FDI DETERMINANTS IN BRICS

Sebastian-Andrei LABES[*]

Abstract: *In the past two decades the volume of Foreign Direct Investments increased substantially becoming a phenomenon that characterizes the economic environment in the emerging markets. The aim of this working paper is to investigate the Foreign Direct Investments Inflows in the BRICS economies. The research study employs a Panel Data analysis on a sample of 5 countries, the BRICS economies Brazil, Russia, India, China and South Africa and a time series from 1992-2012. The variables taken in consideration are Trade Openness, GDP per capita, Population, Exchange Rate and Human Capital. Our results indicate that the most significant determinants of FDI Inflows are Trade Openness, GDP per capita and Exchange Rate. The value of this work is that it investigates the factors that contribute to the increase of FDI inflows towards the most important emerging economies in the world.*

Introduction

In 2001 Jim O'Neill, Goldman Sachs economist coined the term BRIC in a paper titled 'Building Better Global Economic BRICs', in order to define the flagship nations of the emerging economies – Brazil, Russia, India and China. With its first Summit held in June 2009 in Yekaterinburg, BRICS is the first coalition that prefigured „in the mind of the economists", and only subsequently turned into „reality" (Oehler-Sincai, 2011). Although the same research institute warned in another paper 4 years later 'How solid are the BRIC's' about the major distinction that has to be made between potential and reality the BRIC's fired economists imagination. In December 2010 South Africa was invited to join the club in order to confer it a worldwide perspective and legitimacy. The term BRICS is no longer just a catchphrase coined around trade and international relations, it is a reality and it exists as a transcontinental foreign-policy actor.

Taken as a trans-continental group the BRICS nations do matter in terms of population, land surface, and economies their sizes are impressive. Together the BRICS represent 40% of world's population, 25% of land surface and approximately 25% of world's GDP (van Agtamael, 2012). The BRICS turned out to be an important aspect of the modern globalized era and what distinguishes them from any other story of Emerging Markets (EM) growth is their ability to influence and to be influenced by the global economy and the global markets. (O'Neill, Wilson, Purushothaman, Stupnytska, 2005). Between 2000 and 2005 the 4 large BRIC's contributed to 28% of global growth in US dollars and 55% in PPP (Purchasing Power Parity) and their share in global trade rose to 15%

---

[*] PhD Fellow SOP HRD/159/1.5/133675 Romanian Academy, Iasi Branch, PhD candidate Doctoral School of Economics and Business Administration Iasi, e-mail: labes_sebastian@yahoo.com

in 2010 from 3.6% two decades ago. (see in annexes Figure 1 Trend in BRICS share in global trade (%), 1990–2010)

The BRICS growing importance for the world economy is reflected by various economic and demographic indicators. These include, but are not limited to, their increasing share in world GDP; GDP per capita; total investment as percentage of GDP; share in world trade; trade openness and their foreign direct investment (FDI) inflows and outflows. (see in annexes Table 1 Overview of BRICS, 1992 vs. 2012) The BRICS countries have been the predominant recipients of FDI during the last decades. However, the evolution of FDI inflows and outflows shows very distinct trajectories for the five countries (see in annexes Figure 2. FDI Inflows BRICS, 1992 – 2012 and Figure 3. FDI Outflows BRICS vs. Selected Economies, 1992 - 2012).

"Until 1984, Brazil was the major FDI recipient country among the BRICSs, overtaken by China in 1985 and since then China continues to be a major destiny of FDI, especially in the automotive and consumer durables sectors. China became the world major recipient of FDI in the 1990s, matching with country's efforts to integrate with the world economy. South Africa and India received an almost constant and small part of the world total FDI flows during last two decades. India has many restrictions to FDI inflows, where, public enterprises dominate in many key sectors. Equally, the low and constant inflow applies to the Russian Federation since 1990". (Vijayakumar, Sridharan, Rao, 2010, p. 3)

In Figure 4 - FDI inflows and their share in global FDI inflows, 1998-2012 we can clearly see that FDI inflows towards the BRICS economies tripled over the past decade (see annexes). Between 2003 and 2008 the nominal growth was from 77 billion US dollars to 281billion US dollars. Not even during the crisis the FDI flows did not decreased too much – only 30% compared with 40% for developed countries. Almost half of the total FDI inflows go to China and a quarter to Brazil.

