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RELATIONSHIP BETWEEN FOREIGN DIRECT INVESTMENTS, OPENNESS AND ECONOMIC GROWTH: EVIDENCE FROM DEVELOPING COUNTRIES

Siniša Kurteš | Associate professor, University of Banja Luka, Ekonomski fakultet, sinisa.kurtes@ef.unibl.org; ORCID ID: 0000-0001-5894-8660

Srđan Amidžić | Associate professor, University of Banja Luka, Ekonomski fakultet, srdjan.amidzic@ef.unibl.org; ORCID ID: 0000-0001-5694-3567

Drago Kurušić | Head department of marketing, Elite Fair d.o.o. Banja Luka, drago.kurusic@elitefairbl.com; ORCID ID: 0000-0003-1104-5880

Apstract: *The importance of free international movement of capital and openness to trade on the world market is very well known and elaborated in the relevant literature. Despite the fact that the most developed countries in the world are the carriers of international capital movements, especially through foreign direct investments, the inflow of foreign capital through foreign direct investments (FDI) is one of the key goals that developing countries set through their development strategies. In this way, developing countries strive to make their economies attractive for the presence of foreign capital in order to increase the level of production and raise the level of employment. What distinguishes developing countries is the high participation of foreign trade. Unlike large economies, which are said in the literature to be self-sufficient, small economies with insufficiently developed economies are nevertheless able to compete on the global market. The subject of research in this paper was to investigate the impact of FDI inflows on the economic growth of developing countries. The research covered 82 developing countries in the period from 1980 to 2020. In the paper, Fully Modified Ordinary Least Squares (FMOLS) and Dynamic Ordinary Least Squares (DOLS) methods were used to examine whether FDI viewed through the share of inflows in GDP and openness viewed through the share of total exchange in GDP increase GDP per capita in developing countries. The obtained results with a high level of statistical significance testify in support of the conclusion that FDI and openness to foreign trade increase GDP per capita in developing countries.*

Keywords: *foreign direct investments, international movement of capital, economic growth, developing countries, openness*

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***JEL Classification**: B17, F21, F43*

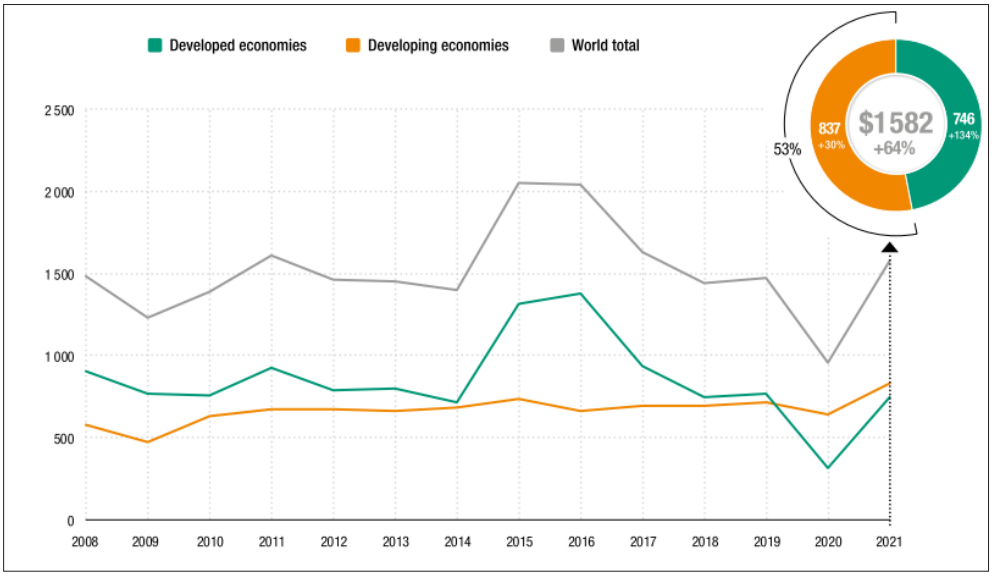
INTRODUCTION

The international movement of capital, i.e. export, import and transfer of capital, is becoming an increasingly topical theoretical-practical and economic-political problem of all countries, regardless of their level of economic development. Globalization processes have led to the fact that it is not only about the movement of capital between developed countries, but also between developed and underdeveloped countries, it seems to the benefit of both. The problems of export and import of capital are very complex and complex and require a deeper theoretical and practical elaboration, especially of the scope, structure and types of placement (Vukmirica, 1980).

