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The effect of FDI on economic growth and the importance of host country characteristics

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In spite of a large increase in FDI inflows to developing countries, the effect of FDI flows on economic growth remains confusing. The recent contribution of modern economic growth theories in general predicts that FDI can be the main catalyst of economic growth in the receiving countries. Empirical studies, however, produce ambiguous results, and suggest that the growth effects of FDI are conditional on the host country characteristics. The main purpose of this paper is to examine the growth-effect of FDI in a selected sample from developing countries from 1970 to 2005. Particularly, the paper examines the following specific research question: Does FDI contribute to economic growth in developing countries alone or does it depend on its initial conditions? By applying GMM panel data technique, the paper finds that that FDI has in general a positive impact on economic growth, but its magnitude depends on the host country conditions to achieve a economic growth and sustainable development. The results of this paper clearly show that domestic investment, human capital, infrastructure development, financial market development, trade openness and institution quality positively related to economic growth. The results also show that the technology gap is negatively related to economic growth

Key words: Foreign direct investment, absorptive capacity, economic growth, GMM panel data framework, developing countries.

INTRODUCTION

In spite of a large increase in FDI inflows to developing countries as reported by UNCTAD (UNCTAD, 2009), the effect of FDI flows on economic growth remains ambiguous. However, whether foreign direct investment (FDI) helps to improve economic growth has been one of the fundamental debates in development and international economics. Recently, this question has received a lot of consideration in the economic literature. So far, it seems that this debate has not been conclusive. The recent contribution of modern economic growth

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theories in general predicts that FDI can have a positive impact on economic growth and sustainable economy in the receiving countries (Barro and Sala-I-Martin, 1995; De Jager, 2004; Romer, 1990). Empirical studies, however, produce ambiguous results, and suggest that the growth effects of FDI are conditional on the host country characteristics (Alfaro et al., 2004; Balasubramanyam et al., 1996; Bernstein, 2000; Blomstrom et al., 1992; Borensztein et al., 1998; Kinishita and Lu, 2006; Kokko, 1994; Li and Liu, 2005; Sadik and Bolbol, 2001). Besides, De Mello (1999) finds that the growth effects of FDI depend on the degree of complementary with DI in the receiving countries. In contrast, Carkovic and Levine (2002) investigate whether the growth effect of FDI depends on the host country's absorptive capacity for a panel of 72 developed and developing countries from 1960 to 1995. They find that FDI does not exert a positive impact on economic growth in the host country and that it is not conditional on its absorptive capacity.

Considering these matters, it is natural to find such interest in investigating the growth effects of FDI in developing countries. The main purpose of this paper is to examine the growth effect of FDI in a selected sample from Asian, African and Latin American countries. The sample is selected form the top ten recipients of FDI inflows in each region from 1970 to 2005. This paper focuses mainly on the role played by the host country's absorptive capacity in the growth effect of FDI. The paper examines the following specific research question: Does FDI contribute to economic growth in developing countries alone or does it depend on its initial conditions?

Recent empirical studies suggest that the ability of host countries to exploit FDI efficiently depends on a set of absorptive capacities within these countries, which may help in explaining the ambiguity in the previous empirical studies. This paper contributes to this debate by presenting a deeper insight into the host country conditions that might affect the FDI-growth nexus. This deeper insight is needed, because the majority of previous empirical studies focus on the interaction between FDI and one of the host country characters (e.g. human capital development, financial market development, technology gap, infrastructure development, trade openness, etc). This paper investigates the impact of a set of these factors simultaneously on the FDI-growth relationship. This paper also contributes to the existing literature by determining the threshold value of absorptive capacity in the host country that positively correlates FDI with growth.

The rest of the paper is structured as follows: Section two presents an overview of existing empirical studies. Section three is the empirical specification. Section four describes the data, variables set, and estimation method used for empirical tests. Section five is the empirical results. Section six is the sensitivity analysis and section seven is the summary of this paper.

An overview of existing empirical studies

The majority of empirical studies on the impact of FDI on economic growth present controversial evidence. The impact of FDI on host country economic growth comes from the fact that FDI inflow is the most important channel for technology diffusion. The diffusion of technology considered as the main source of conditional convergence between countries and achieving sustainable development (Elmawazini et al., 2008). The literature appears to offer a thoughtful assessment of the impact of the host country's absorptive capacity on the dynamic relationship between FDI inflows and economic growth. Many of these studies argue that the degree of technology transfer or externality generating from FDI inflows to the host economy depends on the host country's absorptive capacity. The term "absorptive capacity" takes account of factors such as the level of human capital development, the level of technology gap, the level of financial development, the degree of trade openness, the level of institution quality, etc. The majority of empirical studies show that host countries do indeed need to pass a certain level of absorptive capacity, known as a development threshold, to be able efficiently exploit FDI.

Recent growth theories argue that the availability of human capital quality plays an essential role in economic growth. The quality of human capital is also crucial for a host country in absorbing the FDI externalities. These externalities are the transfer of skills from MNCs to domestic firms through labour mobility or learning-by-doing. Borensztein et al. (1998) investigate the effect of FDI inflows on economic growth in 69 developing countries using cross-country and cross-section regressions. They apply panel data for two decades (1970-79 and 1980-89). Both regressions show that host countries must pass a threshold value of human capital development to benefit from FDI inflows. Xu (2000) also obtains similar results for 40 countries (20 DCs and 20 LDCs) from 1966 to 1994. By applying the panel data, two stages least square (2SLS) method, he finds that developing countries (DCs) benefit positively from technology transfer provided by US MNCs but not in less developing countries (LDCs). He concludes that LDCs do not reach the minimum human capital threshold required. In contrast, Blomstrom et al. (1992) investigate the impact of FDI on economic growth for 101 countries over the period from 1960 to 1985. They find that education level is not essential to achieve an FDI growth effect (Carkovic and Levine, 2002). In addition, Blomstrom et al. (1992) find that the host country must pass a certain

threshold of economic development to benefit from FDI.

In turn, Colen et al. (2008) argue that the impact of FDI on economic growth expected to depend on the technology gap between the home and host countries. A large technology gap might slow down the knowledge and technological spillovers. If the technology gap is too wide to bridge, the spillovers may not easily spread to the domestic economy. Castellani and Zanfei (2005) also argue that a higher technology gap may in principle increase the possibility that MNCs tend to crowd out domestic suppliers and competitors.

Absorptive capacity of the recipient economy measured by the technology gap used in many empirical studies. Kokko (1994) uses the technology gap between foreign and domestic firms, as a proxy for absorptive capacity in 216 Mexican manufacturing industries. He finds that domestic firms can benefit from the technology diffusion from foreign firms if the technology gap between them is small. Li and Liu (2005) reach a more specific conclusion on the role played by the technology gap in the host economy to obtain the FDI growth effect. They find that for the host country to benefit from attracting FDI, it must have a certain level of technological development. They argue that for a country above a certain level of technology gap, FDI inflows will no longer benefit the host economy.

