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Countries**

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**Economic, Institutional & Political Determinants of FDI Growth Effects in
Emerging & Developing Countries**

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Abstract

This study investigates the role of income levels, using the World Bank income classification, and political development, using EIU *Democracy Index scores*, in determining the magnitude of FDI growth effects for a panel of 61 emerging and developing countries for the period 1989 to 2013. It tests a baseline growth model incorporating these variables which is then extended to include FDI interaction effects with human capital, measured using secondary school enrolment data, and political development. The separate growth effects of FDI are then tested separately for each of the three lower World Bank income classifications (Upper-Middle, Lower-Middle and Low Income) followed by three categories of political regime type derived from *Democracy Index*. The effects of FDI are found to vary significantly between income classifications with the strongest growth effects in Low Income countries and weaker negative effects in Upper-Middle Income countries. The growth interaction effects between FDI and human capital are found to be strongly positive regardless of regime type. Political development in conjunction with FDI appears to suppress the growth effects of FDI in authoritarian countries while enhancing them in ‘hybrid’ democracies. For more democratic countries, human capital is a more important driver of growth than FDI but this is the outcome of strongly positive interaction effects between FDI and human capital outweighing negative effects for human capital on its own. The paper also provides some support for the view that a critical threshold of human capital is required to generate beneficial spillover growth effects from inflows of FDI. This paper provides new and more detailed insights into the growth effects of FDI with particular respect to income classification and political regime type in emerging and developing countries.

JEL Classifications: F23, O11, O14, O47

Keywords: Foreign direct investment; economic growth; developing countries; income level; political development; panel analysis.

Economic, Institutional & Political Determinants of FDI Growth Effects in Emerging & Developing Countries

FDI plays a well-known and significant role in the economic growth trajectory of countries although rather less is understood about the specific mechanisms through which FDI contributes to their economic development. The most fundamental contribution of FDI is to increase a country's stock of physical capital but, according to new growth theory, its indirect effects arising from technology spillovers and efficiency gains are critically important. Empirical studies of FDI however, find that the magnitude of these indirect growth effects on host-economies is determined by the levels of domestic economic and institutional development as well as the quality of their policy-making. The general consensus is therefore that certain pre-conditions need to be satisfied for FDI inflows to generate positive host-economy growth effects; namely the stock of skilled labour or human capital and the political system and quality of governance which, in turn, determine the extent to which the benefits of FDI are distributed to the wider population. A well-educated and skilled labour force is seen to attract inflows of investment by relatively technology-intensive foreign firms in high growth sectors as well as being the mechanism through which technology can be assimilated and transferred to domestic firms. More democratic political systems are argued to be more likely to redistribute income gains from FDI inflows, so increasing investment in education and the domestic stock of human capital. Further, they are more likely to have liberal open economies that are integrated into global trade and production networks and attract internationally-competitive export-oriented FDI. Conversely, developing countries with authoritarian regimes tend to have poorly-developed political institutions and protected markets characterised by a lack of competition, attracting less technology-intensive more market-oriented FDI that generate fewer potential spillover gains.

This study investigates the impact of level of development and the quality of political institutions on the gains from inflows of FDI to 61 host emerging and developing economies. In so doing, it contributes to improving the understanding of the dynamic relationship between FDI and economic growth in such countries by investigating the role of the domestic human capital stock in generating positive output effects of FDI. The empirical analysis uses a panel data set of 61 emerging and developing countries for the period 1989-2013, so avoiding the cross-sectional issues arising in many previous studies.

This paper is organised as follows. The first section presents an overview of the relevant empirical literature investigating the impact of economic and political development on the growth effects FDI. This is followed by an outline of the empirical model and the estimation method used in the study. Section 3 provides a brief summary description of the dataset. Section four presents the estimation method, results and analysis. The final section presents some concluding remarks and policy implications.

1. Host-Country Economic Growth Effects of FDI

A plethora of empirical studies examine the impact of FDI on growth in emerging and developing host economies. A key finding in the context of the objectives of this paper is that the extent of positive output effects and technology spillovers are dependent upon the host country stock of human capital. A further explanation of the lack of significant spillover effects however, lies in the sectoral distribution of FDI inflows in developing host countries, given the importance of primary resource extractive activities that generate limited spillovers and limited and transferable technology. An additional refinement is the analysis of the inter-relationship between political regime, inflows of FDI and the growth effects of FDI.

Several studies find that FDI inflows generate no significant positive spillover effects arising from the domestic human capital stock (e.g., Nair-Reichert & Weinhold, 2001; Ram & Zhang, 2002) while many others find evidence of a non-linear relationship. Some of the differences in these findings may be attributable to alternative specifications of human capital; educational enrolment versus returns to schooling, skilfulness and the quality of education (Pritchett, 2001). The general consensus however, is that the growth effects of FDI are dependent upon the absorptive capacity of a minimum threshold stock of domestic human capital (see, for example, De Gregorio, 1992; Benhabib & Spiegel, 1994; Mody & Wang, 1997; Borensztein *et al.*, 1998; Balasubramanyam *et al.*, 1999; Li & Liu, 2005; Bodman & Le, 2013). This stock of human capital is, in turn, partly determined by host-country income and the level of political, institutional and infrastructural development and the extent of market liberalisation (Abramovitz, 1986). Beneficial technology transfer and knowledge spillovers are therefore not a 'natural' phenomenon arising simply as a result of inflows of FDI but rather likely to be the outcome of appropriate economic policies and supportive institutional development

Blomstrom *et al.* (1992), de Soysa & Oneal (1999) and Chamarbagwala *et al.* all (2000) demonstrate that the growth effects of FDI inflows are positively related to the domestic

stock of human capital. de Sosya & Oneal also find that FDI inflows – but not the stock of FDI – promote growth in conjunction with domestic human capital and are more productive than domestic capital. Nair-Reichert & Weinhold (2001) examine for causality between FDI inflows and economic growth using a sample of 24 developing countries and find a positive relationship from FDI to growth. Similarly, Makki & Somwaru (2004) examine the impact of FDI on economic growth in 66 developing countries and identify FDI as an important stimulus of both domestic investment and growth. Durham (2004) finds that positive growth effects of FDI depend upon both the absorptive capacity of the human capital stock but also the level of financial development. These findings are supported by those of Batten & Vo (2009) who also find that openness to trade is also a significant determinant.

