The Informal Market for Foreign Direct Investment: The Attractive Power of Country-Specific Characteristics

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Abstract:

The various spillover effects generated from inflows of foreign capital aid impoverished countries in stepping from behind the curtain of extreme poverty and often fosters the provision of good governance. This study seeks to provide public policy experts with a clearer understanding of foreign investor risk matrices. It also explores whether three non-financial host-nation characteristics generate substantial inflows of foreign direct investment (FDI) for developing economies. Using three areas where host-nation characteristics impact the prevailing business environment, (a) infrastructure, (b) strength of the legal system, and (c) government regime type, this exposition employs time series multiple variable analyses to determine the extent of these factors' importance in attracting net inflows of foreign direct investment. Using several well established data sources, providing observations from 1960 through 2010, sixty-four countries were analyzed for the importance these three characteristics hold in attracting net inflows of FDI. The results of the analysis disclosed that infrastructure, once reaching a mature threshold of development, significantly increases inflows of FDI. However, these increases in FDI only occur after the national infrastructure grid is quite robust, suggesting that investment in national infrastructure fails to generate near-term inflows of FDI but remains important for long-run economic growth. Regime type, either autocratic or democratic, is generally irrelevant in the investment risk matrices unless governance authority patterns very closely harmonize with highly democratic regimes. Nations whose authority patterns closely parallel autocracies tend to display lower, or even outflows, of FDI than in highly democratic states. Finally, the strength of the legal system to attract FDI was insignificant and revealed possible indicia that the variables used herein might inadequately capture the targeted host-nation characteristic.

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I. *INTRODUCTION*

Early foundations of modern economic theory, well before Adam Smith's treatise on the nature and causes of national wealth, were concerned whether the factors of production were unencumbered in finding their highest return (Barber, 2009). Investor decisions today are no different from those prevailing in the 18th century, particularly in searching for optimal returns on invested capital. However, unlike the more-constrained economic practices of the 15th and 16th centuries, modern factors of economic production flow across sovereign borders with unprecedented pace and regularity (Lowry & Gordon, 1998; Tawny, 1926). Accompanying this increase in cross-border investment activity is the emergence of an informal marketplace where countries compete for the attention of multinational enterprises (MNE) and their compliment of foreign direct investment (FDI) (Biglaiser & DeRouen, 2005; Grant & Hutchingson, 1996). What makes this market unique, considering that FDI flows into both developed *and* developing economies, are the investment risks related to country-specific characteristics which make a particular host nation more attractive to foreign investors.

This paper explores whether certain host-country characteristics, coupled with standardized returns on investment, more accurately define the nexus between foreign direct investment and location than investment return alone. More specifically, the focus of this research endeavor will seek to further understand the impact which governance and regulatory institutions hold in attracting FDI. Do governments which identify, improve, and exploit certain location-specific characteristics, those which investors consider most influential to their investment-risk calculus, capture a larger-than-anticipated share of FDI and ultimately generate greater economic gains for their domestic constituency? The primary contention here is whether

the strength of a country's legal system, its infrastructure, and authority pattern (regime type) affect inflows of FDI.

H_0 = Government authority patters (regime type) is net neutral in determining inflows of FDI
H_1 = Democracies attract greater inflows of FDI than Autocracies

H_0 = The national power grid does not influence inflows of FDI
H_1 = Energy Infrastructure is vital to the FDI calculus

H_0 = Complex and relatively weak legal structures is net neutral to FDI
H_1 = Strong and uncomplicated legal systems attract inflows FDI

International investment decisions generally face two pillars for profit maximization: maximizing returns and minimizing costs (Pindyck & Rubinfeld 2007, p. 265). Under the *cost* side of this equation are the host-nation characteristics which pose unique non-financial risks to such investments. Clarifying the importance of these country-level characteristics presents significant value should it define a truer investment risk matrix whereby investors more accurately assess the loss-potential associated with an investment location. It may also prove beneficial in verifying the existence of long-horizon growth trends in the presence of governance reforms. In addition, countries seeking to attract greater inflows of FDI can market their favorable attributes within the informal FDI market and press their domestic constituency for further reform of high-value public policies, both of which increase the locations' attractiveness to potential investors.

II. *WHY MEASURE FDI FLOWS OVER OTHER FORMS OF INVESTMENT?*

Despite governments' efforts to entice FDI, investors debate the answer to one vitally important question: How safe is their investment? Ultimately, the commitment to invest finite capital resources are driven by considerations beyond purely financial measures of expected returns, specifically: investment risk. Multinational enterprises (MNE) often explore two investment vehicles, each holding unique intrinsic risk when accessing foreign markets: (i) sovereign debt, or (ii) foreign direct investment. When compared with debt financing, the sovereign risk associated with FDI is relatively more severe due to the tangible investments' complete immersion in the host-nation's socio-political and judicial framework (Schnitzer 2000, p. 41). More specifically, risk of loss is directly linked to the host-nation's respect for

> the doctrine of acquired rights, particularly with respect to expropriation of foreign property. Also, the rules governing State contracts, such as *pacta sunt servanda*, and the prescription of non-discriminatory treatment of alien and alien property, (Asante, 1988, p. 590)

are both factors which mandate far greater scrutiny of country-specific characteristics (risk factors) before committing to invest (Feng, 2001; Schnitzer, 2000).

Though sovereign debt default has similar risks, FDI faces exposure to other risks as well, more specifically, asset expropriation. While scholars examined economic and financial factors affecting FDI, the theoretical literature offers less attention to the impact of political and legislative influences on FDI (Schnitzer, 2000). Furthermore, after a multinational enterprise has sunk the requisite costs needed to develop production facilities abroad it is tempting for host-nations to change the rules of doing business so as to acquire the desired capital through

expropriation, an unparalleled risk in other investment vehicles (Vernon, 1971). Eaton and Gersovitz (1984) also discuss this form of risk. They focus on two primary categories of risk facing FDI: (i) uncompensated host-nation expropriation, and (ii) a change in taxation, export and import duties, or other licensing fees imposed upon the multination enterprise (MNE). The latter of these comprise a more subtle form of expropriation called "creeping expropriation," whereby the host-nation regulatory environment seeks to capture part of the investment returns (Schnitzer, 2000).

Some added information is beneficial to illustrate the extent of real risk associated with outright expropriation of foreign assets and why host-country characteristics are so important to the investment risk matrices. Kobrin (1980) reports that, from 1960 through 1976, there were 1,535 cases in seventy-six less-developed countries in which host-nations expropriated foreign firms' assets. While nationalization was historically the dominant form of expropriation, host-nation regulatory changes and other forms of government intervention increasingly account for the majority of forced foreign firm divestment. Here, the risk to foreign direct investment stems from post-investment changes to the rules of business prevailing within the host-nation. Once costs are sunk, the MNE is essentially helpless in preventing the host nation from capturing a portion of the returns to capital through the regulatory regime (Kobrin, 1987). More recently, fewer cases of conspicuous expropriation are coming to light. In its place, incidents of "creeping" expropriation are beginning to dominate the investment landscape (Andersson, 1991). These less-observable shifts in host-nation tax policy and foreign ownership rules appear to be gaining headway as proxies for politically contentious overt expropriation.

Given FDI's unique form of investment risk, this research will focus on the influence of host-nation characteristics, specifically those which influence FDI decisions, for two important

reasons. First, the geo-political risks associated with FDI decisions demand greater accuracy in measuring the potential for loss. Identifying the most influential host-nation components which attract foreign investment inflows will result in a more precise country-risk matrix and bestow benefits to investors and host-nations alike. Second, FDI is completely immersed in the host-nation's socio-political fabric, a consideration less important to other investment vehicles. The extent to which firms choose to invest in production abroad significantly depends on the location-specific factors it faces (Nigh, 1986; Asante, 1988; Nunnenkamp & Spatz, 2004; Asiedu, 2002; Busse & Hefeker, 2005, Biglaiser & DeRouen, 2005). A truer understanding of host-nation characteristics in FDI determinant theory is vital to finding elevated economic growth in an increasingly globalized system. However, before discussing the specific influence of host nation characteristics this paper will make the benefits of FDI more transparent.