Despite the numerous empirical studies on the growth effect of FDI, the literature on the FDI-growth nexus seems to have ignored the importance of the role not only of the financial development but also of other factors, such as infrastructure development, trade openness and institutional development. The level of financial development is crucial because a lack of financial market development might be preventing the foreign and domestic investors from accessing the financial resources required (Massoud, 2008). Alfaro et al. (2004) and Hermes and Lensink (2003) argue that countries with a better financial system can exploit FDI more efficiently. Hermes and Lensink (2003) provide some explanations on the role of financial system development in exploiting FDI inflows efficiently to promote economic growth in the host country. They argue that financial institutions can help to reduce the risks of investment related to upgrading or adopting new technologies, which affect the speed of technological innovation. Financial systems also determine partly the ability of domestic firms to finance their investment plans in the case of external finance needed. Therefore, the quality of financial system may influence the impact of FDI on the diffusion of technology in the host country. Using cross-country data for two samples (49 and 71 countries) from 1975 to 1995, Alfaro et al. (2004) find that FDI played an important part in contributing to economic growth, and those countries with well-developed financial markets gained significantly from FDI. Using panel data for Arab countries from 1975-2000, Sadik and Bolbol (2003) also find that a certain threshold of financial market development must be reached to benefit from FDI inflows.

Many studies of economic growth define infrastructure as an essential factor behind economic growth (Barro and Sala-I-Martin, 1995; Munnell, 1992; Sanchez-Robles, 1998). Munnell (1992) points out that good infrastructure can increase the productive capacity of the economy, by increasing resources and encouraging the productivity of existing resources. Therefore, the idea is that host economy may benefit from FDI only if it has appropriate infrastructure development. Kinishita and Lu (2006) and Yamin and Sinkovics (2009) argue that a good infrastructure is not the only FDI inflows driver but also a pre-requisite for positive spillovers from FDI to the host economy. Kinishita and Lu (2006) investigate the effects of FDI on economic growth when a host country has a sufficient level of infrastructure development for 42 non-OECD countries. They find that technology spillovers via FDI take place only when the host country has a certain level of infrastructure development.

Economic literature also recognises the importance of trade openness as one factor in host country's absorptive capacity. Frankel and Romer (1999) argue that trade openness can help to facilitate more efficient production of goods and services through shifting production to economies that have comparative advantages. Grossman and Helpman (1990) also argue that an open trade regime significantly related with good investment climates, technology externalities and learning effects. Therefore, FDI and trade motivate advancing economies to be more innovative and allow developing ones to draw upon the stock of knowledge of more advanced countries. Adhikary (2011) also cites that FDI can increase the technological spillover benefits to the host country through widening the scope of international competition and strengthening the supply side capabilities for producing and selling goods and services. These effects lead to a fostering of economic growth as pointed out by Pugel (2007). Edwards (1998) also argues that a country with a greater degree of openness can absorb the new technology brought by FDI at a faster rate than a country with a lower degree of openness. Empirically, Balasubramanyam et al. (1996) and Makki and Somwaru (2004) find that the effect of FDI inflows on economic growth is dependent on the degree of openness.

Although a number of studies investigate the impact of FDI on economic growth, they do not consider the role played by institution quality in determining investment efficiency and economic growth, including, for example, that of Alfaro et al. (2004), Balasubramanyam et al.

(1996), Borensztein et al. (1998), Carkovic and Levine (2002) and Li and Liu (2005).

Olofsdotter (1998) argues that the ability to absorb the new technology provided by FDI inflows can be emphasised in countries with better institution quality. Empirically, Olofsdotter (1998) finds that the strong positive impact of FDI on economic growth reached in countries that have high institution quality. Similarly, Edwards (1998) examines the role played by institution quality in determining the effects of FDI on economic growth for 80 countries from 1979 to 1998. He finds that FDI inflows are more beneficial in countries with higher levels of institutional (as measured by business regulation index and property rights index). Edwards (1998) also finds that the host country that passes a minimum threshold of institution quality enjoys a positive impact of FDI on economic growth. In line with the same argument, the authors in (5) examine the effect of institution quality measured by economic freedom index components, on economic growth in 58 countries from 1975 to 1990. Their findings indicate that economic freedom index has a positive impact on economic growth. They point out that reports on economic freedom suggest that economic growth increased with reduced direct involvement of government in economic activities.

The above review suggests that the growth effect of FDI remains extremely controversial. This may be due to the use of different samples and data by different authors, and partly because of various methodological problems. Moreover, a number of studies do not take into account the role of different factors of host country absorptive capacity on the growth effect of FDI, and the certain level of absorptive capacity required to benefit from FDI. Overall, the above discussion shows that previous empirical studies are sensitive to the measure of absorptive capacity used. To overcome these limitations, this paper investigates a set of factors, as measures of host country absorptive capacity in selected sample from developing countries. This may help to explain the ambiguities in the literature of the contribution of FDI or in exploiting FDI more efficiently to promote economic growth.

Empirical specification

To investigate the hypothesis of this paper empirically, the growth rate of real GDP per capita of the host economy will be used as a dependent variable. Furthermore, since the data available in DI already included the flows of FDI, so DI will not be controlled in the growth equation (Bengoa and Sanchez-Robles, 2003; Carkovic and Levine, 2002; Kinishita and Lu, 2006; Li and Liu, 2005 Li and Liu, 2005). Alfaro et al. (2004) and Bengoa and Sanchez-Robles (2003) do not control DI in their growth equation to avoid the collinearity of DI with FDI. Conversely, one could argue that FDI can have a positive impact on growth, because DI is not controlled in the growth equation. Therefore, for further robustness, DI will be added to the list of independent variables in the growth equation in the sensitivity analysis section.

For enlarging the sample size, the choice of countries and the time-period determined by the availability of the data on the top ten recipients of FDI inflows in Asian, African and Latin American countries. All data were sampled at five-year intervals for 36 years from 1971 to 2005, that is, 1971-1975, 1976-1980, 1981-1985, 1986-1990, 1991-1995, 1996-2000, and 2001-2005. Thus, data permitting, there are seven observations per country. Transforming data from annual observations to five-year averages has several advantages. For example, it may assist in limiting the influence of business cycles on the estimated coefficient such as FDI. Net FDI inflows vary widely from year to year, resulting in large fluctuations that may make the effect of persistent factors ambiguous (Bengoa and Sanchez-Robles, 2003).

This paper follows the contributions of Romer (1990), and extends the hypothesis of Borensztein et al. (1998) who are the first authors to examine the absorptive capacity of the host country. The paper includes in the Growth equation not only human capital as a proxy of host country's absorptive capacity but also the technology gap, financial market development, infrastructure development, institution quality and trade openness. This paper also considers most of the explanatory variables in the Growth equation that have been used in previous studies, such as FDI inflows, human capital development (HC), the technology gap between host and home country (TG), the financial market development (MS), infrastructure development (IFR), institution quality (EFW) and trade openness (DOP). The theory predicts that these variables positively related to Growth, except TG that is negative. In addition to these explanatory variables, the empirical model includes a set of control variables that are likely to affect economic growth in developing countries. These variables are also included for testing the hypothesis of this paper and for the robustness of the results.

