

**Does Improved Governance Lead to a Higher Share of FDI in Foreign Equity Investments?**

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**Running Title: Governance and FDI Share**

## **Does Improved Governance Lead to a Higher Share of FDI in Foreign Equity Investments?**

### **ABSTRACT**

We investigate the relationship between a country's share of FDI in its foreign equity investments (FDI plus FPI) and its governance quality relative to that of the investors' country. To achieve the policy objective of attracting FDI, poor countries are often advised to improve their governance structures. Contrary to this prescription, we find that as the governance quality of poor-governance host countries improves they do not necessarily attract higher FDI from desirable source countries but rather higher FPI. Consequently, their FDI share of foreign equity investments likely declines with marginal improvements in governance quality. Only after a sustained and meaningful improvement in governance quality can a low-quality host country reap the benefit of attracting greater FDI from investors in high-quality countries. In addition to its significant policy implications, our findings also help explain contradictory results of previous studies.

**Keywords:** Governance quality; FDI; FPI.

**JEL codes:** F21 International Investment, F23 Multinational Firms, O43 Institutions and Growth

## **Does Improved Governance Lead to a Higher Share of FDI in Foreign Equity Investments?**

### **1. INTRODUCTION**

Similar to corporations, the external capital structure of countries is composed of debt and equity financing. Because these components of capital structure have different implications for the country's economic health and stability, they are not equally desirable. External debt financing (especially short-term debt), which is driven by speculative considerations regarding interest rates and exchange rates rather than long-term considerations, is considered less desirable (Hausmann and Fernandez-Arias, 2000). In contrast, equity financing facilitates risk sharing between domestic producers and foreign investors (Rogoff, 1999), thereby helping to stabilize domestic consumption and improve domestic producers' ability to pursue projects with higher risk and return. Moreover, abrupt shifts in equity flows are less likely to trigger liquidity crises than similar disruptions in debt flows (Levchenko and Mauro, 2007). Advantages such as these are widely recognized by economists, leading to prescriptions of efforts to promote equity financing. Indeed, foreign equity investment has been a key driver of the globalization of capital markets in recent decades, both in developing and developed economies (Goldstein and Razin, 2006). Equity investment can take the form of foreign direct investment (FDI) or foreign portfolio investment (FPI). While both forms of equity contribute to economic growth and are thus preferable to debt, they react differently to external shocks and financial crises. FDI is generally preferred because it is more stable and better facilitates technological transfer (Borensztein, De Gregorio and Lee, 1998).

Given the importance of foreign equity investment as a whole and the unique characteristics of its sub-components, understanding the factors that explain the composition of a country's external equity financing is a worth investigating, with useful implications for policymakers. One such factor, governance quality, has received substantial attention in the recent literature. The governance quality of a country largely defines its investment environment, for both domestic and foreign investors, and thus its potential for economic growth (Globerman and Shapiro, 2002). Unfortunately, our understanding of the effect of governance quality on foreign equity investment remains limited at best. Studies on the topic have

produced seemingly contradictory results, with some identifying FDI as the preferred mode of investment when the host country suffers from poor governance and others finding the opposite result—that good governance attracts FDI. Such inconsistencies challenge the general notion that improving governance quality is an effective means to attract foreign capital and promote economic development. We contribute to the literature by presenting a unifying theory that explains the contradictory results of previous studies in a broader context. This contribution enhances the usefulness of the literature to public policymakers in evaluating whether efforts to improve governance quality are likely to produce desired results in a specific country.

Unlike most previous studies that utilize country *totals*, we examine foreign investment positions between pairs of *individual* countries (i.e., bilateral investment positions). This is important because policy initiatives aimed at influencing a country's external capital structure will impact investments from individual countries, which may or may not lead to the desired effect at the aggregate level. Another contribution of our study is the introduction of a new, more meaningful, governance measure. While existing studies have largely examined only the level of the host country's governance quality, we also consider the host country's governance quality *relative* to that of the source country. Similar to other concepts of distance, foreign investors naturally compare the governance environment of a host country to the environment they have experienced at home, which has the appeal of familiarity. Our approach is supported by Andres, Nunnenkamp and Busse's (2013) finding that location choices of FDI investors from different countries (specifically, developed v. developing countries) are based on different pull factors. By examining bilateral investment positions and relative governance quality, we are able to investigate how a policy change can impact a country's aggregate external capital structure through separate (and perhaps offsetting) effects on investments from individual countries. The potential for offsetting effects at the individual country level challenges the notion of universal policy prescriptions for attracting foreign investment.

For countries that already have an adequate level of governance quality, we find that improvement in governance quality increases FDI activity. The same relationship, however, is not evident

for countries with poor governance quality. This finding is especially enlightening, given that research on this subject is often used to justify prescriptions of governance improvement specifically for poor-governance countries. For such countries, we find that improvement in governance quality is actually likely to *decrease* the proportion of FDI in total foreign equity investment. This is because improvement in governance quality decreases information asymmetry, making it more difficult for controlling shareholders to enjoy the benefits of private control. This discourages additional investment from existing FDI investors, whose familiarity with weak institutions in their home countries (a competitive advantage) allows them to maximize such control benefits. At the same time, marginal improvement in the governance quality of the host country is insufficient to attract new investors from countries with high governance quality, who continue to perceive the host country's relatively weak institutions as a disadvantage. Only after a sustained and meaningful improvement in governance quality can a low-quality host country reap the benefit of attracting greater FDI from investors in high-quality countries.

## **2. BACKGROUND**

International equity flows (both FDI and FPI) are the primary feature of the globalization of capital markets. Officially, FDI and FPI are defined as the acquisition of more or less than a specific fraction (10%) of a foreign firm's shares. From an economic perspective, FDI is more than just the purchase of a substantial share in a foreign firm—it is an actual exercise of control and management (Razin, Sadka and Yuen, 1998). Likewise, the critical feature of FPI is the foreign investor's lack of control over management (Goldstein and Razin, 2006). Leblang (2010) notes several differences between FDI and FPI. Within a country, opportunities for FPI are constrained by the shares issued by corporate entities, while FDI opportunities are diverse in terms of both content and ownership stake. Unlike portfolio investors, who must choose from equity stakes that are offered by issuing firms on an organized exchange, direct investors can acquire any number of different ownership stakes across a variety of asset classes. In addition to a greater breadth of opportunity, FDI also differs from FPI in its greater risk of expropriation. Finally, since FPI is more liquid (i.e., it can be easily moved among markets and asset

classes), it is susceptible to investor sentiment and sudden flight, thereby subjecting the host economy to undesirable shocks.

Despite these differences, both FDI and FPI are affected by institutions, which are the bedrock of market-based economies. Institutions are critical because they can either facilitate or obstruct economic activities by increasing or reducing transaction costs (North, 1990). Governance deficiencies, such as unpredictable regulation, red tape, confiscatory taxation, and difficulties in enforcing contracts, are deterrents to private business in general, and especially to foreign investment (Garibaldi et al., 2002). However, specific governance factors that make a country attractive to one type of investor may not be as relevant for other types of investors. For example, the legal protection of owners' rights is certainly important to the portfolio investor but may be less so to the direct investor, who is able to exercise more control. Similarly, the size and activity of a country's equity market is critical to decision making in portfolio investments, where liquidity demands are higher, but much less relevant to direct investment. Although political stability may be of concern to a portfolio investor, it influences direct investors to a much greater extent (Guler and Guillen, 2010).

Beyond general propositions, the literature offers several formal hypotheses to explain the impact of institutions on the composition of external capital structures. Albuquerque (2003) suggests that because much FDI is intangible in nature (e.g., technology, brand names) it is generally less subject to expropriation than other forms of foreign investment. Under this assumption, the optimal contract between foreign investors and financially constrained countries (in which expropriation is more likely) will usually be FDI. Razin and Sadka (2007) reach a similar conclusion using a different framework. They contend that industry specialization provides FDI investors a comparative advantage over domestic and FPI investors when the host country has lower levels of transparency. Facing information barriers, foreign investors prefer FDI because it lets them place their own managers in the host country. This proximity allows FDI investors to be more informed than FPI investors regarding changes in the prospects of the firm and facilitates more efficient management. To the extent that weak governance quality indicates informational asymmetries, it is expected to lead to a larger share of FDI in the external

capital structure. This implies that, as governance quality (and thus transparency) improves, FDI investors lose their comparative advantage and the share of FDI decreases.

La Porta *et al.* (1998) find that firms in countries with poor investor protection have more concentrated ownership because large shareholders who monitor managers need to own more capital to exercise control rights. Moreover, in the face of poor protection, small investors are willing to buy shares only at such low prices that make it unattractive for firms to issue new shares. Such low demand for shares by minority investors indirectly fuels ownership concentration—a response to, and possibly a substitute for, weak investor protection. Based on this finding, Kho, Stulz and Warnock (2009) expect the composition of foreign investment to be impacted by the ownership concentration of firms in the host country. Specifically, they contend that greater insider ownership should be associated with lower holdings by foreign investors since insiders are more likely to be domestic investors. As insider ownership decreases in response to improving governance quality, an increase in FPI (and thus a decrease in the share of FDI) should be observed.

None of these theoretical explanations has emerged as dominant, due in major part to the mixed results of empirical studies. Globerman and Shapiro (2002) identify governance quality as a significant positive determinant of FDI flows, as do Buchanan, Le and Rishi (2012). Maiti and Mukherjee (2013) argue that good economic governance in the domestic country affects inward FDI. A similar positive effect on FDI flows, specifically for political institutions, is observed by Jensen (2003) and Busse and Hefeker (2005). Alfaro, Kalemli-Ozcan and Lotosovych (2008) examine determinants of total equity investment (FDI plus FPI) and find that governance quality has a first-order positive effect on the pattern of capital flows. They document that governance is the only factor that, when added to the basic model, makes the all-important GDP-per-capita factor insignificant. Faria and Mauro (2009) similarly observe that better institutions tilt countries' capital structures toward equity (both FDI and FPI), with the effect being stronger for FDI than FPI. Wei (2000a, 2000b, 2001) reaches the same conclusion, finding that weaker institutions shift capital inflows toward bank loans and away from FDI.

In contrast, Blonigen and Piger (2014) observe no relationship between FDI and governance factors. Kho *et al.* (2009) find that once insider ownership is accounted for there is no significant relationship between the composition of U.S. foreign equity investment and several governance variables. Hausmann and Fernandez-Arias (2000) also find no relationship, or possibly a negative relationship, between governance quality and the share of FDI in total capital inflows. Similarly, Albuquerque (2003) observes that the share of FDI is unrelated to factors representing governance quality. Li and Filer (2007) identify a significant negative relationship between GEI (a governance quality index) and the share of FDI in total capital inflows. However, they also find a positive relationship between GEI and absolute FDI inflows. They contend that, the higher a country's governance quality, the more FDI it will receive; however, FDI will constitute a smaller share of its total capital inflows. Finally, Daude and Fratzscher (2008) find that portfolio investment, particularly portfolio equity, is much more sensitive than FDI or bank loans to a broad set of governance indicators.

