

THE PRIMACY OF GOVERNANCE INFRASTRUCTURE VERSUS DEMOCRACY
IN DEVELOPMENT AND FDI IN DEVELOPING COUNTRIES

by

Ryan G. Baird

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A Dissertation Submitted to the Faculty of the
SCHOOL OF GOVERNMENT AND PUBLIC POLICY

In Partial Fulfillment of the Requirements
For the Degree of

DOCTOR OF PHILOSOPHY
WITH A MAJOR IN POLITICAL SCIENCE

In the Graduate College

THE UNIVERSITY OF ARIZONA

2010

THE UNIVERSITY OF ARIZONA
GRADUATE COLLEGE

As members of the Dissertation Committee, we certify that we have read the dissertation prepared by Ryan G. Baird

entitled The Primacy of Governance Infrastructure versus Democracy in Development and FDI in Developing Countries

and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy

_____ Date: 07/13/10
Gary Goertz

_____ Date: 07/13/10
William J. Dixon

_____ Date: 07/13/10
Thomas J. Volgy

_____ Date: 07/13/10
Lane Kenworthy

_____ Date:

Final approval and acceptance of this dissertation is contingent upon the candidate's submission of the final copies of the dissertation to the Graduate College.

I hereby certify that I have read this dissertation prepared under my direction and recommend that it be accepted as fulfilling the dissertation requirement.

_____ Date: 07/13/10
Dissertation Director: Gary Goertz

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ABSTRACT

Most scholars believe that democracies guarantee the rule of law and provide superior institutions, which influence developing states' development trajectories, as well as firms' decisions on where to do business. However, I argue that these superior institutions are prior to the institutions of democracy and constitute the concept of governance infrastructure, and are therefore the key institutional determinants of state's economic outcomes. I find that the institutions that comprise a state's governance infrastructure (GI) are separate conceptually from the institutions that comprise democracy, and that the quality of developing states' GI 1) must reach a certain threshold before democracy positively affects economic development; 2) sends a signal to investors concerning potential transaction costs that investors may incur, ultimately determining the amount of FDI developing states' receive, while being the only domestic institutions that affect investors decision making; 3) determines the quality and provision of a state's intermediary public goods, which are an additional causal mechanism to signaling in determining a state's FDI inflows.

CHAPTER 1: The Primacy of Governance Infrastructure

The impetus for this dissertation project began about six months or so before I entered graduate school. I was discussing the merits of democracy in terms of boosting states economic outcomes with my undergraduate international economics professor. She argued that democratic states did better economically, because of civil liberties and other freedoms that democracies provided and while I had done no actual research into the topic, I firmly believed that economic actors and firms could not care less about democracy; therefore, something beyond democracy was facilitating the good economic outcomes taking place in these countries. Unfortunately, we never settled our debate. However, that discussion stuck with me, and after I entered graduate school, I used every research opportunity that I had to explore whether democracy was truly beneficial to states economic outcomes or if there was something else driving these relationships.

Throughout this dissertation project, I argue that the something else that is driving states economic outcomes is governance infrastructure. Once the institutions of governance infrastructure are accounted for, democracy is not a significant determinant of the economic outcomes that take place in developing countries. At its core, this dissertation project endeavors to make theoretical, conceptual, and quantitative advancements within the research area of domestic institutions, more specifically the theoretical intersection of governance infrastructure, regime type and their effects on state's economic outcomes.

Governance has been an increasingly important concept to both scholars and policymakers; however, the concept as it is currently recognized is ambiguous. While I argue that the World Bank's *WGI* is the best and most comprehensive measure of governance, it is unclear how the concept should be used and tested. Though governance has been defined in an ad hoc manner by institutions such as the World Bank, there is no agreed upon definition. I argue for a minimalist definition of governance, which I call governance infrastructure in order to ensure it conceptually and empirically different from democracy.

Therefore, in chapter 2, I create a new concept, called governance infrastructure (GI) that seeks to increase the concept-measure consistency of governance and thereby eliminate how previous iterations of governance have overlapped with other concepts, specifically regime type and political instability. This will allow social scientists to more readily separate the effects of these varying concepts on economic outcomes. More and more recently, scholars and international institutions have been confounding the concepts of democracy and governance, in doing so they make it impossible to test hypothesized causal arguments, leading to the ambiguous and divergent results, such as we see in the democracy and development literature.

In chapter 3, I briefly review the extant literature concerning the democracy – development debate, and posit that earlier findings that demonstrated improving a state's democracy lead to increased economic development were due the exclusion of the institutions of governance infrastructure, and/or the inclusion of rich countries in the

examined populations. Through examining bivariate relationships, miniature case studies, and regression analysis, I demonstrate that this appears to be the case.

Chapter 4 attempts to flesh out the theoretical signaling arguments that have been posited to explain the relationship between the quality of a country's domestic institutions and the level of its economic activity. I develop a causal model of firms' decisions to invest in developing countries that demonstrates this theoretical link. Moreover, I posit that countries with higher quality governance infrastructure are committed to providing a stable macroeconomic environment, market friendly policies, and efficient institutions, thereby reducing transaction costs. This can be viewed as a classic imperfect information game, in that the states have more information on the quality of their respective institutional environments than the firms looking to invest and trade in foreign markets. Therefore, states that are in competition for limited foreign investment and trade convey this information through their quality level of governance infrastructure. This paper provides the theoretical link between improved institutional quality and improved and increased economic exchange, which is empirically tested using domestic institutional signals of the cost of doing business and credible commitment to policy stability interacted with a the strongest signal sent to potential investors, profitability. Results indicate governance infrastructure does send a strong and positive signal to investors, and regime type once again is not a significant determinant of economic activity.

In the last empirical chapter, chapter 5, I argue that beyond signaling, there is another causal mechanism/pathway connecting the quality of developing states' governance infrastructure to firms' decision to invest. I hypothesize that there is an

intermediate step of better governance infrastructure leading to better intermediary public goods (education, physical infrastructure & health). Intermediary public goods are especially important to investors and most foreign direct investment is now made by and focused in high-technology sectors. This chapter appears to support the argument that intermediary public goods due to the quality of a state's governance infrastructure are also a key determinant of FDI inflows into developing countries. Finally, this project closes with a discussion of the implications of the research presented as well as elaboration on future avenues of research.

As most scholars believe that democracies guarantee the rule of law and provide superior institutions, which influence developing states' development trajectories, as well as firms' decisions on where to do business. With this dissertation project, I attempt to demonstrate that these superior institutions are prior to the institutions of democracy and constitute the concept of governance infrastructure, and are therefore the key institutional determinants of state's economic outcomes.

CHAPTER 2: Conceptualizing Governance Infrastructure

Most scholars believe that democracies guarantee the rule of law and provide superior institutions, which considerably influence not only developing states' development trajectories, but also foreign firms' decisions on where to do business. However, in this chapter, I argue that these superior institutions are separate from the institutions of democracy, constitute the concept of governance infrastructure, and are therefore the key institutional determinants of developing state's economic outcomes.

I define governance infrastructure as the core institutions that facilitate government competency and economic efficiency. Certain institutions that have been historically considered inherent to democracies (e.g. property rights) are actually, conceptually part of states' governance infrastructure. In this paper, I make the important distinction that the institutions of democracy and governance are different, both theoretically and conceptually. While many authors argue that it is democratic states' ability to offer economic actors guarantees in terms of providing and abiding by the rule of law, controlling corruption, and providing efficient bureaucracies (Bogaards 2009; Bunce 2000; Feng 2001, 2003; Jensen 2003; Jensen 2006). I posit that these institutions to exist to varying quality in states regardless of regime type, and are actually part of the concept of governance.

Additionally, it has been repeatedly demonstrated that these domestic institutions are integral to determining a state's economic outcomes, whether it be growth, trade, or investment (Knack and Keefer 1995; Kaufmann et al. 1999b; Li and Filer 2007; Wei

2000; Barro 1991). Interestingly, while political science tends to combine institutions and effects of governance infrastructure into democracy and effects due to democracy; economists tend to combine institutions and effect due to democracy into governance. Therefore, as international institutions (Kaufmann et al. 2006) and scholars (Bogaards 2009; Bunce 2000; Diamond and Morlino 2005; Merkel 2004) continue to include parts of democracy in measures of governance or measures of governance in parts of democracy, it makes it increasing difficult to sort out what institutions matter, and when they matter for improving the economic outcomes of states, especially of developing states, where this knowledge is crucial to policy makers if they hope to move their states along a positive development trajectory. Moreover, by continuing to confound these two concepts, it makes it more and more difficult to test the many causal hypotheses that these concepts are integral in. Essentially, what is needed is a focus on the minimalist view of democracy and governance, so that scholars and policy makers can truly begin to sort out the myriad causal relationships these two concepts are a part of.

The impetus for this research is due to the convolution of governance and democracy, along with the policy and academic need to understand what domestic institutions truly matter for country development and economic success. I begin by reviewing existing theories governance and the institutions that it is comprised of. This is followed by a brief discussion of prominent definitions of democracy, and discussions of the differences between governance and democracy. Additionally, as governance has been, up to this point an “ambiguous” concept, with no agreed upon definition and has been conceptualize in mostly an ad hoc manner, I create a new concept called governance

infrastructure. This conceptualization seeks to increase the concept-measure consistency of existing concepts of governance, thereby eliminating how previous iterations of governance have overlapped with other concepts, specifically democracy.

This newly created concept of governance infrastructure will then be the key independent variable of interest in the following chapters. The coming chapters will demonstrate how, once governance infrastructure and democracy are appropriately conceptualized and separated, it is governance infrastructure that is the key determinant of economic development and FDI inflows into developing countries, and at best, democracy is only a determinant when states' have an high enough quality level of governance infrastructure.

The Institutions of Governance Infrastructure and Democracy

Domestic institutions have repeatedly been shown to be integral in determining a state's economic outcomes, whether they be growth, trade, or investment (Barro 1991; Knack and Keefer 1995; Kaufmann et al. 1999b; Li and Filer 2007; Wei 2000). The institutions in question ensure, to varying degrees, control of corruption, rule of law, regulatory quality and political stability, among other factors, that lead to better economic outcomes. More recently, these institutions have been collected under the heading of governance (Kaufmann et al. 1999b).

By examining extant literature, it seems clear that the institutions of governance are important determinants of economic outcomes. Therefore, it is necessarily important that we understand exactly what the concept of governance is and how it is actually comprised of the domestic institutions used in past and future studies. Briefly, I will

examine the definition or theory of governance that has been used previously. In doing so, I determine that the conceptualization and construction of governance is woefully divergent from its theoretical structure and causation. Not only is the concept-measure consistency very thin, but not all of the institutions that are attributed to governance are theoretically part of governance as they are either other whole concepts in their own right, or parts of other concepts, namely political instability and democracy, respectively. I then create a new theoretically and definitionally consistent concept called governance infrastructure.¹

Following this is a brief review of democratic literature, after which, I make an argument that in no way is rule of law or any other institution that comprises governance infrastructure conceptually a part of democracy or regime type.

Conceptualizing Governance and It's Indicators

Very broadly, governance can be thought of as “the means by which to infuse order, thereby to mitigate conflict and realize mutual gain” (Williamson 2008). Given this understanding of the domestic institutions within a state that comprise it's governance, it is no wonder that better quality governance institutions lead to better economic outcomes. While there is no primary definition of governance in terms of the institutions that affect states' economic outcomes, two definitions are more prominent. The definition used by the non-profit organization the Institute on Governance (IoG) states that, “Governance is the process whereby societies or organizations make important decisions, determine whom they involve and how they render account”

¹ The term “governance infrastructure” was first used by Globerman and Shapiro (2003). However, here I refine it theoretically and conceptually.

(Plumptre 1990). The World Bank's definition of governance was in part developed from earlier definitions by the IMF and the above definition given by the Institute on Governance and is presented in Kaufmann, Kraay and Zoido-Lobaton (Kaufmann et al. 1999a pg. 1-2):

The traditions and institutions by which authority in a government is exercised. This includes (1) the process by which governments are selected monitored and replaced, (2) the capacity of the government to effectively formulate and implement sound policies, and (3) the respect of the citizens and the state for the institutions that govern economic and social interactions among them.

Arguably, the World Bank's (WB) definition encompasses and refines the definition given by the Institute on Governance; therefore, it is this definition that I will continue to refine. The WB further elaborates its theory of governance as follows:

We summarize two key aspects of the process by which those in authority are selected and replaced with clusters labeled "Voice and Accountability", and "Political Instability and Violence". We capture the capacity of the state to implement sound policies with two clusters we refer to as "Government Effectiveness" and "Regulatory Burden". Finally, two clusters labeled "Rule of Law" and "Graft" captures the respect of the citizens and the state for the rules which govern their interactions.

In examining the first WB's first and broadest definition governance, it is clear that for them, the governance of a country is represented by three latent variables, and that each latent variable has two indicators which help to capture it, meaning they develop six separate indicators of the quality of states' governance.

After examining the World Bank's indicators, the first question is, does each of the individual indicators truly belong to the concept of governance? This question is important because the description of the indicator labeled "voice and accountability" (VA) sounds an awful lot like a description or measure of regime type. Especially when one considers that these indicators are intended to measure the extent at which citizens participate in the selection of their government (Kaufmann et al. 1999b). . As defined by the World Bank, voice and accountability cannot be a part of the institutions of governance and the institutions of democracy. Arguably, this is a theoretically untenable position unless the concepts of governance and democracy are the same thing. While both of these concepts are comprised of domestic institutions they are different theoretically and conceptually, and voice and accountability most clearly represent aspects of regime type, which is separate from governance. Reinforcing this point is the fact that one of the aggregate indicators that the World Bank uses to derive their measure of voice and accountability is the "Freedom in the World Index" published by www.freedomhouse.org, and is well respected measure of regime type within the political science literature ("Freedom in the World" 2009). Moreover, in looking at table 2.1, we see that the correlations between the WB's (VA) measure and two of the main measures of regime type used in the political science literature, Freedom House's freedom in the world measure, and PolityIV are quite high. All of which lends further support to my argument that (VA) is indeed a measure of democracy, and a component of governance.

Table 2.1: *Correlation matrix for measures of regime type, (years 1996, 1998, 2000, 2002 – 2007)*

	Voice and Accountability	Freedom House	PolityIV
Voice and Accountability	1.00	--	--
Freedom House	0.96	1.00	--
PolityIV	0.84	0.90	1.00

Interestingly, the other indicator that falls under the latent measure governance intended to capture “the process by which those in authority are selected and replaced”, political stability (PS) also appears to not truly belong within a conceptualization of governance. Bollen and Jackman (1989) and Haggard, MacIntyre, and Tiede (2008) argue that political stability is a separate concept unto itself, and should be treated as such. Haggard, MacIntyre, and Tiede (2008) argue that it makes little sense to talk about the other institutions of governance if the agents that maintain or use these institutions are not secure. This argument clearly separates political stability from the institutions of governance. Additionally, Bollen and Jackman (1989) argue that political stability is a concept in its own right and should be studied as such. Therefore, it seems quite reasonable to posit that political stability is not a part of governance and is a separate concept in its own right.

Now that it has been determined that (VA) and (PS) are not theoretically or empirically part of the concept of governance, that leaves the following indicators of governance, regulatory quality (RQ), government effectiveness (GE), rule of law (RoL), and control of corruption (CC). It is these indicators of governance that will be used to create the new concept of governance infrastructure.

Briefly Conceptualizing Democracy and Its Indicators

Many of the most prominent political and social scholars throughout history have pondered what exactly makes a democracy a democracy. If one were to deem democracy the best form of government known to mankind, then one would most likely want to know exactly what constitutes this “extraordinary” form of government. One of the most well known early pieces of literature concerning democracy was written by Jean-Jacques Rousseau in 1763 (Rousseau 1968). In his treatise, *The Social Contract*, he argues that the general will of the people will always be good, “from the deliberations of a people properly informed, and provided its members do not have any communication among themselves, the great number of small differences will always produce a general will and the decision will always be good. (pg. 2)” Based upon this, it would follow that for something to be a democracy, the will of the people must be heard, which could easily be considered the same the following – civil rights of the people are integral and if they are protected, the people will do what is good for society. At its most basic formulation, one could argue that democracy is simply the will of the people and that the general will of the people is good for society; therefore, democracy is good for society. Nowhere within Rousseau’s argument is there a discussion of the previously outlined indicators of governance infrastructure.

Moreover, if one examines some of the most prominent theoretical conceptualizations of democracy, there is no discussion of the indicators that I have outlined as the components of governance infrastructure. This is demonstrated below by

a brief review of three prominent conceptualizations of democracy, minimalist, deliberative, and polyarchy.

