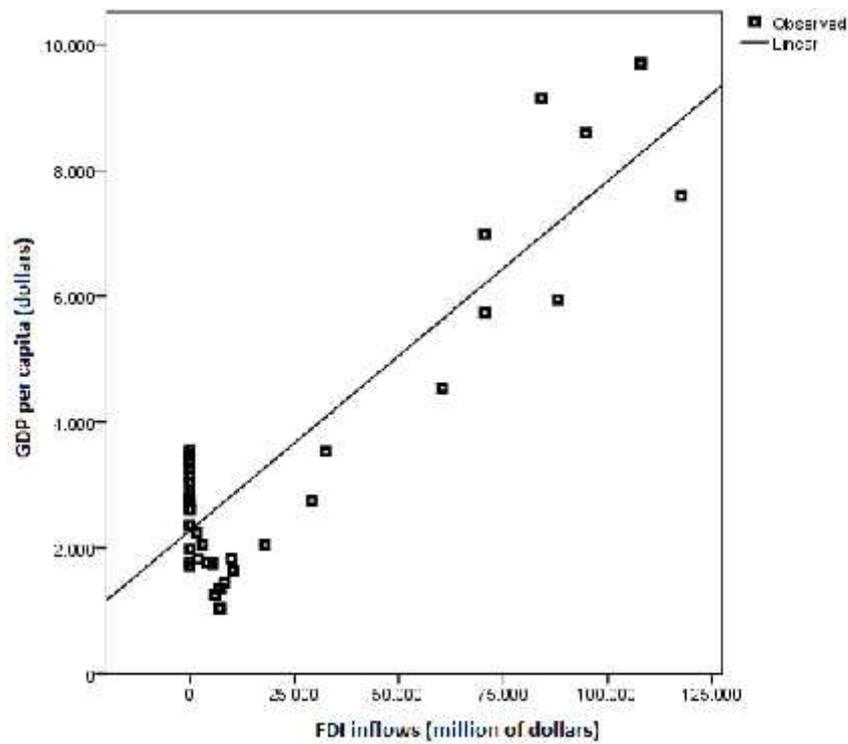
Source: author's own, processed in the SPSS statistical software

Figure no. 3. Relationship between inward FDI flows and GDP per capita in transition economies

Source: author's own, based on the data provided by the UNCTAD, Database

Figure no. 4 Evolution of the GDP and inward FDI flows in transition economies, during 2000-2013