Figure 5 - FDI outflows and their share in global FDI outflows, 1998-2012 show that the role of BRICS as investors in the world's economy increased significantly (see annexes). In 2012 BRICS accounted for 9% of world outflows but ten years before that share was only 1%. "BRICS investors also remained resilient to the crisis, with outflows dropping by only 26% in 2009, compared to 41% for the world as a whole." (UNCTAD, 2014)

The following paper is divided into 4 sections: Literature review, Data & methodology, Results, Summary and concluding remarks.

1. Literature review

Foreign direct Investment (FDI) is an increasing phenomenon. During the 1980's and 1990's it has grown significantly faster than trade flows, and the estimation is that over 30% of world trade is due to multinational firms that transfer goods between them, which is all part of FDI. Main causes for this trend were on the one hand the reaction of multinational corporations to regulations and trade barriers and on the other hand the preservation of intellectual property that makes self-production more profitable than licensing agreements.

As shown in the introduction the volume of FDIs in the past decade has increased substantially and as any other type of capital flows (portfolio investments, international loans) can be measured by flows at a given point in time or by stocks accumulated over time. Capital inflows are net purchases of domestic assets by foreign residents, whereas capital outflows are net purchases of foreign assets by domestic residents. A country's exposure to international capital flows can be measured either by its government's policies (restrictions or incentives vis-à-vis capital flows) or by the actual amount of capital movement (scaled by the size of the recipient economy).

International capital flows have the potential to bring a variety of benefits to recipient countries. In theory, financial globalization could raise a country's economic growth rate through a number of direct and indirect channels. The direct channels include (a) augmenting domestic savings, (b) reducing the cost of capital through better allocation of risks (Henry, 2000; and Stulz, 1999), (c) transferring technology and managerial know-how (Grossman and Helpman, 1991), and (d) stimulating development of the domestic financial sector (Levine, 1996 and 2005). The indirect channels include (a) promoting specialization (Brainard and Cooper, 1968; and Imbs and Wacziang, 2003), and (b) committing to better economic policies (Gourinchas and Jeanne, 2004; Tytell and Wei, 2004).

The theoretical literature on FDI focuses on two broad categories: the factors that determine the patterns of worldwide FDI and the impact that FDI and MNEs have on the parent and host countries, including economic growth, returns to factors of production, and externalities for innovative activity. (Bloningen, 2008) The most common methods of FDI are through acquisition of a firm, construction of a plant (Greenfield FDI), partnership in joint-venture or earnings reinvested in an existing foreign affiliate. Firms with affiliates in more than one country are termed 'multinational enterprises' (MNEs).

The empirical literature can also be divided into two types: country level analyses, where the sample contains macro level data by country; and firm level analyses, in which the sample contains

micro level data from firms in a single country. In general country level estimations of FDI effects on growth are positive while most of the firm level gets to controversial results.

The role of FDI seems to be country-based and can be positive/negative/insignificant depending on the economic, institutional and technological conditions in the recipient economy. In Xu (2000) developed countries are expected to have a higher level of human capital and hence to benefit more from FDI than developing countries.

Durham (1994) finds that the effects of FDI are contingent on the absorptive capability of host countries. Related to the absorptive ability Borensztein (1998) conclude that differences in the technological absorptive ability may explain the variation in growth effects of FDI across countries. The level of human capital determines the ability to adopt foreign technology. Larger endowments of human capital are assumed to induce higher growth rates given the amount of FDI therefore a minimum threshold sock of human capital is required for stronger effects.