Our review shows the literature has not yet established a clear link between governance quality and variables reflecting countries' external capital structures. We identify two primary explanations for the failure of prior studies to yield conclusive results on this subject. First, much of the literature focuses on the governance quality of the *host* country with scant regard to the governance quality of the *source* country. Given that investors use the prevailing governance (organizational, political, and legal) environment in their home countries as a benchmark when making foreign investment decisions, it is imperative that governance differences between the host and source country be considered. A few studies do consider the source country's governance quality. One example is Kim, Sung and Wei (2011), who examine foreign institutional investors' holdings of Korean stocks with significant control-ownership disparity. They find that investors from low-disparity countries disfavor high-disparity Korean stocks, but investors from high-disparity countries are indifferent. Similarly, with regard to foreign institutional investment in the U.S., Abdioglu, Khurshed and Stathopoulos (2013) identify governance quality in the investor's home country as a factor influencing the decision to invest. Such findings suggest that the nature of governance in foreign investors' home countries influences their portfolio choices abroad.



Kolstad and Wiig (2009) extend this implication to FDI based on their observation that outward FDI from China does not reflect the pattern expected for FDI in general (i.e., better governance attracts FDI). A different pattern, specifically a negative relationship between governance quality and outward FDI from China is observed, which is explained by the fact that China has a different institutional environment than most developed FDI source countries.

A second explanation for the lack of clarity in the literature is that, while existing studies entertain the possibility of different impacts of various governance factors on external capital components, they fail to consider a differential *marginal* impact of governance quality based on the current state of governance in the host country. Existing studies have been looking for and estimating models with a *linear* relationship between governance quality and external capital structure, but a linear relationship may not exist. Marginal improvement in the governance quality of poor-governance host countries might have a significantly different impact on FDI and FPI than such improvement in good-governance host countries.

To identify the underlying mechanism through which governance quality affects foreign investment decisions, we study bilateral investment positions between pairs of countries, focusing on differences in governance quality between the source and host country. We contend that the benchmark of governance quality is not uniform across all investors. Rather, for each investor, the benchmark is the quality of institutions experienced by the investor at home. We therefore create a variable called *relative governance*, which is calculated as the governance quality of the host country minus that of the source. Our relative governance variable can be thought of as the governance distance between the host and source country.<sup>1</sup> Several studies use a geographic distance variable to explain trade and capital flows between countries. The geographic distance variable is interpreted as a proxy for transaction and transportation costs, information asymmetries, currency risk, and institutional differences. Hypothesizing that geographically close countries are more familiar with each other because of direct contact through

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<sup>1</sup> However, unlike distance, the relative governance variable can be (and often is) negative— when measuring investment from a good-governance country into a poor-governance country.

business and tourism, Portes and Rey (2005) examine the number of telephone calls between countries, the number of overlapping trading hours, foreign bank branches, and the degree of financial sophistication. The addition of these variables reduces the role of geographic distance in their models, confirming that distance acts as a proxy for information effects. Empirical results such as these suggest the existence of distance factors other than geographic distance, like variation in institutional strength and information quality and cultural distance (Aggarwal, Kearney and Lucey, 2012). Mian (2006) explicitly recognizes the role of such differences by examining an “institutional distance” variable that reflects the higher informational and agency costs of foreign banks operating abroad.

When we include this relative variable in the analysis, the seemingly contradictory results observed in the literature can be reconciled. We find that the relationship between governance quality and FDI is not linear in nature. Differences in the sign of the coefficient for the governance quality variable in prior studies are simply a manifestation of the composition of the data sample across governance quality of the source and host countries. For example, Globerman and Shapiro (2002) test two different samples, a large sample and a reduced sample described as “developing and transition economies.” Despite the label, the reduced sample still includes countries with above-average governance quality. Hence, similar results are observed for the two samples. Garibaldi et al. (2002) find stronger results because their sample of transition economies is more homogenous, but their results are not generalizable. Similarly, Brada, Drabek, and Perez’s (2012) sample includes only six East European transition economies as source countries, and Habib and Zurawicki (2002) limit their source countries to seven developed nations. In addition to using focused samples, both of these studies test only one governance factor (corruption). Blonigen and Piger (2014), who find no relationship between host-country institutions and FDI, examine OECD nations only (as both source and host). As we show in our study, the relationship between the share of FDI (FDI as a fraction of total foreign equity investment) and governance quality is *U-shaped in nature*, with a negative relationship at lower levels of governance quality and a positive relationship at higher levels. This finding suggests that researchers have found both positive and negative relationships,

and no relationship at all, depending on the structure of the research question and the composition of the data sample.

We focus on the share of FDI, rather than nominal FDI. This is because, as previously highlighted, the composition of foreign equity investment is relevant to the prevailing issues of economic stability and growth. Although several previous studies of governance quality have examined its relationship with FDI only, failure to consider the big picture (i.e., concurrent effects on other foreign capital components) has been noted in the literature as a weakness. More recent studies (e.g., Faria and Mauro, 2009) have embraced a broader perspective. Extending this trend, we employ a nuanced approach, considering the various moving parts to achieve a better understanding of the system as a whole. Such an approach mandates explicit consideration of non-linear relationships and relative evaluations— including both host country vs. source country governance and FDI relative to other forms of foreign investment.

### 3. HYPOTHESIS DEVELOPMENT

FDI investors from countries with better governance than the host country are limited in their ability to consume the private benefits enjoyed by domestic insiders. Given this disadvantage, foreign investors favor FDI over FPI to obtain access to information and to monitor controlling shareholders and limit their insider benefits. As the host governance quality improves, the benefits of monitoring decrease and FDI becomes less attractive relative to FPI (Kho *et al.*, 2009). Therefore, improvement in governance quality for a poor-governance country is likely to lead to a decrease in FDI share (i.e., FDI/FE). This decrease is not necessarily a reflection of lower attractiveness of FDI *per se* but rather its relative attractiveness compared to FPI. If an increase in FPI (a component of the denominator) pursuant to improvement in governance quality is not accompanied by a proportionate increase in FDI (the numerator), then FDI share decreases.

Countries with the lowest levels of governance quality may even experience lower FDI if they pursue improvement in governance factors. This is because institutional deficiencies imply absent or poorly functioning markets, which serve as a mechanism that allows information asymmetries to persist.

Improvement in governance quality decreases such asymmetries and makes it difficult for controlling shareholders to enjoy the benefits of private control. This discourages additional investment from existing FDI investors, who enjoy such control benefits and are comfortable with weak institutions due to experience navigating similar conditions either in the subject host country or in their home countries. At the same time, marginal improvement in the governance quality of the host country is generally not material enough to attract new investors from good-governance countries, who continue to perceive the host country's relatively weak institutions as a disadvantage.

Prior studies also suggest that, during the early stages, improvement in governance quality may not result in higher FDI in poor-governance countries. Cuervo-Cazurra (2006), who studies only a corruption measure, shows that reduced corruption does not necessarily increase the level of FDI; rather, it changes the composition of FDI investors. Using firm-level data, Cuervo-Cazurra and Genc (2008) show that multinational enterprises (MNEs) from developing source countries are more prevalent, compared to MNEs from developed countries, in the least-developed host countries with poor regulatory quality and lower control of corruption. Similarly, Chung (2014) finds that countries with relatively lenient environmental regulations attract more South Korean FDI in polluting industries than in non-polluting countries, because South Korea's relatively restrictive regulations and limited investment opportunities in clean technologies at home make it economically beneficial to invest in countries that present lower environmental regulation barriers. Along similar lines, we contend that, for poor-governance countries, improved governance quality scares or drives away some investors while possibly attracting others. The overall effect is not positive enough to significantly increase FDI.

With regard to the denominator of the FDI/FE ratio, a relatively small improvement in governance quality can increase total foreign equity investment (FE) in the host country through the portfolio investment channel. Portfolio investors are yield-seeking investors that seek risk-reduction through diversification. A country that is relatively segregated from the rest of the world, with low FDI due to poor governance quality, has a low world beta and provides greater diversification benefits (Aurelio, 2006; Forster, Jorra and Tillmann, 2014). Prior studies (e.g., Daude and Fratzscher, 2008) show

that FPI is more sensitive to improvements in governance quality than FDI. We thus contend that marginal improvement in the governance quality of poor-governance countries is likely to positively impact FPI more than FDI, resulting in a lower FDI/FE ratio.<sup>2</sup>

At higher levels of governance quality, we expect a positive relationship between governance quality and FDI share. Good-governance countries already attract more FPI than poor-governance countries because higher transparency levels alter the control v. liquidity tradeoff, making FPI the more efficient mode of investment. Further improvement in governance does not provide any marginal incentive that would attract additional FPI. Consequently, greater FDI in response to better governance quality is not necessarily accompanied by a proportionate increase in FPI, resulting in a higher FDI/FE ratio. Hence, we hypothesize as below:

**Hypothesis: *There is a non-linear U-shaped relationship between governance quality and the share of FDI in total foreign equity investment. The relationship is negative for countries with poor governance and positive for countries with good governance.***

## 4. DATA AND RESULTS

### 4.1 Dependent Variable

The dependent variable we examine is FDI as a share of total foreign equity investment (FDI plus FPI). Data for bilateral investment positions are from the Coordinated Direct Investment Survey (CDIS) and Coordinated Portfolio Investment Survey (CPIS) compiled by the International Monetary Fund (IMF). The CDIS, which is available beginning in year 2009, collects comprehensive data on FDI positions by economy of direct investor (for inward FDI) and by economy of investment (for outward FDI). The CPIS collects information on the stock of cross-border holdings of equity securities broken down by the issuer's economy of residence. We analyze capital *stocks* rather than capital *flows*, as do Faria and Mauro (2009) who compare this approach to firm-level studies of domestic capital structure that test liability stocks. Although most prior studies use flow data, studies examining both stocks and flows

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<sup>2</sup> We acknowledge that FDI investors and FPI investors in a country are not one and the same; thus, such investors are not necessarily choosing between FDI and FPI. None of our arguments assume such behavior. Rather, our arguments are based on the relative attractiveness of the host country to different types of investors.

have found similar results (Hausmann and Fernandez-Arias, 2000). Stock data are more suitable for our study because changes in the governance quality of a country are gradual in nature and take a longer time to discernibly impact foreign investment.

## 4.2 Explanatory Variables

The two primary factors we examine are governance, the governance quality of the *host* country, and relative governance, the governance quality of the source country *relative* to that of the host country (host minus source). Following Faria and Mauro (2009), governance is measured as the simple average of six governance indicators drawn from the Worldwide Governance Indicators (WGI) project, a research dataset that is sponsored and distributed by the World Bank. The six indicators measure six broad dimensions of governance, including:

1. *Voice and Accountability (Voice)* – captures the extent to which a country’s citizens are able to participate in selecting their government, as well as the freedoms of expression and association and a free media.
2. *Political Stability and Absence of Violence (Political)* – captures the likelihood of a country’s government being destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism.
3. *Government Effectiveness (Govt)* – captures the quality of public services, the quality of the civil service and its independence from political pressure, the quality of policy development and implementation, and the credibility of the government’s commitment to such policies.
4. *Regulatory Quality (Reg)* – captures the ability of the government to develop and implement sound policies and regulations that promote private sector development.
5. *Rule of Law (Law)* – captures confidence of agents in the rules of society, especially the quality of contract enforcement, property rights, the police, and the courts.
6. *Control of Corruption (Corrupt)* – captures use of public power for private gain.