Minimalist Democracy: Schumpeter (1976) refutes Rousseau by claiming that first, there is no common good that can uniquely be determined or agreed upon by mere rationality, and second, that if there was such a thing as a common good, this would not mean that everyone would have the exact same answers or preferences on individual issues. He posits that because of these two propositions, the concept of the *will of the people* does not truly exist. He continues this point by arguing that “the democratic method is that institutional arrangement for arriving at political decisions in which individuals acquire power to decide by means of competitive struggle for the peoples vote” (pg. 269) Schumpeter is arguing for a minimalist conceptualization of democracy, and that civil rights or “abiding by the will of the people directly,” is not necessary for a government to be a democracy, and function accordingly. Democracy is merely a method of, and the institutions used in choosing a government through competitive elections in which representatives are chosen and the common good is derived from the tally of votes. It is the competition for representation that drives democracy and through this competition that the benefits that citizens acquire from democracy over other forms of government manifest themselves.

Przeworski (1999) takes when he posits that “voting constitutes “flexing muscles”: a reading of chances in eventual war. If all men are equally strong (or armed) then the distribution of the vote is a proxy for the outcome of war.”² In addressing the

² This quote is taken directly from *The Democracy Sourcebook* (Dahl et al. 2003 pg. 15).

changing value of a vote he argues that while technology has changed and one vote does no longer equal the force one person may possess, voting “does indicate limits to rule.”³ Based upon minimalist conceptualizations, democracy is the institutions that enables competitive elections, with the miracle of democracy being that political and potentially violent conflicts are contained through voting and that people obey the vote. In looking at Przeworski’s definition, we see how it is an extension of Schumpeter’s.

Thus “democracy” for us, is a regime in which those who govern are selected through some contested elections. This definition has two parts: “government” and “contestation”... What is essential in order to consider a regime as democratic is that two kinds of offices be filled, directly or indirectly, by elections: the chief executive office and the seats in the effective legislative body... Contestation occurs when there exists an opposition that has some chance of winning office as a consequence of elections.” (Przeworski et al. 2000 pg. 16 - 17)

Clearly, no indicators of governance infrastructure are a part of the conceptualization of the minimalist conceptualization of democracy.

Deliberative Democracy: At its most basic conceptualization, this definition of democracy requires a country to have democratic institutions that demand a high level of sophisticated and disinterested discourse from the polis. Through this discourse, conflicting policy preferences are resolved in the most democratic manner possible, which means that everyone gets to express their points of view and policy preferences, with the most reasoned argument winning the day through the persuading of opponents as to what the best course of action is.

Gutmann and Thompson (1996) argue that deliberative democracy involves reasoning about politics and defines this as “when citizens or their representatives

³ Ibid, p. 13.

disagree morally, they should continue to reason together to reach mutually acceptable decisions.” The benefits of this are obvious to proponents of deliberative democracy. If the polis or their representatives are required to reason until a mutually acceptable policy decision is derived, then everyone gets a say in policy and therefore no one will be discriminated against. Additionally, inherent in Gutmann and Thompson’s definition is the need for universal suffrage and the provision of civil liberties. The entire polis needs to be able to participate in the discussion, and everyone needs to be able to assemble and have the freedoms to express their preferences. Like Rousseau’s definition of democracy, a deliberative conceptualization of democracy requires civil liberties, but now indicators of governance infrastructure. This further supports the fact that (VA) is not are a measure of governance, but a measure of regime type.

Polyarchy: A main critique of minimalist definitions of democracy are that they are only “procedurally democratic” and countries that only meet these requirements are not fully democratic.⁴ Moving beyond “procedurally democratic”, Dahl defines democracy as:

I should like to reserve the term “democracy” for a political system one of the characteristics of which is the quality of being completely or almost completely responsive to all its citizens [...] to be responsive [...] all full citizens must have unimpaired opportunities: (1) to formulate their preferences, (2) to signify their preferences [...] by individual and collective action, (3) to have their preferences weighed equally in the conduct of government [...]. These, then, appear to me to be three necessary conditions for democracy, though they are probably not sufficient [...]. Some requirements for a democracy among a large number of people: (1) Freedom to form and join organizations, (2) freedom of expression, (3) right to vote, (4) eligibility for public office, (5) right of political leaders to compete for suppose [...], (6) alternative sources of

⁴ See Dahl, 1956. *A Preface to Democratic Theory*. Chicago: Chicago University Press. Dahl, R. 1971. *Polyarchy: Participation and Opposition*. New Haven: Yale University Press. Dahl, R. 1989. *Democracy and Its Critics*. New Haven: Yale University Press. for more elaborate discussions.

information, (7) free and fair elections, (8) institutions for making government depend on votes [...] (Dahl 1971 pg. 2 -7).

Dahl (1989) argues that no state can ever reach full democracy or the true democratic ideal, and that is why he coins the term polyarchy, which is a government of the people that is mostly democratic. Dahl has five criteria that a state must reach in order to be considered a polyarchy. The first of these is equal opportunity for the polis, meaning that each member has the right to voice their opinions and express their policy preferences. The next criterion is agenda-setting opportunity; this allows each member of the polis to have adequate and equal opportunities at placing policies on the agenda. This is followed by enlightened understanding, in that each voting member should have an adequate understanding of the issues and “equal opportunities for discovering and validating (within the time permitted by the need for a decision) the choice on the matter to be decided that would best serve the citizens’ interests.”⁵ Dahl then outlines the need for voting equality at the decisive stage, meaning that each citizen must have equal opportunity to express their choice and each choice will be counted with an equal weight. The final condition a state must possess in order to be considered a polyarchy is one of inclusion. Inclusion means that all people within a state have the opportunity to vote, as long as they are adults and are not transients or mentally incapable.

Once again, the components of governance infrastructure are not part of this conceptualization of democracy. In fact, when looking at a survey of democratic conceptualizations and measures by Munck and Verkuilen (2002) not one of the

⁵ Dahl, *Democracy and Its Critics*. p. 112.

quantitative indexes created by various authors use an indicator of governance infrastructure as a part of democracy.⁶ Only a more recent conceptualization of democracy has begun to use an indicator of governance infrastructure, the rule of law as part of their conceptualization of democracy, which without the rule of law is referred to as “defective democracy” (Merkel 1999, 2004; Bogaards 2009). However, as many other authors have pointed out, rule of law should not be considered a constituent part of democracy, but at best a pre-condition for a high quality democracy (Bunce 2000). Bunce argues that “the culture and practice of rule of law” is a guarantor of transitioning to democracy and capitalism, or improved development (pg. 714). This clearly implies that while the rule of law may be necessary for a transitioning democracy to be successful in its transition; however, it is not an actual part of democracy it is separate. It is separate because it is part of the concept of governance infrastructure.

By briefly reviewing the prominent literature on the conceptualization and quantitative measurement of democracy, it is clear that the majority of democratic scholars do not believe that the indicators I have outlined as part of governance infrastructure are truly part or indicators of democracy. Moreover, by confounding the two separate concepts as one concept makes it nearly impossible to sort out empirical relationships, which both democracy and governance infrastructure are important factors in.

⁶ See Goertz (2005) page 112 – 113 for a table listing the various dimensions or indicators that are used in the various quantitative indicators of democracy.

Conceptualizing Governance Infrastructure

Having demonstrated that the proper indicators of governance infrastructure are government effectiveness, regulatory quality, rule of law, and control of corruption, the next step is to determine the best way to aggregate them into a single measure of the quality of states' governance infrastructure. As I define governance infrastructure as the core institutions that facilitate government competency and economic efficiency. I posit that the best way to represent the concept of governance is as a single latent variable. This assumption is supported by the correlations presented in table 2.2, as the lowest correlation between indicators is 0.85, and a good latent variable requires high

Table 2.2: *Correlation matrix of the indicators of governance infrastructure, (years 1996, 1998, 2000, 2002 – 2007)*

	Government Effectiveness	Regulatory Quality	Rule of Law	Control of Corruption
Government Effectiveness	1.00		--	--
Regulatory Quality	0.91	1.00	--	--
Rule of Law	0.95	0.89	1.00	
Control of Corruption	0.94	0.85	0.95	1.00

correlations between its indicators, and this clearly the case with the indicators of governance infrastructure (Bollen and Lennox 1991; Goertz 2005). Given that governance infrastructure is the latent variable and it has four indicators, the overall concept of governance infrastructure is a two-level concept and is represented in figure 2.1. The institutional data indicators on the right side of the figure are taken from the

Worldwide Governance Indicators dataset developed by Kaufmann, Kraay and Zoido-Lobaton (1999b) under the auspices of the World Bank.⁷

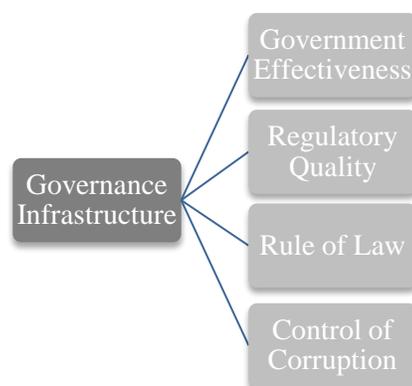


Figure 2.1: *Two-level concept of governance infrastructure*

The World Bank's initial range for each indicator is a normal distribution ranging from a possible -2.5 to +2.5 with a mean of 0. The original data sources consist of surveys of firms and individuals, as well as the assessments of commercial risk rating agencies, non-governmental organizations, and multilateral aid agencies. The sources are then aggregated into the individual indicators by using an unobserved components model; it is the unobserved components model which assumes the output is normally distributed (Kaufmann et al. 2006).⁸

Recently, there has been some debate concerning the trustworthiness of the World Bank's *Worldwide Governance Indicators*, due to the fact that they are subjective in nature. However, components of these aggregated measures have been used repeatedly

⁷ Kaufmann, Kraay, and Mastruzzi (2008).

⁸ See Kaufmann, Kraay and Zoido-Lobaton 1999a for more information on their methodology.

throughout the political science and economics literature e.g.: (Knack and Keefer 1995, 1997; Globerman and Shapiro 2003; Li and Resnick 2003; Asiedu 2006; Jakobsen and de Soya 2006; Busse and Hefeker 2007; Li and Filer 2007). Li and Resnick (2003) also point out that such measures are based upon data from third party observers and not investors. Moreover, they argue that based upon North's (1990) definition of institutions, the quality of institutional features should not be based on written rules, "but should reflect the enforcement characteristics of rules and norms of behaviors" (pg. 109). The WGI are representative of these enforcement characteristics. For further discussions see (Arndt and Oman 2006; Kurtz and Shrank 2007b; Kaufmann et al. 2007b; Kurtz and Shrank 2007a; Kaufmann et al. 2007a, 2007c; Apaza 2009).

The next step is to decide the appropriate way to combine the indicators into a single concept. There four prominent methods of aggregation used in the political science literature, additive, minimum, arithmetic mean, maximum. Combining the indicators additively or through the maximum is rejected immediately, because this would allow the possibility of the concept of governance infrastructure to be large and positive, even if one of the indicators is large and negative.⁹ One could not intuitively believe that a country that has very poor quality rule of law should have high quality governance infrastructure if it has high scores on the other three indicators. This leaves the mean and minimum as choices for aggregation.¹⁰ There are not theoretical reasons for choosing one over the other as a means to combine the indicators of governance

⁹ The indicators of governance infrastructure each run theoretically from -2.5 to 2.5, with larger positive numbers equally higher quality.

¹⁰ For summary statistics of governance infrastructure aggregated using the min, max, and mean, see Appendix A.

infrastructure, so a reasonable way to determine which is the most appropriate aggregation technique is to examine substantive effect and model fit of differently aggregated measures of GI, where we are positive of the results before the models are run.

In this case, I choose to use a very simple model of economic development with measures of governance infrastructure as the only independent variable in the model. As discussed earlier in the paper, the institutions of governance infrastructure have repeatedly been shown to be significant and positive determinants of economic growth, as Shirley (2008) recently argued that these institutions are “a – if not the – determinant of development.” Simple cross-section/time series regression is the model, and following extant literature the dependent variable is the natural log of GDP/PC. The sample is all countries with less than \$12,000 GDP/PC, as these are identified as developing countries by the World Bank, for the years 1996, 1998, 2000, 2002 – 2007.¹¹ The measures of governance infrastructure will be lagged by one observational period to help deal with causality, and Arellano (1987) standard errors, clustered on country are used. Table 2.3 below presents the two models, and both measures of governance infrastructure are expected to be large, positive, and highly significant determinants of development.

First, it is important for the validity of this exercise that both measures of GI are large, positive, and highly significant determinants of development. Second, it is clear

¹¹ Non-rich countries were chosen as a sample as it is incredibly difficult to sort institutional causes of development in rich countries, as they are most likely rich due to the fact they already have very high quality institutions. Moreover, the rest of this dissertation examines non-rich countries.

that one of the aggregations outperforms the other, in terms of substantive impact, explanatory power, and model fit.

Table 2.3: *Comparing the relationship between differently aggregated measures of governance infrastructure and economic development in non-rich countries, years (1996, 1998, 2000, 2002 – 2007)*

	Model 1	Model 2
GI (min)	1.105*** (0.118)	--
GI (mean)	--	1.270*** (0.103)
Constant	7.729*** (0.0905)	7.500*** (0.0750)
N	958	958
R ²	0.366	0.424
BIC (Schwarz Criterion)	2745.3	2588.0

The governance infrastructure measure created using the mean aggregation technique not only has a larger coefficient and smaller standard error, but explains significantly more of the variance in the economic development of non-rich countries over the period examine, while also having a much smaller BIC (Schwarz Criterion) indicating a much better model fit (Beck and Katz 2001). Given all of this information, it seems quite clear that that the appropriate way to aggregate the concept of governance infrastructure is by using mean aggregation, at least when the goal of the research is to assess GI's affect on states' economic outcomes.¹² Therefore, the mean aggregation of governance infrastructure will be using as the key independent variable in the following chapters of this dissertation.

¹² In order to check the robustness of my theoretical conceptualization of governance infrastructure, I ran a factor analysis on the four indicators. The measure of governance infrastructure created through factor analysis correlates with the mean specification at 0.975, and the results from the following analyses remain

Conclusion

The goal of this chapter was to unpack the concepts of governance and democracy, and in doing so create advocate a minimalist conceptualization of governance. I create this minimalist concept called “governance infrastructure”, and it represents the core institutions in a state that facilitate government competency and economic efficiency. By using the World Bank’s governance definitions and indicators as a jumping off point, I have been able to determine that only four of their original six indicators actually capture parts of the concept of governance, and that voice and accountability is actually a measure of regime type, and that political stability is a concept in its own right.

Moreover, as some scholars have assumed that democracies automatically provide the rule of law, and some have even begun to incorporate in their conceptualizations of democracy, I demonstrated through a very brief review of prominent scholars’ conceptualizations of democracy, that the rule of law, or any other indicator of governance is separate from the concept of democracy.

Finally, I then examined various ways in which the indicators of governance infrastructure should be combined to best capture this latent variable. Through examination of various GI aggregations substantive impact, explanatory power, and affect on model fit in a simple model of economic development, I have determined that the arithmetic mean aggregated governance infrastructure is the most appropriate

consistent regardless of which specification of governance infrastructure I use, lending face validity to my theoretical and conceptual construction.

aggregation. By appropriately conceptualizing governance infrastructure, and separating it theoretically and empirically from democracy, I can move forward with the research to come in the following chapters on what domestic institutions truly matter for country development and economic success in non-rich countries.

CHAPTER 3: The Primacy of Governance Infrastructure versus Democracy in Economic Development

While the debate concerning the effect of domestic institutions and economic development has all been put to rest, institutions matter and quality institutions tend to lead to economic development. However, the debate over which institutions matter and when they matter is far from over. An even more pressing question set within the previous question, does the institutions of democracy matter, or are they superfluous to bureaucratic efficiency, regulatory quality, controlling corruption and providing the rule of law, the institutions that comprise governance infrastructure?

Two of the more well-known studies within the political science and economics literature in the last decade argue that regime type has no direct relationship to states' economic development, in terms of improving or hindering growth (Acemoglu and Robinson 2006; Przeworski et al. 2000). However, this debate is not settled as a plethora of studies and scholars still argue that democratic institutions are a key to development. In fact, Aron (2000) conducted a survey of the literature, with the goal of isolating which institutions have been shown to positively affect economic development, and found that 20 separate studies had demonstrated that either civil liberties, political rights, or a complete measure of democracy positively affect growth.