This latter point picks up on Bhagwati's arguments regarding the volume of FDI inflows and their growth spillover effects being dependent upon countries' openness to trade; i.e., outward trade orientation (Bhagwati, 1978). Studies by Balasubramanyam & Salisu (1991), Balasubramanyam *et al.* (1996), Zhang (2001) and Whalley & Xin (2010) all find evidence that participation in international trade develops export capabilities, technological competencies and the competitiveness of domestic firms. These capabilities strengthen the impact of FDI on technology utilisation and labour productivity in host-countries. A panel data analysis by Borensztein *et al.* (1998) however, finds no significant interaction effects between FDI and trade regime for 69 developing countries while De Mello (1999) suggests that relatively closed trade regimes hinder the growth effects of FDI and technology transfer in lagging developing countries.

The impact of FDI inflows on growth in developing countries is generally posited to be dependent upon pre-existing or threshold levels of host-country income, political development and institutional quality. There are however, conflicting views as to how democratic institutions affect inflows of FDI. Olson (1993) argues that countries with democratic institutions have a greater chance of attracting foreign firms because they are more likely to protect property rights, have independent judiciaries and more effective systems to resolve business disputes. Democracy certainly provides an effective conduit between citizens and policy-makers. Other studies contend that countries with less well developed democratic institutions are more attractive because they are better able to offer preferential treatment in the form of tax concessions and other incentives, compliant labour forces and less stringent policies towards competition, leading to higher rates of return (e.g., O'Donnell, 1978; Haggard, 1990; Oneal, 1994; Lee & Resnick, 2003). Several studies also

highlight the critical importance of host-country financial development and regulation (e.g., Quinn, 2000; Hermes & Lensink, 2003; Li & Resnick, 2003; Ang, 2009; Alfaro *et al.*, 2009).

One of the earliest studies to consider the relationship between political institutions in emerging and developing countries and FDI inflows is that of Bornschieer (1978) who finds that more authoritarian regimes attract greater inflows of FDI inflows but that the growth effects are mixed at best. Borensztein *et al.* (1998) control for the number of assassinations, coups d'état, protection of political rights and wars but find that they have little significant effect on FDI inflows. The authors argue that this result can be explained by the almost complete lack of political quality in many developing countries. Li & Resnick (2003) find that the protection of property rights has a positive effect on FDI inflows but that developing countries with democratic political systems receive significantly lower FDI inflows. Choi & Samy (2008) find only a weak relationship between democracy and inflows of FDI. Most studies however, generally find some form of positive relationship between the two; Harms & Ursprung (2002), Jensen (2003), Busse (2004), Jakobsen & de Soysa (2006) and Busse & Hefeker (2007) all show that more politically developed countries with democratic institutions receive significantly higher inflows of FDI. Interestingly, Busse (2004) finds that this relationship prevailed during the 1990s and not the 1970s and 1980s. The positive relationship between democracy and FDI inflows therefore is by no means assured.

A separate strand of the literature looks at governance and FDI inflows in natural resources. Jensen (2006) finds that democratic countries attract greater inflows of resource-seeking FDI into abundant natural resources after controlling for selection bias of authoritarian developing countries. Asiedu & Lien (2011) also find that democratisation has a positive and significant effect on FDI in developing countries given a certain share of natural resource and minerals in total exports. These studies therefore suggest that inflows of resource-based FDI in developing countries tend to be positively affected by the evolution of political systems and democratic institutions.

Only a limited number of studies however, focus on the effect of host-country democratic institutions on the efficiency gains and spillovers generated by inflows of FDI. Bengoa & Sanchez-Robles (2003) use panel data for 18 Latin American economies to analyse the relationship between FDI inflows, 'economic freedom' – including the domestic economic policy environment – and growth. Their findings indicate a positive correlation between FDI inflows and both economic freedom and growth, conditional upon a threshold stock of human capital. Darrat *et al.* (2005) compare the growth effects of FDI inflows between EU accession

and non-applicant economies in Central and Eastern Europe (CEE) alongside economies in the Middle East and North African (MENA). They find that FDI inflows are positively correlated with growth for EU accession CEE economies but there is only a weak relationship with respect to the other countries. The authors argue that these findings reflect differences in the institutional and policy-making environments between these sets of countries, with the accession economies benefiting from implicit or explicit EU guarantees of democracy and macroeconomic stability.

This paper attempts to extend the analysis of the relationship between FDI inflows, economic development and institutional quality. It investigates the impact of FDI inflows on growth for a large sample set of 61 emerging and developing countries using panel data for a period of twenty-five years, 1989 to 2013, with measures of human capital, indicators of macroeconomic stability (domestic investment, government expenditure and inflation) and political development (The Economist Intelligence Unit's *Democracy Index*).

2. Estimation Framework

The analysis employs an augmented growth accounting model incorporating FDI based upon Solow (1956) and in line with the work of De Mello (1997) and Borensztein *et al.* (1998).

$$Y = Af(K_{it}, L_{it}, F_{it}, \Omega_{it}) \quad (\text{Eqn. 1})$$

Where: Y is the output level, determined by capital, K , labour, L , FDI inflows, F , and political development and other growth determinants included in Ω , while A represents the economic environment.

According to new growth theory, FDI is considered to be an additional source of capital injections into a host-economy with special characteristics. Foreign capital inflows in this form embody technology, know-how and tacit knowledge, all of which promote host-country technological and human capital development, and are the primary transmission mechanism for transferring these potentially growth-enhancing assets. While there is little doubt in the literature regarding the contribution of FDI inflows to augmenting domestic capital stock in host-countries, there exists no clear consensus regarding its indirect growth effects in the form of technology spillovers and efficiency gains. This study tests the hypothesis that FDI triggers significant growth effects while controlling for other contingent domestic growth determinants. The empirical specification of the model follows Blomstrom *et al.* (1992), Borensztein *et al.* (1998) and Balasubramanyam *et al.* (1999):

$$GY_{it} = \alpha_0 + \alpha_1 \text{Log}Y_{it-1} + \alpha_2 \text{GLAB}_{it} + \alpha_3 \text{DI}_{it} + \alpha_4 \text{HC}_{it} + \alpha_5 \text{GE}_{it} + \alpha_6 \text{INF}_{it} + \alpha_7 \text{FDI}_{it-1} + \alpha_8 \text{FDI}_{it_}\text{HC}_{it} + \alpha_9 \text{Pol}_{it} + \alpha_{10} \text{FDI}_{it_}\text{Pol}_{it} + v_i + \varepsilon_t + \mu_{it} \quad (\text{Eqn. 2})$$

Where: the dependent variable *GY* is the growth rate of real GDP per capita; *LogY_{it-1}* is GDP per capita lagged by one time period; *GLAB* is the growth rate of the labour force; *DI* is the share of domestic capital accumulation measured by the rate of gross fixed capital formation to GDP; *HC* is human capital, measured by a five-year average of the secondary school enrolment ratio, following Barro & Sala-i-Martin (1995b); *GE* is the share of government in total consumption; *INF* is the inflation rate, measured using the GDP deflator; *FDI* is the inflow of FDI measured as a share of GDP; the interaction term *FDI_HC* shows the joint effect of FDI and human capital stock on economic growth; *v_i* captures country-specific effects that reflect heterogeneity in growth patterns across countries; *u_{it}* is the unexplained error term; *e_t* are time-specific elements which control for technological changes and policy direction across time; and *i, t* are the country and time indicators.