GDP and GDP per capita are most commonly used as major determinant for FDI flows between two countries. This is due to the fact that FDI is strongly influenced by the size of the markets of the partner countries because FDI flows tend to gravitate towards larger economies. Kinoshita and Campos (2003)

Moreover Olofsdotter (1998) concludes that beneficiary effects of FDI are stronger in those with a higher level of institutional capability stressing the importance of bureaucratic efficiency. However Bende-Nabende (2003) in a comparative study on East Asian countries concludes that the direct long-termed impact of FDI on output is significant and positive for comparative economically less advanced Philippines and Thailand, but negative in the more economically advanced Japan and Taiwan even though the absorptive abilities of Philippines and Thailand are lower than those of Japan or Taiwan. Zhang (1995) investigates the causation in 10 East Asian economies and finds that FDI appears to enhance Economic Growth in the long run for mainland China, Hong-Kong, Indonesia, Japan, Taiwan and on the short run for Singapore. Sjoholm (1999) stresses the importance of the technology gap between domestic and foreign establishments in which the larger the technology gap the greater the productivity spillovers. In Balasubramanyam *et al.* (1996) FDI is seen as a composite bundle of capital stock, know-how and technology that augment labor training, skill acquisition, alternative management and organizational arrangements. Blonstrom (1996) finds positive growth effects of FDI using FDI inflows in a developing country as a measure of its interchange with other countries. According to Balasubramanyam *et al.* (1996) FDI is more important for economic growth in export-promoting than in import-substituting countries in a matter that that the impact of FDI varies across countries and that trade policy can affect the role played by FDI in economic growth. In an

UNCTAD report (1999) FDI's impact on economic growth can be perceived both negative and positive depending on the variables used in the proposed equation of the model (GDP per capita, education attainment, domestic investment ratio, political instability, terms of trade, block market premium, state of financial development, etc.). Bengoa and Sanchez–Robles (2003) find a positive correlation between FDI and economic growth but host countries require Human capital, Economic Stability and liberalized markets in order to have a long-term benefit from the FDI inflows.

2. Data & methodology

For our analysis we are taking into consideration FDI inflows for the 5 BRICS economies − Brazil, Russian Federation, China, India and South Africa from 1992 – 2012. The dependent variable in our study is the FDI inflows in current US dollars (FDI inflows i,t) and the independent variables that are expected to determine FDI flows are carefully chosen, based on previous literature and availability of dataset for the selected period. All data is compiled from the World Bank database and UNCTADstat database in current US dollars. The set of independent variables are expected to capture the main economic characteristics of the target country.

The econometric specification is written as the following presented in Equation 1:

$$\text{FDI inflows}_{i,t} = \alpha_0 + \alpha_1 (\text{GDPpercapita}_{i,t}) + \alpha2 (\text{HK}_{i,t}) + \alpha_3 (\text{PoP}_{i,t}) + \alpha_4 (\text{TO}_{i,t}) + \alpha_5 (\text{X}_{i,t}) + \mu_{i,t} + \varepsilon_{i,t}$$

$$(1)$$

Where: we analyze the influence of the parameters that we find in the literature as determinants of FDI. *GDPpercapita* consists of data take from World Bank and is in current millions of US dollars. *HK* is the variable expressing the Human Capital as education attainment taken from Barro-Lee dataset for total population aged 25 expressed as percentage of total population aged 25 and over that have completed secondary level of education. *PoP* is an indicator that refers to total population expressed in millions data taken from World Development Indicators, World Bank. *TO* is an indicator of trade openness expressed as a sum of exports and imports calculated for trade in goods, trade in services and total trade in goods and services, data is in millions of US dollars taken from *UNCTADstat*. For Russian Federation data is available only for period from 1994-2012. Finally, *X* is an indicator to grasp country's international competitiveness in terms of its foreign exchange rates that cannot be understood by examining only individual exchange rates between the country's currency and other currencies. It is expressed as Real Effective Exchange Rate. The term 'effective' means that exchange rate changes are not measured against one particular currency, but instead use

an average index (Consumer Price Index) of a whole basket of currencies, each weighted according to the issuing countries' respective importance as a trade partner. $\mu_{i,t}$ represents the between-entity error and $\varepsilon_{i,t}$ within-entity error. Random effects assume that the entity's error term is not correlated with the predictors which allows for time-invariant variables to play a role as explanatory variables. Data is taken from *UNCTADstat* available for all the countries in the study except Russian Federation. Data is processed using Stata11 software package.