The goal of this research is to begin to untangle the affects of governance infrastructure and democracy on economic development. Governance infrastructure (GI) is defined as the core institutions that facilitate government competency and economic

efficiency. If these institutions are accounted for, at varying levels of quality, regardless of regime type, I argue that they are actually the key determinants of economic development. Moreover, I believe that studies that have shown democracy to be a key determinant of development have either not accounted for these institutions or include rich countries in their econometric research. Therefore, I argue that if democracy is a determinant of economic development in non-rich countries, it will only be after a state has reached a sufficient quality of governance infrastructure. Results from the cross-sectional/time-series models used in this chapter indicate that democracy's effect on economic development is conditional on the quality of a state's governance infrastructure, regardless of the measure of democracy used, and never a positive and significant determinant of development when governance infrastructure is accounted for. This result can help to explain the divergent results appearing throughout the literature on democracy and development, while also strengthening the contention that, in terms of domestic institutions, governance infrastructure is primary in determining developing states' economic outcomes.

This chapter continues in the following order. The next section starts with a brief review of the arguments concerning the relationship between domestic institutions and economic development. This followed by a comparison of affect of governance infrastructure and democracy using scatter-plots for non-rich countries, for the years 1996 – 2007.¹ Moreover, in this section, I will posit that governance infrastructure is primary

¹ It is important that the population analyzed be non-rich countries, as rich countries are almost all democracies and have very high quality governance infrastructure, making it nigh impossible to empirically sort out the relationships of GI, democracy and development.

for economic development, and at best democracy's effect is conditional on the quality of a state's governance infrastructure. The next section will include several regression models analyzing the effect of governance infrastructure and the two most prominent measures of regime type on the economic development of non-rich countries. The chapter concludes with a discussion of the findings, the policy implications, and avenues for future research.

Domestic Institutions and Economic Development

North (1990) has defined the basic institutions of the state as rules and organizations that constrain and influence human behavior (North and Weingast 1989). The most important aspect of this interpretation most likely being that these institutions, "structure human actions by providing incentives that shape economic and political behavior." (Engerman and Sokoloff 2008). Arguably, the basic rules and organizations that North and colleagues refer to are represented by the concept of governance infrastructure.

The institutions of governance infrastructure have been repeatedly shown to affect economic development. States, whether they are already developed or developing, achieve higher rates of growth relative to the quality of that state's institutions (Scully 1988; Barro 1991; Knack and Keefer 1995, 1997; Kaufmann et al. 1999). While the quality of a state's governance infrastructure is not the sole determinant of its economic growth, it is considered a highly important determinant within the extant literature. The quality of state's governance infrastructure is clearly a prerequisite for economic growth, with the key connection between this institutional quality and rates of growth being that

institutions reduce transaction costs while allowing private agents a greater ability to benefit from specialization, investment and trade (Engerman and Sokoloff 2008).²

However, as discussed earlier, democratic institutions have also been repeatedly shown to positively affect economic development (Barro 1991; Lipset 1981; Olsen 1993). Shirley (2008) summarizes the results from these studies well, when she says that “institutions that increase political competition and civil liberties and promote cooperation have a statistically significant association with per capita growth rates and income levels” (pg. 627). However, just as many studies that argue that results’ concerning democracy’s affect on economic development is at best ambiguous (Barro 1996; DeHaan and Siermann 1995; Brunetti 1997; Minier 1998). Rodrik (2000; 2007) moves the debate on democracy and growth forward by arguing that, while we can all agree that good quality institutions lead to greater economic development, scholars and policy-makers have not really been able to determine which institutions truly matter, the most effective way to mobilize local knowledge concerning good institutions is participatory democracy, and that democracy is a “meta-institution for eliciting and aggregating it” (2007 pg.183). This argument does make intuitive sense, especially when one considers that the aspect of democracy that is most often substantively and statistically significant econometric studies of development is civil liberties.

However, if democracy or just the provision of civil liberties are so important for economic development, even as a “meta-institution”, then what explains the economic rise of the south-east Asian Tigers? In looking at Table 3.1 it is clear that as these three

² For more in depth review of the institutional causes of economic growth please see Haggard, MacIntyre and Tiede (2008).

countries were “taking off” in terms of growth in middle ‘80s, they were not democracies, in fact, South Korea is the only country that became a democracy in 1988,

Table 3.1: Comparing the democracy level and bureaucratic quality of three South-East Asian “Tigers”, and their corresponding growth rates³

State	Year	Bureaucratic Quality	Growth Rate	PolityIV
South Korea	1984	3.13	8.0%	-5
South Korea	1985	3.00	7.0%	-5
South Korea	1986	3.00	11.0%	-5
South Korea	1987	3.00	11.0%	1
South Korea	1988	3.00	11.0%	6
South Korea	1989	3.00	7.0%	6
South Korea	1990	3.00	9.0%	6
Singapore	1984	3.50	8.0%	-2
Singapore	1985	3.50	-1.0%	-2
Singapore	1986	3.50	2.0%	-2
Singapore	1987	3.50	10.0%	-2
Singapore	1988	3.50	11.0%	-2
Singapore	1989	3.50	10.0%	-2
Singapore	1990	3.50	9.0%	-2
Thailand	1984	2.50	6.0%	2
Thailand	1985	3.00	5.0%	2
Thailand	1986	3.00	6.0%	2
Thailand	1987	3.00	10.0%	2
Thailand	1988	3.38	13.0%	3
Thailand	1989	3.50	12.0%	3
Thailand	1990	3.50	11.0%	3

interestingly the year following their democratic transition their growth rate actually decreased from the previous years. The bureaucratic quality rating runs from 0 – 4, with 4 being the highest quality bureaucracy. It appears that this indicator of governance

³ The measure of bureaucratic quality is from the International Country Risk Guide (PRS 2009). PolityIV is the standard measure of regime type used in political science, and a score of 6 – 10 constitutes a democracy, with 10 being the highest quality democracy (Marshall and Jaggers 2002). Growth rates were taken from the World Bank (“World Development Indicators” 2008).

infrastructure appears to much more likely to a determinant of these countries growth during this period than democracy level. At best this table provides an impetus for continued examination of the relationship between democracy, governance infrastructure and economic development, while providing further support for my posited argument that if one accounts for the institutions of governance infrastructure democracy is unlikely to be a determinant of growth in developing countries.

Building off of and adding to the argument that democracy, or at least liberal democracy does not affect growth, Werlin (2009) demonstrates through three pairs of cases studies, where the countries in the pair are similar in their starting points, it is the countries that have better institutions and less corruption, compared to the liberal democratic ones that are wealthier and end up having better living standards. In of these cases studies he compares China and Russia. If one were inclined to believe that democratic transition and democratic institutions leads to increased economic development, then they would be shocked by the degree that China has outpaced Russia in terms of growth since 1990. From 1990 to 2007, China has averages exactly 10% growth per year, while Russia has averaged 2.78% growth. Table 3 presents Russia and

Table 3.2: *Average Democracy & Governance Infrastructure Scores for Russia and China, (years 1996, 1998, 2000, 2002 – 2007)*

	Polity IV	Freedom House	Governance Infrastructure
Russia	6.1	3.06	-1.39
China	-7	1.44	-0.505

China's average democracy scores for both PolityIV and Freedom House, as well as their average governance infrastructure scores. While Russia may be at best a borderline democracy, depending on one's interpretation, China certainly is not a democracy. During this time period, Russia scores as a democracy according to polity, is partly free according to Freedom House, while their GI score is approximately one standard deviation below the mean, -0.80, of the developing country population during this period. Clearly, polity ranks China as almost completely autocratic and Freedom House ranks them as not free; however, their governance infrastructure score is slightly above the mean for the population of developing countries for this time period.

China is nowhere close to a democratic country, but is above the mean level of governance infrastructure. Russia is/has been considered a democratic country for over a decade but has a very low quality level of governance infrastructure. Does this prove that democracy has no effect on growth and that only governance infrastructure matters in terms of domestic institutions, no; however, that interpretation is supported by several recent country studies. Schaffer and Kuznetsov (2008) point out that "manufacturing exports as a share of GDP are very low by the standards of other emerging economies and most developed economies." Moreover, even though Russia has a highly educated workforce, they produce half of the output of an Indian or Chinese worker, with the reasons given focusing on infrastructure weaknesses and especially regulatory unpredictability (Desai and Goldberg 2008). Contrastingly, Peerenboom (2007) posits China outperforms other lower-middle income countries in terms of its government effectiveness and rule of law, especially when it comes to doing business with foreign

investors. This is supported by Mann (2007), who argues that Chinese officials are always anxious to protect foreign investors from the worse aspects of corruption and that the legal system offers special protections to outside business's, but not to ordinary citizens (pg. 107).

The relationship between Governance Infrastructure, Democracy and Development

It is important to examine the bivariate relationships between GI, democracy, and development; through examining these relationships. This examination will only help to further unravel the relationships that I posited so far throughout this chapter, with the main argument being democracy only positively affects economic development in non-rich countries if the institutions of governance infrastructure are not accounted for.⁴

Figure 3.1 below, presents a scatter plot of polity and governance infrastructure.

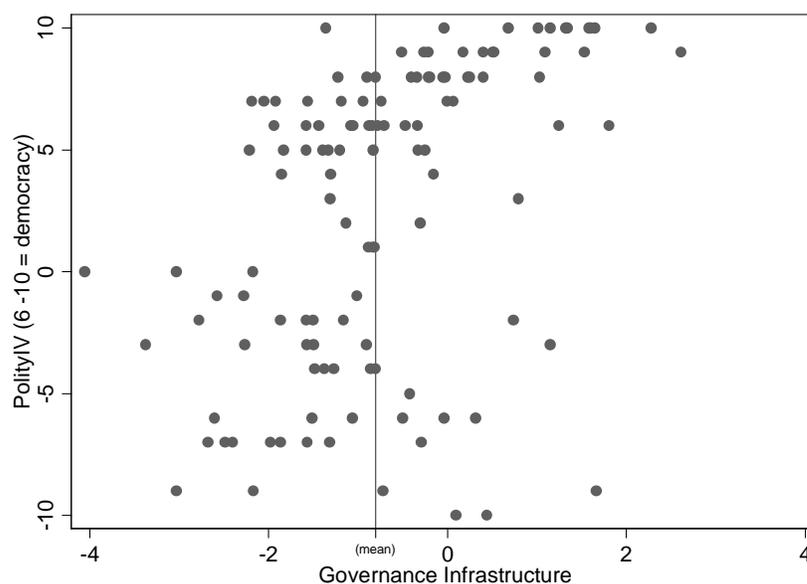


Figure 3.1: *The scatter plot between governance infrastructure and regime type (PolityIV), non-rich countries in 2000*

⁴ Figures 3.1 – 3.7 are all based on the year 2000 and representative of all the years 1996 – 2007.

On the polity scale, 6 – 10 is considered a democracy within the political science literature, as there is no rule of thumb for what constitutes good governance; I have marked the mean of governance infrastructure for the population of non-rich countries in 2000 as a reference point. Figure 3.1 demonstrates that that it is highly unlikely for a state to be a democracy (as measured by polity), especially a high-quality democracy without approaching the mean quality level of governance infrastructure. Figure 3.2 demonstrates that the same cannot be said for having good or high quality governance infrastructure. In fact, 19 of the 51 states with a governance infrastructure score greater than the mean fall below the score of 6 on the polity scale. Moreover, as demonstrated

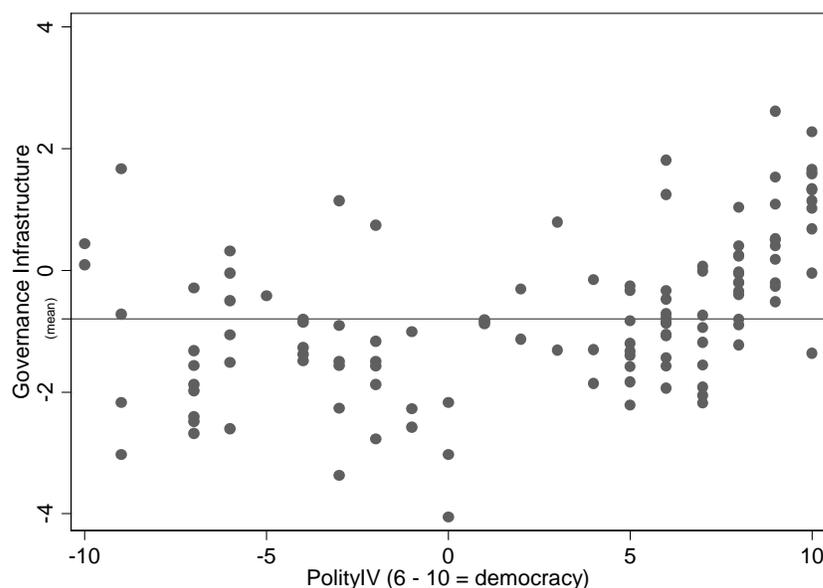


Figure 3.2: *The scatter plot between regime type (PolityIV) and Governance Infrastructure, non-rich countries in 2000*

by figures 3.3 and 3.4 below, this basic relationship between governance infrastructure and regime type holds when using Freedom House instead of Polity.

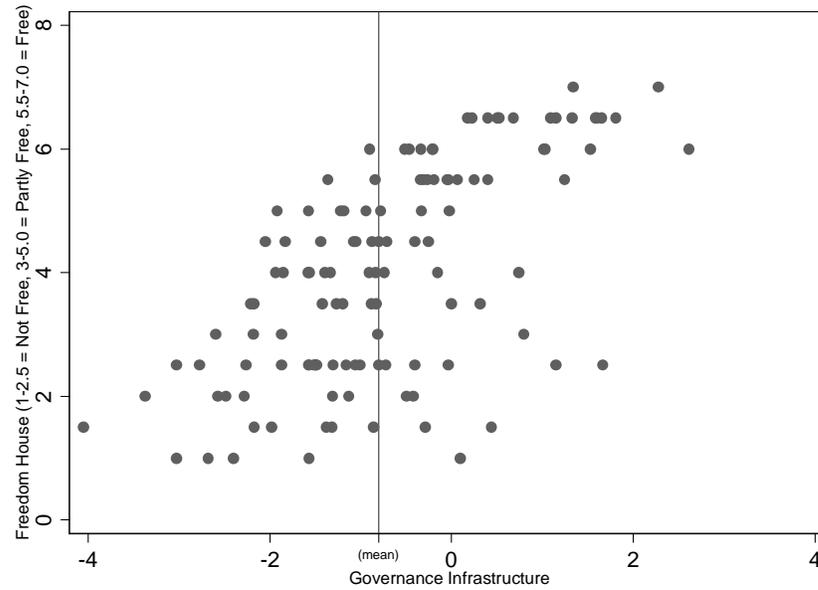


Figure 3.3: *The scatter plot between governance infrastructure and regime type (Freedom House), non-rich countries in 2000*

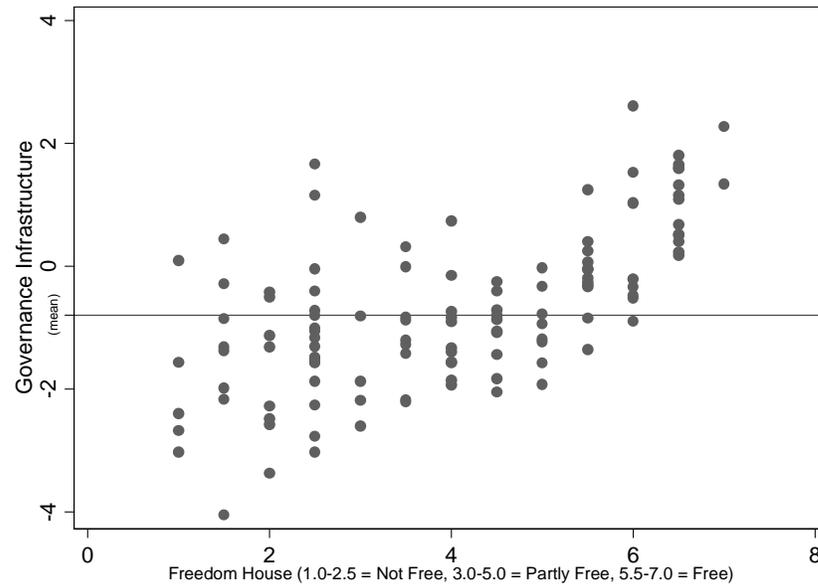


Figure 3.4: *The scatter plot between regime type (Freedom House) and Governance Infrastructure, non-rich countries in 2000*

Even if the basic relationship holds, regardless of how regime type is measured, what is the relevance of this relationship? If a certain quality level of governance infrastructure is a pre-condition for higher values of democracy, as appears to be demonstrated in these simple scatter plots, and a certain level of democracy or regime type is not a precondition for good or high quality governance infrastructure, then this lends my support to the argument that the reason why democracy level has previously been shown to positively affect economic development, is because the true institutions that matter, governance infrastructure, were not included. The results were most likely because democracies in the cross-country regressions already had good governance infrastructure, and this was leading to economic development, not democracy.

Having examined the relationship between governance infrastructure and regime type, an important next step is to examine their relationships with economic development.