Among this set of variables, the empirical model includes macroeconomic stability (IFL), government size (GS), black market premium (BMP) and two dummy variables, one for African countries (Africa) and another one for Latin American countries (Latin). These variables also include the interaction term of FDI inflows with both of these variables, the human capital, the technology gap, the financial market development, infrastructure

development, and trade openness and institution quality. The theory predicts that inflation rate, government size,black market premium variables negatively related to economic growth.

By considering all of these explanatory variables in the Growth equation, the model used in this paper has the following formula:

$$LGrowth_{i,t} = \alpha 0 + \alpha 1\ Lagged\ Growth_{i,t} + \alpha 2\ LFDI_{i,t} + \alpha 3\ LHC_{i,t} + \alpha 4\ LTG_{i,t} + \alpha 5\ LIFR_{i,t} + \alpha 6\ LMS_{i,t} + \alpha 7\ LDOP_{i,t} + \alpha 8\ L(1+IFL)_{i,t} + \alpha 9\ LGS_{i,t} + \alpha 10\ L(1+BMP)_{i,t} + \alpha 11\ LEFW_{i,t} + \alpha 12\ Africa_{i,t} + \alpha 13\ Latin_{i,t} + \alpha 14\ (LFDI*ABS)_{i,t} + \eta_i + \varepsilon_{i,t} \quad (1)$$

Since, it is not simple to measure the technology gap between leading country and following one, a measure of the productivity gap can be used, as in (33, 35, 36). The technology gap measured as the ratio of the gap between US GDP per capita as the world's technological leader country and host country GDP per capita, relative to host country GDP per capita at constant US dollars. Therefore,

$$TG_{i,t} = (Ymaxt - Y_{i,t}) / Y_{i,t} \quad (2)$$

Where, Ymaxt is the GDP per capita of United States, and Yi,t is the GDP per capita of the host economy.

Note that all the variables are in the natural logarithm.

η: unobserved country-specific effect; ε: The disturbance term; i and t: Country and time period, respectively.

(LFDI*ABS): The multiplication of FDI by the host country' absorptive capacity variables, which capture the interaction terms of FDI with host country's absorptive capacity factors. This variable allows for testing the hypothesis that the impact of FDI on economic growth determined by the host country's absorptive capacity. The term "ABS" includes LHC, LTG, LIFR, LMS, LDOP and LEFW variables.

From the model specification, three possible results can assess the role played by the host country's absorptive capacity factors in determining the contribution of FDI in economic growth.

1. If α2 and α14 both have a positive (negative) sign in the growth equation, then FDI inflows have an unambiguously positive (negative) effect on economic growth.
2. If α2 is positive, but α14 is negative, then FDI inflows have a positive effect on growth, and this effect diminishes with the improvements in the host country's absorptive factors.
3. If α2 is negative and α14 is positive, then this means that the host country has to achieve a certain threshold level (in terms of absorptive capacity developments) for FDI inflows to have a positive impact on economic growth.

The threshold of the host country's absorptive capacity calculated by finding the partial impact of FDI on Growth as follows:

$(\partial Lgrowth/\partial LFDI) = \alpha 2 + \alpha 14\ ABS = 0$, then the threshold of host country's absorptive capacity (ABS) = $- \alpha 2/ \alpha 14$ (3)

The sensitivity of the growth model specified is tested by controlling for other determinants of economic growth, by including a set of host country' absorptive capacity variables and by applying panel of GMM estimations. To gain some robustness, the list of countries is expanded, changing the time-period and removing the observations outlier also carried out in the next section.

Data, variables and estimation method

The empirical test is based on 24 developing country recipients of FDI inflows selected from three regions; Asia, Africa and Latin America over the period from 1971 to 2005. The choice of countries and the time-period determined by the availability of data. This paper identifies countries with high-FDI flows over the entire thirty-six year sample period. The motivation for employing the size of FDI flows is to examine the hypothesis of this paper within successful developing countries. A list of the economies integrated in the sample, the variables used in the empirical test and the data sources themselves are presented in Appendix.

To gain robustness results, the paper uses the method of GMM-in-System estimator of Blundell and Bond (1998). This technique can help to overcome the endogeneity problem of some regressors, especially FDI, which leads to inconsistent estimations. So far, endogeneity is dealt with by using lagged period of endogenous variables as effective instruments in panel dynamic techniques (Arellano and Bond, 1991). The Hansen and Sargan tests were also used to approve the validity of the overall appropriateness of the instruments used. The Arellano-Bond test also was used for testing second-order serial correlation in residuals[1].

EMPIRICAL RESULTS

Column 1 of Table 1 reports the results of the Growth equation. As expected all the explanatory variables have a right sign and are statistically significant. This column shows that countries with low level of initial GDP per capita grow faster as shown by the negative sign of the lagged GDP per capita growth rate (Lagged Growth)[2].

Column 1 also shows that FDI inflows significantly and positively related to economic growth, which is

Table 1. The effect of FDI on economic growth and the importance of host country characteristics; 1970-2005 (two-step system GMM, Dependent variable: real GDP per capita growth).

	1	2	3	4	5	6	7
Lagged growth	-0.25**	-0.34**	-0.42***	-0.36**	-0.29**	-0.36*	-0.54*
	(0.029)	(0.023)	(0.095)	(0.012)	(0.030)	(0.003)	(0.008)
LFDI	0.01***	-2.38	3.58	-1.26	-2.08	-1.85	-9.21
	(0.059)	(0.501)	(0.940)	(0.741)	(0.233)	(0.868)	(0.860)
LHC	0.57**	0.45**	0.76**	0.14**	0.64**	0.34**	0.08***
	(0.017)	(0.018)	(0.020)	(0.045)	(0.043)	(0.030)	(0.089)
LGS	-0.17**	-0.08**	-0.36***	-0.61***	-0.99***	-0.22***	-0.48**
	(0.040)	(0.049)	(0.057)	(0.075)	(0.055)	(0.056)	(0.036)
L(1+BMP)	-0.03**	-0.16**	-0.12**	-0.05	-0.05**	-0.16**	-0.14
	(0.041)	(0.026)	(0.047)	(0.823)	(0.040)	(0.022)	(0.764)
Africa	-0.04**	-0.41**	-0.21***	-0.47**	-0.31**	-0.21	-0.37**
	(0.048)	(0.043)	(0.052)	(0.040)	(0.021)	(0.706)	(0.048)
Latin	-0.02**	-0.09**	-0.45**	-0.31	-0.15**	-0.22	-0.34**
	(0.012)	(0.040)	(0.031)	(0.516)	(0.018)	(0.711)	(0.019)
LFDI*LHC		0.74**					
		(0.013)					
LTG			-0.99***				
			(0.075)				
LFDI*LTG			-0.42**				
			(0.010)				
LIFR				0.37**			
				(0.026)			
LFDI*LIFR				0.39**			
				(0.026)			
LMS					0.28**		
					(0.039)		
LFDI*LMS					0.67**		
					(0.030)		
LDOP						0.14**	
						(0.031)	
LFDI*LDOP						0.48**	
						(0.040)	
LEFW							0.49**
							(0.014)
LFDI*LEFW							5.53**
							(0.019)
L(1+IFL)	-0.26***						
	(0.071)						
constant	3.52**	4.17*	-1.14**	3.54**	1.59**	2.63**	1.26***
	(0.047)	(0.000)	(0.010)	(0.018)	(0.046)	(0.034)	(0.063)
Threshold Value		3.21	8.52	3.23	3.10	3.85	1.66
No. Observations	126	130	130	130	130	130	124
No. Instrument variables	19	19	19	19	19	19	19
P-Arellano-Bond test for AR(2) in first diff.	0.245	0.462	0.137	0.481	0.304	0.537	0.135
P-Hansen test of over id. restrictions	0.159	0.076	0.187	0.145	0.157	0.101	0.279
P-Sargan test of over id. restrictions	0.193	0.241	0.235	0.173	0.221	0.138	0.363