3. Results

The descriptive statistics and correlation results for the selected variables for BRICS countries are given in Table 2 and Table 3 respectively (see annexes). All the variables in the estimation are having 105 observations. The trade openness has highest mean and standard deviation of 488023.5 and 766319.8 respectively in the data distribution. The independent variable *FDI inflows* is highly correlated with GDP per capita, Population, and trade openness. The variable Population is highly correlated with GDP per capita, Exchange Rate and trade openness. The existence of high correlation among the independent variables will lead to the problem of multicollinearity in the estimation. Still we consider these variables because of advantageousness of the panel data estimation which takes care of the collinearity problems.

Regarding stationarity we check for each variable whether we have a stationary/unstationary series using the ADF test. The results for each variable are presented in Table 4 (see annexes). In order to work with stationary series we estimate equation (1) using the log function into equation (2):

$$\text{dl\_FDI inflows}_{i,t} = \alpha_0 + \alpha_1 \, d(\text{GDPpercapita}_{i,t}) + \alpha2 \, d(\text{HK}_{i,t}) + \alpha_3 \, d(\text{PoP}_{i,t}) + \alpha_4 \, d(\text{TO}_{i,t}) + \alpha_5 \, _d(\text{X}_{i,t}) + \mu_{i,t} + \varepsilon_{i,t}$$

$$(2)$$

We estimate Panel data analysis including OLS pooled regression (Common constant method), testing fixed effects method and random effects method for the selected study period. The robustness of parameter coefficients are used to explain the relationship between FDI inflows and the selected independent variables. Since, the results of OLS pooled regression, the Random effects parameter coefficients sign and their significance levels are almost similar, we choose to check the robustness with the Hausman Test (see annexes). To decide between fixed or random effects we ran a Hausman test where the null hypothesis is that the preferred model is random effects vs. the alternative the fixed

effects (Green, 2008). The chi2 probability is higher than the expected 0.05 value so we decide to use the random effects method.

The R square coefficient is 0.9333 meaning that 93% of the variation in the dependent variable it is explained by the independent variables of the model. Table 5 in annexes is showing the results of Random effects model and confirms the significance of GDP per capita, trade openness and Exchange rate. The co-efficient signs for each of these variables are as expected, positive for GDP per capita, trade openness and Exchange rate.

4. Summary and concluding remarks

In recent days, BRICS − the fast developing economies of the world having larger market potentials are expected to attract larger inflow of FDI. However, the factors attracting the FDI inflows towards these countries are relatively less researched. This study made an attempt to identify the factors determining the FDI inflows of BRICS countries from the period 1992 to 2012. The determinant factors include: GDP per capita, Population, Human Capita, Exchange Rate and Trade Openness. The study finds that Trade openness (measured by the ratio of total trade to GDP), GDP per capita (often considered an indicator of a country's standard of living) and Exchange Rate (a measure of country's international competitiveness in terms of its foreign exchange rates) seem to be the potential determinants of FDI inflows in BRICS countries. The empirical results are robust in general for alternative variables determining FDI flows.

The empirical analysis has some policy implications towards the improvement of investment climate to attract higher FDI inflows into BRICS countries. Therefore, it is an important object to maintain the stability of the currency of the host country to attract increased FDI. The benefit of trade openness in terms of their impact on FDI is validated in this study. Thus, BRICS countries as developing nations have to involve themselves in the path of economic reform and liberalization activities. As expected, the significance of exchange rate seems to validate the study as the determinant of FDI.