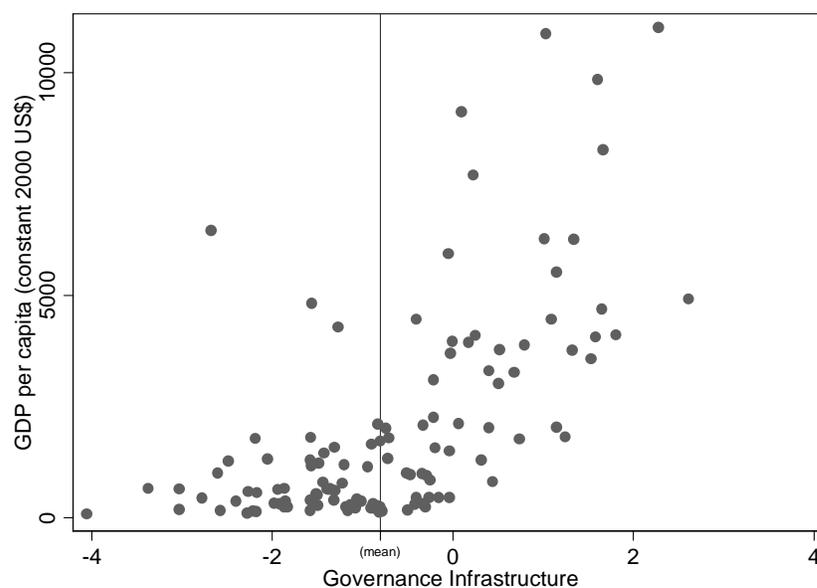


Figure 3.5: *The scatter plot between GDP per capita and Governance Infrastructure, non-rich countries in 2000*

Figure 3.5 above, shows what appears to be a clear positive relationship between governance infrastructure and economic development, supporting early work as well as my expectations. Figure 3.6 below presents the relationship between regime type as measured by Polity and economic development. While democracies have the highest GDP/pc there appears to be no direct relationship between regime type and development in 2000. Interestingly, if you compare figure 3.6 to figure 3.2, the pattern of economic development across the range of polity scores follows very closely to the pattern of GI quality across the range of polity scores, which arguably supports my argument concerning the primacy of governance infrastructure versus democracy in the economic development of non-rich countries. While not quite as clear, a similar relationship appears to emerge when examining the relationship between economic development and regime type as measured by Freedom House as show in figure 3.7 below.

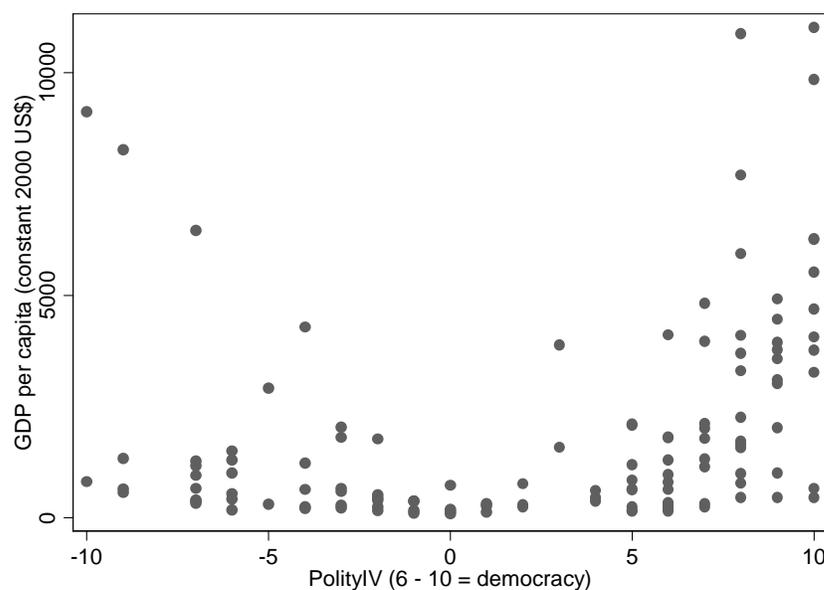


Figure 3.6: *The scatter plot between GDP per capita and regime type (Polity), non-rich countries in 2000*

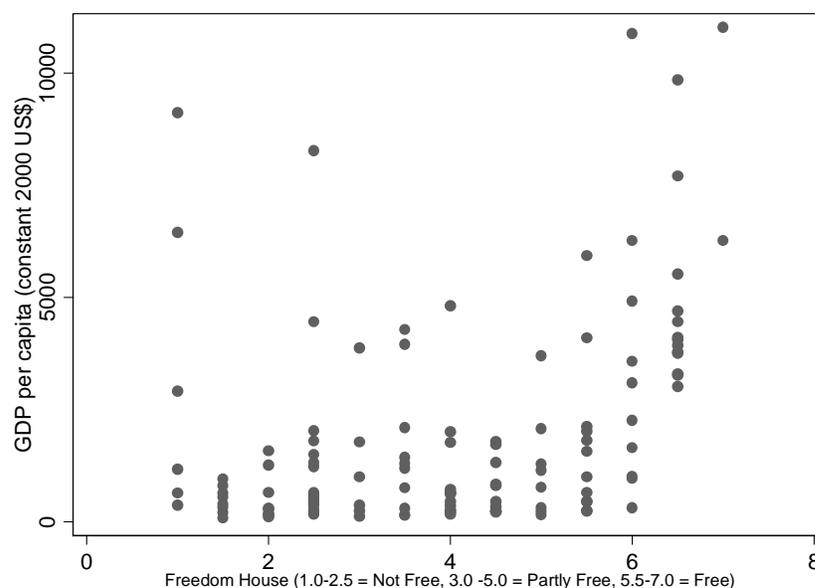


Figure 3.7: The scatter plot between GDP per capita and regime type (Freedom House), non-rich countries in 2000

Building off extant theory, my expectations and the brief examination of the relationships present in the data allows me to present the following hypotheses:

H1: Regardless of how it is measured, democracy will not be a significant determinant of economic development if governance infrastructure is accounted for.

H2: Democracy should only affect economic development conditional on the quality of a state's governance infrastructure.

Observation and Measurement

A series of cross-sectional/time-series ordinary least squares regression models will be used to test the aforementioned hypotheses. It is important to note that country fixed-effects are not being used in the following models as the key independent variables

of interest are very slow moving and country fixed-effects are known to be very inaccurate in estimating the effects of slow moving variables (Beck and Katz 2001; Wawro 2008). In order to get the most accurate standard errors, Arelleno (1987) robust standard errors clustered on country are used.

As the following models are dealing with a somewhat contentious subject in both the political science and economic literature, I follow convention by using the natural log of GDP/pc as the dependent variable.⁵ The data are pooled cross-sectional time-series with the unit of analysis being the developing country year. This analysis covers the years 1996, 1998, 2000, and 2002 – 2007. The missing years are due to the limited data availability of the World Bank's "Worldwide Governance Indicators" dataset that is used to construct the key independent variable governance infrastructure.⁶ To ensure proper temporal ordering, all independent variables are lagged by one observational period. The phrase "one observational period" is used due to the missing years of data just discussed.⁷ For reasons discussed earlier, the sample is restricted to all non-rich countries, which is a country that has a GDP/pc of less than 12,000 constant US\$.⁸

The following models are meant to only be preliminary explorations of the proposed hypotheses and therefore, only include the independent variables of interest – governance infrastructure and various measures of regime type, their interaction terms (in

⁵ Data are from the World Bank's ("World Development Indicators" 2008).

⁶ As an additional test, I filled in the missing years by using the average of the indicator scores, and ran supplemental models with all years from 1996 to 2007. The results from these models were comparable to the ones presented later in the chapter.

⁷ Lagging the independent variables also helps to account for endogeneity. Data limitations do not allow me to implement more lags to help account for the possibility of endogeneity. While endogeneity should not be taken lightly, I believe that following the literature and lagging the independent variables by one-period will allow me to determine if the proposed relationship that I hypothesize exists.

⁸ This corresponds to the World Bank's cut-off for high income countries <http://data.worldbank.org/about/country-classifications>.

order to test for conditionality), and a control variable of regional dummies. The models are kept as simple as possible in order to truly take a first step at sorting out the relationships of governance infrastructure, democracy and economic development. Future research can and should use these models as jumping off point for further hypothesis and theory generation, as well as expanded time-series analysis.

Independent Variables

Governance infrastructure is defined as the core institutions that facilitate government competency and economic efficiency. Governance infrastructure is comprised of the institutions that determine the quality of states' government effectiveness, bureaucratic efficiency, regulatory quality, rule of law, and control of corruption. These individual indicators are from the World Bank's Worldwide Governance Indicators (2008); however, as outlined in chapter 2, I combine them in a theoretically consistent manner in order to get a single measure of the quality level of a state's governance infrastructure.

Democracy is operationalized using the PolityIV database and the Freedom in the World Index.⁹ The PolityIV dataset is used to measure the institutionalized democracy level of the states and is a measure of the overall polity level of state from completely autocratic to completely democratic (Marshall and Jaggers 2002). This scale runs from -10 to +10, with -10 being completely autocratic and +10 being completely democratic. The Freedom in the World index averages a measure of civil liberties and a measure political rights that both run from 1 to 7. Countries are considered democracies (free) if

⁹ (Marshall and Jaggers 2002; "Freedom in the World" 2009)

they have a index score of 1.0 – 2.5, they are intermediate regimes (partly free) if they have a score of 3.0 – 5.0, and finally, states are considered autocracies (not free) if they have a score from 5.5 to 7.0. Because both regime type as measured by polity and governance infrastructure are both considered to be higher quality as the score gets larger and positive, I have rescaled the Freedom in the World measure to conform to the larger the score the better the institutions. The new scale is as follows: 1.0 – 2.5 is now an autocracy (not free), 3.0 – 5.0 is still an intermediate regime (partly free), and 5.5 – 7.0 is a democracy (free).

The final key independent variables are the interaction terms of governance infrastructure and Polity, and GI and Freedom House, which will allow me to test the hypothesis that democracy will only be a positive and significant determinant of states' economic development conditional on the quality level of governance infrastructure.

While not necessarily a key variable, regional dummies, as classified by the Correlates of War project, are also included in the models. Regional variation has been repeatedly shown to matter greatly in terms of state institutional quality and economic development (Acemoglu et al. 2001; Busse and Hefeker 2007). Through the inclusion of regional variables, I am able to account for the effect of colonial differences in the exportation of institutions, and at least partly for natural resource driven economies (Sachs and Warner 1995), while not implementing a garbage can regression, making it easier to sort out these complex relationships (Achen 2005).

Analysis and Results

Table 3.3 presents seven successive models. Models 1 and 2 include the measures of regime type, Polity and Freedom House respectively. In these models, both measures are positive and significant determinants of economic development, just as many previous studies have indicated. Model 3, replaces the measures of regime type with the measure of governance infrastructure, and it too is a highly significant, positive determinant of economic development, just as we would expect given the extant literature.

Models 4 and 5 are direct tests of my first hypothesis. Just as predicted, once the institutions of governance infrastructure are accounted for, regime type is no longer a

Table 3.3: *The Relationship between Regime Type, Governance Infrastructure, and Economic Development in Developing Countries*

Explanatory Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Regime Type (PolityIV)	0.0328+ (0.0172)	--	--	-0.0212 (0.0147)	--	-0.00332 (0.0180)	--
Regime Type (Freedom House)	--	0.223*** (0.0637)	--	--	-0.138* (0.0615)	--	-0.0997 (0.0631)
Governance Infrastructure	--	--	1.199*** (0.106)	1.268*** (0.109)	1.410*** (0.130)	1.121*** (0.155)	0.956** (0.320)
GI * PolityIV	--	--	--	--	--	0.0432* (0.0205)	--
GI * Freedom House	--	--	--	--	--	--	0.106+ (0.0626)
Constant	7.542*** (0.229)	6.517*** (0.396)	8.029*** (0.139)	8.228*** (0.198)	8.875*** (0.399)	8.057*** (0.235)	8.606*** (0.426)
N	969	984	958	944	958	944	958
R ²	0.125	0.175	0.465	0.478	0.482	0.496	0.492
BIC (Schwarz Criterion)	3027.0	3011.6	2524.0	2473.5	2499.9	2448.4	2488.0

OLS estimates with Arellano (1987) clustered standard errors in parentheses. *** = $p < 0.001$ ** = $p < 0.01$, * = $p < 0.05$, + = $p < 0.10$.

All regional effects were suppressed. Data range is 1996, 1998, 2000, 2002 - 2007, and subject to availability. All parameters were lagged by one observational period to help account for causality.

positive determinant of economic growth. Somewhat surprisingly, however, in model 5 the Freedom House measure of regime type is negative and significant, meaning that once governance infrastructure is accounted for, improving a state's civil liberties/political rights only hinders economic development. This may be true, but it is more likely that this sign flip indicates some type of conditional relationship between governance infrastructure and regime type, as I have hypothesized.¹⁰

Models 6 and 7 include the appropriate interaction terms. The signs and coefficients for GI and Polity are very similar to that of model 4, and the interaction terms is positive and significant. However, it is important to remember that the constituent term (democracy) must be examined across the range of the variable is hypothesized to be conditional on (governance infrastructure. Figure 3.8 presents the effect of regime type as measured by Polity on economic development, conditional on the quality of governance infrastructure. Interestingly, regime type is a negative and significant determinant of economic development until a state approximately reaches the mean quality level of governance infrastructure, as indicated by the fact that this is only time in which both the upper and lower confidence intervals are the same side of zero. This implies that, if a developing state has a quality level of GI below the population mean (-0.04), and they become more democratic, this will have a negative effect on their

¹⁰ It is important to note, that the implied argument I have been making concerning governance infrastructure, democracy, and economic development is one of a causal pathway. In that, if democracy matters as a determinant for development, it will only matter after a certain threshold of governance is reached. However, due to data limitations, it is impossible to completely test this argument, therefore the cross-sectional/time-series regressions with interaction terms will allow me to see if the hypothesized relationship exists, and provide the footing for more direct testing of this relationship in the future.

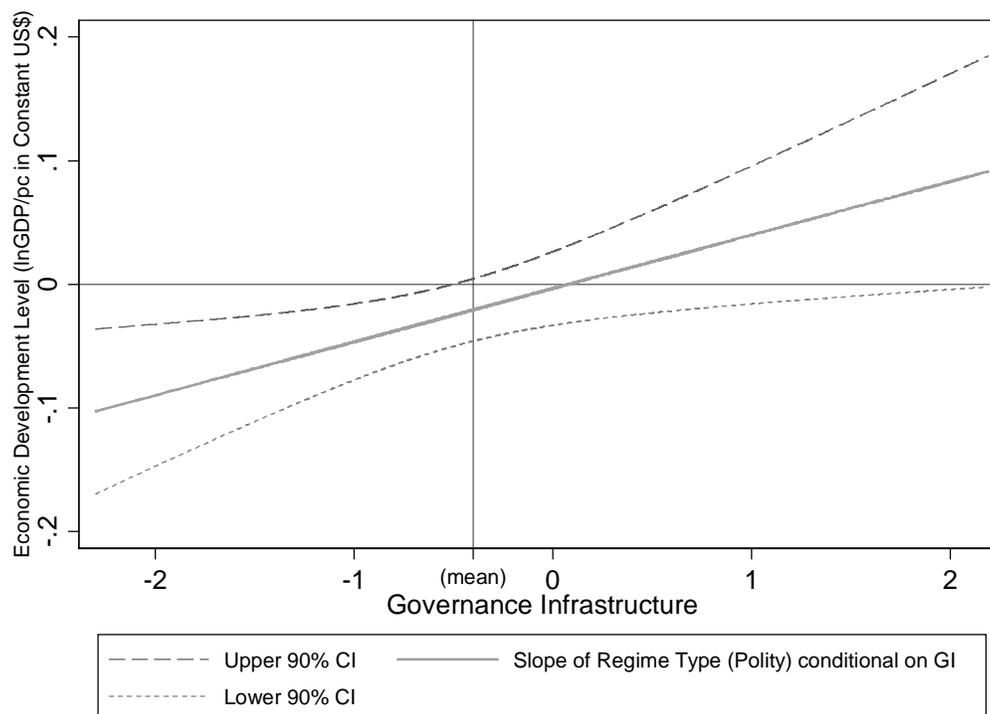


Figure 3.8: *The relationship between economic development and regime type (PolityIV) conditional on governance infrastructure, (Non-high income countries, years – 1996, 1998, 2000, 2002 – 2007)*

economic development. This effect is lessened as a state gets closer to the mean of governance infrastructure; however, democracy (PolityIV) is never a positive and significant determinant of development. Regardless of the relationships demonstrated in the earlier scatter plots, one may argue that governance infrastructure is actually conditional on democracy. Importantly, for my argument, figure 3.9 demonstrates that regardless of the regime type a developing state has, GI is always a positive and significant determinant of economic development, lending support to both of my hypotheses.