These governance indicators are subjective in nature, compiled from thirty individual data sources that combine the perceptions of many enterprise, citizen, and expert survey respondents. The

WGI project reports the indicators for 215 industrial and developing countries. Each index ranges from -2 (weak governance) to +2 (strong governance) for most countries, with a mean of zero and a standard deviation of one. The relative governance factor is measured as the simple average of the six governance indicators for the host country minus that for the source country. Our use of an average follows Faria and Mauro (2009), who proffer that extracting a common component makes no difference, both in their study and in the broader literature on governance quality. Despite the subjective nature of this composite measure, it is suitable for our study because managers make foreign investment decisions based on their *perceptions* of governance in a foreign country. Moreover, the use of a difference measure (relative governance = host governance – source governance) helps us avoid any bias that might be present in the index.

#### 4.3 Regression Model

We test our hypothesis with a regression model of the following form:

$$FDI\ Share = b_0 + b_1 (Gov.) + b_2 (Relative\ Gov.) + b_3 (Relative\ Gov.)^2 + b_k X_k + e$$

Based on our hypothesis, we expect to observe significant relationships for Relative Gov. and its squared term. We estimate LP (linear probability) model and perform our analysis using GLS. Given the bounded nature (fraction between zero and one) of the dependent variable, we also estimate a logit model. To account for censoring of the dependent variable (FDI share) at the lower bound of zero and upper bound of 1, we also estimate Tobit models. We find that despite the bounded nature of the dependent variable our findings are not dependent on model choice. In the interest of ease of interpretation and presentation, we show results of GLS model here.

#### 4.4 Control Variables

Our selection of control variables is based primarily on previous empirical work, which has focused primarily on the determinants of FDI. Faria and Mauro (2009) identify several factors that are related to host countries' capital structures, especially FDI: Size of the economy, economic development, credit markets development, openness, natural resources, and economic transition of a former communist regime. These are considered “pull” factors, since they represent characteristics of the host country that

attract (i.e., pull) investment from other countries. Other control factors employed in previous studies (e.g., Garibaldi et al., 2002; Globerman and Shapiro, 2002, 2003; Hausmann and Fernandez-Arias, 2000; Kim *et al.*, 2011) include physical distance between the source and host country, host stock market development, host education level, host legal origin, and host tax burden. Following Portes and Rey (2005), we include bilateral trade flows (i.e., trade flows between individual pairs of countries) in the model, with a lag of one year to avoid endogeneity issues. To account for infrastructure development we also include variables for electricity consumption and internet usage. Finally, we control for language effects with a three-level categorical variable that identifies the primary languages of two countries as the same, similar (not the same, but able to communicate), or dissimilar (not able to communicate).

Definitions and data sources for all control variables are provided in Appendix A.

Expected signs for our control variables are based on results of previous studies. Albuquerque (2003), Hausmann and Fernandez-Arias (2000), and Li and Filer (2007) are the most directly applicable references, as their dependent variables are ratios similar to ours. From other studies that examine only FDI or FPI, we inferred the relative impact on our ratio of interest (FDI/FE). With regard to expected signs, our controls can be segregated into two primary groups. The first group is comprised of factors that are expected to positively impact (attract) FDI to a greater extent than FPI, including trade, language similarity, private credit availability, openness, availability of natural resources, internet usage, electricity consumption, and education level. The second group is comprised of factors that are expected to positively impact both FDI and FPI, with the latter effect (FPI) dominating. This group includes size (GDP), economic development (GDP per capita), and stock market development.<sup>3</sup> We expect a positive coefficient for transition economies because they offer untapped opportunities for private enterprise. Finally, physical distance is expected to negatively impact FDI with no significant impact on FPI.

Control variables for which we have no clear expectation include host tax burden and host legal origin. Although tax burden has been tested in previous studies, it has not been identified as a significant

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<sup>3</sup> Although Chan *et al.* (2014) found growth in GDP influences FDI, they did not examine FDI as a share of total foreign equity investment.



factor. We nonetheless include it in our model since taxes may be more likely to play a role in explaining the relative share of FDI and FPI than either component individually. Because higher taxes imply lower after-tax returns, this factor should negatively impact both FDI and FPI. Given the tax advantage of FPI noted by Desai (2008), the impact on FDI is expected to be greater, suggesting a negative relationship for the FDI/FE ratio. With regard to legal origin, we have no clear expectation due to a lack of significant results in previous studies.

#### 4.5 Sample

Our sample includes all pairs of countries for which the necessary data are available for years 2009 (the first year that bilateral FDI investment positions are available) through 2011. Of the two investment data sets, CPIS and CDIS, the former contains the greater number of country-pair observations. We remove observations with no/confidential/negative CDIS or CPIS data, countries with no WGI data for the governance factor, and country pairs with zero foreign equity investment. Following prior studies (Faria and Mauro, 2009; Hausmann and Fernandez-Arias, 2000), we average all variables across the three years. Our sample includes 1,607 observations for 49 different source countries and 65 host countries.<sup>4</sup>

\*\*\*\*\* *Insert Table 1 here* \*\*\*\*\*

As illustrated in Table 1, no single country represents more than 4% of the sample as host or source. The top ten source countries comprise 37.4% of the sample, while the top ten host countries comprise 24.5% of the sample. This indicates that concentration in the sample is higher on the source side, which is explained by the nature of the investment databases. Specifically, in the CPIS database,

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<sup>4</sup> Even though we have three years of data (2009, 2010, and 2011), we cannot perform a panel study. While it is tempting to use yearly observations for more data points and to glean additional information from changes in the governance measure year over year, we follow prior studies and average three years of data for two reasons. First, the nature of governance in countries does not change meaningfully from one year to the next. Even when such a change does occur, it is not expected to have an immediate impact on foreign direct investment. The decision-making process for FDI generally takes years, and any effect would not be captured in such a short period of time. Fortunately, in such a situation, a cross-sectional study like ours, which captures static information at a specific point of time, can still reveal change-based relationships. A second reason is that, for over 37% of country pairs, the data is not available for all three years. In most of these cases, the data is available for one year only. Inclusion of a variable measuring change in governance would cause non-random exclusion of country pairs, thereby possibly biasing the study.

investment positions are reported from the source side only. Thus, if a source country does not participate in the survey, its outward investment positions cannot be inferred from data reported by other participants. This data limitation is noted in other studies that utilize CPIS data (e.g., Milesi-Ferretti, Strobbe and Tamirisa, 2010). As a host country, the U.S., Netherlands, and the United Kingdom attract foreign equity investment from the largest number of countries in our sample. As investors (source countries), South Korea, Netherlands, and Germany invest in the most diverse set of host countries, numbered at 64, 63, and 63 countries, respectively.

\*\*\*\*\* *Insert Table 2 here* \*\*\*\*\*

#### **4.6 Descriptive Statistics**

In Table 2, we report descriptive statistics for variables used in the study, including the 25<sup>th</sup> percentile, median, and 75<sup>th</sup> percentile. Some notable observations are that FDI to FE ratio for a majority of the observations is above 0.5. This is expected because a large majority of the countries do not have sizable investments in their stock markets from foreign investors. We measure physical distance in deciles based on greater circle distance between country capitals for all possible country pairs.<sup>5</sup> The mean and median physical distance decile for our sample are 3.33 and 3 respectively. This is a reflection of the fact that less developed countries sometimes do not have meaningful investments in other far-off developing countries even though they continue to venture in developing countries close to home.

\*\*\*\*\* *Insert Table 3 here* \*\*\*\*\*

In Table 3, we report descriptive statistics across countries with different levels of governance quality (worst, below average, above average, and best). Countries with worst governance quality (e.g., Pakistan and Nigeria) have a smaller economy, lower standard of living, less trade activity, smaller stock market, and limited credit availability to the private sector. Such countries have lower inbound FDI investment on average. The mean values of electricity consumption, internet usage, and education are also lower in such countries. Examples of countries with the next level of governance quality (below average,

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<sup>5</sup> For large countries like Brazil, Canada, China, India, Russia, and the U.S., we measure shortest distance between the borders instead of capital cities.

but within one standard deviation of the mean) include Mexico, Russia, and Thailand. Countries with above-average governance quality include Israel, Brazil, South Africa, and Malaysia. Finally, the topmost group includes nations like the U.S., Singapore, Chile, and Switzerland.

\*\*\*\*\* *Insert Table 4 here* \*\*\*\*\*

While our data observations are fairly well distributed across the top three groups, we have very limited observations for countries with the worst governance quality. Given that such countries invest little in other countries and attract investment from relatively fewer countries, it is not surprising that they constitute a small percentage of our sample. In Table 4, we present the distribution of total FDI dollars across four categories of host and source governance quality (same categories as Table 3). We find that an overwhelming majority of FDI activity (68%) is attributable to investors from source countries with the best governance quality. Investors from source countries with below-average governance contribute less than 1 percent. Similarly, the large majority of FDI dollars (92%) is invested in host countries with an index value above the mean. Within this group, the best countries (defined as those with an index value greater than 1) attract the lion's share (65%). The worst countries (with an index value less than -1) attract less than half a percent of total FDI dollars. Not only do countries with the worst governance fail to attract meaningful FDI from better-quality countries, it appears they also fail to attract such investment from their peers.

\*\*\*\*\* *Insert Table 5 here* \*\*\*\*\*

We report pairwise correlations of the continuous variables in Table 5. Several variables are highly correlated. The most notable are GDP per capita, electricity consumption, and internet usage. This is intuitive, as countries with a higher standard of living have better infrastructure and higher consumption. They also have better governance quality. Credit availability to the private sector is also positively correlated with governance quality, GDP per capita, electricity consumption, and internet usage.

#### **4.7 Regression Results**

We present the results of a regression analysis with cluster adjusted standard errors<sup>6</sup> in Table 6. The three specifications offer different pictures of the significance of the governance variables in predicting FDI/FE. In the first model, we estimate the impact of governance and find a significant positive coefficient. This finding is consistent with the results of previous studies that examine only host-country governance. However, when relative governance is added in the second model, Governance becomes insignificantly negative, and Relative Governance is highly significant with a positive coefficient of substantial magnitude. These results indicate that governance quality of the host country contributes more to explaining FDI share when viewed relative to that of the source country. However, a majority of foreign investment, whether FDI or FPI, is made by investors from rich countries (which also happen to have better governance quality). At the same time, rich countries also attract the lion's share of FDI and FPI. Therefore, many studies have reported a positive relationship between FDI and governance quality. Such findings are simply a reflection of the greater magnitude of investment activity from rich and better-quality nations, observations of which dominate the data samples.