Developing countries, wanting to converge with developed countries, have adopted strategies and policies that can contribute to attracting foreign direct investments, all with the aim of strengthening the country's economic structure. Especially considering that FDI has become the bearer of technology transfer, capital in physical form and management skills, developing countries primarily offered resources (natural and human), market and good geographical location. (Farrell, 2008) defined FDI as a "package of capital, technology, management, and entrepreneurship, which allows a firm to operate and provide goods and services in a foreign market". FDI can be seen as a "composite bundle" comprised of capital stock, new technologies, more advanced production practices, managerial expertise and innovative skills (Mello, 1999). FDI represents real investments in production factors: in capital goods, in land or stocks where the investor is involved in both investment and management, while maintaining control over the use of invested capital. This type of investments holders in the world are mainly multinational companies (TNCs) in the field of processing industry, exploitation of raw materials or from the field of services (Savlatore, 2018). There are two basic types of foreign direct investments; they are Greenfield and Brownfield investments. Greenfield investments represent the construction of completely new capacities in the host country. This type of investment is the primary goal of the host country because it increases production and business capacities, creates new jobs, transfers technology and knowledge, and includes the country in the global market as well. It is the investor who buys the land, builds the production plant in the host country, and starts production. In this way, the foreign company increases the existing plants, or directly invests in the new plants and equipment in the area where there were no such plants. "Brownfield investments are hybrid model that combines acquisition and Greenfield investment. Formally, these are acquisitions, but essentially they are more like Greenfield investments, because the investor almost completely replaces the production facilities, equipment and production line" (Mikerević, 2011).

Towards ((WIR, 2022) foreign direct investment has recovered significantly compared to 2020. They thus reached $1.58 trillion in 2021 compared to $1 trillion in 2020. The largest growth was recorded by merger and acquisition (M&A) but also rapid growth in international project finance as a result of loose financing conditions and major infrastructure stimulus packages. Due to the high value of FDI ($1.58 trillion), it is important to examine whether they really affect economic growth.

Graph 1. FDI inflows, global and by economic grouping, 2008–2021 (Billions of dollars and per cent)



Source: WIR, (2022:2)

LITERATURE OVERVIEW

Researching the literature, we find empirical studies with confronting results regarding to importance of FDI to economic growth. (Bruno & Campos, 2013) in one valuable paper via meta regression analysis, he analyzes 103 different micro and 72 macro studies that examine the impact of FDI on economic growth. They found that 44% of estimates were positive and significant, 44% insignificant and 12% negative for micro studies; As long as it's 50% of the estimates are positive and statistically significant, 39 percent are insignificant and 11 percent are negative and significant of FDI on the host country's economic growth. There results also suggest that publication bias is not particularly severe in this body of evidence, especially when methodological differences are taken into account.

(Borensztein, De Gregorio, & Lee, 1998) argue that FDI has a positive growth effect when the country has a highly educated workforce that allows it to exploit FDI spillovers believe that it is a scientifically widespread belief that foreign direct investments contribute to growth. However, through research, they came to the conclusion that their effects are positive but not guaranteed. Also, others believe that it makes no sense to attract too much attention to the inflows of foreign direct investments for countries with unfavorable locational characteristics, and that excessive subsidies and fiscal incentives can be redirected to more productive purposes (Nunnenkamp & Spatz, 2003). Countries that have greater market efficiency and that have a larger market will have a better impact of FDI on economic growth.

(Baiashvili T. & Gattini, 2019) they believe that the benefits of foreign direct investments are not automatic and that they are unevenly distributed among countries. They find that there is an inverse U-shaped relationship between countries' income levels and the size of the impact of FDI on growth. Therefore, according to them, a

country that moves from a low-income stage to a middle one has a greater effect of FDI on growth, but it decreases again as the country moves to higher stages of development. They further believe that institutional factors have a decisive effect on FDI within income groups of countries, with countries with better developed institutions showing a positive impact on growth. (Li & Liu, 2005) investigated whether foreign direct investments have an impact on economic growth for 84 countries in the period 1970-1999. They found a significant endogenous relationship between FDI and economic growth is identified from the mid-1980s onwards. FDI not only directly promotes economic growth by itself but also indirectly does so via its interaction terms. The interaction of FDI with human capital exerts a strong positive effect on economic growth in developing countries, while that of FDI with the technology gap has a significant negative impact.