The overall significance of the model specified in this study would contribute to a greater understanding of the FDI determinants in the emerging markets, as well as, the findings of this study would also lay emphasis on the importance of liberalization and economic policy reforms.
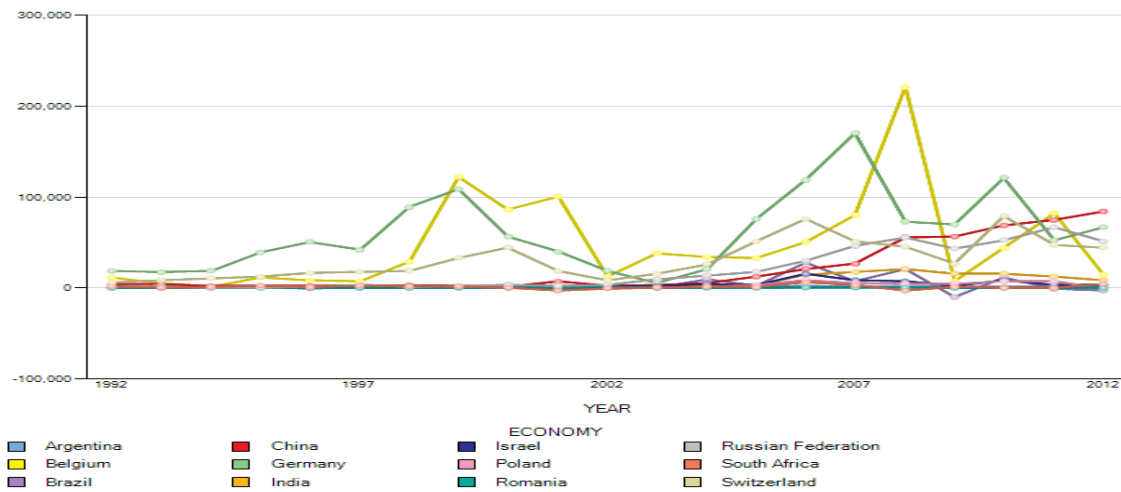
Annexes

Figure 1 - Trend in BRICS share in global trade (%), 1990–2010
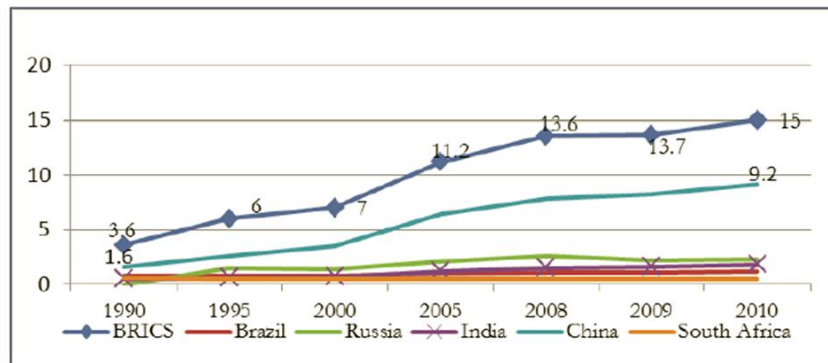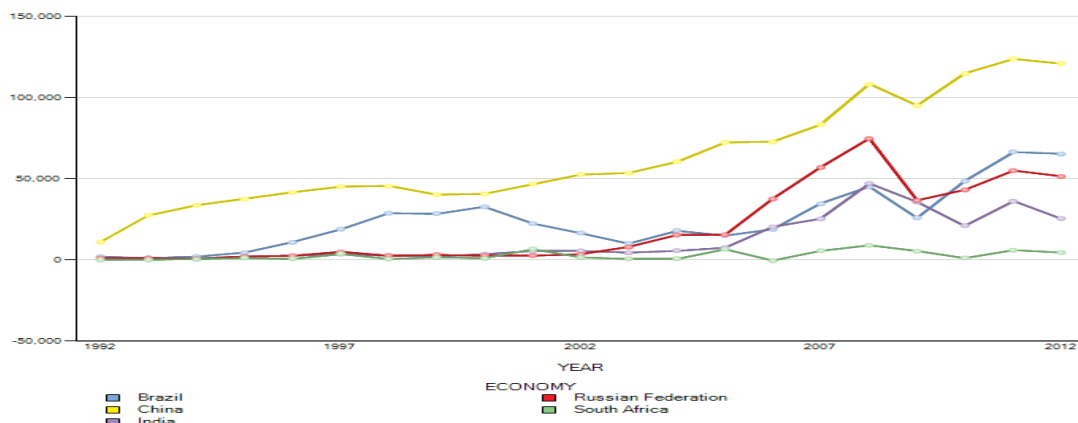