\*\*\*\*\* *Insert Table 6 here* \*\*\*\*\*

In the third model, we estimate a non-linear impact of relative governance on the FDI/FE ratio by including a squared term for Relative Governance. We find a highly positive significant coefficient for the squared term, and the coefficient for Relative Governance remains highly positively significant as well. The adjusted R<sup>2</sup> for Model 3 is 0.20, which is comparable to the explanatory value of previous studies that examine shares of foreign investment (e.g., Albuquerque, 2003; Faria and Mauro, 2009; Hausmann and Fernandez-Arias, 2000; Li and Filer, 2007). Our results suggest a convex relationship between relative governance and the FDI/FE ratio. This finding adds another dimension to our understanding of the impact of governance quality on FDI. It appears the impact of improved governance quality in a host country may be positive for attracting FDI from some source countries and zero or even negative for attracting FDI from other countries.

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<sup>6</sup> Clustered across host country. The results are robust to two-way clustering across host and source also.

To better understand the underlying mechanism, we estimate the relationship between the natural log of FDI (measured in \$millions) and our variables of interest in Models 4 through 6 of Table 6. Unlike the previous models with FDI/FE as the dependent variable, we find that the coefficient for Governance maintains its sign and gains magnitude and significance when Relative Governance is included in the model. However, the sign of Relative Governance is negative. This neutralizes much of the positive relationship between Governance and FDI, but not all.<sup>7</sup> When we include the squared term of Relative Governance, both governance variables maintain their sign and magnitude, and we find a significant positive coefficient for the squared term. The non-linear impact is marginal though, suggesting the relationship between governance quality and FDI is highly monotonic. This suggests that relative governance has a much stronger non-linear impact on the FPI component (in the denominator of the FDI/FE ratio), consistent with prior findings that FPI is more sensitive to governance quality than FDI.

\*\*\*\*\* *Insert Table 7 here* \*\*\*\*\*

To further explore and illustrate the relationship between governance quality and FDI/FE, we segregate our sample into good-governance and poor-governance host countries. We use an index value of zero (representing the mean) as the cutoff point. We first perform the same analysis as above using the subsample of countries with poor governance quality (see Table 7). When using Governance as the only governance variable (Model 1), we find an insignificant coefficient for governance suggesting that governance does not impact FDI/FE for poor-governance countries. However, when we introduce Relative Governance in Model 2 we find a significantly positive coefficient, while the coefficient for Governance continues to be insignificant. This suggests that governance quality is positively correlated with FDI/FE for poor-governance countries, but only when measured relative to the source country. When we introduce the squared term of Relative Governance in Model 3, the coefficient of Relative Governance increases by more than 2.3 times and maintains its sign and significance, and the squared term has a

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<sup>7</sup> Since Relative Governance is measured as the governance of the host minus source, an increase in Host Governance is accompanied by an equal increase in Relative Governance.

positively significant coefficient.<sup>8</sup> In sum, these results indicate that the impact of governance quality on FDI/FE for poor-governance countries is highly non-linear and very dependent on the level of the source country's governance quality. Given that data on electricity consumption, internet usage and education are missing for a few countries in the sample, we re-estimate our primary regression excluding these variables in Model 4. Our results remain the same. In the estimation for FDI (Model 5), we find the sum of the coefficients for Governance and Relative Governance to be close to zero, indicating the observed relationship between FDI/FE and governance quality is primarily due to FPI rather than FDI. The insignificant and small coefficient for the squared term of Relative Governance in Model 6 also suggests that the observed non-linearity in FDI/FE is likely not due to FDI changes.

\*\*\*\*\* *Insert Table 8 here* \*\*\*\*\*

When we estimate the relationship between governance and FDI/FE for the good- governance subsample we find remarkably different results (see Table 8). First, we find a significantly positive coefficient for Governance in Model 1. When we include Relative Governance in Model 2, we find that Governance maintains its positive sign but loses significance. When we include the squared term of Relative Governance in Model 3, Governance is marginally significant and remains positive, with a coefficient magnitude 1.7 times that of Relative Governance. These results suggest that, when host countries with already above-average governance further improve their governance quality, they attract a higher share of FDI, regardless of the governance quality of the source country. In Model 5 of Table 8, we estimate the relationship between FDI and governance quality for the good-governance subsample. We find that, after accounting for the negative coefficient of relative governance, the overall impact of both governance measures (Governance and Relative Governance) is highly positive and statistically

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<sup>8</sup> We remind the reader here that, even though the coefficients for Relative Governance and Relative Governance squared for the FDI/FE models in Tables 6, 7, and 8 are all positive, their implications differ. These coefficients only confirm the existence of the convex relationship between Relative Governance and FDI/FE. The possible range of Relative Governance in a subsample of poor-governance countries is significantly different from a subsample of good-governance countries. As we show in Figure 1 below, the downward sloping part of the U-shaped relationship is dominant in the relevant range of X for the poor-governance subsample, while the upward sloping part of the curve is relevant for the good-governance subsample.

significant. This indicates that the observed positive relationship between governance and FDI/FE for good-governance host countries is primarily due to increased FDI rather than FPI.

Based on the regression coefficients observed for these two subsamples, we estimate the likely impact of improvement in governance quality for two representative countries: Egypt and Italy. With a governance index slightly above -1, Egypt represents a poor-governance country. Italy's governance index is higher, at around 0.5, representing a good-governance country. As previously noted, an overwhelming majority of FDI activity is attributable to investors from countries with the best governance. We therefore use the U.S., with an index value of about 1.5, as a representative source country. The sum of the coefficient estimates for Governance and Relative Governance in Model 5 of Table 7 suggests that an improvement of Egypt's governance index from -1 to 0 would likely cause FDI from the U.S. to *decrease* slightly (by slightly more than 3%). As illustrated in Figure 1A, the results of Model 4 in Table 7 suggest that such improvement would result in a decline in Egypt's share of FDI (FDI/FE) from the U.S. from .750 to .677 (a decline of .073, calculated as  $[-0.061*0 + 0.148*-1.5 + 0.04*(-1.5)^2 + b_x*X]$  -  $[-0.061*-1 + 0.148*-2.5 + 0.04*(-2.5)^2 + b_x*X]$  - where -1 and -2.5 are governance and relative governance, respectively, prior to improvement, and 0 and -1.5 thereafter).<sup>9</sup> This is because improved governance increases FPI. Given that FPI contributes to the denominator, the result is a magnified decline in the FDI/FE ratio. Thus, for poor-governance countries, the negative relationship between governance and FDI share from good-governance countries is driven by FPI. Contrary to what we observe for Egypt, an improvement in Italy's governance quality from the current level of 0.5 to 1.5 will likely *increase* FDI from the U.S. two-fold.<sup>10</sup> The impact of this improvement on the FDI/FE ratio will also be positive, with an increase of 0.11 (as illustrated in Figure 1B, based on estimates of Model 4 in Table 8). An increase in the FDI/FE ratio implies that the increase in FDI is not accompanied by a

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<sup>9</sup> Let FDI be 0.75 and FPI be 0.25, which makes FDI/FE 0.75. Even if FDI decreases 4% with no change in FPI, the new FDI would be .72 and the ratio would be .742. For the new ratio to be .677, FPI must increase from .25 to .34 (an increase of 34%).

<sup>10</sup> Based on estimates of Model 5 in Table 8, where the dependent variable is the natural log of FDI.

proportional increase in FPI. This shows that changes in FDI share for good-governance countries in response to governance quality changes are primarily driven by changes in FDI rather than FPI.

\*\*\*\*\* *Insert Figure 1 here* \*\*\*\*\*

We now discuss the coefficients of the control variables. We find largely insignificant impacts of internet usage, education, and electricity consumption on FDI. However, for good-governance countries, electricity consumption has a significant negative coefficient for FDI/FE indicating higher FPI in countries with higher consumption. Our failure to find a significant coefficient for education level in the host country suggests that our measure does not capture the value that foreign investors seek in a labor force. Though higher GDP is weakly associated with higher FDI in poor-governance countries, it has a measurable positive impact on FPI, hence a significant negative impact on FDI/FE.<sup>11</sup> In good-governance countries, GDP per capita rather than GDP appears to have a positive impact on FPI. A well-developed stock market encourages FPI in poor-governance countries. As expected, we find a significant positive coefficient for the lagged trade variable in all our models, suggesting that trade ties encourage FDI. We find higher FDI for transition economies, but only for those with above-average governance.

Physical proximity (lower distance) to the host country, similarity in language, openness, and availability of private credit promote FDI in good-governance countries. However, these variables impact both FDI and FPI in the same direction, resulting in no significant change to FDI/FE. For poor-governance countries, natural resources are the strongest pull factor for FDI by far. Interestingly, private credit is not an important factor for investors in countries with poor governance. We find that tax burden has a significantly positive coefficient for poor-governance host countries. As Globerman and Shapiro (2002) note, high taxes are related to better infrastructure. It appears that the tax variable is capturing infrastructure for poor-governance countries rather than commonly used variables like education, electricity consumption, and internet usage.

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<sup>11</sup> Although not identified as a control in the specified model, as a robustness check we also control for GDP of the source country (in addition to GDP of the host). Inclusion of this variable has no impact, as it is insignificant in all specifications, and the parameter estimates for other variables of interest remain the same in magnitude.



#### 4.8 Robustness Tests

We present the correlations of the six individual WGI indicators in Panel B of Table 5. The lowest observed correlation between any pair of indicators is 0.72, evidencing very high correlation. Although not surprising, this makes it difficult to disentangle the effect of one indicator from another. We nonetheless attempt to test the validity of our arguments by breaking apart the six-factor index. As previously discussed, we contend that some investors are attracted to poor-governance countries because such conditions allow them to take advantage of information asymmetries. With regard to this competitive advantage, three of the six governance indicators are directly relevant: regulatory quality, rule of law, and control of corruption. The others, particularly freedom of expression (voice) and political stability / absence of violence, though highly correlated with other components of good governance, likely do not contribute. An environment that is safe and peaceful is generally preferred even by such investors, all else equal. Similarly, presence or absence of democracy is of less concern to such investors. We therefore contend that a composite index of the three critical components (Regulation, Law, and Corrupt)<sup>12</sup> should demonstrate a stronger U-shaped relationship with FDI share than a composite index of political stability (Political) and freedom of expression (Voice).

\*\*\*\*\* *Insert Table 9 here* \*\*\*\*\*

We present the results of our analysis for the poor-governance subsample in Table 9. We find a negative coefficient for the Governance 3-factor index and positive coefficients for the Relative Governance 3-factor index and Relative Governance 3-factor index squared. Our results suggest that if Nigeria, with 3-factor Governance value of -1, were to improve its 3-factor value to 0, its FDI share from Switzerland (with 3-factor value of 1.86) would actually decline by 10%. We also note the 2-factor index variables of Political and Voice have insignificant coefficients. In Model 2 of Table 9, we replace the 2-factor index with Political and again find insignificant coefficients. Finally, in Model 3, we test only

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<sup>12</sup> Government effectiveness has a very high correlation (0.95) with regulatory quality and rule of law, as shown in Table 5. We therefore do not address it individually here. Our analysis remains virtually the same when we include government effectiveness in the factor composite.