P-values reported in parentheses. The system includes a time dummy variable for each five-year period to account for period-specific effects. *, **, *** denote significance at 1%, 5%, and 10%, respectively.

consistent with the empirical literature and economic growth theory, stating that FDI inflows in general have a positive impact on economic growth. The coefficient on LHC, the measure of human capital development, also positively and significantly related to growth as reported in column 1. This result highlights the importance of education in the growth process of these economies[3]. The govern-ment size proxy has a negative and significant impact on economic growth, suggesting that a higher government spending to GDP ratio leads to lower economic growth. The black market premium is also negatively and significantly related to economic growth, where higher international price distortions lead to lower economic growth. The two dummy variables also significantly and negatively relate to economic growth. These results suggest that African and Latin American countries tend, ceteris paribus, to grow more slowly than Asian countries. This finding is not surprising given the fact that Africa and Latin America countries suffer the most from slower economic growth, compared to Asia economies. Column 1 also shows that the inflation rate has a right sign, but statistically significant at lower (10%) confidence level, confirming the findings of Borensztein et al. (1998)[4].

Column 2 presents the estimated results for testing the growth effect of FDI through a well-educated workforce by including the interaction term of FDI with the human capital development proxy (LFDI*LHC)[5] in the growth equation. Column 2 shows that FDI has a negative impact on economic growth, while the interaction term of FDI with human capital significantly and positively relate to economic growth[6]. These facts suggest that a minimum level of human capital is required for FDI to contribute positively to growth, confirming the results of Borensztein et al. (1998). This suggests that all econo-mies with gross ratio of secondary school enrolment[7] above 24.77 will benefit positively from FDI inflows. In this case, by taking the average value of gross ratio of secondary school enrolment in each country for the period from 1971 to 2005, 20 out of 24 countries satisfy this threshold. Note that there are four countries below the minimum estimated threshold including Pakistan, Angola, Congo and Madagascar.

Column 3 presents the estimated results for testing the growth effect of FDI through the effect of the techno-logical gap between developing countries and developed ones by including the technology gap variable along with the interaction term of FDI with the technology gap proxy (LFDI*LTG)[8] in the growth equation. This column shows that the technology gap (LTG) variable appears to have a significant negative impact on economic growth. This implies that a wide technology gap between home and host country tends to slow down economic growth of the host country, as suggested by a number of empirical studies, such as those by Krogstrup and Matar (2005), Li and Liu (2005) and Lim and McAleer (2002). Column 3 also shows that the coefficient of FDI is positive and the coefficient of the interaction term of FDI with technology gap is significantly and negatively related to economic growth. This suggests that a certain level of technological development is required for FDI to contribute positively to growth[9], confirming Li and Liu (2005)'s findings. Column 3 shows that not all economies will benefit positively from attracting FDI when the technology gap level is above 5014.05[10]. The sample suggests that 5 out of 24 countries can no longer exploit the positive impact of FDI on growth[11].

Column 4 tests the hypothesis that the contribution of FDI to economic growth is conditional on the levels of infrastructure development. Column 4 confirms the hypothesis that the relation between FDI and growth is contingent on the level of infrastructure development. This suggests that host country must reach a certain level of infrastructure development to benefit positively from FDI. This confirms previous findings of empirical studies, such as that of Kinishita and Lu (2006), Bernstein (2000), Lumbila (2005) and Munnell (1992). From column 4, the certain level of pre-infrastructure required equals 25.27. In this case, 17 out of 24 countries can satisfy a requested pre-telephone network requirement to exploit the positive impact of FDI on growth over the average of the period[12].

Column 5 shows that the financial market development has a significant positive impact on economic growth in line with Alfaro et al. (2004), Barro (1991), King and Levine (1993), Mankiw et al. (1992) and Romer (1993). Column 5 also shows that the certain level of financial development is required to benefit positively from FDI equals 22.19, confirming the findings of Alfaro et al. (2004) and Durham (2004). Generally, 8 out of 24 countries cannot satisfy a requested M2 as a share of GDP requirement to exploit the positive impact of FDI on growth are the average of the period under consideration[13].

Column 6 also shows that trade openness is significantly and positively related to economic growth, confirming empirical studies on the impact of trade openness on economic growth (Balasubramanyam et al., 1996; Makki and Somwaru, 2004; Yanikkaya, 2003). Column 6 also shows that a threshold of degree of openness equals to 46.99. Thus, 12 out of a selected sample that can satisfy a requested degree of trade openness requirement to reap the positive impact of FDI on growth over the average of the period.

Column 7 examines whether economies with better institutional quality can exploit FDI more efficiently. In line with the literature, as can be seen in Column 7, the resultconfirms that a higher quality of institution positively

affects economic growth in these economies. The calculated threshold for the economic freedom index is 5.25, thus practically any improvement in the EFW index above this threshold would yield a positive growth effect of FDI. The estimated threshold shows that 11 out of 23 economies 14 do not pass this threshold.

Sensitivity analysis

The empirical results presented above based on a small sample of 24 top developing countries that are successful in attracting FDI inflows in three regions; Asian, African and Latin American regions. The reason for using that sample is to test the hypothesis of this paper within successful countries. As a result, the findings might be sensitive to the sample choice. Thus, the robustness of the results tested by using a larger country sample. To enlarge the sample size, the choice of countries and the time-period determined by the availability of the data on most developing countries. Since the majority of developing countries have started attracting FDI inflows from the early 1980s, the time-period of this section covers 1981 to 2005. All data were sampled at five-year intervals for 25 years from 1981 to 2005, that is, 1981-1985, 1986-1990, 1991-1995, 1996-2000, and 2001-2005, thus data permitting there are five observations per country. These changes increase the sample size from 24 to 76 countries and the number of observations from 168 to 380. A list of the economies integrated in the sample and used in the empirical investigation presented in Appendix.