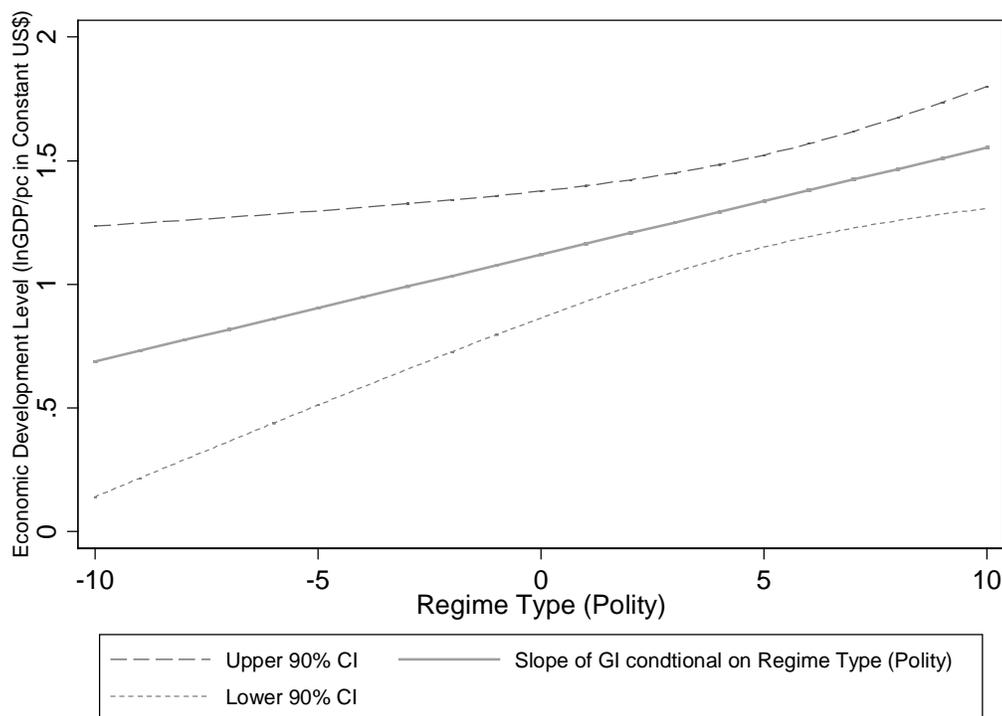


Figure 3.9: *The relationship between economic development and governance infrastructure conditional on regime type (PolityIV), (Non-high income countries, years – 1996, 1998, 2000, 2002 – 2007)*

Model 7 helps me to confirm that my hypotheses appear to be correct, and that they are not actually dependent on how regime type is measured. The coefficients for model 7 are very similar in direction to model 5, as is expected; however, regime type as measured by Freedom House is no longer significant, and as in model 6, the interaction term is positive and significant. Once again, it is necessary to examine democracy across the range of governance infrastructure. Below, figure 3.10 does just this, and it is very similar to figure 3.8, with the main difference being the point at which regime type is no longer a negative and significant determinant of economic development. Once again, though, the interpretation of the relationship of development and regime type (F.H.) conditional on GI is the same as with regime type measure by Polity.

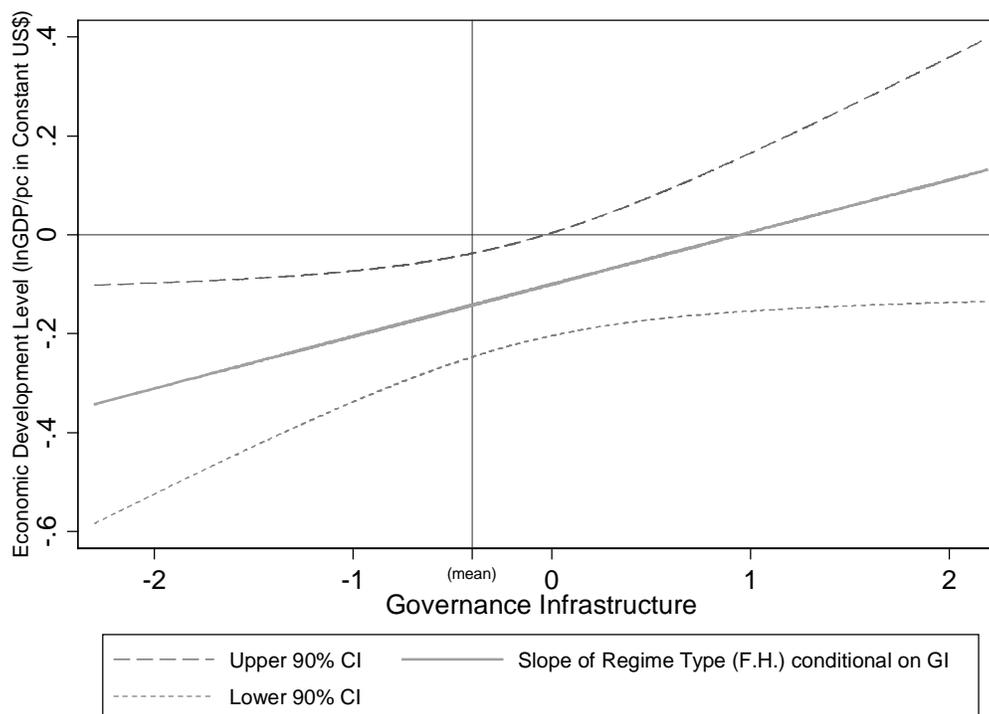


Figure 3.10: *The relationship between economic development and regime type (Freedom House) conditional on governance infrastructure, (Non-high income countries, years – 1996, 1998, 2000, 2002 – 2007)*

If a developing state has a quality level of GI below zero, and they become more democratic as measured by Freedom House, this will have a negative effect on their economic development. Moreover, figure 3.11 demonstrates the same relationship as figure 3.9, regardless of how “free” a developing state is, governance infrastructure is a positive and significant determinant of their economic development. Given the recent trend in the literature to emphasize an ambiguous relationship between democracy and development, the brief examples of the East-Asian Tigers and Russia vs. China, the story told by the bivariate relationships, and finally the strong statistical evidence from the

previous econometric models, it appears that my expectations and formal hypotheses are correct for the population of non-rich countries over the period examined.

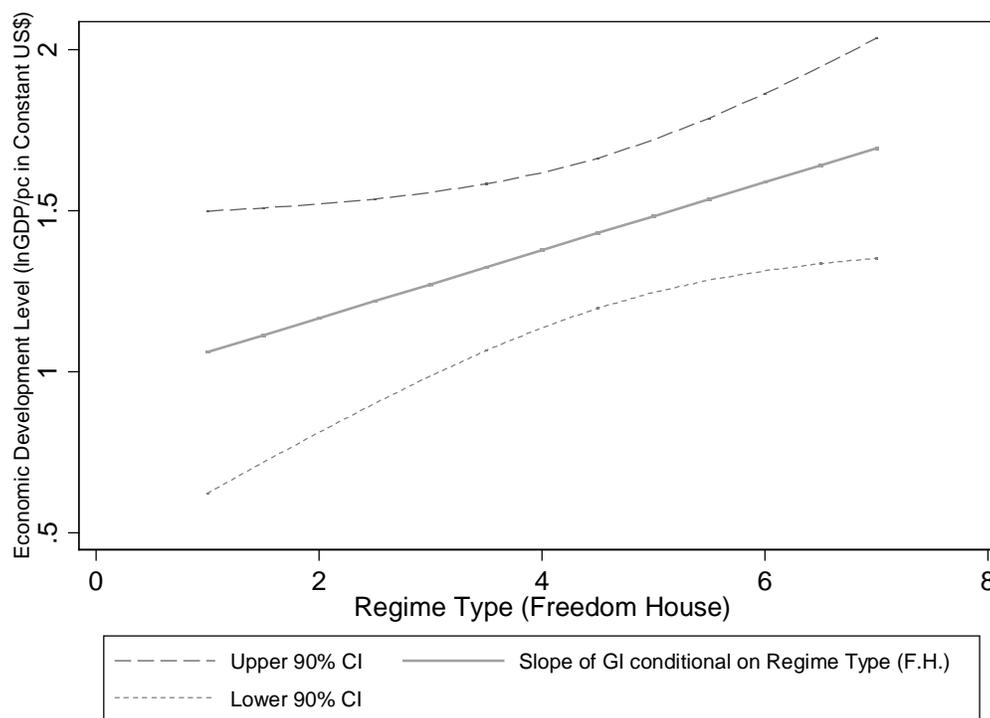


Figure 3.11: *The relationship between economic development and governance infrastructure conditional on regime type (Freedom House), (Non-high income countries, years – 1996, 1998, 2000, 2002 – 2007)*

Discussion

The impetus for this research arises from a belief that if studies of democracy's effect on development included the institutions of governance infrastructure in their models, and did not include rich countries in their populations, there would be no direct relationship between democracy and development present. While there is much future work that needs to be done to continue to untangle the relationships of economic development, governance infrastructure and democracy, I believe that this chapter has taken the first crucial step.

Perhaps, intuitively the results from this chapter are unsurprising, given the “model” of improving ones governance infrastructure in order develop, while ignoring or holding off on democratization appears to have been used successfully by Singapore, South Korea, Thailand, Taiwan, China, and Rwanda since the middle 70s. While every economist and political scientist acknowledges these countries economic success stories, we continue to ignore the ramifications of their successes on existing theory. Not to mention, cases of states becoming democracies and failing to develop, most likely due to poor governance infrastructure, then regressing away from democracy. If the models in this chapter are correct and governance infrastructure is a positive and significant determinant of economic development, then if we follow Przeworski et. al (2000) it could very well be the key to preventing democratic backsliding.

The next logical step would be to fully specify the development models with appropriate control variables to see if the relationships identified in the models in table 3.3 hold. If this is the case, as I expect it would be, future research will need to include a much enlarged temporal range for study, as well as in depth case studies to confirm or repudiate the hypotheses that are generated and tested through statistical analysis. I have mentioned a few possible cases; however, throughout the history of the Westphalian System, if the expectations and hypotheses developed in this chapter are correct, there are innumerable more cases from which we can learn.

Chapter 4: Interacting Signals: Imperfect Information, Institutional Environments, and FDI in Developing Countries

Extant research within political science and economics appears to substantiate the fact that the quality of a state's domestic institutions affects how much foreign direct investment they attract. Unfortunately, our understanding of the causal linkages between domestic institutional quality and the actual decision of a firm to invest in a particular country continues to be quite limited. This lack of understanding is derived from the fact that many researchers approach the linkages between domestic institutions and the attraction of FDI in a very broad fashion.

Most empirical research in this area posits that some type of domestic institution attracts or retards FDI inflows, which is then followed by a litany of reasons and potential causal arguments for why this is so. Usually these arguments revolve around transaction costs and that higher quality domestic institutions reduce red tape, corruption, and/or expropriation, etc..., and that the quality level of the institutions sends a signal to firms concerning potential transaction costs (Oneal 1994; Jensen 2006; Busse and Hefeker 2007; Pajunen 2008). Although, sometimes it is argued that the quality of certain domestic institutions is a signal to investors that if the country possesses an attractive business environment, they plan to keep it that way through policy stability, a basic credible commitment argument (Henisz 2000; Wei 2000; Tobin and Rose-Ackerman 2005; Jensen 2008). These arguments are most often posited as reasons why improved institutional quality leads to more investment; thereby, justifying the researchers

statistical results and broad hypotheses. If we are to ever move forward in terms of a more nuanced understanding the relationship that a country's institutional environment has with a firm's decision to invest, proposed causal linkages must actually be tested, and not just bandied about as possible reasons why statistical results are significant or not. In this paper, I develop and test one of these causal linkages.

Throughout the literature on foreign direct investment, it has been argued that the best indicator for whether a state will receive increasing FDI is the amount of FDI it has received in the past. This argument makes tremendous theoretical and intuitive sense. If a country is receiving increasing investment from one or many firms, this is an obvious signal to other firms, especially those with similar production needs, that barring exceptional circumstances, the state's investment climate is positive and most likely to be profitable. If prior investment into a country is the strongest possible signal available to firms when exploring where to invest, what signals do they have available if prior investment is small or non-existent? Clearly, given prior arguments, one could expect that this is where the signals sent by the quality and type of domestic institutions within a state come into play, and affect firms' decision-making. The question then becomes, is the signal sent by these institutions one of a credible commitment to maintaining an initially friendly business environment through policy stability or is it a signal identifying the amount of transaction costs that could potentially be incurred?

Answering the above question, as well as illuminating the causal linkages that are driving the domestic institutional quality – foreign direct investment relationship are the goals of this paper. I begin with a review of the theoretical arguments concerning

varying domestic institutions and their affect on FDI inflows, focusing on developing countries.¹ I then go on to propose that these differing institutions provide different signals and by focusing on the type of signal a particular domestic institutions is sending, (a credible commitment to policy stability, or the low cost of doing business), it should be possible to sort out which type of signal really affects firms' decision to invest the most. The institutions in question, governance infrastructure, veto players, and regime type represent the following signals: amount of transaction costs, credible commitment to policy stability, and a mixture of the amount of transaction costs and credible commitment, respectively.²

Following this, I develop a causal model that develops my beliefs concerning firms' decision to invest, the private information that states possess concerning the probability a country will maintain a friendly business environment, as well as the potential transaction costs that investing firms will face, and how these determine a firm's investment decision over time. Next, empirical models derived from the causal model are used to test my expectations. The independent variables of interest in these models are prior FDI inflows into a country, as this represents the strongest possible signal available to firms concerning the potential profitability of an investment target; as well as, each of the different domestic institutions that should affect a firm's decision;

¹ It is argued that developing countries and rich countries have differing determinants of FDI inflows (Buthe and Milner 2008). I also subscribe to this position; moreover, wealthy countries usually have very high quality domestic institutions of all kinds, which make sorting out the causal linkages discussed even more difficult. This study hopes to provide insight into this unexplored area of research, with this insight leading to possible hypotheses involving wealthy countries.

² While regime type appears to send a complicated signal, the most important aspect is most likely credible commitment to policy stability; this argument will be developed in greater detail in the following sections.

followed by the interaction terms of the institutional variables with prior FDI inflows, which will allow me to assess which signal matters and when it matters.

Results from the empirical models indicate that the domestic institutions of governance infrastructure, which represent a signal of potential transaction costs, determine a firm's decision of where to invest within the developing world, over a range of change in previous FDI inflows from negative to large and positive. However, once a country has received a large enough positive or negative change in previous FDI inflows, the signal sent by the quality of a state's governance infrastructure is an insignificant determinant. This is unsurprising given that previous FDI inflows are purported to be the strongest signal that a potential investor can receive about the potential profitability of an investment destination, and this signal should be expected to subsume any other signals. Additionally, the models appear to demonstrate institutions which project signals concerning credible commitment to policy stability do not influence investors decision-making when the signals provided by previous FDI inflows and governance infrastructure are accounted for.

Thus, while advocating previous findings concerning the relationship between domestic institutional quality and FDI inflows, I seek to bring theoretical clarity to the causal linkages by demonstrating these institutions in fact do provide informational signals to investors, as well as assessing whether firms investing in developing countries are more concerned with the credible commitments of policy stability and a business friendly environment, or of potential transaction costs, which may more greatly affect profit. I conclude this paper with discussion of future research in this area, including the

need for expanding the temporal range examined as well as examining specific cases in detail to determine if they confirm the theories developed in this paper. The policy implications concerning developing countries and their ability to attract FDI inflows have always been great and fleshing out the causal linkages, as well as the effect differing signals sent from different domestic institutions increases our knowledge of how best to move countries from developing to developed.

Domestic Institutions, Different Signals, and FDI Inflows

Institutions that Determine Transaction Costs (Governance Infrastructure)

It was not until the late 90s that governance was defined as a single concept. Up until then, governance encompassed and was represented by various separate intrastate institutions that were mostly considered independent from one another. These institutions included public policy stability, the type and efficiency of bureaucracy, civil rights, private property rights, contract enforcement, the rule of law, and the scope and control of corruption (Schneider and Frey 1985; Scully 1988; Barro 1991; Pastor and Hilt 1993; Chan and Mason 1994; Knack and Keefer 1995, 1997). The World Bank defines governance as “the traditions and institutions by which authority in a country is exercised” (Kaufmann et al. 1999b p. 1; 1999a). This definition has a very wide scope and is too close to overlapping definitions of democracy or regime type. Therefore, I narrow the scope of the concept and define governance infrastructure (GI) as “the institutions within a state that facilitate government competency and efficient economic transactions.” Based on this definition, governance infrastructure is comprised of the

institutions that control corruption, promote the rule of law, and account for bureaucratic efficiency, as well as the quality of regulations within a state.