Voice alongside the 3-factor index. Although the coefficients for the 3-factor index remain as before, we find a significant negative coefficient for the relative Voice variable. The indication is that, when investing in poor countries, FDI investors from countries with higher freedom of speech and democratic expression actually prefer investing in countries with lower freedom. Our results suggest that, all else equal, FDI share for a host country with a Voice measure of -1 from a source country with a Voice measure of 1.5 is 25% lower compared to a source country with a Voice measure similar to that of the host. In aggregate, the findings in Table 9 all support our theory.

\*\*\*\*\* *Insert Table 10 here* \*\*\*\*\*

Though developing nations often prefer FDI to FPI, it is conceivable that such nations might actually encourage FPI to aid creation of a domestic stock market if they do not have one. Even though stock market capitalization to GDP ratio is above 0 for all host countries in our sample we note that significant number of country pairs have FDI to FE ratio of 1. To ensure that our observed results are not a result of such observations we exclude all observations with FDI/FE of zero or one. As shown in model 1 of Table 10 we find that our results remain as before. In model 2 we exclude observations with stock market to GDP ratio below the 5<sup>th</sup> percentile or above the 95<sup>th</sup> percentile. In models 3 through 6, we perform the same analysis but for poor governance subsample only. In all our models, we find that limiting our sample does not alter our findings.

Even though corporate governance environment has impact on corporate decision-making related to foreign direct investment, it is also conceivable that foreign investors cause the host country to revisit some corporate governance issues and positively impact the corporate governance measure (Kwok and Tadesse, 2006).<sup>13</sup> This possibility of endogenous relationship between FDI and corporate governance measure might lead one to question the validity of our observations. However, we contend as below. Even though foreign investors may impact corporate governance in the host country after FDI has been made, they do not decide to make FDI with the purpose of impacting the corporate governance environment of

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<sup>13</sup> Pierre (2015) showed in a model that government corruption may increase or decrease depending on the interaction of FDI and rule of law.

host nation. Moreover, we attempt to capture the relationship between FDI/FI to Corporate Governance environment and document a quadratic relationship. If the observed relationship was a reflection of the endogeneity problem it would bias the result toward a positive relationship and not a U-shape relationship. Our findings in the presence of suspected endogenous relationship would actually mean that U-shape relationship we observe is in fact even stronger than we observe. Irrespective, we also run our regression using FDI/FE data for 2010 using lagged governance variables to circumvent any possibility of endogenous relationship. Our results do not change.

Given the high correlation between the governance quality of a country and its GDP per capita it is conceivable that our observed results are really a manifestation of interaction between foreign investment and country development rather than corporate governance. To investigate this possibility we include relative GDP per capita (host minus source) and its squared term in our analysis along with governance variables to setup a fair horse race. We find insignificant coefficient estimates for the relative GDP per capita and its squared term in all the models while the coefficients for our variables of interest remain virtually the same.

## **5. DISCUSSION AND CONCLUSION**

It has long been generally accepted that improvement in governance quality is an appropriate policy objective for countries seeking to attract foreign capital and thereby promote economic development. This consensus is surprising given the lack of a theoretical or empirical foundation for such a proposition, especially with regard to the most desired form of investment—FDI. Our study contributes to the literature by presenting and empirically supporting a unifying theory that resolves inconsistent findings of previous studies. We identify the methodological limitations of previous studies and explain why they fail to produce conclusive results. Our study addresses these limitations by using a more diverse data sample (including both rich and poor countries), examining foreign investment positions between pairs of individual countries (rather than country totals), considering the governance quality of both the

source and the host country (relative governance), and testing for different relationships at different levels of governance quality (a non-linear relationship).

By clarifying, synthesizing, and extending the body of research, our study enhances its usefulness to public policymakers in evaluating alternative strategies for attracting desired foreign investment. While researchers speak conceptually of external capital structure as a whole, policymakers in a given country are more concerned with attracting specific forms of investment from specific countries. Our study sheds light on this issue with two key findings. First, governance factors that make a host country attractive are not uniform across foreign investors or across types of foreign investment. Certain pull factors are more important for FDI than for FPI and, for both, certain factors are more important to some investors than others. We show that a key dimension along which foreign investors differ is the benchmark by which they evaluate governance quality, which depends on the quality of institutions experienced in their home countries. Although the literature has recognized the impact on foreign investment decisions of differences (distance) between host and source countries in terms of geography and culture, the concept of governance distance is not well-developed.

Our inclusion of a relative governance measure, which captures governance distance, resolves the seemingly contradictory results of previous studies. We find that the relationship between governance quality and FDI share is not linear in nature. Rather it is U-shaped, with a negative relationship at lower levels of governance quality and a positive relationship at higher levels. Specifically, for countries that already have an adequate level of governance quality, we find that improvement increases FDI activity. The same relationship is not evident for countries with poor governance quality. For such countries, we find that improvement is actually likely to *decrease* the FDI/FE ratio. This outcome results because an improvement in governance is not uniformly attractive to all FDI investors, but rather is viewed positively by some and negatively by others, resulting in only a marginal increase (if any). The impact on FPI (in the denominator) is more reliably positive, as an improvement in governance quality increases FPI from good-governance countries like the U.S. where investors can benefit from higher returns and better diversification. Such investors increase their portfolio investments in frontier markets as the host

country's governance quality improves over a threshold, making it feasible to invest in stocks. In contrast, for countries that already have adequate governance quality, marginal improvement invites significantly more new FDI than FPI, which increases the FDI/FE ratio.

Our findings are especially striking because improvement in governance quality is often prescribed specifically to countries with below-average governance as a means to attract FDI from high-quality countries, which are the most prolific foreign investors. Our results suggest that such efforts by poor-governance countries are more likely to increase FPI than FDI from such countries. Only after a sustained and meaningful improvement in governance quality can a low-quality host country reap the economic benefits of attracting greater FDI from investors in high-quality countries. Until that time such countries are likely to attract relatively more FPI, which by itself may still be desirable, but is often associated with higher risks of capital flight during crisis.

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**Appendix A**  
**Variables Definition and Source**

<b>Name</b>	<b>Description</b>	<b>Source</b>
FDI to FE ratio	FDI is the average FDI stock measure (as opposed to a flow measure) of positions for 2009-2011 by economy of direct investor (for inward FDI) and by economy of investment (for outward FDI). FE includes FDI and FPI. FPI is stock of cross-border holdings of equity securities broken down by the issuer's economy of residence	CDIS, CPIS
Governance	Simple average of six institutional indicators (Voice and accountability, Political stability, Government Effectiveness, Regulatory quality, Rule of law, and control of corruption).	WGI
Relative Governance	Difference in the governance of host country and source country (host minus source)	WGI
Ln (Trade)	Natural log of lagged value of exports (\$) reported by source to host if available; otherwise, lagged value of imports reported by host from source	ICTS
Physical Distance score	Score between 1 and 10 based on greater circle distance; shortest distance between borders for country pairs including large countries (Brazil, Canada, China, India, Russia and U.S.) and distance between capitals for all other countries. 1 represents highest proximity.	CIAGC
Ln(GDP)	Natural log of total GDP of host country in constant 2009 prices (\$)	WDI
Ln(GDP/cap)	Natural log of host country per-capita GDP in constant 2009 prices (\$)	WDI
Stk mkt/GDP	Stock market capitalization as % of GDP of the host country	WDI
Credit dev	Domestic credit to private sector as % of GDP in the host country	WDI
Openness	Sum of exports and imports as % of GDP of the host country	WDI
Nat resources	Ores and metals exports as % of merchandise exports of the host country	WDI
Tax burden	Amount of taxes and mandatory contributions payable by businesses, after accounting for allowable deductions and exemptions, as % of commercial profits in host country	WDI
English legal Scand legal German legal	Indicator variable for legal origin of host country: English, German or Scandinavian origin. French origin is the reference category in the regressions	DLLS08
Transition econ	Indicator variable that equals one if the host country belonged to the former USSR, former Yugoslavia, or ex-communist countries	FM09
Lang similarity	Categorical variable that equals 1 if the primary language of the host and source country are dissimilar in origin; 2 if similar, and 3 if the same	Hand collected
Human capital	Percent of the labor force with secondary education (per 100 people)	WDI
Kwh/cap ('000)	Electricity consumption measured in thousands kilowatt-hour per capita for the host country (Top value (51,000 kwh per capita) winsorized to second highest (16,025))	WDI
internet	Number of people in the host country who used internet in the last 12 months (measured per 100 people)	WDI

**CDIS**=Coordinated Direct Investment Survey compiled by IMF; **CIAGC**=Geographic coordinates from CIA World Factbook; **CPIS**=Coordinated Portfolio Investment Survey by IMF; **DLLS08**=Djankov, La Porta, Lopez-de-Silanes and Shleifer (2008); **FM09**=Faria and Mauro (2009); **ICTS**=OECD International Trade by Commodity Statistics, Harmonized System 1988, All Commodities; **WDI**=World Development Indicators by World Bank; **WGIP**=Worldwide Governance Indicators Project by World Bank.

**Table 1**  
**Distribution of sample countries**

	<b>Host</b>	<b>%</b>	<b>Source</b>	<b>%</b>		<b>Host</b>	<b>%</b>	<b>Source</b>	<b>%</b>
Argentina	20	1.2	7	0.4	Kenya	12	0.7		0.0
Australia	37	2.3	24	1.5	South Korea	37	2.3	64	4.0
Austria	34	2.1	50	3.1	Latvia	14	0.9	21	1.3
Belgium	35	2.2	48	3.0	Lithuania	18	1.1	30	1.9
Bolivia	8	0.5		0.0	Luxembourg	34	2.1	30	1.9
Brazil	25	1.6	25	1.6	Malaysia	20	1.2	6	0.4
Bulgaria	21	1.3	8	0.5	Mexico	32	2.0	28	1.7
Chile	30	1.9	17	1.1	Morocco	17	1.1		0.0
Hong Kong	33	2.1	12	0.7	Netherlands	41	2.6	63	3.9
China	27	1.7		0.0	New Zealand	27	1.7	13	0.8
Colombia	17	1.1	8	0.5	Nigeria	16	1.0		0.0
Croatia	16	1.0		0.0	Pakistan	11	0.7	10	0.6
Czech Republic	32	2.0	45	2.8	Panama	13	0.8	7	0.4
Denmark	32	2.0	62	3.9	Peru	15	0.9		0.0
Ecuador	13	0.8		0.0	Philippines	17	1.1	15	0.9
Egypt	19	1.2	6	0.4	Poland	34	2.1	46	2.9
El Salvador	12	0.7		0.0	Portugal	29	1.8	40	2.5
Finland	30	1.9	46	2.9	Russia	25	1.6	28	1.7
France	39	2.4	53	3.3	Singapore	25	1.6	18	1.1
Germany	39	2.4	63	3.9	South Africa	25	1.6	29	1.8
Ghana	15	0.9		0.0	Spain	34	2.1	31	1.9
Greece	28	1.7	38	2.4	Sri Lanka	11	0.7		0.0
Hungary	35	2.2	53	3.3	Sweden	33	2.1	61	3.8
Iceland	18	1.1	37	2.3	Switzerland	34	2.1	54	3.4
India	25	1.6	20	1.2	Thailand	23	1.4	28	1.7
Indonesia	20	1.2	4	0.2	Tunisia	14	0.9		0.0
Ireland	38	2.4	40	2.5	Turkey	28	1.7	51	3.2
Israel	26	1.6	33	2.1	Uganda	5	0.3		0.0
Italy	40	2.5	62	3.9	Ukraine	19	1.2		0.0
Jamaica	12	0.7		0.0	United Kingdom	41	2.6	58	3.6
Japan	34	2.1	26	1.6	United States	46	2.9	61	3.8
Jordan	13	0.8		0.0	Venezuela	20	1.2	2	0.1
Kazakhstan	14	0.9	26	1.6					

Table 1 shows the distribution of countries in our sample. The column labeled *Host* shows the number of observations where the country was the host for foreign equity investment while the *Source* column shows number of observations where the foreign investor was from the said country. The percent columns show the representation of each country as host and as an investor as a percent of the total number of observations in the sample.