The inclusion of the lagged GDP per capita term *LogY_{it-1}* in the model follows Islam (1995) so as to capture the effect of neoclassical catch up whereby developing countries exhibit higher growth rates owing to their capital relative scarcity that generates a higher marginal productivity than in more advanced countries. Panel-data studies that control for country-specific effects, unlike cross-sectional studies, cannot include time invariant variables such as the logarithm of initial output on the right-hand side so a lagged output term is used instead. The coefficient of lagged output is expected to have a negative sign, indicating that countries with higher GDP in the preceding period tend to have lower economic growth in the current and subsequent periods.

The growth of the labour force *GLAB* is incorporated into the growth accounting analysis as a basic production input. Given that all other factors of production are constant, the growth of the labour force will eventually result in diminishing marginal returns, so threatening the sustainability of economic growth in the long-run. This term is regarded as a key determinant in the empirical analysis of the FDI-growth nexus (e.g., Blomstrom *et al.*, 1992; Balasubramanyam *et al.*, 1999; Darrat *et al.*, 2005). This study follows Blomstrom *et al.* (1992) in employing the growth rate of the labour force participation rate, the ratio of the labour force to the total population, so as to capture the critical impact of demographic change in developing countries.

Physical capital accumulation is considered to be the main driver of economic growth from a growth accounting perspective. Domestic investment DI represents domestic capital accumulation and is measured by the share of gross fixed capital formation to GDP. Including both domestic and foreign investment in the growth accounting function captures the indirect growth effects of FDI that are not reflected simply in physical capital accumulation. These indirect effects include technology transfer and efficiency gains accruing to the host-economies.

Nelson & Phelps (1966) argue that sustainable long-run economic growth is determined by the stock of well-educated labour that is able to understand advanced technologies and introduce productive innovations – absorptive capacity. New growth theory highlights the important contribution of human capital accumulation to sustainable output growth such that investment in human capital is a critical component of long-run economic growth. Lucas (1988) shows that growth differentials between countries are mainly explained by differences in the stock of domestic human capital. The growth and productivity effects arising from capital deepening, i.e., increasing capital per worker, are primarily dependent upon a country's stock of human capital. Quantifying human capital however, is more problematic because it is intrinsic in nature. This paper follows the convention established by Barro & Sala-i-Martin (1995a) and employs a school attainment variable as a proxy for the human capital stock measured by the five-year average of the secondary school enrolment ratio (Barro & Sala-i-Martin, 1995b). Many empirical studies report a negative coefficient estimate for human capital on economic growth (Benhabib & Spiegel, 1994; Islam, 1995). Pritchett (2001) criticises the use of school attainment as a proxy for human capital, especially for developing countries where growing school enrolments may be associated with low quality education such that greater educational enrolment is not necessarily reflected in more productive skills. Temple (1999) argues that educational attainment and its effects on the human capital stock differ between countries according to their characteristics.

Government expenditure GE and inflation INF are included in the empirical analysis here to capture the macroeconomic policy dimensions of institutional quality. Owing to the limitations on the availability of detailed macroeconomic data when dealing with emerging and developing countries, this paper follows the convention of simply using total government expenditure as a proxy for the quality of fiscal policy rather than deducting defence and education expenditure as done by Barro & Sala-i-Martin (1995a). GE here is measured by the share of government expenditure in consumption and provides an indicator of the size of

government, bureaucracy and political corruption, all of which are viewed as impediments to growth. Barro (1997) also argues that a system of progressive taxation discourages both domestic and foreign investment. The expectation is that higher government expenditure is associated negatively with growth effects (Borensztein *et al.*, 1998; Carkovic & Levine, 2002). The inflation rate (*INF*), measured by the GDP deflator, indicates the effects of monetary policies on economic growth. Low rates of inflation reflect the stability and credibility of monetary policies required to support growth while higher rates are associated with increasing costs of production and a more volatile investment climate, both of which dampen real growth.

The foreign direct investment variable *FDI*, measured as a share of GDP, shows the direct growth effects of FDI inflows. The variable is lagged by one period in order to avoid problems of endogeneity. The simultaneous inclusion of domestic investment *DI* demonstrates the independent effect of FDI inflows on the growth rate through improvements in the productivity of capital by controlling for domestic investment (Lee, 1995; Durham, 2004). Including both components of investment also provides the means to also capture the indirect spillover effects of FDI over and above the effects of purely physical capital accumulation (Borensztein *et al.*, 1998).

The political development variable *Pol* measures the quality of domestic governance and institutions using the country score provided by the Economist Intelligence Unit's *Democracy Index*. This provides an indication of the relationship between per capita income growth and a country's type of political regime.

The interaction variable *FDIt_HC* shows the joint effect of FDI and human capital stock on economic growth. This picks up on the arguments outlined in the literature review regarding the growth effects of FDI being contingent upon the stock of human capital in host-economies (Barro, 1997; Mody & Wang, 1997; Borensztein *et al.*, 1998; Balasubramanyam *et al.*, 1999). Statistical significance of this variable implies that FDI prompts positive growth effects based upon a minimum threshold stock of human capital. Moreover, once this threshold is reached, it induces a paradigm shift in the motives for FDI, from resource- or market-seeking to efficiency-seeking FDI (Bende-Nabende & Ford, 1998).

The interaction variable *FDI_Pol* reveals the joint effect of FDI and political development and is intended to indicate the extent to which the indirect effects of FDI inflows in the form of technology spillovers and efficiency gains differ based upon the political regime. This

provides a means to assess the magnitude of the growth effects of FDI on emerging and developing countries in different stages of political development.