(Hayat, 2016) investigates the influence of the quality of the institutions themselves on economic growth through the channel of foreign direct investment. It concludes that the higher the quality and efficiency of the institutions, the greater the impact they will have on the attraction of FDI and, therefore, on economic growth. He finds in particular that the rule of law, control of corruption and the regulatory framework are significant as variables of the institutional framework on which the attraction of FDI and therefore the economy depends. (Meyer & Sinani, 2009) over meta analysis demonstrates that FDI does generate positive spillovers under certain circumstances. These circumstances vary with the context of the FDI. They have argued that the prime driving forces of such contextual variation are local firms' motivation and capability to react to foreign entry, which are grounded in their human capital and the institutional framework. (Odhiambo, 2022) examine the relationship between foreign direct investment and economic growth in 27 sub-Saharan African countries during the period 1990–2019. His results show that while the positive impact of FDI on economic growth in low-income countries, in middle-income countries only the DOLS technique supports this finding. (Pradhan, Arvin, Hall, & M, 2017), concluded that increasing inflows of foreign direct investment in the short run have propelled economic growth, which in return has strengthened the role of financial development and international trade to sustain economic growth in the region through feedback effects. They researched the causal relationship between trade openness, foreign direct investment, financial development, and economic growth in 19 Eurozone countries during the period 1988–2013. Also in his paper shows that a combination of opening the Eurozone countries for trade and fostering their financial and economic development have elevated inflows of foreign direct investment into the region in the long run. (Pradhan R. , Arvin, Bahmani, & Hal, 2019) examining the relationship between financial development, foreign direct investment, and economic growth using a sample of G-20 countries over the period 1970–2016, find that both FDI and financial development matter in the determination of long-run economic growth in the studied countries. Information and communication technology (ICT), international trade, and foreign direct investment appear to have become drivers of economic growth. Because that (Arvin, Pradhan, & Nair, 2021) examining the links between ICT connectivity, trade openness, foreign direct investment, and economic growth using data from the G-20 countries during the period 1961–2019. They find that economic growth is dependent on FDI in the long run in the studied countries.

Firm-level studies of particular countries often find that FDI does not boost economic growth and these studies frequently do not find positive spillovers running from foreign-owned to domestic-owned firms. (Aitken & Harrison, 1999) using panel data on Venezuelan plants, the authors find that foreign equity participation is positively correlated with plant productivity for small enterprises but negatively affects the productivity of domestically owned plants. (Carkovic & Levine, 2005) examine the effects of an important technology diffusion channel foreign direct investment on the growth of total factor productivity and the role played by natural resources in this relationship. Based on cross-sectional data from 71 developing countries, they found that the net effect of FDI on TFP growth decreases with rents provided by natural resources. This result highlights the phenomenon of the natural resource curse applied to foreign direct investment and the non-linearity of the effect of FDI on the TFP growth. (Johnston & Ramirez, 2015) investigates the impact of foreign direct investment FDI inflows on economic growth in Cote D'Ivoire during the 1975-2011 period. They researched this nation is motivated by the rapid inflows it has experienced over the past decade. Using unit root and cointegration analysis, the resulting error correction model suggests that gross fixed capital formation has a short-run positive impact on economic growth, while FDI, the repatriation of net income abroad, and periods involving structural breaks, have a negative effect on economic growth in Cote D'Ivoire.