**Table 2**  
**Descriptive Statistics**

<b>Variable</b>	<b>N</b>	<b>Mean</b>	<b>Std Dev</b>	<b>Min</b>	<b>25th Pctl</b>	<b>Median</b>	<b>75th Pctl</b>	<b>Max</b>
FDI to FE ratio	1,550	0.67	0.34	0.00	0.42	0.79	0.97	1.00
ln(FDI in mil.)	1,607	5.69	3.38	0.00	3.06	6.14	8.30	13.26
Gov	1,607	0.56	0.81	(1.61)	(0.16)	0.70	1.21	1.85
Relative Gov	1,607	(0.26)	1.17	(3.14)	(1.14)	(0.27)	0.57	3.25
Ln(Trade)	1,607	20.43	2.20	9.94	19.08	20.53	22.02	26.11
Phys dist decile	1,607	3.33	2.23	1.00	1.00	3.00	5.00	10.00
Lang similarity	1,607	1.23	0.62	1.00	1.00	1.00	1.00	3.00
Ln(GDP)	1,607	26.70	1.54	23.21	26.00	26.53	27.76	30.32
Ln(GDP / capita)	1,607	9.70	1.16	6.18	8.93	10.00	10.67	11.60
Stk mkt / GDP	1,607	0.72	0.69	0.01	0.27	0.55	0.94	4.72
Credit dev	1,607	1.08	0.62	0.13	0.52	1.08	1.55	2.34
Openness	1,607	0.97	0.78	0.22	0.54	0.72	1.06	4.46
Nat resources	1,607	0.07	0.11	0.00	0.02	0.04	0.06	0.64
Tax burden	1,607	0.45	0.15	0.21	0.33	0.44	0.53	1.08
human capital	1,528	42.73	13.57	11.27	37.30	41.83	49.97	76.37
Internet	1,607	86.43	36.42	11.35	55.15	97.51	114.87	140.60
kwh/cap(*000)	1,602	5.80	4.00	0.13	2.88	5.61	8.02	16.02
Corruption index	1,607	0.58	1.01	(1.50)	(0.30)	0.45	1.47	2.46
Govt effectiveness	1,607	0.73	0.83	(1.72)	0.06	0.81	1.45	2.28
Political stability	1,607	0.17	0.82	(2.69)	(0.30)	0.31	0.83	1.52
Regulatory quality	1,607	0.73	0.79	(1.73)	0.23	0.83	1.44	1.92
Rule of law	1,607	0.61	0.93	(1.64)	(0.19)	0.78	1.44	1.97
Voice	1,607	0.54	0.81	(1.81)	(0.07)	0.76	1.13	1.63
English legal	1,607	0.28	0.45	0.00	0.00	0.00	1.00	1.00
Scand legal	1,607	0.07	0.26	0.00	0.00	0.00	0.00	1.00
German legal	1,607	0.22	0.42	0.00	0.00	0.00	0.00	1.00
Transition econ	1,607	0.14	0.35	0.00	0.00	0.00	0.00	1.00

Table 2 shows the number of observations, mean, standard deviation, minimum, 25<sup>th</sup> percentile, median, 75<sup>th</sup> percentile, and maximum for the variables used in the study. See Appendix for variable descriptions.

**Table 3**  
**Descriptive statistics across countries with different levels of governance quality**

<i>Host Governance</i>	Worst	Below Average	Above Average	Best
	$-2 \leq X < -1$	$-1 \leq X < 0$	$0 \leq X < 1$	$1 \leq X < 2$
FDI to FE ratio	0.80	0.73	0.66	0.62
Governance	-1.18	-0.39	0.57	1.44
Relative Gov	-2.20	-1.33	-0.25	0.75
Trade (Mil \$)	952	3,129	5,702	5,581
Physical distance	4,277	4,495	3,286	3,840
GDP (billion \$)	264	838	1,147	1,780
GDP/ capita (\$)	5,287	7,238	23,524	47,234
Stk. Mkt/GDP	0.16	0.53	0.70	0.93
Credit dev	0.24	0.57	1.15	1.49
Openness	0.50	0.71	1.00	1.19
Nat resources	0.01	0.07	0.06	0.09
Tax burden	0.43	0.52	0.45	0.39
English legal	0.57	0.20	0.22	0.38
Scand legal	0.00	0.01	0.03	0.17
German legal	0.00	0.08	0.41	0.15
Transition econ	0.00	0.14	0.25	0.04
Lang similarity	1.26	1.14	1.18	1.34
FDI(Mil \$)	1,590	2,912	8,117	20,556
human capital (%)	22.56	33.10	47.02	46.35
Kwh/cap('000)	1.34	2.47	5.48	9.12
Internet user per 100	25.05	32.25	60.19	77.70
N	47	431	583	546
<i>Examples</i>	Pakistan Nigeria	India Mexico Kazakhstan Russia Turkey Thailand	Israel Brazil South Africa Malaysia	USA Singapore Chile Switzerland Australia

Table 3 shows the mean value for the different variables across host countries with different levels of governance quality. The governance level of a host country is measured as a simple average of six governance factors. These factors range in value from -2 to +2 with a mean value of zero and standard deviation of 1. Physical distance is presented in this table in kilometers instead of deciles. Lang similarity takes a value of 1 when the primary language of the two countries are dissimilar, 2 if similar, and 3 if the same. Scand legal takes unit value when the legal origin of the host country is Scandinavian.

**Table 4**  
**Distribution of FDI dollars across source and host countries**

Source Country		Host Country				All
		Worst Gov < -1	Below Avg $-1 \leq \text{Gov} < 0$	Above Avg $0 \leq \text{Gov} < 1$	Best $1 \leq \text{Gov}$	
Worst	Gov < -1	0.0%	14.1%	19.9%	66.0%	0%
Below Avg	$-1 \leq \text{Gov} < 0$	1.2%	3.4%	19.9%	75.6%	1%
Above Avg	$0 \leq \text{Gov} < 1$	0.2%	9.6%	29.3%	60.8%	31%
Best	$1 \leq \text{Gov}$	0.5%	6.3%	26.7%	66.6%	68%
All		0.4%	7.3%	27.4%	64.9%	100%

Table 4 shows the distribution of FDI dollars across host countries and source countries with different levels of governance quality. The governance level of a host country is measured as a simple average of six governance factors. These factors range in value from -2 to +2 with a mean value of zero and standard deviation of 1. *Gov* stands for governance measure.

**Table 5**  
Pearson correlation coefficients

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Gov	1.00													
2	FDI to FE ratio	-0.12	1.00												
3	Ln (trade)	0.15	0.12	1.00											
4	Phys dist decile	-0.10	-0.11	-0.29	1.00										
5	Stk mkt/GDP	0.20	-0.18	0.10	0.14	1.00									
6	Credit dev	<b>0.61</b>	-0.23	0.23	-0.10	<b>0.44</b>	1.00								
7	Openness	0.22	-0.03	-0.09	-0.05	<b>0.58</b>	0.26	1.00							
8	Nat resources	0.05	0.01	-0.15	0.25	0.18	-0.14	-0.10	1.00						
9	Tax burden	-0.24	0.09	0.11	0.02	-0.40	-0.34	<b>-0.43</b>	-0.18	1.00					
10	Ln (GDP)	0.14	-0.20	<b>0.52</b>	-0.01	0.13	0.36	-0.17	0.29	1.00					
11	Ln (GDP/capita)	<b>0.79</b>	-0.22	0.23	-0.13	0.29	<b>0.72</b>	0.28	-0.08	0.35	1.00				
12	Ln(FDI)	0.16	0.05	0.31	-0.14	0.10	0.20	0.04	-0.06	0.18	0.17	1.00			
13	Lang similarity	0.09	-0.02	0.18	-0.01	0.13	0.08	0.07	0.04	0.02	0.06	0.16	1.00		
14	human capital	0.39	0.03	0.09	-0.13	0.00	-0.03	0.17	0.04	0.02	0.34	0.02	-0.01	1.00	
15	Kwh/cap('000)	<b>0.70</b>	-0.24	0.12	-0.11	0.26	<b>0.56</b>	0.21	-0.23	0.22	<b>0.80</b>	0.14	0.03	0.25	1.00
16	Internet	<b>0.80</b>	-0.16	0.21	-0.16	0.26	<b>0.68</b>	0.29	-0.11	0.23	<b>0.91</b>	0.16	0.03	<b>0.44</b>	<b>0.80</b>

**Bold** indicates high correlation.

**Panel B: WGI governance indicators**

	Corrupt	Govt	Law	Voice	Regulation	Political
Corrupt	1.00					
Govt	<b>0.96</b>	1.00				
Law	<b>0.96</b>	<b>0.97</b>	1.00			
Voice	<b>0.80</b>	<b>0.79</b>	<b>0.82</b>	1.00		
Regulation	<b>0.92</b>	<b>0.95</b>	<b>0.95</b>	<b>0.81</b>	1.00	
Political	<b>0.79</b>	<b>0.77</b>	<b>0.79</b>	<b>0.72</b>	<b>0.75</b>	1.00