III. *THE ECONOMIC IMPORTANCE OF FOREIGN DIRECT INVESTMENT (FDI)*

Economic development, particularly within frontier and least developed countries, finds great value in drawing on the benefits of FDI. These investments take a variety of forms (i.e. equity capital, inter-company debt) and, unlike portfolio investment, are typically not made in speculative investment environments but rather to access unexploited natural resources or global markets through export industries.

FDI has since become one of the most stable and economically important flows of international capital. Since the early 1970s, direct investment has outpaced international trade and is now the dominant form of external development finance for developing economies (Alderson, 2004). The United Nations Conference on Trade and Development (UNCTAD)

expected global FDI to reach $1.2 billion by the close of 2010 and reach $1.6 to $2 billion by 2012 (www.unctad.org/templates/webflyer.asp?docid=13423&intItemID=2068&lang=1).

The importance of FDI to developing economies should not be overlooked. In regions where capital markets are dysfunctional or nonexistent, FDI offers access to foreign capital and avenues of production otherwise not endogenously found within the host-nation. In several studies (Markusen, 1995; Markusen & Venables, 1999), FDI was shown to consist predominantly of highly technological multinational firms which generate positive spillover effects into the host economy. These spillover effects emanate from imported managerial expertise, product differentiation, sophisticated technical innovation and its paired maintenance industry, and the knowledge transfer to the domestic labor market. Further, these firms occupy export industries and generate foreign exchange for the host country. Equally beneficial to the host economy, foreign firms generate direct employment opportunities, as well as indirect opportunities, such as those which stem from the development of complimentary industries. FDI brings with it managerial skill to the production process, technical knowledge, organizational capabilities, and access to foreign markets (Easton & Gersovitz, 1984). These intrinsic benefits, in turn, create competition among governments to attract such investment and establish a *de facto* international market for FDI.

However, before investigating the influence of country-level characteristics in attracting foreign direct investment, it is imperative I provide a succinct and useful definition of FDI. For consistency throughout this research, FDI is defined as private capital flows from a parent firm to a location outside the parent firm's home nation (Jensen, 2003). Although the literature divides FDI into several categories (i.e. market-seeking and efficiency-seeking) there are concerns regarding the accurate ability to intuit investor intentions based upon these decision-making

classifications (Nunnenkamp & Spatz, 2004). This investigation will not discriminate between FDI intentions, rather its foci will remain with the location-specific characteristics where FDI is actually invested.

Central to the conversation on determinants of FDI are the methods which MNEs implement the findings, often culled from scholarly research, into their business models. The primary factors affecting foreign direct investment are pinned to questions of how best to estimate non-financial measures of country risk. However, there exists a methodological inconsistency among practitioners seeking to evaluate the viability of new FDI projects, regardless of whether they intend on entering untapped markets or established industries. What makes this of interest is the volume of foreign investment flowing into both developed and developing economies. Dominating the business literature are primarily financial and economic explorations of investment considerations, almost all of which rely on individual rates of return (IRR) or net present value (NPV). Remarkably, there is little consensus when considering non-financial factors.

Contemporary practices to evaluate country-level risks widely vary. A number of financial firms offer products estimating country risk using various indices or multi-tiered guides. These products are comprised of financial, economic, and political risk information. However, these "risk guides" are not usually calculated purely on the basis of objective factors, rather, they depend on subjective evaluations by analysts. The reason for this lack of a standardized risk matrix is that geo-political risks do not lend themselves to easy quantification based on objective data (Voss, 1982). Despite firms' employing slightly different methodology, each index aggregates a mix of qualitative and quantitative information.

The problem inherent in any of these products is the inclusion of experts' subjective assessment of which factors they believe most relevant to their investment. For example, *Institutional Investor* publishes credit ratings generated from survey data provided by leading international bankers, giving greater weight to respondents who hold greater exposure to global and more-robust country analysis systems (Erb, Harvey, & Viskanta, 1996). Political Risk Services' *International Country Risk Guide* calculates a composite risk metric using five financial, thirteen political, and six economic factors. In this index, political risk is predicated on subjective staff analyst information while economic risk is objectively culled from quantitative data. However, Political Risk Services applies political risk (100 points) with twice the weight of that given to economic and financial risk (50 points each). Regardless of the product's complexity or composition, its apparent businesses and investors have an inconsistent lens through which they value host-nation characteristics as risks, or benefits, to their investments.

IV. *COUNTRY-LEVEL NON-FINANCIAL FACTORS AFFECTING FDI*

The literature on FDI determinants concentrates on three broad categories: economic reforms; macroeconomic conditions; and good governance explanations. Intuitively, financial and macroeconomic conditions might be deemed the dominant considerations in FDI decisions. However, the literature is mixed on the ability of these characteristics to forecast FDI flows (Dunning, 1981; Markusen, 1995; Cho, 2003). Dunning's *Ownership-Location-Internalization* (OLI) framework is generally considered the paradigmatic theory of the multinational enterprise's investment decisions (Jensen, 2003; Fabry & Zeghni, 2005). Biglaiser and DeRouen (2005) offer a good explanation of Dunning's assertions. Economic and macroeconomic conditions generate different incentives to foreign investors. In one circumstance, economic

growth rates, or per capita gross domestic product (GDP), might explain foreign firms' investment decisions. A relatively high per capita GDP implies a larger local market for MNC goods (Trevino, Daniels, & Arbelaez, 2002). Certain host-countries offer the MNC exposure to domestic consumers who are shielded from import competition through high tariffs or import quotas. However, lower per capital GDP might be of equal value to investors searching for a location where reduced wage costs are valuable to labor-intensive industries (Biglaiser & DeRouen, 2005). In all, the value of economic reforms or macroeconomic conditions in forecasting FDI decisions remains mixed and considerably industry-specific.

Conceptualizing a measurement of host-nation FDI *attractiveness* will rest on several indicators analyzed individually and in aggregate. This composite index of *attractiveness* will attempt to uncover the influence, if any, of its subordinate components or any interaction effects in attracting FDI. Using a multivariate approach in defining a nation's *attractiveness* seeks to identify which characteristics, focusing primarily on country-level components, are most influential in enhancing a location's perceived value in the marketplace for FDI. Two categories of independent variables, *regime type and stability*, and *strength of the legal system*, were chosen for their innate ability to represent the influences (or lack) of the host-nation's domestic constituency, particularly in areas considered important in attracting inflows of FDI (Asante, 1988; Nigh, 1986; Goldberg & Kolstad, 1995).

Foster (2000) employed a two-layered survey method to explore host-nation characteristics influencing FDI decisions. The postal survey was sent to sixty of the United Kingdom's top 250 multinational firms actively engaged in FDI with respondents receiving a follow-up interview. What Foster uncovered was a systematic treatment of financial risks to investments but an inchoate approach to non-financial host-specific risks. However, the survey

gleaned two common considerations: host-nation legal structure and country risk. Most important from Foster's work was a discovery that FDI investors are unclear in how best to incorporate certain host-country risks into hurdle rates applied to proposed investments and the clear absence of formal modeling (p. 49).

Do non-financial determinants of FDI suffer from the same form of uncertainty found within purely financial risks? Prudent investment decisions made by multinational corporations, particularly toward long-term FDI projects, consider a wide compendium of risk, some of it originating from host-nation characteristics (Biglaiser & DeRouen, 2005). Vernon's (1971) seminal exposition, in which he described the "obsolescing bargain"[1], was the genesis of a generation of scholarly explorations into the paradigmatic relationship between host-nation characteristics and foreign direct investment. This exploration investigated a plethora of factors, for example, respect for property rights, corruption reputation, and political stability, in efforts to better understand their contribution and influence in investor decisions (Birch, 1991; Crenshaw, 1991; Tuman & Emmert, 2004).