(McCloud & Kumbhakar, 2011) investigate empirically the existence of a heterogeneous relationship between foreign direct investment and economic growth across developing countries. They argue that, across countries, differences in institutional quality are correlated with heterogeneous absorptive capacities and hence a heterogeneous FDI–growth relationship. There empirical results show substantial heterogeneity in the FDI–growth relationship. They find that controlling for certain measures of institutional quality reduces the degree of heterogeneity. These findings question the orthodox assumption of a homogeneous return to FDI in the existing empirical literature and highlight the importance of specific aspects of institutional quality in the FDI–growth relationship. (Farole & Winkler, 2012) used a cross-section of more than 25,000 domestic manufacturing firms in 78 low and middle-income countries from the World Bank's Enterprise Surveys. This paper assesses how mediating factors influence intra industry productivity spillovers to domestic firms from foreign direct investment. They identifies three types of mediating factors: (i) foreign direct investment spillover potential, (ii) domestic firm absorptive capacity, and (iii) the host country's institutional framework. They find that Government spending on education, openness in trade, investment, and financial markets, trade integration, and income level interact positively with FDI from partially-owned firms. In contrast, national and institutional characteristics exert no or even a negative effect on spillovers from fully-owned FDI, suggesting that fully foreign-owned firms may operate largely as enclaves in their host countries.

METHODOLOGY

Our empirical research is aimed at obtaining results that will provide a picture of the impact of the participation of foreign direct investment inflows in GDP (FDI) and openness to foreign trade, viewed through the participation of the sum of exports and imports in GDP (OPEN) as explanatory variables on the independent variable

GDP per capita in 2015 prices (GDP) in 86 developing countries from 1980 to 2020. The list of countries for which the research was conducted is given in the attachment, and the data used in the research were taken from the UNCTAD database. In addition to the observed variables in the empirical model, we also observe inflation through the consumer price index from 2010 (CPI) and gross capital investment (GFCF), as control variables. Therefore, the research panel model we use in the paper is given by the following equation:

Equation 1.

$$GDP_{it} = \beta_0 + \beta_1 FDI_{it} + \beta_2 OPEN_{it} + \beta_3 CPI_{it} + \beta_4 GFCF_{it} + \varepsilon_{it} \quad (1)$$

Source: Author`s view

This research is aimed at obtaining results that will observe the long-term relationship between explanatory and dependent variables. We will examine the long-term relationship between the observed variables using FMOLS and DOLS approaches. The strong evidence of cointegration allows us to apply FMOLS to confirm the long-run relationship among proposed variables. (Pedroni P., 2000) proposed a fully modified ordinary least square (FMOLS) estimation to estimate the long-run relationship. The panel FMOLS has numerous advantages. It allows serial correlation (SE), existence of endogenity (EE), and cross-sectional heterogeneity. Moreover, it will propose both within dimension and between dimensions. Equation (1) we can show in general form:

Equation 2.

$$Y_{it} = \beta_i + \beta_2 X_{it} + \varepsilon_{it} \quad (2)$$

Source: (Pedroni P., 1999b)

where:

Equation 3.

$$X_{it} = X_{it-1} + \varepsilon_{it} \quad (2)$$

Source: (Pedroni P., 1999b)

Let us use Equation (2) to obtain the between-dimension to estimate parameter β:

Equation 4.

$$\beta_{NT}^{*} = N^{-1} \sum_{i=1}^{N} \left[\sum_{t=1}^{T} \left(X_{it} - X_i^{`} \right)^2 \right]^{-1} \left[ \sum_{t=1}^{T} \left( X_{it} - X_i^{`} \right) Y_{it}^{`} - Tr_i^{`} \right] \quad (4)$$

Source: (Pedroni P., 1999b)

where β_{NT}^{*} is FMOLS estimator for individual independent variable. FMOLS is a non-parametric approach that accounts problem of endogeneity and serial correlation in the OLS estimator and it imposes additional restrictions on variables to have the same level of stationarity. The estimation of the long-run estimates in a co-integrated panel with

the OLS will yield inconsistent and inefficient parameters therefore (Kao & Chiang, 1999) and (Phillips & Moon, 1999) recommended a panel dynamic OLS estimator (DOLS). DOLS is a panel analog of individual time series regressions developed by (Saikkonen, 1991) & (Stock & Watson, 1993). The DOLS regression model is:

Equation 5.

$$Y_{it} = \alpha_i + \beta_i X_{it} + \sum_{k=-p_i}^{p_i} \gamma_{it} \Delta X_{it-k}\, \varepsilon_{it} \tag{5}$$

Source: (Maeso-Fernandez, Osbat, & Schnatz, 2004)

Here, pi and $-pi$ are lagged and lead values. It is assumed that there is no dependence relationship between cross-sections according to this model. β_i is DOLS parametar for *i*th country in panel and its long-run impact of independent variables on dependent variable and its expressed as:

Equation 6.

$$\beta_i^* = N^{-1} \sum_{i=1}^{N} \left(\sum_{t=1}^{T} Z_{it} Z_{it}^{`} \right)^{-1} \left(\sum_{t=1}^{T} Z_{it} Y_{it}^* \right) \tag{6}$$

Source: (Nelson & Donggyu, 2003)

where $Z_{it} = (X_{it}\text{-}X_i, \Delta X_{it\text{-}p}, \ldots, \Delta X_{it+p})$ and can be obtained through $2(K + 1)x1$. DOLS is a parametric approach and uses leads and lags of differenced regressors to eliminate the issue of serial correlation and endogeneity. It also deals with small sample biases.

Examining the long-term relationship between variables in empirical models requires the existence of cointegration between the variables that are the subject of research. Cointegration is a connection that during the process of econometric modeling connects non-stationary or integrated processes with the concept of long-term equilibrium of the model (Kovačić, 1995). The condition that is set when examining the cointegration relationship between variables is the stationarity of the data, in this case it is the stationarity of the panel data. Using panel tests of unit roots of the first generation, we will examine the existence of stationarity of the variables that we observe in the research. In the paper, we will apply the Levin, Lin and Chu test, which is structured on the basis of the Dickey-Fuller extended stationarity test (Levin, Lin, & Chu, 2002), as well as the Im, Pesaran & Shin W-stat test (Im & Pesaran, 2003). After determining the stationarity in the work, we test the existence of a long-term cointegration relationship. Various tests have been developed for the existence of a cointegrating relationship. In order to test the existence of a relationship with long-term characteristics between the variables we observe in the paper, we will apply the Pedroni (Engle-based) cointegration tests (Pedroni P. , 2004) as well as the Kao cointegration test (Kao & Chiang, 1999).

In the paper, we also observe the existence of a causal relationship between the research variables. We investigate causality based on the test proposed by (Granger,

1969). Causality testing will be carried out on the basis of the VAR model by determining the optimal number of previous values based on the Akaike information criterion (AIC), the Hannan-Quin criterion (HQ), the final error prediction criterion (Final prediction error - FPE), likelihood ratio (LR) and Schwartz criterion (Schwartz criterion - SC). As we will not test cointegration in the VAR model, and according to Granger, the condition for testing causality is the existence of cointegration in the VAR model, (Toda & Yamamoto, 1995) and (Dolado & Lütkepohl, 1996) showed that testing causality based on the Granger methodology does not require prior testing of the cointegration relationship between the observed variables, so we observe the variables only on the basis of the model that we will estimate through VAR.

RESULTS AND DISCUSSION

Before assessing the long-term relationship between research variables, it is necessary to determine the existence of stationarity and cointegration of variables. For this purpose, we will apply tests to determine the stationarity of the first generation panel data, as well as cointegration tests developed to test the cointegration relationship in panel data. The results of the applied Levin, Lin and Chu stationarity test as well as the Im, Pesaran & Shin W-stat test are given in the following table:

Table 1. Panel unit root tests results

Variable	Levin, Lin & Chu		Im, Pesaran & Shin W-stat	
	Level	First difference	Level	First difference
logGDP	-0.472	-22.704	4.343	-29.047
	0.319	0.000	1.000	0.000
logFDI	-.046	-65.657	-.556	-66.156
	0.457	0.000	0.245	0.000
logOPEN	0.475	-50.373	3.808	-48.038
	0.683	0.000	1.000	0.000
logCPI	-.858	-21.731	-.820	-22.453
	0.324	0.000	0.143	0.000
logGFCF	-.419	-45.387	-.724	-48.302
	0.262	0.000	0.274	0.000

Source: Author's calculations

The null hypothesis when testing unit roots assumes the existence of a unit root of the time series, which implies the non-stationarity of the series. Opposite to the null hypothesis is an alternative hypothesis that assumes the absence of a unit root and the stationarity of the time series. When testing the stationarity of the variables that we observe in the research, we tested the stationarity in the levels of the series, as well as the stationarity after differentiating the series. From the previous table, we see that all variables are stationary after the first derivative, which means that they are integrated of the first order.