Douglass North, argued that domestic institutions matter and posited that they affect the economic exchange between nations (North 1990, 1991). He argues that it is necessary for a state to develop institutions that support individual communication across time and space. When economic rules/domestic institutions embrace the market, they reduce informational asymmetries. Institutions that protect private property, enforce standardized measurement, efficiently enforce rules and regulations reduce transaction costs and lead to better economic outcomes (North 1990 pg. 47; Souva et al. 2008) Following North's lead, scholars have demonstrated that states' institutional framework have significant positive effects on the efficiency and growth rate of economies (Barro 1991; Knack and Keefer 1995). Societies that subscribe to the rule of law, private property rights, and the overall market allocation of resources grow much faster than those that limit or exclude these institutions. Additionally, it appears that a major reason why poor countries never seem to "catch up" to rich countries in terms of economic growth is a direct result of the quality of their institutions (Scully 1988; Knack and Keefer 1997).

Several studies that are more recent have that institutional quality matters in terms of foreign direct investment and bilateral trade flows. Wei (2000) shows that developing states that have higher levels of corruption receive less FDI inflows from OECD countries than developing states that control corruption. Moreover, Globerman and Shapiro (2003) demonstrate that states are more likely to receive FDI inflows from the

United States if they have a higher quality governance infrastructure and the amount of investment these states receive is statistically correlated to their governance quality level.³ In addition to findings concerning FDI, Souva, Smith, and Rowan (2008) find that dyads that have institutions that are better at limiting transaction costs have increased dyadic trade, and that when these institutions are accounted for, regime type is not a significant determinant of dyadic trade flows.

It is apparent that economic actors do not want to do business within a state that will expropriate their property, where corrupt workers may steal from their employers, where corrupt public officials require bribes before permits and other paperwork will be processed, or simply where it takes over a year to get a permit to import a personal computer for your business, as was the case in India during the 70s (Cran 2002). Each one of the aforementioned acts increases the transaction costs that a firm faces in doing business in a particular country, all lowering the firm's potential profit.

Therefore, based on existing theory and empirical evidence, I hypothesize that as a developing state's quality level of governance infrastructure increases, it will send a stronger signal to potential investors indicating that transaction costs within said state will be limited, compared to states with lower quality governance infrastructure, thereby increasing the potential profit of the investing firm. Moreover, I expect that as a developing state improves its quality level of governance infrastructure, thereby

³ The concept "governance infrastructure" in their paper differs from the one I define and use in this paper. Their measure is an atheoretically constructed, simple index, which is meant to overcome the collinearity of institutional measures that I argue are all part of one concept, governance infrastructure, and should be aggregated based on extant theory. Moreover, they use indicators that could easily be construed as measures that are not theoretically distinguishable from democracy. See chapter 1 for further discussion of how I conceptualize governance infrastructure.

increasing the strength of the aforementioned signal, the state in question should receive increased FDI inflows. This is because as firms are rational actors, they will choose from potential investment targets based on potential profitability. However, as previous FDI inflows into a state are the strongest signal concerning the potential profitability in said state, I expect that once previous FDI inflows send are large enough positive or negative signal concerning the potential profitability within the state, the signal from governance infrastructure will be subsumed.

Institutions that Determine Policy Stability (Veto Players)

Tsbelis (2002) argues that veto players can and do matter in all avenues of a states actions. “Veto players are individual or collective actors whose agreement is necessary for a change of the status quo.” (p.19). The status quo refers to policy stability. The institutional veto players in the United States, according to the constitution are the President, the House of Representatives and the Senate, meaning at the most basic level, there are three veto players in the US whose agreement is necessary to change existing policy, or the status quo. Therefore, all traditional political institutions, such as regime type or number legislative bodies within a country determine the policy stability of that particular political system.

Multinationals that are entering foreign markets prefer a higher degree of policy stability in the markets they are entering as opposed to low policy stability (Jensen 2008). Therefore, the more veto players a country has, the greater assurances that a firm has that policies, which they deemed favorable enough to invest in the country, will not change dramatically after they have invested. Given that the number of veto players directly

effects policy stability, it is not a stretch to hypothesize that the number of veto players a country possess determines the strength of the signal a country sends, in terms of its one of credible commitment to established policies, or the “status quo”. Therefore, I expect that the more veto players a country has the stronger the signal that will be sent to potential investors concerning the stability of policy within the given country, and given that firms prefer a higher degree of policy stability, the stronger the signal of credible commitment to policy stability, the more FDI inflows the country should attract.

However, just because a state has a high degree of policy stability, this does not guarantee that the state in question has a business friendly environment. Therefore, it would not be surprising that the strength of the veto players’ signal is not a determinant of FDI inflows until the country has demonstrated it is business friendly, meaning that a states credible commitment to policy stability may be directly conditional on the amount of change in previous FDI inflows. If a business were to observe a country receiving a large influx of new FDI, they could most likely assume the business environment in that country is receptive to investment, and friendly.

Institutions That Affect Policy Stability and Transaction Costs (Regime Type)

Extant literature concerning the effect that regime type has on FDI inflows argues that regime type affects policy stability, as well as potential transaction costs. It is posited that democracies have greater policy stability because they tend to contain more veto players than autocracies; however, democracies can also have more policy instability than autocracies just via elections and the preferences of the newly elected. Additionally, the stability of policy within democracies will also be affected by time inconsistencies

(Rodrik 1991). Time inconsistency problems arise because incumbent governments may manipulate monetary and fiscal policy just for electoral purposes, or they may enact policies that limit the options of future governments (Persson and Svensson 1989; Alesina and Tabellini 1990; Franzese 2002). Therefore, the preferences of the political elite to remain in office may lead to policy instability, in that unfavorable economic policies are enacted for the purpose of political survival.

Unsurprisingly, there are competing arguments concerning whether democracies are best suited for reducing transaction costs, as well. Autocracies are argued to reduce costs on investing firms because they have a smaller electorate which to answer to, and therefore, have to supply fewer public goods, making it easier to cut sweetheart deals with interested firms (Huntington 1968; Bornschieer and Chase-Dunn 1985; Oneal 1994). On the other hand, democracies are argued to reduce transaction costs because of the transparency of their policy decisions as well as the audience costs that democratic leaders will suffer if expropriation occurs. Rosendorff and Vreeland (2006) posit that given the transparency of policy making in democracies, firms have the opportunity to anticipate changes and act accordingly, as well as lobby against perceived costly changes in policy. This transparency should allow firms to avoid or at least minimize potential transaction costs, as well as offset some of the perceived policy instability derived from the time inconsistency problems inherent in democracies. Additionally, Jensen (2003; 2006) argues that democratic leaders can suffer audience costs by being punished at the polls if they have a poor reputation with financial markets. Therefore, democratic leaders have less incentive to expropriate foreign investor assets; thereby, reducing potential

transaction costs a multinational could face. The other side of this is, since autocrats do not suffer audience costs, they have no such disincentive to expropriate multinational assets.

Given the confounding signals that differing regime types can theoretically send, how do we move forward with a coherent hypothesis of the signals being sent, let alone the effect they will have on potential investors' decision-making? If one takes into account the earlier hypothesized signals being sent by the domestic institutions comprising veto players and governance infrastructure, it may be possible to derive, if not an exact hypothesis concerning the signals regime type is sending, but at least an expectation of the result of these signals. As the institutions that comprise governance infrastructure vary in quality regardless of regime type, and the number of veto players also varies regardless of regime type, both the transaction cost signal and the credible commitment to policy stability signal are accounted for by these institutions.⁴ While it is evident by the brief discussion of the extant literature on regime types' effect on transaction costs and policy stability that regime type affects them in a different manner than governance infrastructure and veto players; multinationals as rational actors only care whether transaction costs are minimized and policy is stable. Therefore, I expect that investors will be indifferent to the signals a developing countries regime type sends once the quality of the states governance infrastructure and number of veto players are accounted for.

⁴ While it is true that democracies tend to have more veto players than autocracies, the number of veto players can vary greatly in democracies depending on what type of democracy a country is, (e.g. parliamentary vs. federal).

Moreover, given the confounding results in the literature concerning regime and FDI inflows, as well as the previously discussed competing hypotheses, I have no direct expectation of the signal regime type sends effect on FDI inflows. However, based on my early expectations concerning the interaction of the signals sent by change in previous FDI inflows and governance infrastructure, as well the interaction of change in previous FDI inflows and veto players, I can derive the following expectations. The regime type signal will only be a significant determinant when governance infrastructure and veto players are not accounted for; and if the regime type signal does matter, I expect that once previous FDI inflows reach a high enough threshold, the regime type signal will be subsumed.

The Strongest Signal (Change in Previous FDI Inflows)

As discussed earlier and throughout the extant literature on the determinants of FDI inflows, the change in previous FDI inflows sends the strongest signal to investors concerning the profitability of investment within a given country. This arguably means that the signal sent by the change in previous FDI inflows contains information about the toll that transaction costs take on profitability, the suitability of the business environment, and degree of policy stability within a state. Transaction costs, friendliness of the business environment, and policy stability all affect the profitability of firms' investment. Therefore, the change in previous foreign direct investment will send a signal to potential investors concerning potential profitability within an investment target.

The signaling effect of previous investment in a country is well known and appreciated by firms, investment agencies and bank throughout the world. In 1996, Intel

invested 300 million dollars in Costa Rica, and up until this point, the international community did not see Costa Rica as likely target of FDI. Intel's surprise investment provided a tremendous amount of information about Costa Rica's business environment, government competency, macroeconomic and policy stability, as well as potential profitability.

Intel had conducted in-depth due diligence before choosing a new location, thus paving the way for other investors to follow the corporation's lead. The news that Intel had decided in favor of Costa Rica made international headlines and immediately put Costa Rica on the site maps of companies around the world in technology and other sectors (MIGA 2006).

The above quote demonstrates how previous levels of FDI inflows signal to investing companies. If a large enough amount of money has been invested in a country, an outside firm can assume that the investing firm, or firms, has done their "due diligence"; therefore, the state's economic environment is suitable for investment and has a high probability of being profitable.

By interacting the signal sent by the change in previous FDI inflows with the previous discussed signals sent by different domestic institutions, I will be able to determine whether firms care about the information from the preceding signals differently, or whether once the odds of profitability are high enough or low enough, (EG: change in previous FDI inflows reaches a large enough threshold, or divestment has been so great, that investors to reach this conclusion), firms, for the most part, are no longer interested in any other signals.

How Firms Choose Where to Invest; a Causal Model of the Relationship between Domestic Institutions and FDI

Building off of prior theoretical work by Mosley (2003) and Ahlquist (2006), I construct a simple theory of firms' decision to directly invest in a developing country. They emphasize that there are informational constraints facing investors.⁵ As outlined earlier, in the case of which country to invest in directly, firms face informational constraints on whether a potential investment destination is credibly committed to maintaining a friendly business environment through policy stability, and whether transaction costs will be as limited as possible. States on the other hand, are not informationally constrained. Therefore, a standard signaling framework can be constructed in which governments possess private information as their degree of policy stability, as well as the amount of transaction costs a firm is likely to incur by choosing invest in their country. The quality level of a state's governance infrastructure, the numbers of veto players it possesses, and type of regime type a country is all send signals to potential investors. Firms observe these signals and allocate foreign direct investment accordingly.⁶

As referenced throughout this research, I assume that firms are rational, and when they are deciding where to invest, I assume that their choice is dictated by simple profit-maximization calculus. Firms may have money to invest in each period, and that in each

⁵ While Mosley and Ahlquist are mostly concerned with portfolio investors, their logic holds for foreign direct investors as well.

⁶ Mosley emphasizes that there are costs to gathering the information from signals, which are policy outcomes in her case, while Ahlquist assumes that all information is readily available. For the sake of simplicity, I follow Ahlquist in assuming that the information from signals is freely available. I defer the more detailed approach for future research, in which I can use the results from this study as basis for hypothesis and theory generation.

period they update their priors, as outlined by Bayes' rule, as new information becomes available. Therefore, the current profit-maximization evaluation is function of prior and new information collected. For example, imagine a textile manufacturer built a small factory in developing country A, instead of developing country B in time t , because even though both countries were somewhat unstable mixed regimes, country A's quality of governance infrastructure was higher. However, if in time $t + 1$, the same textile manufacture, wishes to build another small factory in either country A or B, and country B now has the same quality level of governance infrastructure as country A, but has also become a democracy, signaling greater policy stability as well as low transaction costs; ceteris paribus the textile manufacturer should update their beliefs given the new information received from the signals sent and choose to build their new textile factory in country B.

Once again, assuming that firms are rational, profit-maximizers, and that all investors have sufficiently similar priors and access to the same information the following propositions derived from previously discussed theory follow:

Proposition 1: *Adverse signals sent from domestic institutions will lower investors' expectations concerning potential profit-maximization of FDI.*

Proposition 2: *Controlling for other factors, adverse signals will cause firms' to invest directly in developing countries with the greatest degree of policy stability, and institutions that limit transaction costs.*

Proposition 3: *As firms are assumed rational, profit-maximizers and developing countries are sending competing signals based upon their domestic institutions, ceteris*

paribus, firms will invest based upon the signal that indicates the maximum possible profit.

Proposition 4: *Firms update their priors based on any new information sent to them by any institutional changes that may take place within developing states.*

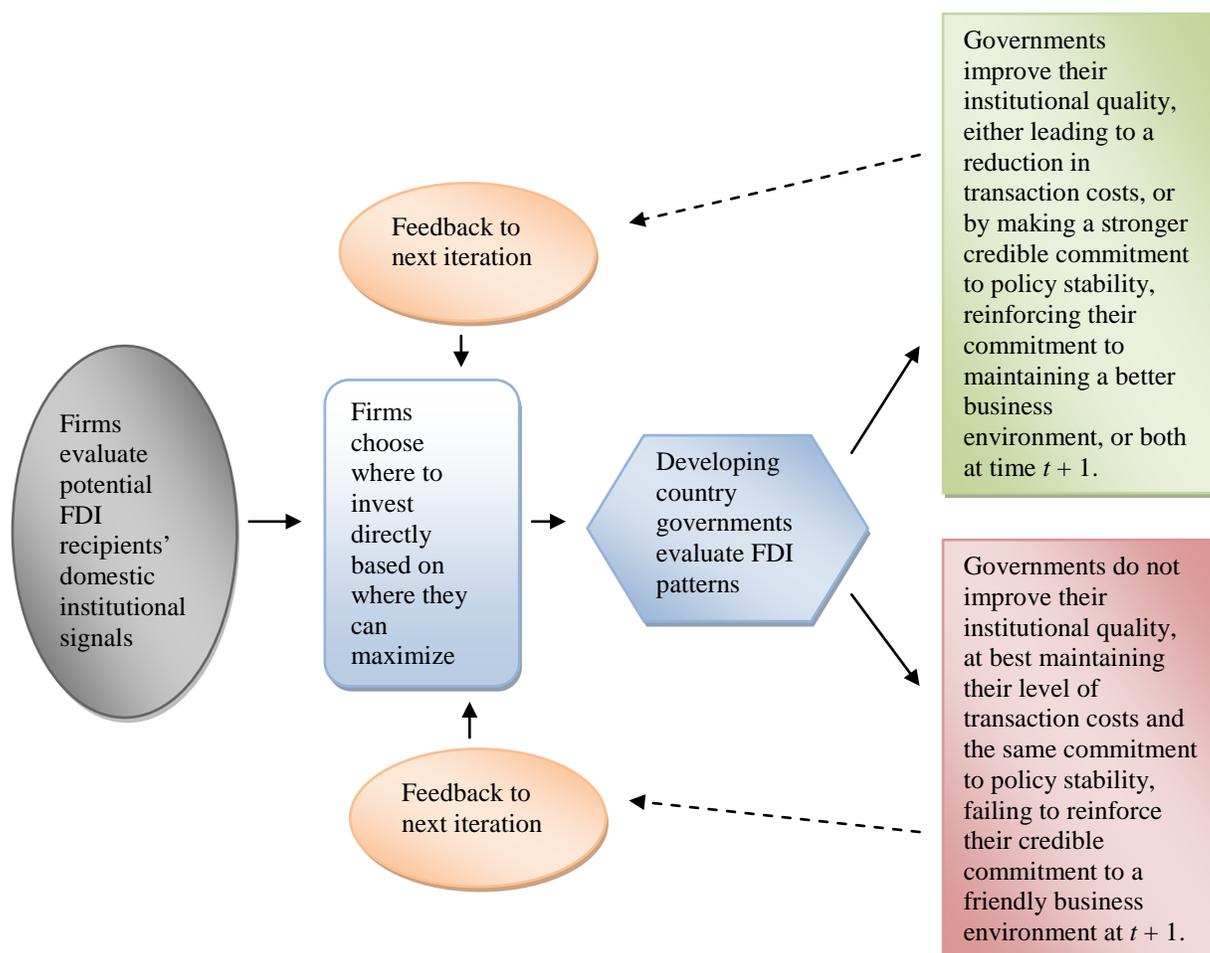


Figure 4.1: *A causal model of the relationship between firms' decision to invest and developing states' domestic institutions.*

Building off these propositions, I am able to construct a causal model of firms' decision to invest in developing countries.⁷ Above, figure 1 depicts the relationship between the domestic institutions that developing countries possess and a firm's decision where to invest. At the far left firms observe the signals sent to them concerning the quality and type of domestic institutions a developing state has. Based upon this information, firms choose where to invest directly based upon profit-maximization calculations. On the right side of the figure, developing countries, which are competing for a limited pool of potential FDI, evaluate patterns of investment in an attempt to make themselves as attractive as possible to future investment. Either a government that desires to attract FDI chooses to modify their domestic institutions in order to reduce transaction costs and provide a credible commitment to policy stability and a friendly business environment, or they do not change their institutions. This interaction occurs repeatedly as firms continually calculate the best way to maximize profit, while governments consider the patterns of FDI around them when deciding whether to institute institutional change.