Research into host-nation economic reform policies was undertaken by Birch (1991). She sought to define the influences of Latin American policy reforms toward attracting inflows of FDI. These reforms, targeting what can be considered democratic and market-centric changes, opened Latin America to increased inflows of FDI in government trends of privatization and eventually the manufacturing and banking industries. Although the inflows of FDI were

[1] For a detailed discussion on the "obsolescing bargain" see R. Vernon (1971, 1980). The theory predicts that over the course of time the bargaining power of the multinational enterprise (MNE) will erode. In the initial stages of investment, the MNE enjoys a large degree of bargaining power as the host nation may want to attract a particular brand of capital, technology, or managerial expertise. Over time, the host nation may be swayed, either through political pressure or a perception of reduced dependence on the MNE for development, and subsequently alter the terms of the indigenous business regulatory framework. Such concerns are important in the MNE investment risk calculus as the terms of risk shift once capital has been sunk.

significant, they accompanied capital market volatility where the nascent regulatory superstructure was unprepared to contend with rapid shifts in the flow. Birch underscores the importance of perceptions of government efficiency in attracting FDI.

Research by Crenshaw (1991) sought to define the importance of specific host-nation characteristics while addressing some of the analytical techniques used in other research. The importance of three characteristics, extent of government spending, political instability, and the indigenous endowment of educated labor, are analyzed for their effect in attracting FDI. Crenshaw, using panel regression (weighted least squares (WLS)) for Latin American countries from 1967 through 1978, showed that levels of government spending and investment in domestic education attainment induce increased levels of FDI. The importance of political instability, using Crenshaw's data and methods, were less obvious (p. 1179).

The research into FDI determinants has considered host-nation characteristics within developed as well as developing or frontier countries. Asiedu (2002) examined the ability of Sub-Saharan Africa to attract foreign investment. She uses cross-sectional data from seventy-one countries to identify the factors which direct FDI flows into developing economies. Using ordinary least squares (OLS) models, her results show a measure of openness-to-trade, the ratio of trade to gross domestic product (GDP), has a positive impact on net inflows of foreign investment into less developed economies as well as Sub-Saharan Africa.

Bandelj (2002) continues this thread of research by testing the strength of a relational approach in explaining FDI flows into eleven Central and Eastern European countries using OLS and fixed effects regression analysis between investor-host dyads from 1995 to 1997. Her results suggest the relation between foreign investors and hosts, particularly political alliances, are important to shaping FDI flows.

Tuman and Emmert (2003) also investigate the importance of political instability and endowment of skilled labor on attracting inflows of FDI. They analyzed host-nation characteristics of fifteen Latin America and Caribbean countries between 1979 and 1996 and compared them to channels and volumes of FDI inflows. Their research takes a closer inspection of variations to Dunning's (1981) *Ownership-Location-Internalization* (OLI) theory of FDI determinants. These variants of Dunning's model adduce the importance of the domestic political environment, particularly focusing on refined measures of instability, and property rights on attracting foreign capital. They also inspect *class*-analytical approaches to determinants of FDI flows. The *class*-analytical approach suggests that, despite regime changes, states which oppress their labor and working-class are more likely to maintain a consistent investment climate and attract increased FDI (p. 14). Employing a multivariate regression model to their pooled cross-sectional time-series data set, their results suggest that the endowment of educated labor, security of property rights, and political stability are important determinants of inflows of U.S. FDI into Latin America (p. 22).

Scholars, intent on identifying the MNE-host nation investment calculus, sought to understand the link between regime type and democratic rule to confidence in the safety of FDI from expropriation (Li & Resnick, 2003; Oneal, 1994; Tures, 2003). Jenson (2003) examines the political preconditions for attracting FDI using cross-sectional and panel regression analysis. He estimates the effects of economic conditions, policy decisions, and democratic institutions for 114 countries in the 1980s on the level of FDI flows in the 1990s. His findings suggest that democratic governments and institutions are associated with higher levels of FDI inflows.

A review of the literature also assesses the value of country risk and market openness (Foster, 2000). Economic policies reflect the influences of a domestic constituency and the

investment philosophy within the indigenous polity rather than pure economic efficiency. Erb, Harvey, and Viskanta (1996) deconstruct country risk into two categories: ability to pay and willingness to pay. Although *ability to pay* is defined by economic and financial characteristics, political risk is a measure of *willingness to pay*. Thus, a consistent political environment infers a reduction in asymmetric investment information and clarifies the degree of "nativistic" openness to FDI (Jensen, 2003).

Nigh (1986) also examined the relationship between foreign direct investment and political stability. Using regression analysis from twenty-one years of pooled times-series and cross-sectional data from eight countries, he found that political conflict or cooperation, both intra-national and inter-national, impact FDI decisions. These findings suggest the importance of location-specific political structures in the investor's decision to undertake a FDI project. Moreover, such findings urge further clarification of the interaction effect between political stability and regime type to the broader investment decisions by foreign firms, an effect which this investigation will seek to clarify.

Biglaiser and DeRouen (2005) explored the effect of good governance and economic reforms in attracting FDI inflows into Latin America. Their study used panel data for fifteen Latin American countries from 1980 through 1996. They conclude that good governance positively influences the inflows of FDI, particularly when such measures intend to protect property rights from expropriation.

Invigorated by Vernon's work (1971), scholars sought to find the value of host-nation legal structures in attracting FDI and what extent they act as prerequisites for investment. Butler and Fauver (2006) have also shown that strengthening national legal structures directly increases volumes of FDI and should be considered a valuable measure of a nation's appeal to MNEs.

Asante (1988) also focused on the legal issues which affect the relationship between host countries and foreign companies. The core finding of his research illuminated the vast lacuna between exercising domestic regulatory changes under an overriding justification of national sovereignty and traditional principles of customary international law. Asante is right in exposing the limits of multinational enterprises to redress changes in host-nation business laws, a nontrivial risk to FDI projects and investments in non-Western economies.

Assuming multinational enterprises are rational risk-averse actors in the global market, the location-specific business environment is an important consideration in choosing to locate production plants abroad. Goldberg and Kolstad (1995) investigate the implications of exchange-rate regime and inflections in short-term exchange rate volatility for FDI flows. To reveal the correlation they used quarterly bilateral foreign direct investment activity between Canada, Japan, the United States, and United Kingdom, between 1978 and 1991. Using a two-period econometric model of the inter-temporal decision making of a producer, Goldberg and Kolstad empirically show that exchange rate volatility tends to stimulate foreign direct investment (p. 870).

In the challenge to attract FDI from its informal market, physical infrastructure development holds benefits beyond merely channeling inflows of FDI. Where lower wages elsewhere are attractive to foreign investors, host nation infrastructure investment has the power to offset the impact of higher wages and clear some of the nuisance costs associated with FDI projects in frontier or moderately developed countries (Wheeler & Mody, 1992). Amaro and Miles (2006), collecting data on sixty-one emerging markets, estimated a Seemingly Unrelated Regression (SUR) model which compared the impact of infrastructure investment and wage rates on flows of FDI. Their study concluded that, where emerging markets face the dilemmas of low

domestic savings, low government revenues, and hard currency shortages, FDI constitutes capital and infuses the host economy with its concomitant benefits. Ultimately, they find that physical infrastructure investment yields positive inflows of FDI, even where wages are lower in alternative locations.

V. *DATA SET DESCRIPTION*

Empirically testing the importance of country-specific characteristics, which describe the flow of foreign direct investment (FDI), requires the identification of factors which appropriately capture the relationship in question. In this analysis, the aggregate data set is culled from several sources. The World Bank's website *Doingbusiness.org*. provided valuable metrics which capture county-specific characteristics from 2003 through January 2012 and provides objective measures of the business environment within 183 countries in terms of codified business regulations and their enforcement. The *Doing Business Project* looked at domestic small and medium size businesses and measured the regulations applying to them over the course of a business life cycle. Although the World Bank initially collected quantitative data on only five indicators, more recent reports have included eleven indicators from the participating economies. This study, in contrast, elected to use only a portion of the countries included in the World Bank's data set, as the focus of this study is in identifying public policy initiatives for developing and emerging economies. Thus, the majority of the world's largest and most prosperous economies have been excluded based on two criteria, (i) the perceived importance of foreign direct investment to a country's total revenue stream and (ii) the completeness of data for the time period of concern, to wit: 1960 through 2010 (Wolf, 2004).