The country-specific effects v_i reflect the heterogeneity in growth patterns between countries and eliminates the potential for correlation between the determinants of growth and the unexplained error term u_{it} . The time-specific elements e_t control for technological changes and policy direction across time and eliminates the potential for serial correlation in the random error terms (Eller *et al.*, 2006; Vu *et al.*, 2008). This also deals with some sources of endogeneity problems that may result if the error terms explain the growth of output. u_{it} are the random shocks that are assumed to be idiosyncratically and identically distributed with zero mean and variance σ^2 .

3. Data: Sources & Definitions

The empirical analysis employs a stratified panel of 61 emerging and developing host-countries for 1989-2013, selected to provide a reasonably representative sample of all emerging and developing countries across World Bank-defined global regions, World Bank income classifications (Low, Lower-Middle and Upper-Middle Income) and political development, subject to data availability. A full list of these 61 countries is presented in Table 1 by region, initial and final income classification and political regime classification.

[Table 1 here]

The primary data source for annual data for GDP growth, labour force growth, domestic investment, human capital, government expenditure, inflation and foreign direct investment is the World Bank's *World Development Indicators Database* (data.worldbank.org), accessed during 2014 and 2015. All variables of interest are expressed in constant \$US prices for 2000 with the exception of: income per capita, gross national income (GNI) per capita at current \$US purchasing power parity, based upon the 2011 International Comparison Program (ICP) round; and foreign direct investment, which is only available in current \$US prices. The real values of FDI inflows are computed using the respective GDP deflators using 2000 as the base year.

Income Level Classification

The 61 emerging and developing countries included in the data set are disaggregated in Table 1 into the three lower World Bank income categories according to their initial per capita

income classification in 1989. The table also indicates the end period income classification in 2013.

It is evident that only nine countries have moved between categories, most notably China from Low Income to Upper-Middle Income, including Kenya and Madagascar which have moved from the Lower-Middle income to the Low Income category and Moldova and Ukraine from Upper-Middle to Lower-Middle Income. The exceptional growth performance of China needs no further discussion here. It should be noted however, that the apparent ‘deterioration’ of per capita incomes in Kenya, Madagascar, Moldova and Ukraine is primarily a relative rather than absolute phenomenon. The World Bank’s classification is dynamic and revised upwards on an annual basis – developing countries therefore have grown less poor generally – but the distribution of countries at the margin between categories does change.

The paper follows Blomstrom *et al.* (1992), Alguacil *et al.* (2011) and Bruno & Campos (2011) in classifying the host-countries in the data set according to their initial World Bank income category. This permits the testing of the extent of heterogeneity in the interplay between FDI inflows and growth since these inflows are argued to be a significant driver of economic growth in those host-countries that possess a minimum threshold stock of human capital, as demonstrated by Bruno & Campos (2011). This investigative approach is of particular relevance with respect to the analysis of the growth effects of FDI inflows to emerging and developing countries and those in transition – hence the focus of this paper – since it examines the conditions necessary to generate positive FDI spillovers.

Political Development

The data on political systems is drawn from the annual *Democracy Index* scores produced by the Economist Intelligence Unit. The index scores 167 countries on the basis of five categories: electoral process and pluralism; civil liberties; the functioning of government; political participation; and political culture (Economist Intelligence Unit, 2013). These are aggregated into an overall score for each country lying in the range from 1.0 to 10.0. Countries scoring between 1.0 and 3.99 are classified as Authoritarian, those between 4.0 and 5.99 as ‘Hybrid’ regimes, those between 6.0 and 7.99 as ‘Flawed’ democracies and those between 8.0 and 10.0 as ‘Full’ democracies. Flawed democracies are characterised by a degree of political development comprising free and fair elections and protection of civil liberties but weakness in other aspects such as low levels of political participation and

problems in governance. Hybrid democracies have multiple political parties and elections but are characterised by weak civil society, corruption and lack of rule of law. Authoritarian regimes indicate the absence of political pluralism, elections are neither free nor fair and infringements of civil rights are common. Some conditional thresholds are applied to avoid anomalies caused by the aggregation of relatively high scores in one or more categories conflicting with the overall regime classification.

The Democracy Index was first produced in 2006 and published on a biannual basis until 2010, since when it has been appeared annually. As such, no continuous time-series political data for the whole of the study period 1989 to 2013 is available for any of the countries included in the sample data set. Instead, average overall scores for the four-year period 2010 to 2013 are used, while recognising that these do not provide full information, particularly where one or more regime changes have taken place since 1989. The classification of the 61 countries according to their political regime classification is also presented in Table 1. There are two other principal sources of data on political development, produced by Freedom House and the World Bank. Freedom House's annual *Freedom in the World* publication scores some 194 countries and territories according to political liberties and civil rights using simple scales of integers from one to seven. The World Bank's *Governance Indicators* provide scores for six facets of governance and political development (voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, control of corruption) for up to 196 countries and territories. Apart from the lack of sophistication of the Freedom House scoring method, there is very little to choose between the alternative indices in that they all produce broadly similar evaluations. Further, all of the countries in the study feature in all three indices. The *Democracy Index* is preferred as the appropriate source for political development scores in this study primarily because the World Bank does not aggregate its governance scores to produce an overall index.

Only Costa Rica and Mauritius of the 61 emerging and developing countries included in the dataset are classified as Full democracies by the *Democracy Index* (see Table 1). For the purposes of this paper, the empirical analysis of the impact of host-country political regime on inflows of FDI therefore combines the Full and Flawed democracy categories so as to provide greater balance across the regimes of the sample countries.

Descriptive Statistics

The descriptive summary statistics for the nine independent variables used in this study across the complete time period 1989-2013 are presented in Table 2. This provides details of the numbers of observations for each variable, their means and standard deviations along with their minimum and maximum values.

[Table 2 here]

4. Estimation Method, Results & Analysis

The empirical analysis in this paper examines the growth effects of FDI in a panel of 61 emerging and developing countries from 1989 to 2013. The use of a panel-data approach permits the consideration of within country growth patterns while also allowing for variation across countries (Islam, 1995; Bengoa & Sanchez-Robles, 2003). Variations in growth patterns across countries are reflected in the heterogeneous country-specific elements included in the v_i term in the model described in Equation 2. The country-specific effects explain unobserved variations within each country in the dataset that are invariant over time. The model also includes time-specific factors (e_t) to control for business cycle changes and eliminates the probability of correlation between growth determinants resulting from contemporaneous time-specific exogenous shocks (Eller *et al.*, 2006; Vu *et al.*, 2008).