Economic growth literature shows that the rate of physical capital formation positively affects economic growth, as concluded, for example, by Barro, (1991), Kormendi and Meguire (1985) and Li and Liu (2005). Thus, the robustness of the results is also tested by including domestic investment (DI)[15] in the growth equation and by reducing omitted variables biases. This section also examines the outliers observed to gain some robustness. A common statistical test is Cook's distance measure, which provides an overall measure of the influence of an observation on the estimated regression coefficient. The higher the value of the Cook's D the more frequent outliers are the observations, and lowest value of the Cook's D, zero or near-to-zero is the assumed. The potential critical value is 4/number of observations. Appendix includes a table that shows the outliers result of Cook's D test, which obtained from regression all explanatory variables in the growth equation by applying OLS estimation. The multicollinearity check among explanatory variables also reported in Appendix. The test shows that the problem of multicollinearity does not exist and estimated coefficients are stable.

Table 2 presents the results of the growth equation obtained by applying the GMM estimator. As can be seen from column 1 of Table 2, FDI still has a positive and significant impact on growth, confirming previous findings of this paper. Column 1 also shows that the impacts of HC, IFL, GS and BMP on economic growth confirmed. Column 1 also shows that two dummy variables have a right sign and are statistically significant. Columns (2, 3, 4, 5, 6 and 7) show that the hypothesis that the relation between FDI inflows and economic growth is contingent on the host country's absorptive capacity confirmed. The results indicate that FDI inflows contribute positively to economic growth, only if the host countries have reached a certain level of human capital development, technological gap, infrastructure development, financial system development, degree of trade openness and institutional development.

These results suggest that changing the sample size and omitted variables do not affect the main findings of this paper. Namely, FDI contributes positively to economic growth of the host countries, but the magnitude of this effect depends on the host country absorptive capacity.

To gain more robustness results, we re-estimated the growth equation after excluding outliers in observations. The results of GMM estimators presented in Appendix. The results indicate that there is a threshold level of host country's absorptive capacity development, and the countries gain the most from FDI spillovers, if they reach this threshold.

Conclusion

A large number of empirical studies examine the growth effects of FDI in developing countries. However, the results of these studies fail to confirm whether FDI helps to improve economic growth in the host countries. Thus, the main purpose of this paper is to examine the growth effect of FDI on the host economies in selected samples, from Asian, African and Latin American countries, for the data from 1971 to 2005. The paper investigates firstly this hypothesis among the most successful countries, and then in most of Asian, African and Latin American countries 1981 to 2005. Particularly, the paper examines the following specific research question: Does FDI contribute to economic growth in developing countries alone or does it depend on its initial conditions?

The results of this paper confirm the numerous empirical studies and economic growth theories studying the growth effect of FDI, stating that FDI has in general a positive impact on economic growth. The results of this

Table 2. The effect of FDI on economic growth and the importance of host country characteristics; 1980-2005 (two-step system GMM, dependent variable: real GDP per capita growth).

	1	2	3	4	5	6	7
Lagged growth	-0.41*	-0.40*	-0.25**	-0.31*	-0.15**	-0.36*	-0.31**
	(0.000)	(0.000)	(0.015)	(0.001)	(0.015)	(0.001)	(0.024)
LDI	0.65**	0.18**	0.55*	0.63**	0.55***	0.49**	0.85**
	(0.024)	(0.017)	(0.009)	(0.032)	(0.065)	(0.048)	(0.028)
LFDI	0.32**	-0.64	2.25	-1.13	-0.73	-0.85	-2.81
	(0.029)	(0.842)	(0.316)	(0.795)	(0.883)	(0.922)	(0.294)
LHC	0.11**	0.91***	0.39**	0.13***	1.08**	0.69**	0.55**
	(0.030)	(0.066)	(0.022)	(0.059)	(0.016)	(0.022)	(0.047)
LGS	-0.37**	-1.33**	-1.53**	-0.62**	-0.58	-1.19**	-0.80**
	(0.036)	(0.022)	(0.013)	(0.017)	(0.592)	(0.028)	(0.032)
L(1+BMP)	-0.53**	-0.55**	-0.47**	-0.82***	-0.79**	-0.76*	-0.15***
	(0.011)	(0.019)	(0.022)	(0.064)	(0.013)	(0.003)	(0.055)
Africa	-0.08***	-0.42**	-0.58**	-0.60***	-0.72***	-0.34	-0.29**
	(0.086)	(0.037)	(0.046)	(0.067)	(0.066)	(0.576)	(0.031)
Latin	-0.04**	-0.04**	-0.45**	-0.53**	-0.29	-0.60	-0.25***
	(0.036)	(0.033)	(0.014)	(0.017)	(0.544)	(0.129)	(0.054)
LFDI*LHC		0.18**					
		(0.022)					
LTG			-0.50**				
			(0.018)				
LFDI*LTG			-0.29**				
			(0.028)				
LIFR				0.18**			
				(0.048)			
LFDI*LIFR				0.23**			
				(0.023)			
LMS					0.91**		
					(0.014)		
LFDI*LMS					0.21**		
					(0.040)		
LDOP						1.36**	
						(0.014)	
LFDI*LDOP						0.23**	
						(0.015)	
LEFW							5.21**
							(0.014)
LFDI*LEFW							1.63**
							(0.032)
L(1+IFL)	-0.12**						
	(0.029)						
constant	4.88**	3.84**	8.00**	0.02***	0.59***	4.96**	-7.06**
	(0.039)	(0.023)	(0.030)	(0.099)	(0.060)	(0.034)	(0.034)
Threshold Value		3.55	7.75	4.91	3.47	3.69	1.72
No. Observations	277	284	284	284	284	284	284
No. Instrument variables	23	23	23	23	23	23	23
P-Arellano-Bond test for AR(2) in first diff.	0.348	0.296	0.265	0.292	0.207	0.274	0.114
P-Hansen test of over id. restrictions	0.378	0.405	0.062	0.265	0.522	0.084	0.069
P-Sargan test of over id. restrictions	0.110	0.660	0.476	0.816	0.893	0.673	0.982

P-values reported in parentheses. The system includes a time dummy variable for each five-year period to account for period-specific effects. *, **, *** denote significance at 1%, 5%, and 10%, respectively.

paper clearly show that domestic investment, human capital, infrastructure development, financial market development, trade openness, and institution quality positively related to economic growth. In contrast, the technology gap, government size, black market premium and the inflation rate negatively related to economic growth. The result of this paper also shows that African and Latin American countries are, assuming other factors remaining fixed, more likely to grow less than Asian countries.

The main finding of this paper is that FDI can have a positive impact on economic growth, but its magnitude depends on the host country conditions, as suggested by the significant impact of the interaction terms of FDI with a set of host county characteristics. These findings suggest that a certain level of absorptive capacity is required for FDI to be beneficial to the host economy. These findings are in line with many empirical studies on this topic, although it is contrary to the findings of Carkovic and Levine (2002) for panel data, Blomstrom et al. (1992) for cross-section data, and Herzer et al. (2008) for time series data. Furthermore, change in applied techniques, omitted variable, sample countries used or observations outlier influences the results of this paper.