Source: UNCTAD, UNCTADstat data processed by author in Microsoft Excel 2010

Figure 2 - FDI Inflows BRICS, 1992 – 2012

Source: UNCTAD, UNCTADstat data processed by author in Microsoft Excel 2010

## Figure 3 - FDI Outflows BRICS vs. selected economies, 1992 – 2012

Source: UNCTAD, UNCTADstat data processed by author in Microsoft Excel 2010

Table 1 - Overview of BRICS, 1992 vs. 2012

| Overview of BRICS, 1992 vs. 2012									
Country	GDP, Current prices ($ bn)		GDP Per capita ($)		GDP (ppp bn)		Share in world GDP (%)		Total investment (% of GDP)	
	1992	2012	1992	2012	1992	2012	1992	2012	1992	2012
BRAZIL	390	2,253	2,529	11,358	838	2,330	2.9	2.8	17.2	17.6
RUSSIA	85	2,029	575	14,302	1,170	2,486	4.1	2.9	37.6	24.9
INDIA	293	1,841	333	1,500	861	4,715	3	5.6	23.7	35.6
CHINA	488	8,221	416	6,071	1,204	12,261	4.2	14.7	37.4	48.8
SOUTH AFRICA	130	384	3,389	7,525	206	576	0.7	0.6	12.2	19.4

Source: IMF, World Economic Outlook Database, October 2013

Figure 4 - FDI inflows and their share in global FDI inflows, 1998-2012
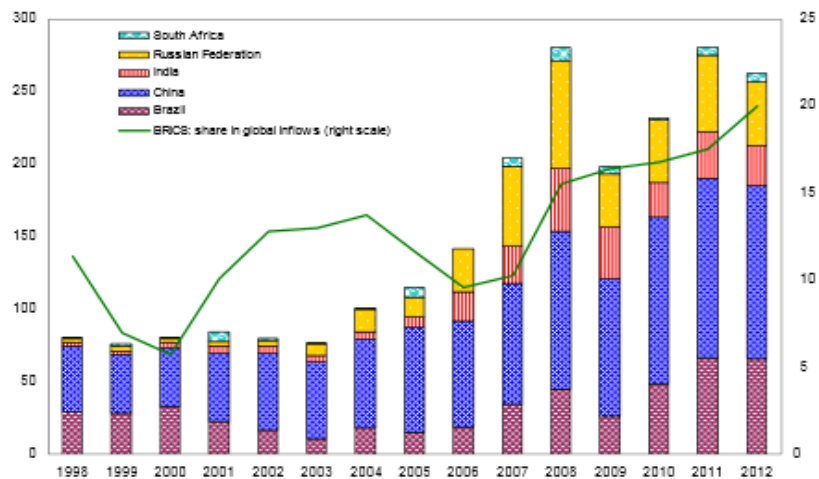
Source: UNCTAD, FDI/TNC database

Figure 5 - FDI outflows and their share in global FDI outflows, 1998-2012
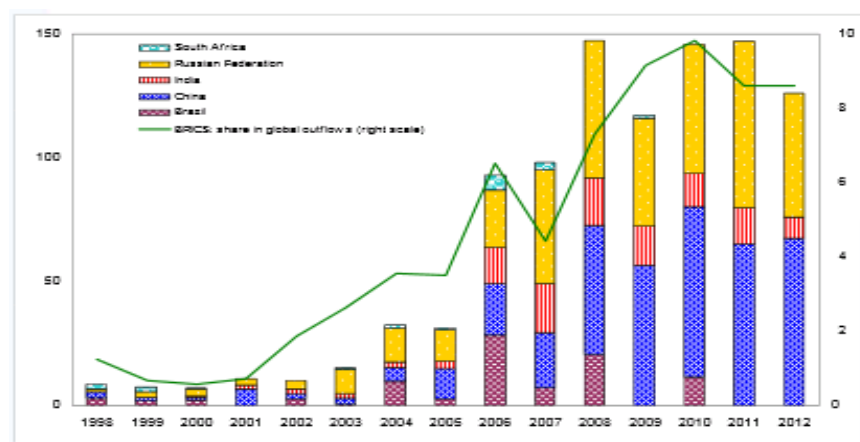
Source: UNCTAD, FDI/TNC database

Table 2 - Summarize

Variable	Obs	Mean	Std. dev.	Min	Max
fdi_inflows	105	30974.5	51110.6	-183	280072
humankapital	105	3.764952	9.309777	0	40.32
gdppercapita	105	3609.856	3155.633	305.94	13860.91
population	105	5.43e+08	5.25e+08	3.67e+07	1.35e+09
tradeopenness	105	488023.5	766319.8	0	4272634
exchangerate	105	84.51429	45.00195	0	158