We performed cointegration testing among the observed variables based on the Pedroni (Engle-Granger based) cointegration test, as well as based on the Kao cointegration test. The results of the Pedroni cointegration test defined for panel data are given in the following table:

Table 2. Pedroni (Engle-Granger based) panel cointegration test results

Statistics	Value	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	1.374	0.085	-4.364	1.000
Panel rho-Statistic	-13.331	0.000	-12.551	0.000
Panel PP-Statistic	-20.182	0.000	-21.217	0.000
Panel ADF-Statistic	-9.305	0.000	-10.684	0.000
between-dimension				
Statistics	**Value**	**Prob.**		
Group rho-Statistic	-11.293	0.000		
Group PP-Statistic	-20.878	0.000		
Group ADF-Statistic	-6.893	0.000		

Source: Author's calculations

Pedroni has proposed seven different co-integration statistics to obtain thebetween and within dimension effects in the panel. The first category includes four tests named; panel v-statistic, panel ρ-statistic, panel PP -statistic, and panel ADF statistic which are based on pooling within the dimension. The second category

includes three tests; group ρ-statistic, group PP-statistic, and group ADF-statistic which are based on pooling between the dimensions and are known as between dimension tests. After the evidence of the cointegration relationship, the subsequent procedure involves the estimation of long-run parameters by applying a suitable econometric technique. Because OLS yields inconsistent results in the presence of cointegration relationship therefore the study adopts FMOLS and DOLS to obtain long-run estimates. Based on the results from the previous table, we see that there is cointegration between the observed variables. The previous test did not use the individual intercept and trend, however the results of the test with echo and trend are consistent with the previous ones (results are available for inspection). On the basis of rho-Statistic, PP-Statistic and ADF-Statistic, we can conclude at the level of 1% certainty that there is a relationship between the observed variables that can be treated as a long-term, i.e. co-integrating relationship. The following table shows us the results of the Cointegration test:

Table 3. Results Kao cointegration test

	t-Statistic	Prob.
ADF	-4.245	0.000
Residual variance	0.001	
HAC variance	0.000	

Source: Author's calculations

Based on the results Kao cointegration test, we can conclude, as well as on the basis of the previous test, that there is a cointegration relationship between the participation of foreign direct investment inflows in GDP, openness to foreign trade viewed through the participation of the sum of exports and imports in GDP, inflation based on the CPI from 2010 and gross capital investments. Based on the results of the cointegration test, we can create a FMOLS and DOLS model with the observed variables to examine the long-term relationship between the variables. The results of the FMOLS model are given in the following table:

Table 4. FMOLS i DOLS panel result

Variable	FMOLS			DOLS		
	Pooled	Pooled (weighted)	Grouped	Pooled	Pooled (weighted)	Grouped
logFDI	0.005***	0.100***	0.009***	0.010***	0.010***	0.009*
logOPEN	0.022***	0.122***	0.0162***	0.042***	0.038***	0.022***
logCPI	-0.01***	0.159***	0.196***	-0.008**	-0.0077***	0.214***
logGFCF	0.039***	0.152***	0.076***	0.067***	0.064***	0.102***
R-squared	0.033	0.884	0.887	0.314	0.313	0.410
Adjusted R-squared	0.034	0.890	0.892	0.146	0.146	0.218
S.E. of regression	0.024	0.062	0.058	0.021	0.021	0.070
Long-run variance	0.001	0.000	0.001	0.001	0.001	0.001
Mean dependent var	0.006	0.006	0.006	0.006	0.006	0.006
S.D. dependent var	0.024	0.024	0.024	0.023	0.023	0.023
Sum squared resid	1.960	13.065	11.173	1.211	1.212	13.074
*Significance at level of $\alpha = 0.10$						
**Significance at level of $\alpha = 0.05$						
***Significance at level of $\alpha = 0.01$						

Source: Author's calculations

The results of the FMOLS and DOLS panel models show us the long-term influence of the independent variables on the dependent variable. Using different methods for evaluating the model (Pooled, Pooled (weighted), Grouped) we obtained results

that tell us in which direction the long-term influence of the independent variables on the dependent one goes. From the previous table, we can see that there is a positive sign in front of the FDI, OPEN and GFCF variables, which indicates the positive impact of these variables on GDP per capita. The relationship between these three variables and GDP per capita is statistically significant at the 1% significance level in almost all model estimation methods. The CPI variable in the models has both a positive and a negative sign, so it cannot be concluded with a high level of certainty what is the direction of the influence of this variable on GDP per capita. In the following part, we will test the causal relationship between the observed variables based on the VAR model and the causality test defined for panel data. First, we determine the optimal number of shifts based on the VAR model:

Table 5. Results of the source of the optimal number of shifts

Lag	LogL	LR	FPE	AIC	SC	HQ
0	11623.87	NA	1.48E-10	-8.44394	-8.43319	-8.44006
1	13269.49	3284.072	4.56E-11	-9.62172	-9.55719	-9.59841
2	13386.54	233.1749	4.26E-11	-9.68862	-9.57031	-9.64588
3	13505.14	235.802	3.98E-11	-9.75664	-9.584544*	-9.69446
4	13592.56	173.5113	3.81E-11	-9.802	-9.57613	-9.7204
5	13649.19	112.1938	3.72E-11	-9.82499	-9.54534	-9.723959*
6	13673.16	47.40092	3.72E-11	-9.82424	-9.49081	-9.70378
7	13704.38	61.619*	3.7e-11*	-9.828763*	-9.44155	-9.68887
8	13722.01	34.74418	3.73E-11	-9.82341	-9.38242	-9.66409

Source: Author's calculations

The previous table shows the results of the information criteria for choosing the optimal number of past values that we will take into account when testing a causal relationship. As the maximum number of shifts we tested, we took that number to be eight shifts. We see that the three information criteria LR, FPE, and AIC suggest that the optimal number of shifts for causality analysis is seven, HQ suggests that the optimal number of shifts is five, and SC suggests that the number of shifts is three. Based on this, we will use seven shifts in causality testing. The results of the causality test defined for panel data are given in the following table:

Table 6. Causality test results

Null Hypothesis:	Obs	F-Statistic	Prob.
FDI does not Granger Cause GDP	2838	1.74265	0.095
GDP does not Granger Cause FDI		2.68431	0.009
OPEN does not Granger Cause GDP	2838	4.59054	0.001
GDP does not Granger Cause OPEN		1.60854	0.128
CPI does not Granger Cause GDP	2838	3.85258	0.002
GDP does not Granger Cause CPI		15.9017	0.002
GFCF does not Granger Cause GDP	2838	5.59651	0.001
GDP does not Granger Cause GDP		3.7009	0.001

Source: Author's calculations

The results of the causality test tell us that there is a unilateral relationship between GDP per capita and the participation of FDI in GDP, which means that GDP per capita causes the movement of FDI. A one-way causal relationship was confirmed in the causal impact of openness on GDP per capita. While the bilateral relationship was confirmed with the CPI and GDP variables. Also, the bilateral causal relationship was confirmed with the variables GFCF and GDP.

CONCLUSION

As we stated at the beginning of this paper, there is a large number of papers that talk about the positive or insignificant impact of foreign direct investments and the openness of the economy on economic growth. Looking at different methodological approaches, we wanted to reach scientific knowledge using the FMOLS and DOLS methods, whether the inflow of foreign direct investments and the openness of the economy affects economic growth in developing countries. Our research covered 82 developing countries in the period from 1980 to 2020. Results of the FMOLS and DOLS panel models show that there is a positive sign in front of the FDI, OPEN and GFCF variables, which indicates the positive impact of these variables on GDP per capita. The relationship between these three variables and GDP per capita is statistically significant at the 1% significance level in almost all model estimation methods. This shows that small and open economies should work on increasing the inflow of foreign direct investments, especially those that bring with them the latest technological achievements. It is clear that technological achievements come to those developing countries that have a significant participation of the highly educated in the total labor force. For these reasons, small economies should primarily invest in human capital, and then foreign direct investments will come indirectly. The latest events on the world market (conflict in Ukraine) significantly disrupted global FDI movements in 2022. New project activity is already showing signs of increased risk aversion among investors, so preliminary data for Q1 2022 show greenfield project numbers down 21 per cent and international project finance deals down 4 per cent (WIR, 2022). Probably, foreign companies will be more careful in choosing the location for investment and will also take into account the political aspect when making investment decisions.