Overall, the findings of this paper support the fact that policies considered to attract more FDI are not satisfactory in generating spillovers for economic growth. Improving the investment environment through developing the host country's absorptive capacity factors should be a priority for policymakers in these countries to exploit FDI efficiently.

This investigation suggests that further empirical studies and researches are required to re-examine which type of foreign capital inflows fosters economic growth in the host country. However, this claim requires further analysis to empirically test whether such a specific capital inflow forms exist, and if so, how significant it is.

Conflict of Interests

The author has not declared any conflict of interest.

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Notes:

1. The reported P-value of Arellano-Bond test shows that the second-order serial correlation is not significant. In addition, the reported p-value of Hansen and Sargan tests indicate that the set of moment conditions is not rejected.
2. The idea is that poor economies should grow faster than rich economies (Rork and Elmslie, 2008).
3. 14, De Gregorio, and Lee (1998) obtain the same results for developing countries, 35 (2005) for developed and developing countries, and 23, Rork, and Elmslie (2008) for the US.
4. 14, De Gregorio, and Lee (1998) find that inflation rate is insignificant and negatively related to growth. They argue that the reason for this result is that the sample countries used do not include developed countries.
5. LFDI *LHC is an interaction term meant to capture the effect of a well-educated workforce is likely to have on the absorptive capability of the flow of foreign assets (technology, knowledge, etc.).
6. 14, De Gregorio, and Lee (1998), 23, Rork, and Elmslie (2008) and 50 (2000) argue that FDI will no longer benefit the host countries, if they do not meet the threshold requirement for absorbing technology.
7. By taking the derivative of the growth equation with respect to LFDI, setting them equal to zero. By solving it for the level of human capital (LHC) required, the total effect of FDI on growth is positive. This is yielding the education threshold, equal to 3.41. By taking the exponential of this value, the certain level of education will equal 24.77. This calculation will applied for all threshold levels of other host country absorptive capacity variables.
8. FDI *Technology is an interaction term meant to capture the effect a size of the technology gap is likely to have on the absorptive capability of the FDI inflows.
9. 31 (1994) hypothesizes that spillovers are negatively related to the size of the technology gap between foreign and domestic firms. Therefore, a certain technology gap is necessary for those spillovers that occur as local firms copy MNC technology or benefit from the MNC's training of local employees. 31 (1994) finds that the coefficient of FDI becomes positive and statistically significant when interacting FDI with technology gap variable included in the regression, suggesting that spillovers of FDI are more important where foreign and domestic firms are in direct competition with each other. Thus, the competitive pressure exerted by the foreign firms may force domestic firms to operate more efficiently and introduce new technologies. 31 (1994) also points out that the highly significant of the negative interaction term of foreign investment with the technology gap indicates that a large technology gaps may impede spillovers of FDI inflows into the host economy. 35 (2005) demonstrate that FDI will no longer benefit for the receiving economies above threshold value of technology gap.
10. By taking the exponential of the value (8.52), the certain level of the technology gap equals 5014.05.
11. The five countries above the maximum estimated threshold include Congo, India, Pakistan, China and Madagascar, while 19 additional countries below the estimated threshold, which provided the requirement to absorb the externalities of FDI in the average of the period 1971-2005.
12. The seven countries below the minimum estimated threshold of infrastructure development including Angola, Cameroon, Congo, Ecuador, Pakistan, India and Madagascar, while 17 additional countries passed the estimated threshold over the average of the period 1971-2005.
13. These countries are Angola, Congo, Morocco, Madagascar, Mexico, Ecuador, Peru and Cameroon.
14. These countries are Brazil, Madagascar, Congo, Pakistan, Turkey, Morocco, Colombia, Ecuador, Peru, Argentina and China.
15. Definition of this variable and the source of the data are listed in Appendix

Appendix.

Table 1. Definition of variables, theoretical expected sign and the data sources.

Variables	Proxy	Data sources
Real GDP per capita growth rate	Growth	World Bank, WDI
FDI net inflows as % of GDP	FDI	World Bank, WDI
Gross ratio of secondary school enrolment	HC	World Bank, WDI; UNESCO, statistical year-book, differed issues; ADB 2008
Host country GDP per capita U.S. GDP per capita	TG	World Bank, WDI
M2 as % of GDP	MS	World Bank, WDI
Mobile and fixed-line telephone (per 1000 people)	IFR	World Bank, WDI
Export of goods and services + import of goods and services as % of GDP	DOP	World Bank, WDI
GDP deflator (annual %)	IFL	World Bank, WDI
Interaction terms of FDI with education	FDI*HC	
Interaction terms of FDI with technology	FDI*TG	
Interaction terms of FDI with financial	FDI*MS	
Interaction terms of FDI with infrastructure	FDI*IFR	
Interaction terms of FDI with trade openness	FDI*DOP	
Real GDP per capita at the start of each period	Initial GDP pc	World Bank, WDI
Government consumption as a % of GDP	GS	World Bank, WDI
Index of difference between official exchange rate and black market rate, 0-10 scale	BMP	EFW, 2009 annual report. Fraser Institute, the
Index of economic freedom world	EFW	Fraser Institute, the
Gross of fixed capital formation as % of GDP	DI	World Bank, WDI
Dummy variable takes 1 if the country from African region and 0 otherwise	Africa	
Dummy variable takes 1 if the country from Latin American region and 0 otherwise	Latin	

Table 2. List of countries included in the empirical analysis (the small sample).

Africa	Asia	Latin America
Angola	China	Argentina
Cameroon	India	Bolivia
Congo Dem. Rep	Korea	Brazil
Egypt	Malaysia	Chile
Madagascar	Pakistan	Colombia
Morocco	Thailand	Ecuador
South Africa	Turkey	Mexico
Tunisia		Peru
		Venezuela

Table 3. List of countries included in the empirical analysis (the large sample).

Middle East and North Africa	Latin America and Caribbean		East Asia and Pacific	South Asia	Sub-Saharan Africa	
Algeria	Argentina	Guatemala	China	Bangladesh	Angola	Lesotho
Bahrain	Bahamas	Guyana	Fiji	India	Benin	Malawi
Egypt	Barbados	Honduras	Indonesia	Nepal	Botswana	Mali
Iran	Belize	Jamaica	Korea	Pakistan	Burundi	Mauritania
Jordan	Bolivia	Mexico	Malaysia	Sri Lanka	Cameroon	Mauritius
Morocco	Brazil	Nicaragua	Papua New Guinea	Turkey	Central Africa	Mozambique
Oman	Chile	Panama	Philippines		Chad	Niger
Tunisia	Colombia	Paraguay	Thailand		Congo, Rep	Rwanda
	Costa Rica	Peru			Côte d'Ivoire	Senegal
	Dominican Rep.	Trinidad and Tobago			Ethiopia	Sierra Leone
	Ecuador	Uruguay			Gabon	South Africa
	El Salvador	Venezuela			Ghana	Togo
					Guinea Bissau	Uganda
					Kenya	Zambia
					Madagascar	Zimbabwe

Table 4. List of UNDP (United Nations Development Programme) country codes.