First, FDI remains the dependant variable of interest in each model. However, the definition used by the World Bank is very specific:

> Foreign direct investment are the net inflows of investment to acquire a lasting management interest (ten percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments, and listed in current U.S. dollars. (http://www.doingbusiness.org/methodology)

The explanatory variables used in this analysis fall under three categories: legal structure, infrastructure, and government authority patterns (government regime type). These categories are prominent throughout the literature as factors used to explore the influence of host-nation characteristics on FDI. Prior research has shown these characteristics generate positive inflows of FDI (Jenson, 2003; Li & Resnick, 2003; Oneal, 1994; Tures, 2003; Tuman & Emmert, 2003; Crenshaw, 1991). However, this analysis will explore whether one trait is dominant in generating inflows of FDI.

Within the *Doingbusiness* data set are quantitative indicators on the enforcement of contracts which measure the efficiency of the judicial system in resolving business disputes. The data were collected through legal experts' study of the codes of civil procedure as well as survey responses from litigators and judges (http://www.doingbusiness.org/methodology/enforcing-contracts). The method of data collection traces the chronology of a legal dispute and includes legal costs as well as duration of time for the entire process, as measured in dollars and days, respectively. Further, the number of procedures needed to fully complete the full enforcement action.

In addition, the United States Central Intelligence Agency (CIA) publishes The World Fact Book, a compendium of the history, people, government, economy, and other national characteristics for 267 world entities (https://www.cia.gov/library/publications/the-world-factbook). Government structure, openness of economy, and regime type are also included in this reference but were used purely as a corroboratory reference for the overall analysis and subsequently not measured or coded (Jensen, 2003).

Within the subgroups of independent variables selected for study, political regime and legal structure, a total of five primary variables were chosen for their ability to capture the targeted country-specific attribute. Composite indicators of political regime were culled from the Polity IV Project (Polity IV Project: Political Regime Characteristics and Transitions, 1800-2010, Center for Systemic Peace.; World Bank, *Doingbusiness.org*) which uses two methods to quantify government attributes. Measures of institutional democracy and autocracy are indicated using an eleven-point scale (0-10). These two variables are not opposite ends of a single governance continuum, rather, they are measures of different patterns of governing authority. In recognizing this difference, a country measuring high on the autocracy scale should not be misconstrued as anti-democracy or lacking democratic characteristics. A third variable describing political regime, a measure of regime durability (*Durable*), reveals the number of years since the most recent change in regime (defined as a three-point change in the difference between the institutional autocracy and institutional democracy scores over a period of three years or less).

Finally, a general measure of infrastructure development important to nearly all long-term capital development projects is the availability of adequate electricity production (Wheeler & Mody, 1992; Amaro & Miles, 2006). The measure used here, an aggregation of national all-

source electricity production, will serve to proxy for other important factors in host-nation infrastructure. Alternative infrastructure metrics fail to define the quality of such factors. For example, a measure of road system mileage fails to define whether the road system is congested or limited to single or multi-lane thoroughfares, regardless of road surface quality. Therefore, the measure of infrastructure used here is an aggregate of all-source electricity production (includes hydro, nuclear, fossil fuel) measured in kilowatt-hours.

As can be seen in Figure 1.1 below[2], the mean score on the institutional democracy scale (*Democ*) was slightly lower than that of the scale for institutional autocracy (*Autoc*), 3.39 versus 3.51, respectively. This infers the countries of study display distinct authority patterns, in general, which are marginally closer in character to authoritarian regimes than to democratic ones. The variable measuring regime durability (*Durable*) showed an average of fourteen years (14.04 years) of stabile government before a new political regime was installed or there was a period of transition where no specific regime could be identified to hold national power.

The second category of interest to the exploration of country-specific characteristics concerns the strength of national legal structures. The two variables used to proxy for the overall strength of the legal system are both composite measures taken from the World Bank's *DoingBusiness.org* website. The first metric, the World Bank's Legal Rights Index, is an eleven-point (0-10) scale indicating the strength of the collateral and bankruptcy laws in protecting the rights of lenders and borrowers. The mean score of the countries included in this sample show a relatively neutral score on measures of legal strength, having a mean score of 4.76 on the eleven-point scale.

[2] See Appendix A for complete list of all descriptive statistics for the samples countries.

Figure 1.1 – Descriptive Statistics

Political Regime Characteristics					
	Obs.	**Mean**	**Std. Dev.**	**Min**	**Max**
Democratic	3103	3.39349	3.602266	0	10
Autocratic	3103	3.51563	3.381073	0	10
Regime Durability (years)	3103	14.03642	16.77736	0	105
Strength of the Legal System					
	Obs.	**Mean**	**Std. Dev.**	**Min**	**Max**
Legal Rights Index	510	4.766667	2.316437	1	10
Contract Enforcement (days)	576	682.6597	264.5266	230	1510
National Infrastructure					
	Obs.	**Mean**	**Std. Dev.**	**Min**	**Max**
Electricity Production (kWh)	1915	3.41e+10	7.89e+10	0	8.99e+11

Source: Polity IV Project: Political Regime Characteristics and Transitions, 1800-2010, Center for Systemic Peace.; World Bank, *Doingbusiness.org*

This is interesting to note as the literature on country-specific characteristics found national legal structure to positively influence inflows of FDI (Foster, 2000; Butler and Fauver 2006). A relatively unremarkable mean score on the Legal Rights Index infers legal systems which do not provide strong and clearly defined protection for parties to commercial transactions. A second measure of legal structure used here is the length of time it takes to enforce a commercial contract, measured in days, from the initial filing of the law suit until the final determination and possibly payment.

These independent variables are to be used in identifying their influence on this study's dependent variable, net inflows of FDI as listed in current United States dollar values (*netFDI*). Testing the null hypothesis of equal population means for the dependent variable was done using the Kruskal-Wallis Equality-of-Populations Rank test using sixty-four countries. This test was chosen as an outlier-resistant alternative to the t-test or ANOVA as it "performs nearly as well as the t-test when the two populations are normal and considerably better when there are extreme outliers" (Ramsey and Shafer, 2002, p. 89). Within the sample, large outliers are present and several variables' distributions violate the assumption of normality and homogeneity of error terms. Employing such non-parametric methods were "not used to transform the date to approximate normality but to transform the data to a scale that eliminates the importance of the population distribution altogether" (p. 90).

The results of the Kruskal-Wallis Equality-of-Populations Rank test showed unequal means between countries and were sufficient to reject the null hypothesis (at the .001 level). This result, in broader terms, indicates significant differences in net inflows of FDI into each country. This same test was conducted using the five primary independent variables of political regime and legal structure and each showed the same significant results, sufficient to reject the null hypothesis.

Figure 1.2 – Test for Significance

Kruskal-Wallis Equality-of-Populations Rank Test (by Country)			
	Chi-squared	**Probability**	**d.f.**
Net FDI	955.92	0.0001	63
Political Regime Characteristics			
	Chi-squared	**Probability**	**d.f.**
Democratic	1433.229	0.0001	63
Autocratic	1267.932	0.0001	63
Regime Durability (years)	1088.964	0.0001	63

Strength of the Legal System			
	Chi-squared	**Probability**	**d.f.**
Legal Rights Index	557.304	0.0001	64
Contract Enforcement (days)	448.998	0.0001	63

Source: Polity IV Project: Political Regime Characteristics and Transitions, 1800-2010, Center for Systemic Peace.; World Bank, *Doingbusiness.org*

To begin, the Pearson's Product Moment Correlation Coefficients (*r*) were generated to investigate whether the variables of choice co-vary or display a relationship justifying further analysis. Though the Kruskall-Wallis Equality-of-Proportions Rank test illuminates a significant difference between country means, the Pearson's Product Moment Correlation Coefficients further define the relationship between variables and reveal whether a direct or inverse relationship exists. In reviewing the correlation coefficients matrix (see Appendix B), there are only two variables' coefficients of sufficient magnitude to suggest they hold a strong and direct linear relationship with inflows of FDI: electricity production (*ElecProd*) and total labor force (*TotLabo*r) (Foster, Barkus, & Yavorskly, 2006).