The analysis is based upon panel corrected standard errors that control for the contemporaneous correlation of the errors and heteroskedasticity across countries (Beck & Katz, 1995). The structure of the data makes the stationarity of the variables over time critical for the estimation process. Stationarity implies that the probability distribution of the variables does not change over time. The Im, Pesaran & Shin Test cannot accept the null hypothesis of non-stationarity for most variables at conventional significance levels (Im *et al.*, 2003). The logarithm of one-year lagged GDP per capita however, has a unit root. This catch-up condition is nevertheless a highly relevant variable that needs to be incorporated in the growth accounting function of the emerging and developing country dataset and it is therefore retained in this application.

The mutually bi-directional relationship between FDI and economic growth has been the subject of extensive research in previous empirical studies (for example: Tsai, 1994; Barro, 1997; Basu *et al.*, 2003; Choe, 2003; Chowdhury & Mavrotas, 2006). This endogeneity problem leads to biased and inconsistent OLS estimates since the explanatory variables are

correlated with the error term. Moreover, the growth determinants may be mutually affected by the economic growth rate. A positive productivity shock or an adverse exogenous shock would therefore affect the growth determinants, FDI and economic growth simultaneously. The FDI inflow variable is therefore lagged by one period in order to avoid this endogeneity problem.

Results for Models 1 & 2: Growth Effects of FDI in Emerging & Developing Countries

The empirical results of the panel data analysis based upon Equation 2 for the 61 emerging and developing countries in the dataset are reported in Table 3. Models 1 and 2 present the baseline results for the full dataset of emerging and developing countries with respect to the determinants of economic growth, including FDI in columns 1 and 2 of the table respectively. Model 1 is a straightforward augmented model testing the principal determinants of economic growth. Model 2 additionally includes the two interaction terms: between FDI and human capital (*FDI_HC*); and FDI and political development (*FDI_Pol*).

[Table 3 here]

The results for Model 1, shown in column 1 of Table 3, generally conform to *a priori* expectations. As is common in the empirical growth literature, the coefficient of the lagged GDP per capita term GY_{t-1} is found to be negative and significant at the one per cent level, reflecting convergence. Likewise, domestic investment *DI* has a positive coefficient – i.e., it promotes growth – and is also found to be significant at the one per cent level. Government expenditure *GE* is also significant at the one per cent level but, in this case, it has a negative coefficient such that it is associated with lower growth. This is in accord with the proposition of Barro (1997) and, given that many of these are developing countries where domestic sources of capital are likely to be limited, it could also provide an indication of private sector investment being ‘crowded-out’ by higher levels of government spending. Inflation *INF* has a very small negative coefficient and is significant at the 1 per cent level. This is in accord with *a priori* expectations regarding the likelihood that expansionary fiscal policies retard growth. Both the quantity of labour (labour force growth *GLAB*) and its quality (*HC*) are found to have a weakly significant effect on economic growth at the 10 per cent level. Since both coefficients are negative, this suggests that these two factors tend to depress growth, something that is contrary to *a priori* expectations but is a common finding in studies of this type. Lagged FDI also exerts a weakly significant negative effect on growth at the ten per cent level in this initial specification of the model. The results for the political development

variable *Pol* however, are of particular interest in that the coefficient is positive and significant at the one per cent level such that higher political development scores are associated with stronger economic growth performance.

Model 2 (column 2, Table 3) is an augmented version of Model 1 incorporating the two FDI interaction terms. The overall results of the model exhibit a remarkably similar degree of robustness to those of Model 1 with virtually no major changes in the magnitudes of the coefficients or their significances. The only change of note is that the FDI variable changes sign to become positive but is now insignificant. Neither of the two FDI interaction terms is found to be significant.

Results for Models 3, 4 & 5: Growth Effects of FDI in Emerging & Developing Countries By Income

The sample dataset of 61 emerging and developing countries is split into three separate groups on the basis of their initial World Bank income category in 1989 and the results for Models 3, 4 and 5 are presented in columns 3, 4 and 5 of Table 3. These models use the same specification as that used in Model 2 but the estimation procedure is rerun separately for each income category; Upper-Middle, Lower-Middle and Low Income. The results remain reasonable robust to a degree after splitting the sample data set according to income and they reveal some interesting findings in spite of some imbalance in the distribution of the sample countries between categories.

Taking the results for the 28 Upper-Middle Income countries first, it can be seen from column 3 in Table 3 that the results are broadly in line with those for the full dataset in Models 1 and 2. The only changes to note are that both the labour force and human capital terms cease to be significant, albeit previously weakly. Of greater interest perhaps is that, as is nearly always the case in Models 1 and 2, none of the three variables derived from FDI achieve statistical significance. Finally, it is very evident that political development score *Pol* continues to exert a positive and significant influence on growth. Given that *Pol* is insignificant for the two lower income categories (columns 4 and 5), it would appear that the Upper-Middle income group is also driving this finding in both Models 1 and 2. One explanation for this result could be the uneven distribution of FDI across sectors in countries with different levels of income; that is, that FDI in more advanced developing and emerging economies can be expected to be increasingly engaged in market- and efficiency-seeking

manufacturing and service activities based upon a greater stock of human capital rather than natural resources, as proposed by Bende-Nabende & Ford (1998).

The picture is very different however, for the 22 Lower-Middle Income developing countries in the dataset. The parameter estimates for the FDI variable is found to be both negative and significant at the 5 per cent level but the FDI interaction term with political development is positive and significant at the one per cent level. This finding demonstrates that FDI in conjunction with a higher political development score acts as a driver of economic growth, subject to the presence of the right democratic ‘pre-conditions’ in the host-country. In other words, the implication is that simply attracting FDI is a necessary but insufficient condition for generate growth.

The results for the 11 Low Income least-developed countries strongly uphold the importance of FDI in the growth process given that it is found to have a positive coefficient and significant at the one per cent level. This important positive growth effect however, is moderated by the negative interaction effects between FDI and political development which is significant at the one per cent level. This suggests that the growth stimulus provided by inflows of FDI in these low income countries is negatively related to the existence of more democratic political regimes. Given that FDI in low income economies tends to be more strongly oriented towards natural resource extraction, these results contrasts with those of both Jensen (2006) and Asiedu & Lien (2011) who find a positive relationship between democracy and FDI. The findings in this paper for the low income countries appear to fit more easily with some of the literature dealing with the inter-relationships between natural resources, growth, inequality and authoritarianism (for example, Dunning, 2008; Haber & Menaldo, 2011; Acemoglou & Robinson, 2012).