LITERATURE

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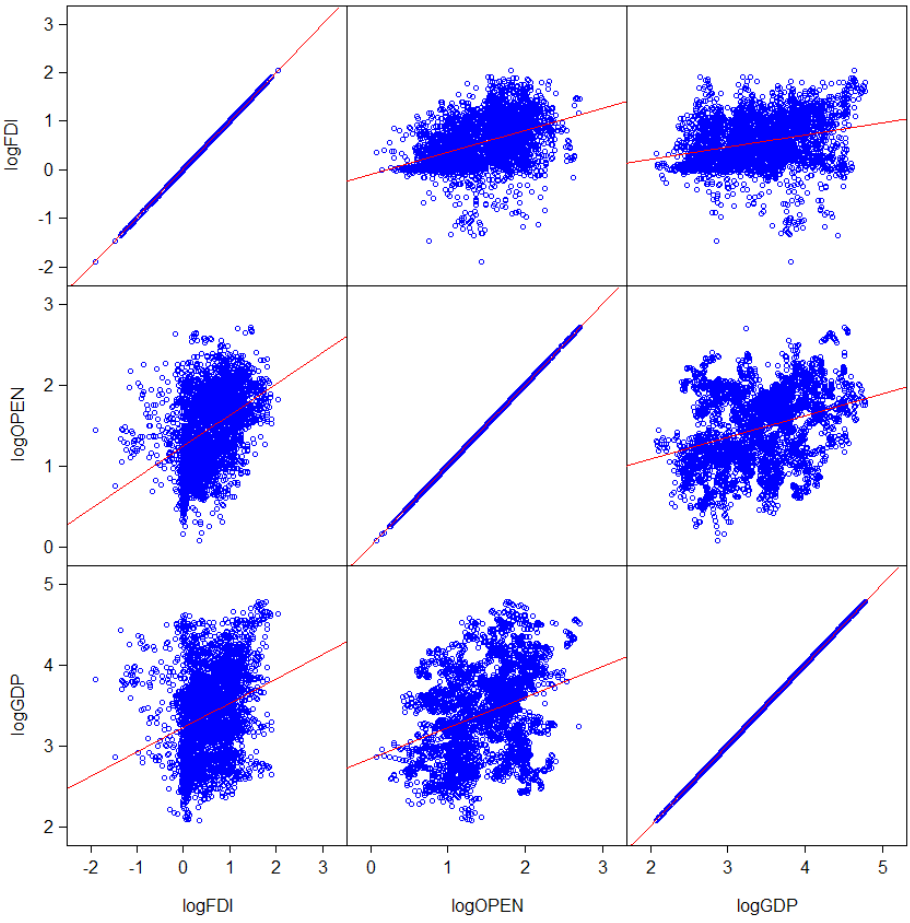
ATTACHMENTS 1

Annex 1. List of Countries for Which Research Has Been Carried Out

Country	Country	Country	Country
Algeria	Democratic Republic of Congo	Uruguay	Oman
Burundi	Costa Rica	Jamaica	Thailand
Antigua and Barbuda	Côte d'Ivoire	Jordan	Panama
India	Venezuela	Kenya	Papua New Guinea
Bahamas	Dominica	Kuwait	Paraguay
Bahrain	Dominican Republic	Trinidad and Tobago	Peru
Bangladesh	Ecuador	Lesotho	Philippines
Barbados	Egypt	Zambia	Rwanda
Benin	El Salvador	Madagascar	Suriname
Bolivia	Vanuatu	Malawi	Saint Lucia
Botswana	Ethiopia	Malaysia	Saint Vincent and the Grenadines
Zimbabwe	Fiji	Maldives	Samoa
Vietnam	Gabon	Mali	Senegal
Burkina Faso	Gambia	Mauritania	Seychelles
Cameroon	Ghana	Maurutius	Sierra Leone
Central African Republic	Guatemala	Mexico	Singapore
Chad	Guinea	Morocco	Solomon Islands
Chile	Guayana	Mozambique	South Africa
Hong Kong SAR	Haiti	Nepal	Sri Lanka
Taiwan, Province of China	Honduras	Nicaragua	Sudan
Colombia	Indonesia	Niger	

Source: Author`s view

Annex 2. Diagram Of Dissipation



Source: Author`s calculations using E-Views10