Country	code	Country	Code	Country	Code
Algeria	DZA	Ethiopia	ETH	Niger	NER
Angola	AGO	Fiji	FJI	Oman	OMN
Argentina	ARG	Gabon	GAB	Pakistan	PAK
Bahamas	BHS	Ghana	GHA	Panama	PAN
Bahrain	BHR	Guatemala	GTM	Papua New Guinea	PNG
Bangladesh	BGD	Guinea-Bissau	GNB	Paraguay	PRY
Barbados	BRB	Guyana	GUY	Peru	PER
Belize	BLZ	Honduras	HND	Philippines	PHL
Benin	BEN	India	IND	Korea	KOR
Bolivia	BOL	Indonesia	IDN	Rwanda	RWA
Botswana	BWA	Iran	IRN	Senegal	SEN
Brazil	BRA	Jamaica	JAM	Sierra Leone	SLE
Burundi	BDI	Jordan	JOR	South Africa	ZAF
Cameroon	CMR	Kenya	KEN	Sri Lanka	LKA
Central African	CAF	Lesotho	LSO	Thailand	THA
Chad	TCD	Madagascar	MDG	Togo	TGO
Chile	CHL	Malawi	MWI	Trinidad and Tobago	TTO
China	CHN	Malaysia	MYS	Tunisia	TUN
Colombia	COL	Mali	MLI	Turkey	TUR
Congo	COG	Mauritania	MRT	Uganda	UGA
Costa Rica	CRI	Mauritius	MUS	Uruguay	URY
Côte d'Ivoire	CIV	Mexico	MEX	Venezuela	VEN
Dominican Rep.	DOM	Morocco	MAR	Zambia	ZMB
Ecuador	ECU	Mozambique	MOZ	Zimbabwe	ZWE
Egypt	EGY	Nepal	NPL		
El Salvador	SLV	Nicaragua	NIC		

Table 5. The results of multicollinearity test among explanatory variables.

```
. collin  lnfdi  lndi  lnhc lnifr lnms lndop lnefw lnifl lngs lnbmp africa latin, corr
(obs=346)

  Collinearity Diagnostics

                        SQRT                    R-
  Variable      VIF     VIF    Tolerance    Squared
----------------------------------------------------
     lnfdi      1.56    1.25    0.6410       0.3590
      lndi      1.04    1.02    0.9616       0.0384
      lnhc      3.48    1.87    0.2875       0.7125
     lnifr      3.10    1.76    0.3222       0.6778
      lnms      2.39    1.55    0.4186       0.5814
     lndop      1.69    1.30    0.5901       0.4099
     lnefw      2.02    1.42    0.4940       0.5060
     lnifl      1.59    1.26    0.6272       0.3728
      lngs      1.29    1.14    0.7723       0.2277
     lnbmp      1.62    1.27    0.6179       0.3821
    africa      2.24    1.50    0.4469       0.5531
     latin      1.62    1.27    0.6189       0.3811
----------------------------------------------------
  Mean VIF      1.97

                          Cond
        Eigenval          Index
---------------------------------
    1      3.5890         1.0000
    2      1.9239         1.3658
    3      1.4595         1.5681
    4      0.9922         1.9019
    5      0.9123         1.9834
    6      0.7259         2.2235
    7      0.6643         2.3244
    8      0.5798         2.4880
    9      0.3965         3.0087
    10      0.3290          3.3030
    11      0.2637          3.6893
    12      0.1639          4.6791
---------------------------------
 Condition Number         4.6791
 Eigenvalues & Cond Index computed from deviation sscp (no intercept)
 Det(correlation matrix)    0.0144
```

Table 6. The results of Cook's D outliers test of predictor variables used in specification model.

. list lngrowth lnfdi lnhc lntg lnifr lnms lndop lnifl lngs lnbmp lndi lnefw country cooksd if cooksd>4/346