Results for Model 6, 7 & 8: Growth Effects of FDI in Emerging & Developing Countries By Political Regime

The estimation procedure for the third set of models uses the same specification as for Model 2 except that, in this case, the sample data set of 61 emerging and developing countries is split according to political regime type and rerun separately for each. Note that regime type is determined by the *Democracy Index* score thresholds defined by the EIU, outlined in Section 3. Only two of the countries in the sample however, are classified as ‘Full’ democracies (Costa Rica and Mauritius). For the purposes of the analyses here, they are combined with the 23 countries classified as ‘Flawed’ democracies to create a new grouping of broadly

democratic emerging and developing countries. While this grouping encompasses a wider range of political development scores (6.0-10.0) than the hybrid and authoritarian categories, this exercise ensures that the full sample dataset can be tested with respect to political regime.

The results of estimation of the third set of models, Models 6, 7 and 8, representing the three political regime types, are shown in Table 4. Again, splitting the sample countries highlights some interesting findings according to regime type. For the democratic group of countries in Model 6 (column 1), lagged GDP per capita has a negative and significant coefficient at the one per cent level, again providing support for growth convergence. Domestic investment is found to have a positive impact on growth and is significant at the one per cent level while inflation has negative effect and is significant at the five per cent level. Of particular interest to this study is that the human capital variable has a negative coefficient and is significant at the one per cent level while the FDI-human capital interaction term is strongly positive and significant at the one per cent level. The political development variable for this group of countries is insignificant.

[Table 4 here]

For the 'Hybrid' democratic countries, the results for the standard growth variables in Model 7 (column 2) are broadly similar to those in Model 6. Their economic growth however, appears to be positively affected by FDI but only when it is present in conjunction with political development and/or an educated populace since both interaction terms are positive and significant at the one per cent level. Neither political development nor human capital, individually, is found to have any significant impact on economic growth.

The findings for authoritarian countries in Model 8 (column 3) are in strong contrast to those for the democratic and hybrid countries. In the authoritarian country case, FDI is found to have a strongly positive effect significant at the one per cent level, both on its own as well as in conjunction with the presence of human capital. The interaction term between FDI and political development however, is negative and significant at the five per cent level, suggesting that political development accompanied by FDI inflows lowers growth.

These results show some support for the positive contribution of democracy to economic growth but only for Upper- and Lower-Middle Income countries. This suggest that 'deficiencies' in democracy are primarily concentrated in poorer Low Income countries where political development is unlikely to be particularly conducive to strong economic performance.

5. The Growth Effects of FDI& the Role of Income & Political Development:

Summary & Conclusions

This paper investigates the role of the levels of income and political development in determining the growth effects of FDI in 61 emerging and developing countries. The empirical analysis uses an augmented baseline panel data model to test a range of growth determinants, notably FDI, human capital and political development. The baseline model is then extended to incorporate interaction terms between FDI and human capital and FDI and political development to examine the joint effects of these variables over and above their separate impacts. The model is further augmented to test the separate growth effects of FDI on the three lower World Bank income classifications (Upper-Middle, Lower-Middle and Low Income) followed by three categories of political regime type derived from the Economist Intelligence Unit's *Democracy Index*. As such, the paper provides further new insights into the nature of the growth effects of FDI across a large sample set of emerging and developing countries according to their income and political regime.

The Growth Effects of FDI in Emerging & Developing Countries: Income Level Effects

The impact of FDI on growth in emerging and developing host-countries is found to vary according to their income classification. The results suggest that FDI has a positive and significant impact only on the least developed (Low Income) countries and that these beneficial effects are lessened considerably with higher levels of political development. For Lower-Middle income developing countries, FDI alone has a negative effect on their economic growth although this dampening effect is, at least, partly ameliorated by improved political development. In the case of Upper-Middle income countries, none of the FDI-related variables are significant; instead, domestic investment is shown to be a far more important driver of their economic growth performance. This appears to reflect the alleviation of domestic capital constraints in these economies and a consequent reduced dependence upon foreign capital inflows to finance and drive economic growth. Interestingly, the two human capital variables have an insignificant impact across all three income groups. This lends support to the findings of Nair-Reichert & Weinhold (2000) and Ram & Zhang, 2002) and contrary to the threshold absorptive capacity argument, although the latter has been argued to be conditional upon institutional and political development. Minimum threshold levels of human capital associated with positive FDI growth effects however, are found for all regime types. These effects are enhanced by greater political development in the case of Lower-

Middle Income countries but reduced by it in Low Income ones. Overall therefore, the results presented here provide mixed evidence for the efficacy of FDI as a driver of economic growth in emerging and developing countries, dependent upon both human capital and political development.

In trying to explain the differential growth effects of FDI across countries' income categories, its nature and objectives may be a key factor. Low Income countries are likely to be predominantly the recipients of resource-based rather than market- or efficiency-seeking FDI. While FDI in natural resources generally involves the use of advanced technologies, their transferability to the rest of the host-economy – and therefore the potential for positive growth spillover effects – may be very limited. For market- and efficiency seeking FDI, Low Income countries represent less attractive market opportunities for foreign investors compared with wealthier Lower-Middle and Upper-Middle Income economies because of limited consumer purchasing power, lower economic growth expectations as well as, possibly, greater institutional constraints reflected in a less attractive trade-off between country risk and long-term profitability.

The Growth Effects of FDI in Emerging & Developing Countries: Political Development Effects

An increasing number of studies contend that the levels of political development and institutional quality in host-countries are important determinants of the growth effects of FDI. This study uses the EIU *Democracy Index* to test this argument with respect to regime type – democratic, Hybrid and Authoritarian. Political development has a significantly positive impact upon growth generally in both of the baseline models and also for Upper-Middle Income countries but not poorer Lower-Middle and Low Income developing countries. Empirical analysis of growth effects by regime type suggests that FDI and political development have virtually no impact on economic growth, either individually or through interaction, for democratic emerging and developing countries. For these countries, it is the aggregate effects of the human capital variables that are important. Conversely, for both Hybrid and Authoritarian regime, FDI in conjunction with human capital and political development are both found to be strongly significant growth factors. Both interaction variables create significantly positive growth effects in the Hybrid regimes while only FDI-human capital does so in Authoritarian regimes along with FDI-political development having a significant growth-reducing effect. These findings lend some considerable support to the

existence of critical thresholds of education and/or democracy in emerging and developing host-countries proposed in the empirical literature rather than FDI simply being a driver of growth on its own. By distinguishing between regime types in the empirical analysis, this paper generates some subtle conclusions regarding the inter-relationship between the growth effects of FDI inflows and political development in that it identifies distinct differences between the impact upon democratic, Hybrid and Authoritarian regime types.