Source: data processed by author in STATA 11

Table 3 - Pearson Correlation

	fdi_inflows	*humankapital*	*gdppercapita*	*population*	*tradeopenness*	*exchangerate*
fdi_inflows	*1.0000*					
humankapital	0.1477 0.1327	*1.0000*				
gdppercapita	0.2238* 0.0218	0.1085 0.2705	*1.0000*			
population	0.4539* 0.0000	-0.0363 0.7132	-0.5406* 0.0000	*1.0000*		
tradeopenness	0.9609* 0.0000	0.1212 0.2180	0.1679 0.0869	0.4873* 0.0000	*1.0000*	
exchangerate	0.1619 0.0988	-0.0648 0.5111	-0.1062 0.2811	0.2888* 0.0028	0.1110 0.2594	*1.0000*

Source: data processed by author in STATA 11

Table 4 - ADF test

Variable	Level		1st difference	
	t- statistic	Prob.	t- statistic	Prob.
FDI inflows	19.3530	0.0360	26.9369	0.0027
Exchange Rate	5.14316	0.7422	40.6548	0.0000
GDP per capita	0.20028	1.0000	23.8743	0.0079
Human Capital	3.65254	0.9617	1316.95	0.0000
Population	11.5055	0.1747	19.1972	0.0378 *(2nd difference)*
Trade Openness	0.14278	1.0000	40.0143	0000

Source: data processed by author in STATA 11

Table 5 - Panel Data Regression, Random Effects

R-sq: within = **0.9205**	between = **0.9723**		overall = **0.9333**	Obs per group: min = **21** avg = **21.0** max = **21**	
Random effects u_i ~ Gaussian Corr(u_i, x) = 0 (assumed)				Wald chi2(5) = 1384.33 Prob > chi2 = 0.0000	
fdi_inflows	Coef.	Std. err.	Z	p>|z|	[95% Conf. interval]
humankapital	176.5394	144.7072	1.22	0.222	-107.0814	460.1603
gdppercapita	1.618406	.6209188	2.61	0.009	.4014276	2.835384
population	4.70e-06	4.34e-06	1.08	0.279	-3.81e-06	.0000132
tradeopenness	.0606997	.0024763	24.51	0.000	.0558463	.0655531
exchangerate	67.70383	31.02893	2.18	0.029	6.888249	128.5194
_cons	-13430.74	4200.511	-3.20	0.001	-21663.58	-5197.886
Sigma_u	0					
Sigma_e	10871.278					
rho	0 (fraction of variance due to u_i)					

Source: data processed by author in STATA 11

Table 6 - Hausman Test

Coefficients			
	(b) Fixed	(B) Random	(b-B) Difference	Sqrt(diag(V_b-V_B)) S.E.
Human capital	.0193653	.0321566	-.0127913	.0042975
GDP per capita	.0739573	.0999224	-.0259651	.0148767
Population	-.8316785	.0483474	-.880026	.3246855
Trade openess	.9211341	.9100932	.0110408	.0262347
Exchange Rate	.0633331	.059612	.0037211	.0913538
b = consistent under Ho and Ha; obtained from xtreg			
B = inconsistent under Ha, efficient under Ho; obtained from xtreg			
Test: Ho: difference in coefficients not systematic			
chi2(**4**) = (b-B) ' [(V_b-V_B)^(-1)](b-B)			
= **37.70**			
prob>chi2 = **0.157**			

Source: data processed by author in STATA 11

Aknowledgement

References

Balasubramanyam, V. N., Salisu, M. and Sapsford, D. (1996), "Foreign direct investment and growth in EP and IS countries", *Economic Journal*, Vol. 106, Issue 1, pp. 92-105.

Bende-Nabende, A., Ford, J., Santoso, B. and Sen, S. (2003), "The interaction between FDI, output and the spillover variables: Co-integration and VAR analyses for APEC, 1965-99", *Applied Economics Letters*, Vol. 10, Issue 3, pp. 165-172.

Bengoa, M., and Sanchez-Robles, B. (2003), "Foreign direct investment, economic freedom and growth: New evidence from Latin America", *European Journal of Political Economy*, Vol. 19, Issue 3, pp. 529-545.