Figure 1.3 – Correlation Coefficients

Pearson's Product Moment Coefficients, (*r*)						
Variable (Dependent)	**Electricity Production (kWh)**	**Total Labor Force**	**Urban Population (% of total)**	**GDP per Capita (current U.S. dollars)**	**Institutionalized Democracy (scale: 0-10)**	**Institutionalized Autocracy (scale: 0-10)**
Net FDI	0.6511*	0.3549*	0.2953*	0.2157*	0.2207*	-0.1934*

Source: Polity IV Project: Political Regime Characteristics and Transitions, 1800-2010, Center for Systemic Peace.; World Bank, *Doingbusiness.org*
* - *significant at .001 level*

The coefficient matrix reveals electricity production (*ElecProd*), a proxy for national infrastructure, holds a high degree of linear association with inflows of FDI. Access to sufficient and consistent electricity, intuitively, are of importance to foreign investors, particularly when considering plant and factory demands placed upon the national electric grid (Wheeler & Mody,

1992). Though other variables show relationships of lesser strength, it should be noted that all variables, except institutionalized autocracy (*Autoc*), show a direct relationship. This infers that a higher score on the scale for institutionalized autocracy reveals a reduced inflow of FDI.

The composite variables representing Institutionalized Democracy (*Democ*) and Institutionalized Autocracy (*Autoc*) do not measure the same features of governmental authority, but appear as opposites in direction and magnitude in their respective relationship with inflows of net FDI. Moreover, the negative relationship between institutionalized autocracy should not be misunderstood as to say that countries with a higher degree of institutionalized autocracy experience declining inflows or necessarily net outflows of FDI. It should be noted that other geopolitical variables could overshadow any negative influence[3] from highly autocratic regimes and still lead to net inflows of FDI. Hypothetically, the discovery of a large oil reserve within the coastal waters of a highly autocratic regime might exceed the investment hurdle rate and attract foreign investor capital regardless of regime type.

The remaining variables should not, however, be precluded from consideration as influential factors in attracting FDI. The correlation coefficient matrix revealed interesting relationships between other variables as well. For example, electricity production (*ElecProd*) and total labor (*TotLabor*) were positively correlated to a relatively high degree, to wit: a positive coefficient of 0.8752 (see Appendix B). As will be discussed, the array of variables' indirect influence may prove non-trivial in attracting inflows of foreign capital.

VI. *ANALYTICAL APPROACH AND METHODOLOGY*

[3] This terminology is not intended to represent causation. Rather, future research should consider the relationship between flows of FDI and variables not included in this study.

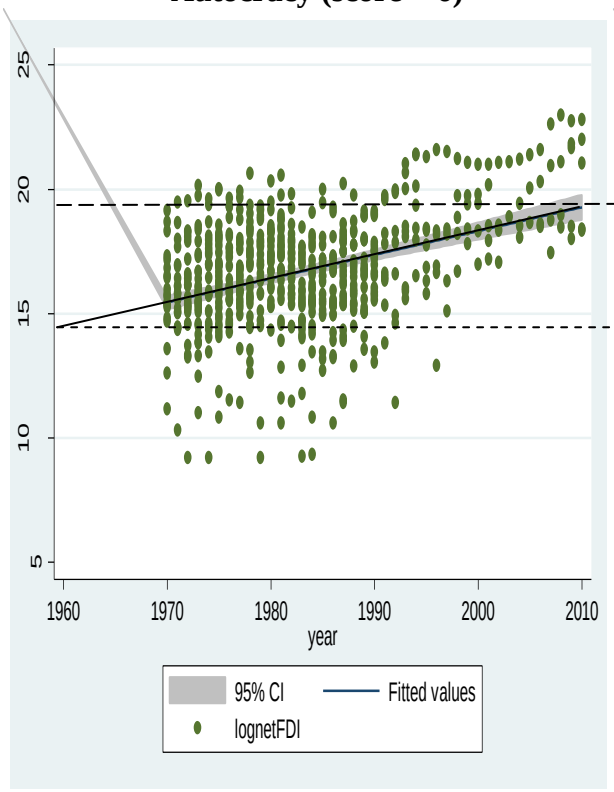
The initial analysis conducted thus far has revealed some significant relationships between country-specific characteristics and net inflows of FDI. However, it has also highlighted the need for a deeper understanding of these factors' importance in attracting FDI and, more importantly, the course public policy should follow in developing an environment which attracts sustained inflows of foreign capital. We have already observed the relative strength of correlation between the selected independent variables and inflows of FDI. Still, defining the role these variables play in attracting (repelling) FDI remains the primary hypothesis presented in this study and one which benefits from more robust analysis.

Continuing with the exploratory analysis, the sample countries were bifurcated into groups based on their relatively high measure of institutionalized democracy or autocracy, defined as a score greater than six on the eleven point scale. In addition, several additional metrics were included which display a relatively strong positive correlation with inflows of foreign direct investment (*netFDI*): total labor force (*TotLabor*) as defined in accordance with the International Labor Organization's definition of an economically active population (www.ilo.org/global/standards), the aggregate all-source electricity production in kilowatt-hours (*ElecProd*), and the total percentage of individuals residing in urban areas (*Urbpop*). Though Gross Domestic Product per capita (*GDPpercap*) and surface area (*SurfArea*) are also positively correlated with flows of foreign direct investment, they are intentionally excluded from the stratification process for the following reasons. Including per capita GDP measures in the analysis would shift the importance of illuminating the gains accompanying good governance for small developing countries by the accompanying inflows of FDI. Excluding surface area from the stratification process was done to avoid interpreting this analysis as only valid for countries

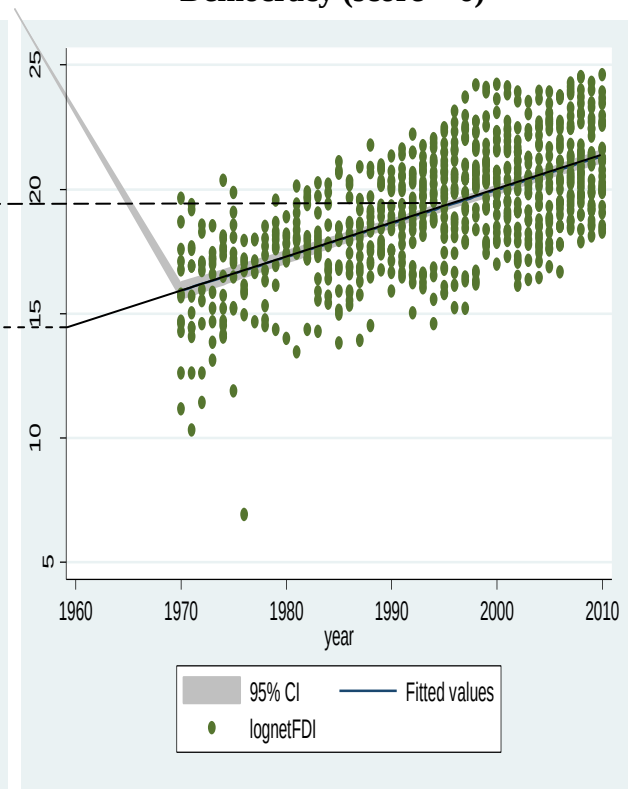
unconstrained by vast land area. Hong Kong or Russia, for example, would obfuscate the importance of surface area in attracting foreign direct investment.

The sixty-four countries were subsequently segregated into two groups. The criterion for inclusion in either group was a mean score above six on the eleven point scale for either institutionalized autocracy or institutionalized democracy. Growth curves were generated for each group to graphically discern any temporal trend. A scatter plot of the variables representing institutionalized autocracy and democracy were graphically set against the natural logarithm of net inflows of FDI[4], as shown in Graphs 1.1 and 1.2.

Graph 1.1 – High Institutionalized Autocracy (score > 6)



Graph 1.2 – High Institutionalized Democracy (score > 6)



Source: Polity IV Project: Political Regime Characteristics and Transitions, 1800-2010, Center for Systemic Peace.; World Bank, *Doingbusiness.org*

[4] This transformation corrects for the non-normal distribution of the variable for net inflows of FDI.

The natural logarithm of net inflows of FDI was incorporated to remove the effect of outliers on and conform to the normality assumption of various analytic models.