**Table 6**  
**Model estimates – Full sample**

Dep. variable	FDI/FE						Natural log of FDI (\$millions)					
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Coeff	sigma	Coeff	sigma	Coeff	sigma	Coeff	sigma	Coeff	sigma	Coeff	sigma
Intercept	1.786	0.382	1.926	0.390	1.823	0.384	-12.04	3.925	-15.29	3.659	-16.23	3.517
Gov	0.061	0.035	-0.012	0.036	0.003	0.036	0.419	0.259	1.920	0.288	2.048	0.274
Relative Gov			0.072	0.012	0.065	0.012			-1.490	0.093	-1.546	0.093
Rel Gov sqd					0.019	0.006					0.158	0.039
Internet	0.002	0.001	0.002	0.001	0.002	0.001	-0.005	0.012	-0.001	0.011	-0.001	0.010
human capital	-0.001	0.002	-0.001	0.002	-0.001	0.002	-0.002	0.011	0.001	0.010	0.001	0.009
Kwh/cap('000)	-0.016	0.007	-0.016	0.007	-0.016	0.007	0.067	0.093	0.065	0.087	0.057	0.086
Ln(trade)	0.043	0.005	0.046	0.005	0.047	0.005	1.031	0.036	0.985	0.038	0.999	0.037
Phys dist decile	-0.004	0.006	-0.004	0.006	-0.005	0.006	-0.098	0.041	-0.085	0.037	-0.093	0.037
Lang similarity	-0.014	0.015	-0.014	0.015	-0.014	0.016	0.471	0.118	0.467	0.097	0.463	0.102
Ln(GDP)	-0.052	0.013	-0.056	0.014	-0.057	0.013	-0.071	0.131	0.015	0.124	0.006	0.118
Ln(GDP/cap)	-0.075	0.043	-0.075	0.044	-0.068	0.040	-0.282	0.378	-0.252	0.357	-0.194	0.319
Stk mkt / GDP	-0.028	0.033	-0.027	0.034	-0.031	0.033	-0.076	0.331	-0.123	0.340	-0.159	0.309
Credit dev	-0.026	0.044	-0.030	0.045	-0.025	0.043	0.316	0.348	0.423	0.336	0.474	0.316
Openness	0.011	0.030	0.012	0.032	0.015	0.031	0.551	0.291	0.535	0.294	0.564	0.272
Nat resources	0.123	0.146	0.133	0.143	0.162	0.148	1.360	0.998	1.157	0.954	1.430	0.872
Tax burden	0.203	0.117	0.214	0.119	0.220	0.119	0.573	1.067	0.394	0.980	0.474	0.952
English legal	-0.026	0.047	-0.020	0.047	-0.017	0.045	-0.274	0.447	-0.381	0.437	-0.349	0.418
Scand legal	-0.049	0.067	-0.042	0.067	-0.043	0.065	-1.433	0.768	-1.578	0.714	-1.573	0.699
German legal	-0.043	0.048	-0.037	0.048	-0.029	0.044	-0.568	0.389	-0.686	0.392	-0.612	0.359
Transition econ	0.114	0.037	0.119	0.036	0.120	0.037	0.460	0.337	0.415	0.334	0.434	0.327
N		1,477		1,477		1,477		1,528		1,528		1,528
Adj. R <sup>2</sup>		0.17		0.192		0.198		0.482		0.578		0.582
F-value		17.92		19.41		19.20		80.01		110.9		107.41

The dependent variable for models 1, 2, and 3 is FDI to FE ratio. The dependent variable in Models 4, 5, and 6 is Ln(FDI in millions). All models show cluster robust standard errors. \*\*\* Significant at 1% level; \*\* significant at 5% level; \* significant at 10% level.

**Table 7**  
**Model estimates - Poor-governance subsample**

Dep. Variable	FDI/FE						Natural log of FDI (\$millions)											
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6							
	Coeff	sigma	Coeff	sigma	Coeff	Sigma	Coeff	Sigma	Coeff	sigma	Coeff	sigma						
Intercept	1.592	0.427	***	1.637	0.449	***	1.688	0.459	***	1.455	0.403	***	-23.62	2.374	***	-24.65	3.376	***
Gov	0.003	0.053		-0.079	0.060		-0.036	0.062		-0.061	0.055		1.437	0.322	***	1.150	0.377	***
Relative Gov				0.066	0.025	**	0.155	0.033	***	0.148	0.030	***	-1.469	0.133	***	-1.458	0.233	***
Rel Gov sqd							0.043	0.014	***	0.040	0.012	***				-0.007	0.083	
Internet	-0.002	0.001	*	-0.002	0.001		-0.002	0.001								-0.018	0.011	
human capital	0.000	0.001		0.000	0.001		-0.001	0.001								-0.006	0.011	
Kwh/cap('000)	0.014	0.009		0.000	0.010		0.002	0.010								-0.024	0.116	
Ln(trade)	0.040	0.012	***	0.039	0.012	***	0.039	0.012	***	0.043	0.011	***	1.075	0.072	***	1.097	0.081	***
Phys dist decile	-0.026	0.010	**	-0.025	0.009	**	-0.024	0.009	**	-0.023	0.008	**	-0.048	0.073		-0.068	0.071	
Lang similarity	-0.027	0.039		-0.039	0.037		-0.043	0.035		-0.047	0.030		0.441	0.224	*	0.505	0.286	*
Ln(GDP)	-0.075	0.023	***	-0.073	0.025	***	-0.070	0.025	***	-0.053	0.016	***	0.174	0.101	*	0.103	0.153	
Ln(GDP/ cap)	0.052	0.041		0.048	0.043		0.035	0.044		-0.013	0.021		-0.019	0.161		0.347	0.331	
Stk mkt / GDP	-0.144	0.058	**	-0.141	0.062	**	-0.136	0.063	**	-0.188	0.041	***	-0.604	0.399		-0.677	0.553	
Credit dev	-0.202	0.054	***	-0.217	0.061	***	-0.237	0.072	***	-0.249	0.058	***	-0.914	0.585		-0.814	0.631	
Openness	0.147	0.078	*	0.164	0.083	*	0.194	0.086	**	0.251	0.054	***	0.967	0.569	*	1.247	0.801	
Nat resources	-0.030	0.130		-0.003	0.127		0.016	0.120		0.003	0.110		3.167	1.292	**	3.670	1.232	***
Tax burden	0.364	0.069	***	0.384	0.073	***	0.412	0.074	***	0.386	0.060	***	1.710	0.572	***	2.080	0.565	***
English legal	-0.019	0.065		-0.018	0.067		-0.027	0.067		-0.024	0.046		-0.035	0.328		-0.166	0.431	
Scand legal	0.182	0.097	*	0.250	0.111	**	0.345	0.139	**	0.308	0.106	***	-0.502	1.135		0.289	1.480	
German legal	0.186	0.078	**	0.205	0.086	**	0.220	0.096	**	0.174	0.066	**	0.053	0.681		0.570	0.823	
Transition econ	-0.113	0.051	**	-0.073	0.050		-0.032	0.056		-0.038	0.034		0.335	0.398		0.576	0.596	
N	399			399			399			450			478			421		
Adj. R <sup>2</sup>	0.1645			0.177			0.188			0.1991			0.617			0.6073		
F-value	5.35			5.5			5.61			7.57			49.03			33.48		

Data is limited to host countries with governance index value zero or below. The dependent variable for models 1, 2, 3 and 4 is FDI to FE ratio. The dependent variable in Models 5, and 6 is Ln(FDI in millions). The key findings of the paper are based on the highly significant positive coefficient for *Relative Gov* and *Rel Gov sqd* in Model 3. This shows that impact of governance quality on the FDI/FE ratio is highly non-linear and is very dependent on the source country's governance quality. At the same time, the statistically and economically insignificant coefficient estimate for *Rel Gov sqd* in Model 6 suggests that the non-linearity of FDI/FE ratio w.r.t. governance is not due to FDI, but rather due to FPI, as we contend. All models show cluster robust standard errors. \*\*\* Significant at 1% level; \*\* significant at 5% level; \* significant at 10% level.



**Table 8**  
**Model estimates - Good-governance subsample**

Dep. variable	FDI to FE ratio			Ln(FDI)												
	Coeff	sigma		Coeff	Sigma											
Intercept	1.894	0.541	***	2.060	0.563	***	1.902	0.562	0.372	***	-16.80	2.399	***	-17.07	3.243	***
Gov	0.144	0.046	***	0.069	0.047		0.082	0.048	0.045	*	2.343	0.292	***	2.342	0.282	***
Relative Gov				0.072	0.013	***	0.048	0.014	0.014	***	-1.493	0.108	***	-1.777	0.119	***
Rel Gov sqd							0.022	0.008	0.008	***	0.022	0.008	***	0.250	0.056	***
Internet	0.002	0.001	*	0.002	0.001	*	0.002	0.001						0.005	0.009	
human capital	-0.001	0.002		-0.001	0.002		-0.001	0.002						0.005	0.017	
Kwh/cap('000)	-0.014	0.007	**	-0.013	0.006	**	-0.014	0.006	0.006	**				0.063	0.069	
Ln(trade)	0.044	0.005	***	0.047	0.005	***	0.048	0.005	0.006	***	0.052	0.006	***	0.978	0.039	***
Phys Dist decile	-0.008	0.006		-0.009	0.006		-0.009	0.006	0.006		-0.007	0.006		-0.108	0.033	***
Lang similarity	-0.014	0.015		-0.011	0.016		-0.013	0.016	0.017		-0.015	0.017		0.378	0.094	***
Ln(GDP)	-0.027	0.018		-0.032	0.019		-0.029	0.019	0.018	**	-0.039	0.018	**	0.008	0.125	
Ln(GDP/cap)	-0.162	0.041	***	-0.165	0.042	***	-0.156	0.041	0.033	***	-0.148	0.033	***	-0.043	0.275	
Stk mkt / GDP	-0.029	0.035		-0.029	0.036		-0.036	0.036	0.036		-0.035	0.036		0.011	0.244	
Credit dev	0.012	0.046		0.004	0.048		0.000	0.047	0.051		0.034	0.051		0.672	0.361	*
Openness	0.028	0.031		0.029	0.032		0.031	0.032	0.029		0.030	0.029		0.467	0.216	**
Nat resources	0.171	0.174		0.174	0.175		0.186	0.176	0.164		0.109	0.164		1.272	0.882	
Tax burden	-0.053	0.185		-0.052	0.188		-0.081	0.183	0.184		-0.044	0.184		-1.138	1.479	
English legal	-0.056	0.053		-0.050	0.053		-0.048	0.053	0.053		-0.058	0.053		-0.409	0.427	
Scand legal	-0.065	0.069		-0.062	0.069		-0.062	0.068	0.079		-0.078	0.079		-1.436	0.480	***
German legal	-0.065	0.051		-0.058	0.050		-0.058	0.048	0.042		-0.045	0.042		-0.528	0.447	
Transition econ	0.139	0.054	**	0.137	0.055	**	0.146	0.055	0.037	***	0.150	0.037	***	0.694	0.381	*
N	1,078			1,078			1,078		1,107		1,100			1,129		
Adj. R - sq	0.200			0.222			0.226		0.221		0.221			0.588		
F-value	16			17.21			16.73		19.35		19.35			101.48		

The dependent variable for models 1, 2, 3 and 4 is FDI to FE ratio. The dependent variable in Models 5 and 6 is Ln(FDI in millions). Data is limited to host countries with governance index greater than zero. All models show cluster robust standard errors. \*\*\* Significant at 1% level; \*\* significant at 5% level; \* significant at 10% level.