What remains is to test the expectations that I have outlined throughout this paper. The previously outlined expectations concerning the types of signals differing domestic institutions are sending, how these signals affect firms' decision-making on where to invest, in conjunction with propositions one through four, and the derived cause model in figure 1, lead me to the following hypotheses:

⁷ The model in Figure 1, owes a great deal to the causal model of the relationship of international financial markets and national governments developed by Mosley (2000; 2003).

H1a: As a developing state improves its quality level of governance infrastructure, thereby increasing the strength of the signal indicating to potential investors that the amount of transaction costs they face is reduced, the state in question should receive increased FDI inflows.

H1b: However, as previous FDI inflows into a state are the strongest signal concerning the potential profitability in said state, I expect that once previous FDI inflows reach high enough thresholds, the signal from governance infrastructure will be subsumed.

H2a: As a developing state increases its number of veto players, thereby increasing the strength of the signal indicating to potential investors that the policy stability within the given country is increased, that state in question should receive increased FDI inflows.

H2b: However, as previous FDI inflows a strong signal of potential profitability and a friendly business environment, the effect that a states varying credible commitment to policy stability may be directly conditional on the amount of change in previous FDI inflows.

H3a: Regardless, of the direction in which regime type may affect FDI inflows into a developing country, this effect will only be evident if the institutions representing governance infrastructure and veto-players are not accounted for.

H3b: Moreover, as previous FDI inflows into a state are the strongest signal concerning the potential profitability in said state, I expect that that once previous FDI inflows reach a high enough threshold, the signal sent due to regime type, if present, will be subsumed.

Observation and Measurement

An ordinary least squares regression will be used to test the aforementioned hypotheses. It is important to note that country fixed-effects are not being used in the following models as the key independent variables of interest are very slow moving and country fixed-effects are known to be very inaccurate in estimating the effects of slow moving variables (Beck and Katz 2001; Wawro 2008). In order to get the most accurate standard errors, Arelleno (1987) robust standard errors clustered on country are used. In keeping with theory and previous research, a simple econometric model of FDI inflows

into developing countries will first be specified. A series of additional models will follow, adding the key independent variables of interest, governance infrastructure, veto players, and regime type. In order to test the secondary or (b) hypotheses, I include an interaction of each of the key independent variables of interest with the change in FDI inflows. This should allow me to test not only whether my expectation concerning the signals being sent are correct, but also whether or not these signals are subsumed once previous FDI inflows reaches high enough thresholds.

The data are pooled cross-sectional time-series with the unit of analysis being the developing country year. This analysis covers the years 1996, 1998, 2000, and 2002 – 2007. The missing years are due to the limited data availability of the World Banks “Worldwide Governance Indicators” dataset that is used to construct the key independent variable governance infrastructure.⁸ To ensure proper temporal ordering, all independent variables are lagged by one observational period. The phrase “one observational period” is used due to the missing years of data just discussed.⁹ Because I am specifically interested in the effects of these institutional signals on developing countries, the sample is restricted to non-OECD countries with a population over 1 million as these countries have the possibility to receive FDI.¹⁰

⁸ As an additional test, I filled in the missing years by using the average of the indicator scores, and ran supplemental models with all years from 1996 to 2007. The results from these models were comparable to the ones presented later in the paper.

⁹ Lagging the independent variables also helps to account for endogeneity. Data limitations do not allow me to implement more lags to help account for the possibility of endogeneity. While endogeneity should not be taken lightly, I believe that following the literature and lagging the independent variables by one-period will allow me to determine if the proposed relationship that I hypothesize exists.

¹⁰ Restricting the sample to countries with a population over 1 million is customary within the literature and helps avoid small country bias.

Dependent Variable

As I am interested in how the different signals sent from a developing countries domestic institutions affect firms' decision where to directly invest, the dependent variable is the natural log of net FDI inflows in billions of current US dollars into developing country i at time t , and is taken from the World Bank's *World Development Indicators* 2008. The natural log of net FDI inflows is used to minimize extreme values and is commonly used in empirical research on the determinants of FDI inflows. It is important to note that results of the key independent variables of interest are insensitive to different specifications of the dependent variable. These specifications include FDI as a percentage of GDP, FDI per capita, and the non-logged dependent variable. Due to possible divestment, net FDI inflows into a country can be negative. Because the dependent variable can take on negative values, I follow Busse and Hefeker (2007) and transform the variable using the following equation: $y = \ln(x + \sqrt{x^2 + 1})$. As the authors point out, by following this procedure I am able to keep the sign of the dependent variable, which means divestments will still be negative after the transformation. This is important, because a measure of net FDI inflows has a theoretically meaningful zero-point.

Key Independent Variables of Interest (GI, Veto players, and Regime Type)

I define governance infrastructure as the core institutions that facilitate government competency and economic efficiency. Governance infrastructure is comprised of the institutions that determine the quality of states' government effectiveness, bureaucratic efficiency, regulatory quality, rule of law, and control of

corruption. These individual indicators are from the World Bank's Worldwide Governance Indicators (2008); however, as outlined in chapter 2, I combine them in a theoretically consistent manner in order to get a single measure of the quality level of a state's governance infrastructure. Theoretically, governance infrastructure runs from -2.5 to 2.5; however, for the sake of comparison to the other institutional variables, it is rescaled to run from 0 to 20. This is not problematic as the original zero point is not meaningful.

Veto players are argued to make policy more stable and reduce the ability of leaders to enact sweeping policy changes that may harm firms. Firms should prefer stability and the knowledge that it is unlikely policies will be drastically altered after they have chosen to and enter a particular market (Keefer and Stasavage 2003; Tsebelis 2002; Jensen 2008). The measure of veto players used, was developed by Beck et al. (2001) and is the number of lawmaking institutions or political parties in government coalitions that can block a new proposal from becoming law.¹¹ The more veto players that a country possesses the stronger the signal of their policy stability they will send. This is an ordinal variable with a minimum of 1 and a maximum in this dataset of 18.

Institutional democracy is operationalized in the following manner. The Polity IV dataset is used to measure the institutionalized democracy level of the states and is a measure of the overall polity level of state from completely autocratic to completely democratic (Marshall and Jaggers 2002). This scale runs from -10 to +10, with -10 being completely autocratic and +10 being completely democratic. For the sake of comparison

¹¹ Data are from the World Bank's *Database of Political Indicators* (2007).

with the other institutional variables of interest, I linearly rescale the regime type scale to run from 0 to 20, with 0 being completely autocratic and 20 being completely democratic. Given the overall lack of clarity in different signals emanating from regime type in the extant theory concerning regime type's effect on FDI, I have no particular expectations on regime type's effect; however, regime type should have a significant effect on FDI inflows.

To account for the hypothesized, strongest signal, concerning a state's investment climate and potential profitability, I include a measure of a state's change in previous FDI inflows. This measure is in billions of current U.S. dollars and is once again logged by same equation used to transform the dependent variable in order to account for divestment and keep the meaning natural zero-point.

In order to test my hypotheses regarding the strength of the individual signals just discussed I create interaction terms comprised of the change in previous FDI inflows interacted with governance infrastructure, veto players, and regime type, respectively.

Independent Variables

The rest of the independent variables included in the model are all considered domestic economic and political determinants of FDI inflows.¹² Included in the model is the size of the economic market. As is customary in the literature, this is represented by the natural log of the population of the country, which helps to deal with its skewed distribution. Larger markets are expected to attract more foreign direct investment as they have a larger opportunity for future returns and growth (Oneal 1994). I expect market

¹² All of the following data, unless otherwise specified, was obtained from the World Banks ("World Development Indicators" 2008).

size to be positive and significant in terms of increasing FDI inflows. Additionally, the overall economic openness of the country should lead to an increase in FDI inflows. Openness is measured as total trade divided by the GDP of the country.

Economic growth is a common control variable as profit-maximizing investors are likely to invest in faster growing areas of the world. However, because FDI is a more long-term investment, the changes in growth over short periods would be expected to have less of an effect than growth fluctuations would have on portfolio investment. Economic growth is measured as percent change in GDP. Additionally, another important control is government spending. As Jensen (2006) points out, if the “race to the bottom” hypothesis is accurate, increases in spending should lead to a decrease in FDI, because higher taxation goes along with higher spending, and firms are attracted to countries that do not tax them heavily. Government spending is measured as general government consumption as a percentage of GDP.

Currency volatility will discourage investors if they are risk-averse and assume the volatility to be a direct or indirect cost, meaning more volatility should lead to less investment (Kogut and Chang 1996). I measure exchange-rate volatility as the mean absolute deviation from the mean of the official exchange rate of local currency units per US dollar (Li and Resnick 2003). Following this logic, inflation is also expected to be a deterrent to longer-term investment as the value of the investment declines as inflation increases.

As my theory and models are intended to parse out the relationship between firms’ decision to invest and differing signals sent by states’ domestic institutions, other

domestic variables must be accounted for. Therefore, following previous research I include controls for regime durability and political stability (Henisz 2000; Jensen and McGillivray 2005). These variables measure the stability of a regime as well as the overall country, respectively. All things being equal, economic actors prefer stability. States with more durable regimes and less political violence should expect to attract greater investment. Following Li and Resnick (2003) regime durability is measured as the number of years since the last regime transition, which has been defined as a three-point or greater shift in the main PolityIV index.

Political stability is measured using measure of civil war based upon (Gleditsch et al. 2002). Jakobsen and de Soya (2006 pg. 392) argue that “civil war measured at a low threshold of violence indicates that there is physical threat to property and that government's capacity to maintain law and order has failed. In addition, this measure is based on news reports of violence, which are likely to bring bad publicity that further affects the location decisions of MNCs.” The variable takes values of 0 and 1; 0 if there was no internal conflict and 1 if there was a record of internal conflict that resulted in over 25 deaths during a given year.¹³

When conducting a study concerning the inflows of FDI into developing countries, a measure of natural resources must necessarily be included. Prevalence of natural resources, along with the size of states' markets are considered two of the most fundamental reasons a MNC chooses to invest in a country. Following Sach and Warner

¹³ The original formulation of the variable is 0 for no conflict, 1 for 25 to 999 deaths in a year, and 2 for over 1000 deaths in a year. The results are the same for this specification or the dummy variable that I include in the presented models. Data are from the UCDP/PRIO Armed Conflict Dataset (Harbom et al. 2009) V4.

(1995) and Jensen (2006) natural resources within a country are measured as a state's primary-exports as a percentage of GDP.

Finally, I include dummy variables for the regions classified by the correlates of war database. Controlling for regional effects is important to help account for the differences in institutional quality across regions due to colonial patterns as well as other systematic regional differences (Acemoglu et al. 2001; Busse and Hefeker 2007).

Analysis and Results

In Table 4.1, I present six successive models. The first model is a simple econometric model of FDI inflows into developing countries with the basic independent variables included. The second model includes the measure of the signal sent by the states' governance infrastructure, while the third model replaces this signal with the one sent by number of veto players a state has, the fourth model replaces this signal with one sent by states' regime type, and the fifth model replaces this signal with the one sent by the change in states' previous FDI inflows. Finally, the sixth model includes all the signals in one complete model, in order to determine which signal appears to be the most important to potential investors. Table 4.2 will be presented after a discussion of the results from the models in table 1 and their implications, and will present the models with the interacting signals.

Model 1, in table 4.1 is purely the econometric specification of the proposed model, and is presented to demonstrate that the basic model specification is correct. Most of the basic control variables are signed correctly and the key economic variables, market size, economic development level, and economic openness are highly significant. The

only surprising result is that natural resources as a percentage of GDP is negative and significant, which means that as natural resource exportation becomes a larger part of a developing state's GDP, the less FDI they are receiving during this period. This finding goes against the extant literature in this area; however, if one considers the period examined in this study, this result is most likely because most FDI, even into developing countries, is based in higher technology areas. Importantly, all these variables maintain their direction and similar significance levels as various "signals" are added or subtracted, in an attempt to unravel the aforementioned different signals effects, all of which provides a degree of face validity to the specification of the models.

Moving on to model 2, the signal sent by the quality of state's governance infrastructure is added to the based model. We see that as a state increases the strength of the signal indicating that holding all things equal, transaction costs within their state will be limited, they can expect to receive greater inflows of FDI. In model 3, the signal sent by the number of veto players a state contains replaces the previous signal. While positive, this signal is not statistically significant, indicating that a credible commitment to policy stability, holding everything else constant, does not appear to affect firms' decision where to invest. In model 4, the signal sent by a state's regime type, which should signal both a state's credible commitment to policy stability and its ability to reduce transaction costs. As with the veto players signal, the signal sent by regime type is positive, but far from statistically significant.

Table 4.1: *The relationship between the signals sent by developing countries and FDI inflows, (years – 1996, 1998, 2000, 2002 – 2007).*

Explanatory Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Governance Infrastructure (Transaction Costs)	--	0.244** (0.0869)	--	--	--	0.237** (0.0742)
Veto Players (Policy Stability)	--	--	0.121 (0.101)	--	--	0.0800 (0.0974)
Regime Type (Transaction Costs and Policy Stability)	--	--	--	0.0433 (0.0350)	--	-0.000868 (0.0278)
Change in FDI inflows (Profitability)	--	--	--	--	0.533*** (0.0360)	0.534*** (0.0346)
Regime Durability	-0.0204 (0.0183)	-0.0243 (0.0182)	-0.0219 (0.0185)	-0.0188 (0.0175)	-0.0163 (0.0181)	-0.0208 (0.0174)
Political Instability	0.322 (0.522)	0.421 (0.526)	0.208 (0.528)	0.235 (0.529)	0.174 (0.558)	0.174 (0.566)
Natural Resources	-0.0455* (0.0215)	-0.0287 (0.0188)	-0.0454* (0.0214)	-0.0400 (0.0205)	-0.0455* (0.0206)	-0.0293 (0.0175)
Economic Openness	1.020** (0.339)	0.917** (0.311)	0.988** (0.341)	1.012** (0.336)	0.991** (0.343)	0.861** (0.322)
Market Size	0.915*** (0.144)	0.956*** (0.141)	0.872*** (0.157)	0.929*** (0.145)	0.904*** (0.140)	0.912*** (0.151)
Economic Development Level	0.997*** (0.163)	0.607** (0.225)	0.960*** (0.168)	0.947*** (0.177)	0.958*** (0.151)	0.551** (0.209)
Economic Growth	0.0230 (0.0833)	0.0203 (0.0827)	0.0299 (0.0860)	0.0298 (0.0823)	0.0339 (0.0654)	0.0374 (0.0682)
Inflation	0.00139 (0.00185)	0.00229 (0.00183)	0.00134 (0.00190)	0.00178 (0.00192)	0.000369 (0.00152)	0.00126 (0.00154)
Government Spending	-0.0654 (0.0392)	-0.0682 (0.0384)	-0.0578 (0.0391)	-0.0673 (0.0396)	-0.0469 (0.0371)	-0.0431 (0.0368)
Exchange Rate Volatility	-0.000956 (0.000615)	-0.000896 (0.000612)	-0.000907 (0.000600)	-0.000926 (0.000596)	-0.000584 (0.000303)	-0.000487 (0.000279)
Constant	-18.94*** (3.035)	-18.75*** (3.014)	-18.31*** (3.205)	-19.40*** (3.050)	-18.89*** (3.025)	-18.21*** (3.181)
N	661	661	648	661	661	648
R ²	0.313	0.328	0.315	0.0318	0.557	0.572

OLS estimates with Arellano (1987) robust (clustered) standard errors in parentheses. *** = $p < .001$, ** = $p < .01$, * = $p < .05$. All regional effects were suppressed. Data range is 1996, 1998, 2000, 2002-2007 and subject to availability. All parameters were lagged by one period to help account for causality.