The curves reveal that countries scoring high on the institutionalized autocracy (*Autoc*) and democracy (*Democ*) scales begin at similar starting points but differ in their end points over the fifty years of observations, holding other variables constant. Countries scoring relatively higher, greater than six on the eleven-point scale, on the measure of institutionalized democracy attracted greater inflows of FDI, as can be seen by the steeper slope of the fitted values in Graph 1.2 and the horizontal dashed lines extending across both graphs.. Taking a closer look at the two graphs (Graph 1.1 and Graph 1.2), Graph 1.2 concludes the forty year data window slightly above that for countries scoring relatively higher (greater than six on the eleven point scale) on the institutional autocracy scale. These curves offer a visual tool toward understanding the effect these variables have on net inflows of FDI.

In linear regression models two issues usually attract the interests of econometricians. First, can we define a causal influence between the variables used in the model? That is, whether one variable can be used to predict another. Second, do the error terms of the regression model have constant variance? If the variance is changing, as can happen when using cross-sectional data, the error term is heteroskedastic and implies the model results are spurious (Singh et al., 2008).

Against this background several regression models were used to quantify the relationship between the flows of FDI and country-specific characteristics. Initially, a backward-selection stepwise regression method was suggested. However, the resulting coefficients and their respective levels of statistical significance proved problematic. Noted statisticians (Draper N. & Smith H., 1998; Efroymson, 1960; Sribney, 1998) contend the stepwise regression method

produces biased and bloated regression coefficients, generates biased R-squared values, and produces confidence intervals that are falsely narrow. As a procedure for variable selection in multiple regression analysis, this method subsequently excluded variables from this data set which were otherwise found to be statistically significant using different methods (i.e. Prais-Winsten regression, Newey-West regression). Thus, alternative methodologies appear more appropriate.

A first-differences regression and time-series multiple variable regression analyses were subsequently used to generate a parsimonious model that more efficiently described the data. Both methods effectively dealt with issues of multicollinearity and heterogeneity (Globerman & Shapiro, 2002). Globerman and Shapiro (2002) point out that that if individual years were pooled there would be little variation between years and much of the information imbedded in the data would be obscured. Furthermore, Globerman and Shapiro point out that most variation in FDI flows is between countries, not through time. However, Adiedu (2002) reported no discernable difference between using an Ordinary Least Squares (OLS) regression on pooled versus cross-sectional data. As in all models used for this study, all sixty-one countries were used in the respective models. It should be noted that the estimated model used here controls for trend by incorporating an error term, a_i, which controls for the unobserved time invariant factors which affect Y_{it}. Once these factors are 'zeroed' out, all that remains are the idiosyncratic, time-varying factors that affect Y_{it}:

$$\mathbf{\Delta Y_{it} = \beta_0 + \beta_1 \Delta X_{it} + \Delta a_i + \Delta u_{it} + \varepsilon}$$

In the aforementioned models, the output generated similar results with respect to the predictor variables of significance. Specifically, infrastructure and highly democratic regimes inferred positive inflows of FDI.

The first-differences model produced statistically significant beta coefficients for three independent variables: aggregate electricity production (*ElecProd*), GDP per capita (*GDPpercap*), and size of the total labor force (*TotLabor*). The output from the model suggests that increasing national kilowatt-hours (kWh) of electricity production increases net inflows of FDI, net of any particular country, between 1960 and 2010, and while holding other variables constant.

An alternative regression model was generated using the lagged predictor variables. The natural logarithm of net inflows of FDI (*lognetFDI*) was regressed against twelve country-specific predictor variables. In addition, after linear interpolation, the same technique was performed using the raw values of net inflows of FDI[5]. Net of any specific country, the resulting beta coefficients revealed that increasing military spending generated negative flows of FDI (statistically significant at the .05 level). Interestingly, this model also inferred that an increase in the legal rights index generated positive inflows of FDI while an increase in the duration of time needed to enforce a legal contract (*ContrEnf*) stifled inflows of FDI (see Appendix D).

Diagnostic tests were conducted on the aforementioned regression models, specifically the Breusch-Pagan/Cook-Weisberg test for heteroskedasticity. The results revealed the likely presence of heteroskedasticity within the errors. In addition, the first-differences model generated large standard errors. Thus, the final model was adjusted to attempt to control for this issue and a model using less variables was ultimately distilled, as will be shown next.

Next, multiple variable linear regression, incorporating robust standard errors, was used to confirm what previous methods have thus far inferred. This results in the same regression output as regression using Newey-West standard errors with no lag. The dependant variable (net

[5] Net inflows of foreign direct investment are measured in current United States dollars.

inflows of FDI) was regressed against all independent variables, including a time variable (*year*) as well as the inclusion of the lagged dependent variable as an additional predictor (see Appendix D). Of the included predictor variables, only the lagged value of net FDI, aggregate electricity production, and GDP per capita were found to be statistically significant.

Figure 2.1 – Regression Results

Multiple Variable Regression with Newey-West Standard Errors			
VARIABLE	**Coeff.**	**t**	**Sig.**
Electricity Production (kwh)	.0524	7.52	0.000
Total Labor	-41.61	-2.61	0.009
Institutionalized Democracy	1.55e+08	1.35	0.177
Institutionalized Autocracy	9.82e+07	0.59	0.558
GDP per capita	63013.79	2.93	0.004
year	3.64e+08	3.6	0.000
constant	-7.31e+11	-3.61	0.000

F(7, 312) = 19.30, n = 320

Both variables which measure the strength of the legal system (*LeglRight* and *ContrEnf*) were statistically insignificant and the signs of their respective coefficients were negative. This infers that an increase in the number of days taken to conclude a legal suit decreases the net inflows of FDI, a result which conveys that a labyrinthine legal system presents a conspicuous risk to the foreign investor and a theory supported within the literature on FDI determinants (Biglaiser & DeRouen, 2005; Globerman & Shapiro, 2003; Fabry & Zeghni, 2005; Asante, 1988). Contrary to intuition, the negative beta coefficient for the legal rights index (*LeglRight*) infers that an increase in the strength of the legal system leads to a decline in the net inflow of FDI. This output runs counter to the sign and magnitude of these same variables' Pearson's Product Moment correlation coefficients (see Appendix B). In addition, the Variance Inflation Factors

(VIF) for the variables included in this model revealed the likely presence of multicollinearity, especially the variables measuring electricity production (*ElecProd*) and government regime type (*Autoc/Democ*). Such high VIF scores suggest a more parsimonious model is warranted (see Appendix E).

Figure 2.2 – Measure of Multicollinearity

Variance Inflation Factor, (VIF)		
VARIABLE	VIF	1/VIF*
Electricity Production (kwh)	13.65	.0733
Total Labor	9.23	.1083
Institutionalized Democracy	9.09	.1101
Institutionalized Autocracy	7.95	.1258

* - The 1/VIF column gives values equal to $1 - R^2$ from the regression of each variable on the other variables, which tells what proportion of a variable's variance is independent of all other variables.

To supplement to the exploratory analysis, a fixed-effects regression model incorporating a time trend was used to further illuminate the relationships between independent predictors and the net inflows of FDI (dependent variable). The model clustered the data by country, which allowed for intragroup correlation, relaxing the usual requirement that the observations be independent. That is, the observations are assumed independent across groups (clusters) but not necessarily within groups. The associated beta coefficients show similar characteristics to those in the prior multiple regression models. More specifically, the magnitude of the coefficients linked to the measures of institutionalized autocracy and democracy harmonize with the Pearson correlation coefficients and infer that a one unit increase in measure of democracy attract greater inflows of FDI than a one unit increase in autocracy, despite both measures being statistically insignificant and holding other variables and time trend constant. In addition, the coefficient linked to all-source electricity production (*ElecProd*) inferred that increasing electricity

production generates positive net inflows of FDI; indicia that infrastructure development is an important consideration to the foreign capital investment calculus. Even when the predictor variables were lagged, their signs and coefficients harmonized with previous iterations of the model, to wit: a one unit increase on the institutionalized democracy scale attracts greater inflows of FDI than an equal increase on the scale for institutionalized autocracy. Moreover, an increase in the metric representing domestic infrastructure, as measured by electricity production, attracts net inflows of FDI and is statistically significant to the model.