**Table 9**  
**Individual WGI governance indicators- Poor-governance subsample**

Dep. variable = FDI/FE	Model 1: X = Avg. of Political & Voice			Model 2: X = Political			Model 3: X = Voice		
	Coeff	Sigma		Coeff	Sigma		Coeff	Sigma	
Intercept	1.436	0.413	***	1.524	0.370	***	1.434	0.417	***
Gov 3-factor	-0.108	0.053	**	-0.077	0.046		-0.144	0.060	**
Relative Gov 3-factor	0.184	0.049	***	0.156	0.036	***	0.229	0.050	***
Rel. Gov sqd - 3-factor	0.037	0.015	**	0.042	0.013	***	0.043	0.017	**
Gov (X)	0.066	0.058		-0.015	0.046		0.110	0.054	**
Relative Gov (X)	-0.053	0.056		-0.020	0.035		-0.102	0.045	**
Rel. Gov sqd (X)	0.003	0.015		-0.013	0.011		0.001	0.012	
Ln(trade)	0.045	0.011	***	0.042	0.011	***	0.047	0.011	***
Phys dist decile	-0.022	0.010	**	-0.023	0.009	**	-0.021	0.011	*
Lang similarity	-0.037	0.029		-0.045	0.032		-0.041	0.026	
Ln(GDP)	-0.054	0.016	***	-0.055	0.015	***	-0.058	0.016	***
Ln(GDP/ capita)	-0.013	0.022		-0.012	0.021		-0.008	0.022	
Stk mkt/ GDP	-0.178	0.043	***	-0.179	0.039	***	-0.170	0.042	***
Credit dev	-0.232	0.058	***	-0.235	0.054	***	-0.199	0.062	***
Openness	0.231	0.062	***	0.230	0.057	***	0.204	0.059	***
Nat resources	-0.006	0.114		-0.027	0.098		-0.020	0.116	
Tax burden	0.364	0.085	***	0.359	0.076	***	0.361	0.072	***
English legal	-0.017	0.047		-0.012	0.053		-0.015	0.043	
Scand legal	0.257	0.125	**	0.262	0.108	**	0.221	0.134	
German legal	0.161	0.065	**	0.176	0.064	***	0.146	0.065	**
Transition econ	-0.042	0.041		-0.047	0.039		-0.043	0.043	
N		450			450			450	
Adj. R <sup>2</sup>		0.198			0.1972			0.2046	
F-value		6.54			6.51			6.77	

The sample is limited to host countries with governance value of zero or below. *Gov 3-factor* is the simple average of three institutional factors: Regulatory quality, rule of law, and control of corruption. For model 1, the *Gov (X)*, *Relative gov (X)*, and *Rel. gov. sq. (X)* variables are based on the simple average of two institutional factors: *Political* and *Voice*. For Models 2 and 3, such variables are based on *Political* and *Voice* alone, respectively. Incumbent investors in poor governance countries enjoy competitive advantage when countries rank poorly along the factors included in the *Gov 3-factor* as compared to the two other factors: political stability/lack of violence (*Political*), and freedom of expression (*Voice*). The significant coefficients for the *Relative gov 3-factor* and its squared term in all the models, and the relatively weak / insignificant coefficient for the *Relative gov sq (X)* in all models suggests that the observed quadratic relationship across governance measures is likely due to the mechanisms explained in the study. The Cluster robust standard errors. \*\*\* Significant at 1% level; \*\* significant at 5% level; \* significant at 10% level.

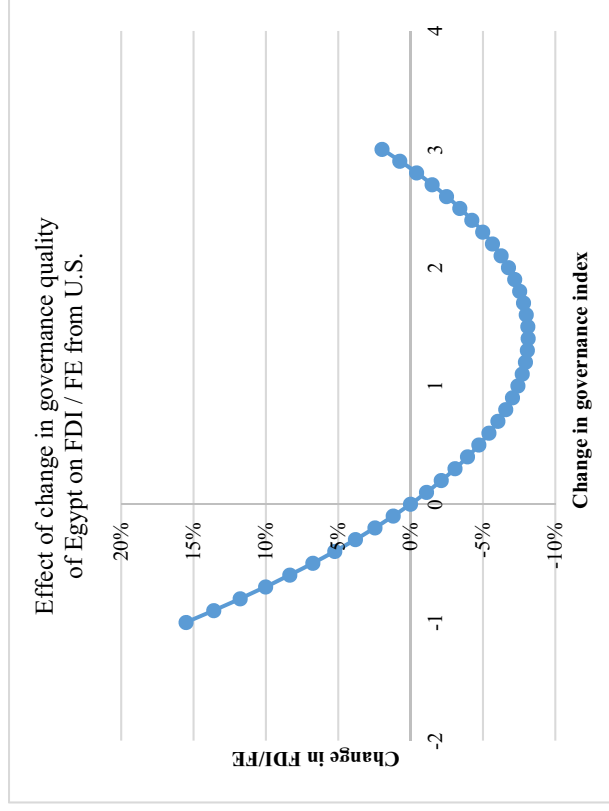
**Table 10**  
**Estimates of FDI to FE ratio for Truncated Samples**

	Poor Governance subsample																	
	Full Sample			Model 2			Model 3			Model 4			Model 5			Model 6		
	Coeff	sigma		Coeff	sigma		Coeff	Sigma		Coeff	Sigma		Coeff	Sigma		Coeff	Sigma	
Intercept	1.658	0.396	***	1.890	0.420	***	1.516	0.785	*	1.064	0.737		1.941	0.540	***	1.069	0.481	**
Gov	0.069	0.036	*	0.023	0.037		-0.121	0.073		-0.109	0.105		-0.076	0.054		-0.111	0.074	
Rel Gov	0.068	0.014	***	0.070	0.012	***	0.189	0.027	***	0.169	0.041	***	0.157	0.027	***	0.164	0.037	***
Rel Gov sqd	0.027	0.006	***	0.011	0.006	*	0.046	0.011	***	0.044	0.016	**	0.036	0.011	***	0.042	0.015	***
Internet	0.001	0.001		0.002	0.001		0.000	0.002		-0.002	0.002							
human cap	-0.002	0.001		-0.001	0.001		-0.001	0.002		-0.002	0.001							
Kwh/(000)	-0.020	0.006	***	-0.014	0.007	**	-0.056	0.020	***	0.008	0.017							
Ln(trade)	0.036	0.004	***	0.049	0.005	***	0.022	0.008	**	0.035	0.012	***	0.021	0.008	***	0.039	0.011	***
Phys dist decile	-0.005	0.006		-0.004	0.006		-0.028	0.009	***	-0.030	0.010	***	-0.032	0.009	***	-0.028	0.009	***
Lang Sim	-0.025	0.016		-0.015	0.017		-0.101	0.027	***	-0.055	0.036		-0.086	0.027	***	-0.056	0.031	*
Ln(GDP)	-0.037	0.014	***	-0.052	0.014	***	-0.060	0.035	*	-0.049	0.027	*	-0.049	0.019	**	-0.040	0.015	**
Ln(GDP/cap)	-0.068	0.035	*	-0.101	0.043	**	0.092	0.055		0.043	0.047		-0.012	0.026		-0.010	0.027	
Stk mkt / GDP	-0.004	0.032		-0.040	0.054		-0.101	0.094		-0.048	0.056		-0.160	0.059	**	-0.110	0.066	
Credit dev	-0.053	0.037		0.003	0.043		-0.303	0.077	***	-0.317	0.118	**	-0.305	0.079	***	-0.308	0.081	***
Openness	0.010	0.028		0.022	0.037		0.127	0.117		0.306	0.139	**	0.211	0.083	**	0.346	0.094	***
Nat resources	0.021	0.123		0.182	0.154		-0.095	0.138		0.187	0.156		-0.047	0.136		0.082	0.128	
Tax burden	0.165	0.136		0.234	0.134	*	0.288	0.106	**	0.509	0.084	***	0.340	0.074	***	0.453	0.074	***
English legal	-0.049	0.044		-0.026	0.044		0.083	0.074		-0.031	0.077		-0.004	0.058		-0.017	0.046	
Scand legal	-0.045	0.059		-0.048	0.066		0.362	0.149	**	0.431	0.151	***	0.354	0.151	**	0.371	0.130	***
Germ legal	-0.057	0.040		-0.055	0.049		0.315	0.101	***	0.204	0.114	*	0.183	0.105	*	0.175	0.074	**
Trans eco	0.121	0.039	***	0.140	0.039	***	0.104	0.075		-0.085	0.076		-0.054	0.052		-0.057	0.047	
N	1,241			1,338			305			363			336			414		
Adj. R – sq	0.214			0.198			0.282			0.160			0.267			0.176		
F-value	17.84			17.5			6.96			4.45			8.17			6.2		

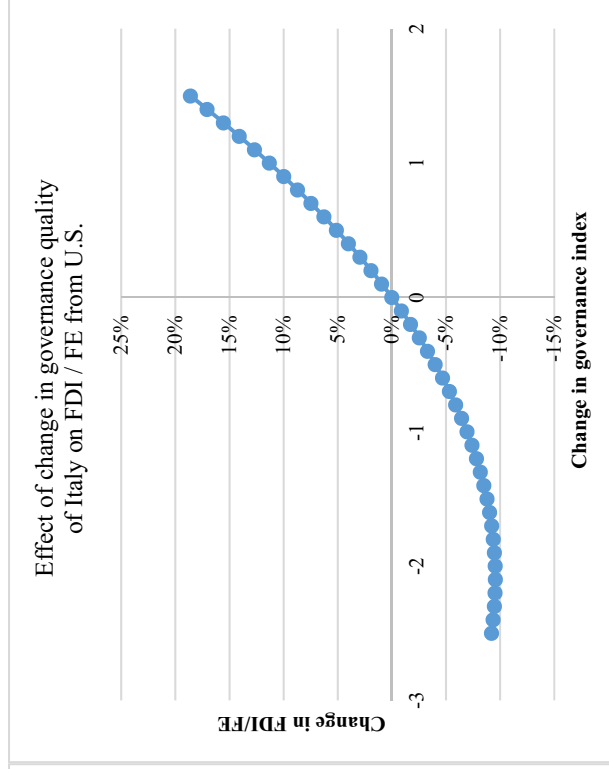
Models 1, 3, and 5 exclude observations for which FDI/FE ratio is zero or one. Models 2, 4, and 6 exclude observations with stock market capitalization to GDP ratio below 5<sup>th</sup> percentile or above 95<sup>th</sup> percentile. Models 3 through 6 are limited to poor governance sample (i.e. governance measure <=0). Cluster robust standard errors. \*\*\* Significant at 1% level; \*\* significant at 5% level; \* significant at 10% level.

**Figure 1**  
**Effect of change in governance quality on FDI/FE**

**Figure 1A: Poor-governance countries**



**Figure 1B: Good-governance countries**



Figures above show the effect of improvement (deterioration) in governance quality on the FDI/FE ratio. Egypt, with an index value of -1 (one standard deviation below the mean), represents countries with poor governance quality. Italy, with an index value of 0.5 (half a standard deviation above the mean), represents countries with fair governance quality. The U.S., with an index value of 1.5, represents countries with high governance quality. Figure 1A shows that, for poor-governance countries, a marginal improvement in governance quality is associated with lower FDI/FE until such countries markedly improve their governance to become good-governance countries. Figure 1B shows that an improvement in governance quality is associated with higher FDI/FE for good-governance countries.