A comprehensive explanation for the differential growth effects of FDI by regime type is perhaps beyond this paper but several possible points can be broached. There may be a degree of correlation between regime type and income level in the sample countries although there is no general and consistent pattern. The growth-suppressing impact of FDI in Authoritarian countries could be related to the earlier argument regarding natural resources but again, there is no clear causal relationship between authoritarianism, low income and FDI in natural resources. There may be a greater deal of institutional fungibility in authoritarian countries however, such that some of the growth benefits of FDI are dissipated through corruption and/or conflict. More authoritarian regimes tend to favour relatively closed economies and *dirigiste* rather than market-based policies that preserve domestic monopolies, effectively 'crowding-out' foreign investors. This remains an important topic in both international business and political economy that merits further investigation and analysis. The situation with respect to Hybrid and more democratic host-countries appears to be more clear-cut in that FDI promote growths and enhances long-term prosperity.

Concluding Comments & Policy Implications

The empirical results generated by this paper tend to confirm many of the arguments of previous empirical studies and reinforce their findings. This is certainly the case with respect to the well-known benefits derived from greater stocks of human capital which generate higher rates of growth and positive spillover effects from FDI because of its greater absorptive capacity.

Perhaps the most notable finding in this paper is the confirmation that, for Lower-Middle income developing countries at least, a minimum threshold of human capital is required in order to generate growth gains from inflows of FDI.

A second noteworthy finding is that the growth effects of FDI are not found to be particularly important in relatively wealthy developing and emerging economies. The empirical results

here suggest that these countries have reached the stage in their evolution where they are able to generate sufficient funds domestically to finance their investment needs and that this is a more critical source of their growth.

A final important finding – and one that has been the subject of some debate in the literature – relates to the growth effects of FDI in authoritarian developing economies. The empirical results in this paper suggest quite strongly (at the one per cent level of significance) that while FDI promotes growth, higher levels of political development reduce these effects.

Some of the other results provide important evidence of subtle interactions between the critical variables highlighted in this study, namely human capital, income level and political development. These require further investigation and will hopefully stimulate additional research to ascertain improved understanding regarding the determinants of these effects.

The primary policy implication of this paper's findings is that it provides further strong support regarding the critical importance of maximising the potential local growth effects of FDI in developing countries by improving the absorptive capacity of domestic human capital through education and vocational training to facilitate technology spillovers. In the first instance, this depends upon there being sufficient investment in good quality education and training to reach the critical minimum threshold of human capital but it also requires emphasis to be placed upon attracting increasing inflows of efficiency- and market-and seeking FDI that are more likely to generate desirable growth-promoting spillover effects.

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**Table 1: Dataset of 61 Emerging & Developing Countries By World Bank Region,
Income Classification in 1990 & Political Regime Type**

World Bank Region	Income Group 1990¹	Income Group 2013	Regime Type²
Africa, Sub-Sahara (22)			
Botswana	Upper-Middle	Upper-Middle	Flawed
Burkina Faso	Low	Low	Hybrid
Cameroun	Lower-Middle	Lower-Middle	Authoritarian
Chad	Low	Low	Authoritarian
Congo, Republic	Lower-Middle	Lower-Middle	Authoritarian
Gabon	Upper-Middle	Upper-Middle	Authoritarian
The Gambia	Low	Low	Authoritarian
Kenya	Lower-Middle	Low	Hybrid
Lesotho	Lower-Middle	Lower-Middle	Flawed
Madagascar	Lower-Middle	Low	Hybrid
Mauritania	Lower-Middle	Lower-Middle	Hybrid
Mauritius	Upper-Middle	Upper-Middle	Democratic
Mozambique	Low	Low	Hybrid
Namibia	Lower-Middle	Upper-Middle	Flawed
Rwanda	Low	Low	Authoritarian
Senegal	Lower-Middle	Lower-Middle	Flawed
South Africa	Upper-Middle	Upper-Middle	Flawed
Sudan	Lower-Middle	Lower-Middle	Authoritarian
Swaziland	Lower-Middle	Lower-Middle	Authoritarian
Tanzania	Low	Low	Hybrid
Togo	Low	Low	Authoritarian
Uganda	Low	Low	Hybrid
East Asia & Pacific (5)			
China	Low	Upper-Middle	Authoritarian
Indonesia	Lower-Middle	Lower-Middle	Flawed
Malaysia	Upper-Middle	Upper-Middle	Flawed
Philippines	Lower-Middle	Lower-Middle	Flawed
Thailand	Upper-Middle	Upper-Middle	Flawed
Europe & Central Asia (9)			
Armenia	Lower-Middle	Lower-Middle	Hybrid
Belarus	Upper-Middle	Upper-Middle	Authoritarian
Bulgaria	Upper-Middle	Upper-Middle	Flawed
Hungary	Upper-Middle ³	Upper-Middle	Flawed
Kazakhstan	Upper-Middle ³	Upper-Middle	Authoritarian
Kyrgyz Republic	Lower-Middle	Lower-Middle	Hybrid
Moldova	Upper-Middle	Lower-Middle	Flawed
Romania	Upper-Middle	Upper-Middle	Flawed
Ukraine	Upper-Middle	Lower-Middle	Hybrid

Latin America & Caribbean (14)

Argentina	Upper-Middle	Upper-Middle ⁴	Flawed
Brazil	Upper-Middle	Upper-Middle	Flawed
Colombia	Upper-Middle	Upper-Middle	Flawed
Costa Rica	Upper-Middle	Upper-Middle	Democratic
Dominican Republic	Lower-Middle	Upper-Middle	Flawed
Ecuador	Upper-Middle	Upper-Middle	Hybrid
El Salvador	Lower-Middle	Lower-Middle	Flawed
Guatemala	Lower-Middle	Lower-Middle	Hybrid
Honduras	Lower-Middle	Lower-Middle	Hybrid
Mexico	Upper-Middle	Upper-Middle	Flawed
Panama	Upper-Middle	Upper-Middle	Flawed
Paraguay	Lower-Middle ⁵	Lower-Middle	Flawed
Peru	Lower-Middle	Upper-Middle	Flawed
Venezuela	Upper-Middle	Upper-Middle	Hybrid

Middle East & North Africa (7)

Algeria	Upper-Middle	Upper-Middle	Authoritarian
Egypt	Lower-Middle	Lower-Middle	Authoritarian
Iran	Upper-Middle	Upper-Middle	Authoritarian
Jordan	Upper-Middle	Upper-Middle	Authoritarian
Morocco	Lower-Middle	Lower-Middle	Hybrid
Tunisia	Lower-Middle	Upper-Middle	Hybrid
Turkey	Upper-Middle	Upper-Middle	Hybrid

South Asia (4)

Bangladesh	Low	Low	Hybrid
India	Lower-Middle	Lower-Middle	Flawed
Pakistan	Lower-Middle	Lower Middle	Hybrid
Sri Lanka	Lower-Middle	Lower-Middle	Hybrid

Notes: 1, GNI per capita @PPP, \$US, 1990, based on 2011 ICP Round data.