Recognizing the possibility that autoregressive traits would affect the results of the analysis, a Feasible Generalized Least Squares (FGLS) regression model was ultimately used to control for serial correlation. Using a Prais-Winsten AR(1) regression model, the selected dependent variable was regressed against several predictor variables. Despite the lack of statistical significance, the sign and magnitude of coefficients generated for measures of institutionalized autocracy and democracy paralleled those generated by other models and showed, again, that increasing measures of democracy outpace autocracy in attracting net inflows of FDI. Moreover and in accord with the previous models, an increase in aggregate electricity production generates positive inflows of FDI[6], holding other variables and time trends constant.

VII. *RESULTS*

Analyzing the variables of interest generated consistent results in nearly all regression models regarding the independent variables' inferred influence on attracting FDI. Controlling for autocorrelation and heteroskedasticity within the error terms, the resulting output disclosed

[6] These results are statistically significant at the .01 level.

that government authority patterns which display characteristics higher on the institutionalized democracy scale attract greater flows of FDI than countries scoring higher on the scale for institutionalized autocracy. However, countries measuring in the middle ranges of these same scales showed little or negligible importance toward attracting FDI.

Contrary to other analyses on the importance of legal structures to foreign investors (Butler & Fauver, 2006), the two included variables which purport to measure the prevailing host-nation legal structure do not appear to play a significant role in attracting FDI. This result questions whether the variables of choice are the most appropriate in capturing the targeted characteristic. The duration of time involved in litigation does not attract significant inflows of FDI, but it also does not appear to inhibit FDI inflows. This may mean that businesses perceive the duration of time in litigation as less important than the actual outcome, particularly when the legal code is clear on the process and duration of involvement. The beta coefficients for the two selected variables which individually capture the strength of the legal system may prove more influential when included as an interaction effect with other country-specific characteristics. However, such analysis is beyond the current scope of this study.

As the last subcategory of study, infrastructure development revealed consistent and robust results regardless of quantitative methodology, a result which confirms the results of previous research (Asiedu, 2002; Amaro & Miles, 2006; Wheeler & Mody, 1992) . The degree to which infrastructure is developed shows a positive and statistically significant influence on attracting inflows of FDI. Domestic investment in physical infrastructure is more clearly revealed to hold value for frontier and emerging markets as an attribute which attracts FDI.

As this study illustrated, the specified variables show a clear relationship with inflows of FDI but struggle in defining the direction of the relationship. Directionality remains this study's

shortcoming. For example, it is unclear whether host-nation characteristics attract FDI or whether the actual presence of larger inflows of FDI bring about governance reforms within the host nation. Further research to clarify this issue, in addition to the impact of other non-financial risk factors on FDI flows, is essential in reducing the dearth within the prevailing literature.

VIII. *DISCUSSION*

Frontier and developing economies confront a perpetual compromise. With limited human capital, financial, or natural resources, and equally limited revenues, governments must find the greatest value for their limited ability to fund sectoral reforms. This study sought to determine whether legal structures, government regime type, or infrastructure hold greater value in terms of attracting foreign direct investment. The analysis disclosed that regime type and infrastructure hold greater potential for attracting FDI than the strength of the legal system, despite the risks of expropriation and lengthy litigation to the foreign investor.

Yet, simply defining the influence these country-specific characteristics hold on attracting FDI is deceptive. Developing greater physical infrastructure confers increased inflows of FDI on its owner. This typically occurs as infrastructure eases the costs incurred to owners of capital and raises the marginal product of labor, which in turn yields wage increases for the labor market. Thus, physical infrastructure holds added gains to the host nation. However, when governments are confronted with the question of optimally investing in a particular sector of the domestic economy they quickly realize that infrastructure is costly, generally built over long time horizons, and appears to generate larger inflows of FDI only well after the national electric grid reaches a relatively advanced stage of development (see Appendix C). This suggests that alternative investment options might provide greater gains in the short run while still contending

with very limited government tax revenues.[7] Developing a short-horizon shift in government authority patterns, such as fostering privatization of government run businesses, might prove more beneficial in attracting inflows of FDI while projects with a longer completion time-horizons could be financed via alternative means. Though this should not be misinterpreted to infer that infrastructure development should be overlooked in its ability to attract FDI, it merely exposes the lengthy time-horizon and high degree of maturity needed before significant inflows of FDI appear. In the interim, infrastructure development must begin with a target date of completion that offers investors a light at the end of the tunnel and the potential for collaborative public-private partnerships in energy production.

The limited information gained from analyzing the importance of the legal system on inflows of FDI suggests that further research on its importance must be conducted, with specific focus on understanding how the sectors which provide the largest portion of FDI are affected by the legal system. Once understood, other variables which more accurately measure the strength of the legal system should be sought for inclusion in follow-on studies. Moreover, future analysis should continue to determine whether specific thresholds of these same country-specific characteristics must be met before they generate serious increases in FDI.

IX. *CONCLUSION*

Summing this study into a concise statement of findings offers policymakers a window into determining which factors generate greater inflows of FDI and ultimately afford developing economies the potential to step from beneath the veil of poverty. Many segments of a national

[7] Limited government revenues must be optimally allocated toward factors which facilitate greater inflows of FDI. Education reform might be less costly when compared to developing a complete electricity grid which can support large foreign capital development projects.

economy benefit from the spillover effects of FDI, but focusing limited public resources on reforming the governance characteristics which attract *greater* volumes of FDI forces public policy practitioners to decide which national investment compromises benefit the domestic constituency most. This study concludes that infrastructure development is important in generating a business environment which attracts FDI. Yet, such a large investment in the nation should not be hastily undertaking with the expectation that immediate inflows of FDI will follow. Other domestic reforms, those which place business ownership in the hands of private entities, can attract foreign capital and should be part of any government's reform agenda. From what this limited study has shown, thoughtful public policy can generate positive gains for the domestic economy and enter the global market for foreign direct investment with a national resume ready to compete with the world.

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APPENDIX A – DATA SET DECRIPTIVE INFORMATION

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. summarize
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Variable	Obs	Mean	Std. Dev.	Min	Max
year	3366	1985	14.72179	1960	2010
country	0				
netFDI	2542	9.34e+08	3.38e+09	-3.23e+09	4.84e+10
MILspend	1290	2.303456	1.942021	.0754091	29.72769
Urbpop	3366	38.20113	21.00375	2.4	94
TotLabor	1980	1.52e+07	4.45e+07	44860.67	4.59e+08
GDPpercap	2657	6885.515	14013.23	49.48699	186242.9
LendRate	1651	9.00e+08	7.62e+09	0	1.05e+11
ElecProd	1915	3.41e+10	7.89e+10	0	8.99e+11
SurfArea	3366	797991.9	1203007	2040	8514880
LeglRight	510	4.766667	2.316437	1	10
ContrEnf	576	682.6597	264.5266	230	1510
Democ	3103	3.39349	3.602266	0	10
Autoc	3103	3.51563	3.381073	0	10
Polity	3103	-.1318079	6.716635	-10	10
Durable	3103	14.03642	16.77736	0	105
cntrycd	3366	33.5	19.0532	1	66
lnnetFDI	2269	18.22591	2.561249	6.907755	24.60354