Bloningen, B. (2008), New Evidence on the Formation of Trade Policy Preferences, *NBER Working Papers* No. 14627.

Blomstrom, M. and Kokko, A. (1996), How Foreign Investment Affects Host Countries, *World Bank Policy Research* Working Paper No. 1745.

Borensztein, E., De Gregorio, J. and Lee, J-W. (1998), "How does foreign direct investment affect economic growth?", *Journal of International Economics*, Vol. 45, pp. 115–135.

Brainard, W. C. and Cooper, R. N. (1968), "Uncertainty and Diversification of International Trade", Food Research Institute Studies in Agricultural Economics, *Trade and Development*, Vol. 8, pp. 257–285.

Durham, J. B. (2004), "Absorptive capacity and the effects of foreign direct investment and equity foreign portfolio investment on economic growth", *European Economic Review*, Vol. 48. Issue 2, pp. 285-306.

Greene, H. W. (2008), Econometric analysis, 6th ed., Upper Saddle River, N.J.: Prentice Hall.

Grossman G. M. and Helpman, E. (1991), "Quality Ladders in the Theory of Growth", *The Review of Economic Studies*, Vol. 58, No. 1, pp. 43-61.

Gourinchas, P.-O. and Jeanne, O. (2005), Capital Mobility and Reform, Paper presented at the Sixth Jacques Polak Annual Research Conference Hosted by the International Monetary Fund Washington, DC ─ November 3-4, 2005.

Henry, P. (2000), "Stock Market Liberalization, Economic Reform, and Emerging Market Equity Prices", *Journal of Finance*, Vol. 55, pp. 529-564.

Imbs, J. and Wacziarg, R. (2003), "Stages of Diversification", The American Economic Review, Vol. 93 No. 1, pp. 63-86.

Kinoshita, Y. and Campos, N. F. (2003), "Why Does FDI Go Where it Goes? New Evidence from the Transition Economies", *IMF Working Paper*, WP/03/228.

Levine, R. and Renelt, D. (1992), "A sensitivity analysis of cross-country growth regressions", *American Economic Review*, Vol. 82, Issue 4, pp. 942-963.

O'Neill, J.and Wilson A., Purushothaman V., Stupnytska N. (2005), "How Solid are the BRICs?", *Goldman Sachs Economic Research*, Issue No. 134.

Oehler-Sincai, I. M. (2011), "Trends in Trade and Investment Flows between the EU and the BRIC Countries", *Theoretical and Applied Economics*, Vol. 18, No. 6, Issue 559, pp. 73-112.

Olofsdotter, K. (1998), "Foreign direct investment, country capabilities and economic growth", *WeltwitschaftHches Archive*, Vol. 134, Issue 3, pp. 534-547.

Sjoholm, F. (1999), "Technology gap, competition and spillovers from direct investment: Evidence from establishment Data", *Journal of Development Studies*, Vol. 36, Issue 1, 53-73.

Stulz, R. M. (1999), "Globalization, Corporate Finance and the Cost of Capital", *Journal of Applied Corporate Finance*, Vol. 12, Issue 3, pp. 8-25.

Tytell, I. and Wei, S.-J. (2004), Does Financial Globalization Induce Better Macroeconomic Policies?, *IMF Working Paper* WP/04/84.

UNCTAD (1999), "World investment report: Foreign direct investment and the challenge of development", New York and Geneva: United Nations.

UNCTAD (2014), "World Investment Report 2014", New York and Geneva: United Nations.

van Agtamael, A. (2012), "Statele BRICS", *Foreign Policy*, No. November/December, pp. 62-65.

Vijayakumar, N., Sridharan P., Rao K. (2010), "Determinants of FDI in BRICS Countries: A panel analysis", *International Journal of Business Science and Applied Management*, Vol. 5, Issue 3.

Xu, B. (2000), "Multinational enterprises, technology diffusion, and host country productivity growth", *Journal of Development Economics*, Vol. 62, Issue 2, pp. 477- 493.

Zhang, Z. (2001), "Trade Liberalization, Economic Growth and Convergence: Evidence From East Asian Economies", *Journal of Economic Integration*, Vol. 16, Issue 2, pp. 147-164.