	lngrowth	lnfdi	lnhc	lntg	lnifr	lnms	lndop	lnifl	lngs	lnbmp	lndi	lnefw	country	cooksd
12.	2.146269	1.775417	4.271526	6.509952	2.256774	4.897882	2.77642	7.043939	3.473393	0	2.754686	1.647951	BOL	.012765
13.	2.277378	1.777325	4.237989	6.610278	2.568816	4.71778	2.804005	3.43025	3.647017	0	2.861501	1.863675	BOL	.0202763
14.	2.226896	1.781521	4.412086	6.677427	3.337698	5.34617	3.107386	-.9267914	3.691242	0	2.925673	1.902697	BOL	.0230163
41.	2.007053	1.844748	4.058971	7.72742	1.101226	3.152795	3.881727	.	2.110292	2.282382	2.978168	1.382151	ECU	.
42.	2.127597	1.980378	4.043048	7.747235	1.375652	2.947985	4.07879	.	2.346363	1.94591	3.054734	1.567946	ECU	.
44.	2.07986	2.241623	4.026472	7.708443	2.356565	3.171807	4.011751	.	1.962524	.8754687	2.979053	1.72361	ECU	.
72.	2.007053	1.952312	3.987193	8.711648	4.034047	2.704163	3.575094	4.345473	2.149352	2.261763	24.85201	1.732243	MEX	.0111533
126.	.3037188	1.855876	4.511155	4.984739	2.691171	3.956434	5.34565	1.846952	2.92278	2.397895	3.616258	1.873414	BHR	.0198528
127.	1.954526	1.699944	4.568977	5.26089	2.918729	4.262142	5.23916	.	3.216719	2.397895	3.159901	1.917999	BHR	.
139.	2.299155	1.670939	3.395172	5.507755	3.908203	4.255807	4.712712	1.373926	3.06581	2.379546	2.926995	1.728289	BRB	.0139754
146.	2.52259	2.203348	3.337593	7.297335	-.1631582	3.120811	4.79747	2.410062	3.216476	1.88707	3.396775	1.629648	BWA	.0153239
147.	2.674733	2.063183	3.684921	7.071073	.3695394	3.161254	4.72861	2.700033	3.190922	2.261763	3.39211	1.691012	BWA	.0239904
149.	2.492007	1.789849	4.333547	6.839688	2.310804	3.073511	4.512344	2.384339	3.263164	2.397895	3.238683	1.973032	BWA	.0145843
152.	2.562392	2.112738	4.193964	7.088225	1.937479	3.657557	4.816606	1.698689	2.810175	1.791759	3.193992	1.738175	BLZ	.0119987
166.	2.523749	1.767051	1.79896	9.582004	-3.725124	2.582191	3.600504	2.109991	2.118769	2.379546	1.431206	1.565522	TCD	.020256
170.	2.950674	3.369521	2.760458	9.689847	.0658393	2.309611	4.565725	1.878303	1.880484	2.397895	3.633929	1.709853	TCD	.1268168
177.	1.251261	1.644505	3.011112	8.243542	-.5689103	3.402555	4.130342	.	2.816358	2.322388	2.466262	1.694926	CIV	.
201.	.9191666	1.574047	3.657742	9.365031	-1.174276	2.488235	2.653281	4.051946	2.022614	0	1.899056	.9119891	GHA	.0299811
206.	.9066706	1.686701	2.951388	7.294282	.3507752	3.181368	3.432686	2.261565	2.024579	0	2.608145	1.551119	GTM	.0135708
211.	2.345478	1.783376	2.305937	9.584374	-.8410346	3.306524	3.975749	3.320578	3.150511	1.648659	3.430703	.5481214	GNB	.0890397
218.	2.551975	3.126817	4.274839	8.271148	1.554583	4.022943	5.484894	3.652408	2.754176	2.322388	3.691952	1.554919	GUY	.0198307
257.	2.063643	1.53555	1.99463	9.589211	-2.217304	3.107779	3.925664	.	2.640684	2.322388	3.113046	1.559268	MLI	.
262.	2.53118	1.751463	3.968332	6.983137	1.566032	3.983128	4.862191	2.450877	2.493567	2.24071	3.262597	1.803064	MUS	.0164587
272.	-.3372982	1.548278	3.593642	8.163301	.1408788	3.421353	4.108937	8.482541	3.537873	2.197225	3.077404	.8891913	NIC	.0276187
276.	-.065086	1.557928	1.641877	9.282331	-2.17241	2.646582	3.983664	2.100473	2.389214	2.379546	2.728406	1.665277	NER	.0115886
277.	1.729101	1.674611	1.818802	9.522039	-2.139091	2.920877	3.715654	.	2.621121	2.322388	2.502988	1.556224	NER	.
281.	2.743682	1.848062	3.149204	5.703903	.5556915	3.066525	4.545553	.	3.265213	2.397895	3.256331	1.853365	OMN	.
283.	2.135126	1.694027	4.187414	5.662385	1.990299	3.30043	4.373384	.	3.218187	2.397895	2.828869	1.950975	OMN	.
293.	2.487586	2.095863	2.453401	8.27419	-.1468305	3.438599	4.555147	1.959516	3.070515	2.261763	3.104661	1.872617	PNG	.0282123
301.	.8040846	1.569544	4.198657	7.797671	-.0722206	3.238092	3.879098	3.096437	2.099194	2.261763	3.255557	1.560686	PHL	.0157028
317.	1.558794	.0599016	2.866346	9.270143	-1.07968	2.751359	3.751857	4.489875	2.014024	0	2.256798	1.338498	SLE	.0574561
319.	.400439	1.779137	3.277588	9.895267	-.7064087	2.543269	3.763735	3.038378	2.41412	1.791759	1.952124	1.62453	SLE	.0116769
320.	2.754066	2.043988	3.543038	9.723485	.7043536	2.841711	4.03892	2.144667	2.729104	2.397895	2.534933	1.739116	SLE	.0205927
331.	.8247345	1.869113	4.3484	5.587232	1.832746	3.660923	4.269223	1.986057	2.994988	1.163151	3.229269	1.48569	TTO	.0125983
341.	.5616298	1.543998	4.275465	5.925812	2.133168	3.82673	3.742219	3.848464	2.677157	2.397895	2.79023	1.682377	URY	.0138623
348.	.6791787	2.057514	3.200197	9.022897	-.1234932	2.663146	4.327567	4.625562	2.931818	2.341806	2.52034	1.481105	ZMB	.0133928
355.	-.4340681	1.668148	3.713295	8.848614	1.744716	3.429532	4.232212	5.482152	3.022561	0	2.76195	1.084439	ZWE	.0194508

Table 7. The effect of FDI on Economic Growth and the Importance of Host Country Characteristics For the period (1980-2005); (two-step system GMM, Dependent variable: real GDP per capita growth).

	1	2	3	4	5	6	7
Lagged Growth	-0.30*	-0.20***	-0.28*	-0.28**	-0.20**	-0.31*	-0.23*
	(0.000)	(0.087)	(0.004)	(0.014)	(0.021)	(0.000)	(0.009)
LDI	0.34**	0.78**	0.32**	0.25**	0.19***	0.95*	0.55**
	(0.034)	(0.042)	(0.026)	(0.042)	(0.079)	(0.001)	(0.044)
LFDI	0.83**	-5.04	3.36	-1.01	-2.58	-0.78	-8.31
	(0.023)	(0.324)	(0.509)	(0.393)	(0.327)	(0.895)	(0.944)
LHC	0.09**	1.99**	0.09**	0.50**	0.34*	0.22**	0.48*
	(0.037)	(0.039)	(0.018)	(0.035)	(0.005)	(0.027)	(0.007)
LGS	-1.05**	-0.26**	-0.18*	-1.30**	-0.60***	-0.72**	-1.41**
	(0.018)	(0.032)	(0.002)	(0.045)	(0.068)	(0.048)	(0.033)
L(1+BMP)	-0.51**	-0.36***	-0.06**	-0.07**	-0.08***	-0.29**	-0.59**
	(0.043)	(0.068)	(0.046)	(0.042)	(0.089)	(0.048)	(0.047)
Africa	-0.16**	-0.15**	-0.05***	-0.31*	-0.49**	-0.10***	-0.20**
	(0.048)	(0.031)	(0.078)	(0.007)	(0.027)	(0.062)	(0.028)
Latin	-0.04**	-0.008***	-0.004***	-0.14**	-0.22**	-0.01***	-0.16**
	(0.018)	(0.089)	(0.093)	(0.014)	(0.038)	(0.098)	(0.026)
LFDI*LHC		1.21**					
		(0.043)					
LTG			-1.14**				
			(0.032)				
LFDI*LTG			-0.45**				
			(0.013)				
LIFR				0.61*			
				(0.008)			
LFDI*LIFR				0.26***			
				(0.055)			
LMS					0.54***		
					(0.078)		
LFDI*LMS					0.76*		
					(0.001)		
LDOP						1.03**	
						(0.023)	
LFDI*LDOP						0.22**	
						(0.018)	
LEFW							9.60**
							(0.015)
LFDI*LEFW							4.65**
							(0.020)
L(1+IFL)	-0.01						
	(0.154)						
constant	5.49***	-4.21**	10.74**	6.81**	-2.17**	6.42**	-1.61**
	(0.056)	(0.010)	(0.014)	(0.022)	(0.049)	(0.045)	(0.040)
Threshold Value		4.16	7.46	3.88	3.39	3.54	1.78
No. Observations	260	260	260	260	260	260	260
No. Instrument variables	23	23	23	23	23	23	23
P-Arellano-Bond test for AR(2) in first diff.	0.481	0.869	0.966	0.723	0.679	0.993	0.752
P-Hansen test of over id. restrictions	0.690	0.888	0.657	0.747	0.788	0.392	0.913
P-Sargan test of over id. restrictions	0.589	0.545	0.732	0.835	0.811	0.291	0.199

P-values reported in parentheses. The system includes a time dummy variable for each five-year period to account for period-specific effects. *, **, *** denote significance at 1%, 5%, and 10%, respectively.