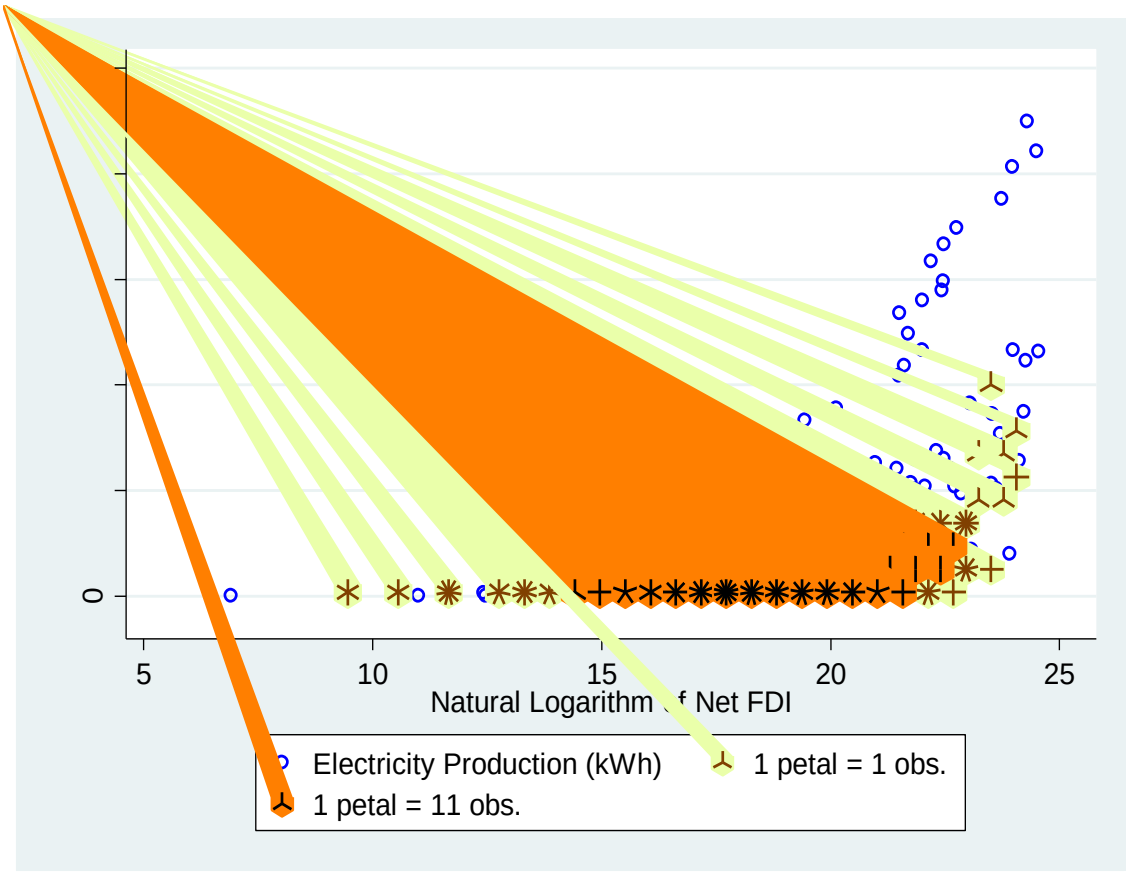
APPENDIX B – PEARSON'S PRODUCT MOMENT CORRELATION COEFFICIENTS

```
. pwcorr  inetFDI  iMILspend iUrbop iTotLabor iGDPpercap iLendRate iElecProd SurfArea LeglRight ContrEnf Democ Autoc Durable, sig
```

	inetFDI	iMILsp~d	iUrbop	iTotLa~r	iGDPpe~p	iLendR~e	iElecP~d
inetFDI	1.0000						
iMILspend	-0.8038 0.0000	1.0000					
iUrbop	0.8337 0.0000	-0.8707 0.0000	1.0000				
iTotLabor	0.8988 0.0000	-0.8570 0.0000	0.9949 0.0000	1.0000			
iGDPpercap	0.9170 0.0000	-0.7703 0.0000	0.9573 0.0000	0.9392 0.0000	1.0000		
iLendRate	0.7549 0.0000	-0.6297 0.0000	0.8092 0.0000	0.9879 0.0000	0.8559 0.0000	1.0000	
iElecProd	0.8254 0.0000	-0.6243 0.0000	0.8188 0.0000	0.9961 0.0000	0.8130 0.0000	0.5494 0.0000	1.0000
SurfArea	-0.0001 0.9944	0.0001 0.9960	-0.0001 0.9947	-0.0001 0.9947	-0.0001 0.9945	-0.0001 0.9944	-0.0001 0.9947
LeglRight	0.0616 0.1651	-0.0547 0.2175	0.0920 0.0377	0.0570 0.2295	0.0211 0.6342	-0.0630 0.1553	0.0914 0.0392
ContrEnf	-0.0142 0.7332	0.0055 0.8943	-0.0226 0.5882	-0.0150 0.7358	-0.0073 0.8608	0.0119 0.7752	-0.0217 0.6035
Democ	0.2690 0.0000	-0.1465 0.0000	0.2605 0.0000	0.2682 0.0000	0.2659 0.0000	0.2374 0.0000	0.2437 0.0000
Autoc	-0.3673 0.0000	0.2160 0.0000	-0.3614 0.0000	-0.3784 0.0000	-0.3650 0.0000	-0.3211 0.0000	-0.3326 0.0000
Durable	0.0687 0.0005	-0.0476 0.0679	0.1353 0.0000	0.0342 0.1357	0.1267 0.0000	0.0930 0.0000	0.1083 0.0000

	SurfArea	LeglRi~t	ContrEnf	Democ	Autoc	Durable
SurfArea	1.0000					
LeglRight	-0.1033 0.0196	1.0000				
ContrEnf	0.0717 0.0854	-0.0799 0.0715	1.0000			
Democ	0.0567 0.0016	0.0876 0.0514	0.1390 0.0010	1.0000		
Autoc	-0.0235 0.1900	-0.0997 0.0265	-0.0596 0.1589	-0.8467 0.0000	1.0000	
Durable	-0.0492 0.0062	-0.0569 0.2063	0.3444 0.0000	0.1190 0.0000	0.0169 0.3473	1.0000

APPENDIX C – ELECTRICITY PRODUCTION vs. LOG NET FDI



This graph suggests that only after reaching a relatively high degree of maturity can a national power grid begin to attract greater inflows of foreign direct investment.

APPENDIX D – MULTIPLE LINEAR REGRESSION WITH NEWEY WEST STANDARD ERRORS

```
. newey netFDI TotLabor GDPpercap LeglRight Autoc Democ ElecProd year, lag(0)

Regression with Newey-West standard errors          Number of obs =      320
maximum lag: 0                                      F(  7,   312) =    19.30
                                                    Prob > F      =   0.0000
```

netFDI	Coef.	Newey-West Std. Err.	t	P>|t|	[95% Conf.	Interval]
TotLabor	-41.61248	15.94121	-2.61	0.009	-72.97835	-10.24661
GDPpercap	63013.79	21529.32	2.93	0.004	20652.78	105374.8
LeglRight	-8.94e+07	1.05e+08	-0.85	0.395	-2.96e+08	1.17e+08
Autoc	9.82e+07	1.67e+08	0.59	0.558	-2.31e+08	4.28e+08
Democ	1.55e+08	1.14e+08	1.35	0.177	-6.99e+07	3.79e+08
ElecProd	.0523757	.0069624	7.52	0.000	.0386764	.066075
year	3.64e+08	1.01e+08	3.60	0.000	1.65e+08	5.63e+08
_cons	-7.31e+11	2.03e+11	-3.61	0.000	-1.13e+12	-3.32e+11

APPENDIX E – VARIANCE INFLATION FACTORS (VIF)

```
. vif
```

Variable	VIF	1/VIF
ElecProd	13.65	0.073264
TotLabor	9.23	0.108355
Democ	9.09	0.110054
Autoc	7.95	0.125827
SurfArea	3.68	0.271382
netFDI L1.	2.74	0.364484
Urbpop	2.47	0.404919
GDPpercap	2.00	0.500280
MILspend	1.99	0.502202
LeglRight	1.84	0.544327
ContrEnf	1.70	0.588931
Durable	1.55	0.645883
LendRate	1.53	0.651737
year	1.15	0.872099
Mean VIF	4.33	

APPENDIX F – COUNTRIES IN SAMPLE

Algeria	Angola	Argentina
Bangladesh	Belize	Benin
Bolivia	Botswana	Brazil
Burkina Faso	Central African Republic	Chad
Chile	Colombia	Congo, Dem. Rep.
Costa Rica	Cote d'Ivoire	Dominican Republic
Ecuador	Egypt, Arab Rep.	El Salvador
Fiji	Ghana	Haiti
Honduras	India	Iran, Islamic Rep.
Jordan	Kenya	Liberia
Madagascar	Malawi	Malaysia
Mauritania	Mauritius	Mexico
Morocco	Mozambique	Nicaragua
Niger	Nigeria	Pakistan
Panama	Papua New Guinea	Paraguay
Peru	Philippines	Rwanda
Senegal	Sierra Leone	Somalia
South Africa	Sri Lanka	Sudan
Swaziland	Syrian Arab Republic	Tanzania
Thailand	Turkey	Uganda
Uruguay	Venezuela, RB	Vietnam
Yemen, Rep.	Zambia	Zimbabwe