2, EIU *Democracy Index* classification.

3, data for 1993.

4, No data available, classification is non-controversial.

5. Data for 1995.

Table 2: Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
1. GDP per capita Growth (% annual)	1452	0.02	0.05	-0.64	0.31
2. Lagged GDP per capita (logarithm)	1453	7.34	1.,01	4.96	9.37
3. Domestic Investment (% share of GDP)	1459	0.25	0.15	0.00	2.62
4. Labour Force (% growth as share of total population)	1403	0.00	0.01	-0.09	0.07
5. Government Expenditure (share of GDP)	1467	0.14	0.06	0.02	0.41
6. Inflation (% annual)	1515	0.46	2.90	-0.26	62.61
7. Secondary School Enrolment (%)	1400	0.60	0.27	0.05	1.10
8. FDI (% share of GDP)	1494	2.92	105.51	-0.16	4076.01
9. Political Development Score (points)	1525	5.31	1.65	1.50	8.17

Table 3: Growth Effects of FDI in Emerging & Developing Countries: All Countries & Income Classification

Dependent Variable: GDP per capita growth rate					
	Model 1	Model 2	Model 3	Model 4	Model 5
	All Countries	All Countries	Upper-Middle Income	Lower-Middle Income	Low Income
Lagged GDP per capita	-0.0817*** (0.0101)	-0.0833*** (0.0102)	-0.0751*** (0.0108)	-0.1158*** (0.0178)	-0.0454*** (0.0271)
Domestic Investment	0.0364*** (0.0113)	0.0323*** (0.0112)	0.1500*** (0.0284)	0.0153 (0.0107)	-0.1213 (0.0755)
Labour Force Growth	-0.1497* (0.0893)	-0.1494* (0.0894)	-0.01172 (0.0924)	-0.3573* (0.1894)	0.8481 (0.5997)
Government Expenditure	-0.2785*** (0.0423)	-0.2755*** (0.0423)	-0.2379*** (0.0678)	-0.2618*** (0.0593)	-0.1570 (0.0999)
Inflation	-0.0039*** (0.0011)	-0.0043*** (0.0012)	-0.0109*** (0.0014)	-0.0016 (0.0012)	-0.0016 (0.0308)
Secondary School Enrolment	-0.0343* (0.0177)	-0.0318* (0.0178)	0.0096 (0.0228)	-0.0538 (0.0337)	-0.0662 (0.0559)
Lagged FDI	-0.0026* (0.0015)	-0.0507 (0.0554)	-0.0836 (0.0843)	-0.1876** (0.0932)	0.8553*** (0.2836)
Political Development Score	0.0396*** (0.0133)	0.0399*** (0.0132)	0.0441*** (0.0133)	-0.0044 (0.0111)	0.0047 (0.0317)
Lagged FDI * Secondary School Enrolment	...	-0.0599 (0.0561)	-0.0740 (0.0854)	0.0044 (0.0612)	0.7008 (0.5309)
Lagged FDI * Political Development Score	...	0.0010 (0.0021)	-0.0047 (0.0055)	0.0309*** (0.0119)	-0.2184*** (0.0571)
Intercept	0.5265*** (0.0776)	0.5372*** (0.0778)	0.3992*** (0.0803)	0.9428*** (0.1260)	0.3050* (0.1796)
R-squared	0.3879	0.3899	0.5197	0.4152	0.4530
Number of countries	61	61	28	22	11
Root Mean Square error	0.0361	0.0361	0.0310	0.0378	0.0372
Number of observations	1213	1213	561	455	197
Wald Chi Square (p-value)	0.000	0.000	0.000	0.000	0.000

Notes: 1, Standard errors in parentheses and * p < 0.10, ** p < 0.05 and *** p < 0.001.

2, All estimations control for control for country- and time-specific effects.

Table 4: Growth Effects of FDI in Emerging & Developing Countries: Political Regime

Dependent Variable: GDP per capita growth rate			
	Model 6 Democracies	Model 7 Hybrid Democracies	Model 8 Authoritarian
Lagged GDP per capita	-0.1339*** (0.0185)	-0.1081*** (0.0188)	-0.0536*** (0.0145)
Domestic Investment	0.1413*** (0.0304)	0.0156 (0.0119)	-0.0279 (0.0489)
Labour Force Growth	-0.0333 (0.1169)	-0.5694*** (0.1696)	0.0943 (0.1764)
Government Expenditure	-0.0537 (0.0676)	-0.3218*** (0.0696)	-0.3441*** (0.0941)
Inflation	-0.0084** (0.0037)	-0.0013 (0.0011)	-0.0090*** (0.0019)
Secondary School Enrolment	-0.0830*** (0.0237)	-0.0108 (0.0336)	0.0349 (0.0439)
Lagged FDI	-0.3370 (0.5479)	-0.1296 (0.0887)	0.7801*** (0.2987)
Political Development Score	0.0009 (0.0771)	-0.0727 (0.0804)	-0.0027 (0.1066)
Lagged FDI * Secondary School Enrolment	0.2323*** (0.0382)	0.0907*** (0.0305)	0.3182*** (0.0708)
Lagged FDI * Political Development Score	0.0475 (0.0830)	0.0328*** (0.0116)	-0.2555** (0.1078)
Intercept	-0.4185** (0.1775)	0.4916*** (0.0932)	-0.7749*** (0.1939)
R-squared	0.4096	0.4530	0.5626
Number of countries	25	20	16
Root Mean Square error	0.0320	0.0363	0.0366
Number of observations	534	384	295
Wald Chi Square (p-value)	0.000	0.000	0.000

Notes: 1, Standard errors in parentheses and * p < 0.10, ** p < 0.05 and *** p < 0.001.
2, All estimations control for control for country- and time-specific effects.