In model 5, the signal sent concerning the potential profitability of investing in a particular developing country replaces the previous signals. Unsurprisingly, the effect of change in previous FDI inflows is highly significant at positive, indicating that it is the strongest signal sent by a state looking to attract invest, just as the extant literature and conventional wisdom argues. As a state has a greater increase in previous FDI inflows, it signals a greater chance at profitability to potential investors, profitability that depends on low transaction costs, and credible commitment policy stability, leading to the maintenance of a business friendly environment. In model 6, all of the signals discussed are included in the same model, and the results from models 2 through 5 persist. The signals sent by the quality of state's governance infrastructure and by the change in its previous FDI inflows are again significant and positive, while the signals sent by a state's number of veto players and regime type, and while positive are not remotely significant. The results from these preliminary models seem to indicate that potential investors are focusing on the amount of transaction costs they are too face when investing in a particular country, and unsurprisingly, about the potential profitability as indicated by previous investment.

However, as mentioned earlier, these are preliminary models, and in order to test the full range of my expectations, models including interactions of the discussed signals must be now be examined, and are presented in table 4.2, below. At first glance of table 4.2, it appears as if there are no interaction effects between the strongest signal sent by developing countries, previous FDI inflows, as argued theoretically and demonstrated in the models in table 1, and other signals sent by states' domestic institutions, as none of

Table 4. 2: *The relationship between interacted signals sent by developing countries and FDI inflows, (years – 1996, 1998, 2000, 2002 – 2007).*

Explanatory Variables	Model 1	Model 2	Model 3
Governance Infrastructure (Transaction Costs)	0.234** (0.0750)	0.237** (0.0741)	0.238** (0.0737)
Governance Infrastructure * Change in FDI inflows	0.00972 (0.0174)	--	--
Veto Players (Policy Stability)	0.0792 (0.0966)	0.0943 (0.0998)	0.0783 (0.0955)
Veto Players * Change in FDI inflows	--	-0.0389 (0.0273)	--
Regime Type (Transaction Costs and Policy Stability)	-0.000708 (0.0279)	-0.00326 (0.0283)	-0.000192 (0.0277)
Regime Type * Change in FDI inflows	--	--	-0.00772 (0.00567)
Change in FDI inflows (Profitability)	0.454** (0.167)	0.611*** (0.0572)	0.608*** (0.0723)
Regime Durability	-0.0207 (0.0174)	-0.0208 (0.0174)	-0.0209 (0.0173)
Political Instability	0.178 (0.564)	0.171 (0.568)	0.178 (0.562)
Natural Resources	-0.0295 (0.0175)	-0.0296 (0.0174)	-0.0295 (0.0174)
Economic Openness	0.855* (0.326)	0.863** (0.323)	0.870** (0.320)
Market Size	0.910*** (0.152)	0.913*** (0.151)	0.917*** (0.150)
Economic Development Level	0.556** (0.210)	0.557** (0.208)	0.551** (0.208)
Economic Growth	0.0371 (0.0684)	0.0393 (0.0675)	0.0389 (0.0669)
Inflation	0.00129 (0.00158)	0.00124 (0.00154)	0.00121 (0.00154)
Government Spending	-0.0434 (0.0368)	-0.0437 (0.0367)	-0.0430 (0.0368)
Exchange Rate Volatility	-0.000490 (0.000283)	-0.000464 (0.000258)	-0.000459 (0.000249)
Constant	-18.17*** (3.198)	-18.27*** (3.170)	-18.35*** (3.130)
N	648	648	648
R ²	0.572	0.574	0.575

OLS estimates with Arellano (1987) robust (clustered) standard errors in parentheses. *** = $p < .001$, ** = $p < .01$, * = $p < .05$. All regional effects were suppressed. Data range is 1996, 1998, 2000, 2002-2007 and subject to availability. All parameters were lagged by one period to help account for causality.

the interaction terms are close to significant. However, as is well known, in order to truly understand the effect of a constituent term x_1 on y , x_1 must be examined across the range of variable it is conditional on, x_2 , which also includes figuring the standard error across the range of x_2 . In this case, I argue that as previous FDI inflows is clearly the strongest signal available to potential investors, that the effectiveness of the other signals are conditional on the change in previous FDI inflows a country. After examining the conditional coefficients of each signal sent by a state's differing domestic institutions across the range of previous FDI inflows, the results coincide perfectly with basic models presented in table 1. By this, I mean that the signals sent by a developing countries number of veto players and regime type are once again not significant predictors of FDI inflows at any point along the range of the change in previous FDI inflows. It is safe to say that within the population of countries and during the period examined here, the signals sent by a state's veto players and regime type are not of interest to potential investors, given the other information available to them in the models.¹⁴

However, the interaction of the signal sent by governance infrastructure and previous FDI is significant and positive across a certain range of previous FDI inflows. In order to demonstrate this relationship, figure 3 presents a graph of the slope of governance infrastructure conditional on change in previous FDI inflows. Even though the interaction term in model 6 was insignificant, figure 3 demonstrates that it is actually significant for the range of -3.16 to 8.80 in the change in previous FDI inflows. Meaning

¹⁴ While veto players and regime type are not significant predictors in the studies presented in this paper, this may be because they have not been examined in terms of political federalism. Jensen (2006) presents this argument and demonstrates that it's the type of veto players that matter, in this case the veto players derived from a politically federal system. Exploring the varying types of signals within the concepts of veto players and regime type and their effect on FDI inflows will be saved for future research.

that throughout this range in change of previous FDI inflows, a developing state that improves the quality of their governance infrastructure, thereby strengthening the sent to potential investors concerning the reduction of transaction costs should expect to greater FDI inflows. The signal sent by the quality of state's governance infrastructure appears to only be irrelevant to potential investors if a state experienced a divestment that is so great as overwhelm any possible positive signals that may exist, or that a states previous receipt of investment was so great, that it almost assuredly guarantees good probability of

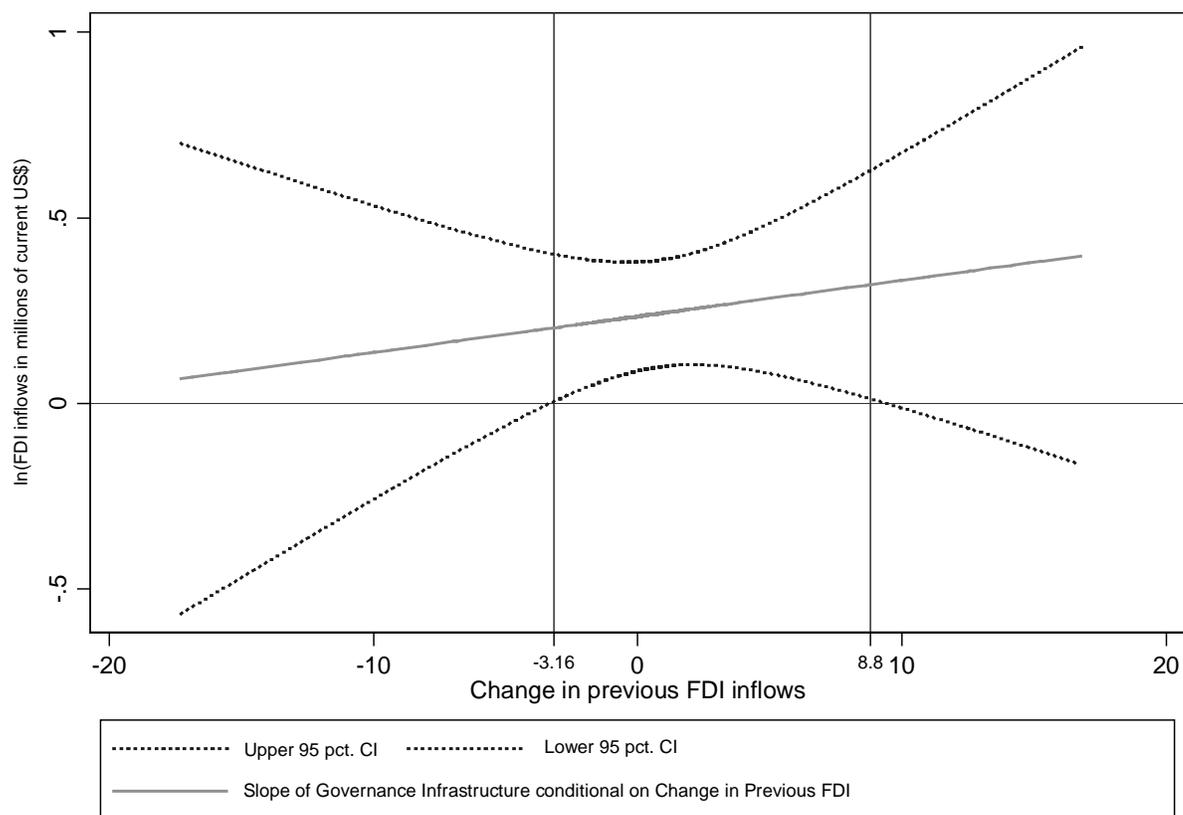


Figure 4.2: *The effect of governance infrastructure on FDI inflows, conditional on change in previous FDI inflows in Developing Countries, (years – 1996, 1998, 2000, 2002 – 2007)*

profit, meaning transaction costs should be greatly limited, thereby subsuming the signal sent by governance infrastructure.

While it is clear that the signal sent by the quality level of a state's governance infrastructure is an significant determinant of where firms invest, it is important to examine the substantive impact as well, not just the statistical one. As the dependent variable is expressed as the logarithm of FDI (in millions of dollars) and the signal sent by states' governance infrastructure appears in its natural metric, it can be interpreted directly as a proportional change in FDI per unit change in governance infrastructure. If a state were to experience a change in previous FDI inflows of -3.16, and they still improved their governance infrastructure by one-unit, they could expect to see an approximate 20% increase in FDI inflows.¹⁵ If a state's change in previous FDI inflows is 0, and they improve their governance infrastructure by one-unit, they could expect to see an approximate 23% increase in FDI inflows. Finally, if a state were to experience a change in previous FDI inflows of 8.80, and they improved the quality of their governance infrastructure by one-unit, they could expect to see an approximate 32% increase in FDI inflows.¹⁶

The preceding results indicate that institutions that comprise governance infrastructure do send a signal concerning the amount of transaction costs a firm is likely to face if it invests in a given country. As previous FDI inflows is argued to be the strongest signal, containing the most information about a country's investment climate,

¹⁵ This is figured in the following manner, $(-3.16 * \beta(\text{interaction})) + \beta(\text{governance infrastructure}) = \text{percent change in FDI inflows}$.

¹⁶ See footnote 24, and replace -3.16 with 8.80 to see how this percentage was arrived at.

the fact that the effect that governance infrastructure has in determining FDI inflows is conditional on this lends much needed empirical support to the implicit arguments concerning institutions and signaling

Discussion

Examining models 1 through 9, allows me to assess the presented hypotheses. Clearly, only hypotheses 1a and 1b were correct, as during the period examined, the potential signals sent by states' regime type or number of veto players do not affect potential investors decisions-making. However, as expected by the literature as well as economic policy makers, previous FDI inflows proved to be the strongest signal concerning a state's potential profitability, and therefore, the strongest determinant of FDI inflows in developing countries. Most importantly, the results from the analysis support previously untested, theoretically implicit, assumptions concerning the institutions of governance infrastructure and the signals they send to potential investors.

The causal model presented in figure 1 makes no claims concerning the time between when developing states assess the FDI patterns around them, make or do not make changes to their domestic institutional environment, and the time in which it takes potential investing firms to reassess available information. However, implementing the different lag structures in the econometric model that would be needed to sort out this relationship is difficult, if not statistically impossible given the limited data currently available. In order to move forward our understanding of firms' decisions to invest, further data must be collected and the time-series expanded. Moreover, additional case studies or interviews with investing firms could also be used to validate statistical results.

While more work needs to be done within the realm of understanding the signaling arguments that were presented and tested here, the important ramifications from this study are as follows: clearly, domestic institutions do, as implicitly theorized in prior research, appear to send signals to potential investors; beyond the change in previous FDI inflows into a particular country, the institutions of governance infrastructure send the most important signal/amount of information to investors. The fact that size of the negative or positive signal sent by change in previous FDI inflows into a country and that only the pure transaction cost signal sent by the quality of a state's governance infrastructure appear to affect investor's decision-making, leads to the conclusion that rational firms are motivated to the greatest extent by the potential profitability of investment, and these two signals clearly provide the most information concerning this desire.

Another future avenue of potential research involves the aggregation of the informational signals discussed throughout this paper. As argued in this paper, and "hinted" at in the title, I argue that the informational signals sent by a state's varying domestic institutions "compete" with each other, in terms of how much the matter, in terms of where and how much a firm invests. However, this assumes that once a firm has received a strong enough signal/large enough amount of information from either change in previous FDI inflows, the quality of a state's governance infrastructure, or both, they ignore all other information sent by the state's remaining domestic institutions. While this may be possible, it is unlikely that rational actors, as I claim firms are, would ignore any available information concerning a potential investment target. Therefore, future

research needs to examine the very real possibility that while some signals may be more important in firms' decision-making process, they actually aggregate all available signals, giving more weight to signals that provide more important information concerning potential profitability of a future investment, as indicated in this paper, would be expected to be change in previous FDI inflows and the quality of states' governance infrastructure. The research presented in this chapter is a first step towards truly understanding the causal mechanisms that are at work between domestic institutions and foreign direct investment inflows into developing countries, and not just making ad hoc or implicit theoretical assumptions to justify strong statistical relationships.

Chapter 5: Are All Public Goods Created Equally? Governance Infrastructure, Intermediary Public Goods and FDI in Developing Countries

Adam Smith (1909) posited that institutions greatly affect the economic exchange that takes place between nations, and Douglass North (1990) continued this sentiment by arguing that institutions matter. Their work, along with that of many other scholars', has consistently demonstrated that domestic institutions do indeed matter, not only affecting interstate economic exchange but also as determinants of economic outcomes within states (Scully 1988; Barro 1991; Knack and Keefer 1995; Kaufmann et al. 1999b; Globerman and Shapiro 2003; Jensen 2003; Li and Resnick 2003; Ahlquist 2006; Asiedu 2006; Jakobsen and de Soya 2006; Rodrik 2007).¹ Although much of the research has focused on the effect of domestic institutions on economic growth and interstate trade, we also know that a state's institutional framework significantly affects firms' investment decisions. Unfortunately, there is considerably less consensus concerning the causal mechanism that connects the quality of a state's institutions to a firm's decision to invest in a particular country.

Developing states seeking to attract FDI are encouraged to improve the quality of their domestic institutions, as this sends a signal to firms regarding the state's commitment to a pro-business environment and the reduction of transaction costs. However, states that have similar institutional quality are sending effectively the same

¹ This is brief list of citations demonstrating the relationship between domestic institutions and a state's economic outcome. For a more comprehensive review and discussion see Engerman and Sokoloff (2008), Haggard, MacIntyre, and Tiede (2008), and Gourevitch (2008).

signal; therefore, signaling alone does not account for differences in investment patterns that are attributed to the institutional quality of developing countries. Rather, this study suggests that developing countries that have a higher quality governance infrastructure are able to produce a higher provision and quality of intermediary public goods, and therefore attract a higher quantity of foreign direct investment inflows. I define *governance infrastructure* as the core institutions within a state that facilitate government competency and economic efficiency.² While *intermediary public goods* include such public goods as education, health, and technical skills, as well as the quality and availability of roads, electricity, airports, railroads and waterways. These types of public goods are referred to as intermediary because they are the causal mechanism that *connects* the quality of a state's governance infrastructure to the amount of FDI it receives.³ The aforementioned hypothesis is not merely a restatement of previous positive results, as it fills a gap in the causal chain between domestic institutional quality and a MNC's decision to invest.

The research reported here also examines the relationship between democracy and FDI inflows. Scholars argue that aspects of democracies such as federal institutions, civil liberties and the rule of law lead democracies to receive greater inflows by signaling their commitment to a favorable economic environment (Busse and Hefeker 2007; Jensen and McGillivray 2005; Jensen 2006; Jakobsen and de Soya 2006). I argue that the institutions of governance infrastructure, such as the rule of law, are separate from those

² The term governance infrastructure was first used by Globerman and Shapiro (2003); however, it is refined it theoretically and empirically in this research.

³ Another reason I refer to the aforementioned public goods as intermediary is that many scholars view the institutions that comprise governance infrastructure as public goods themselves, because they are non-rival and non-excludable, making them primary public goods in my proposed causal pathway.

of democracy, and that a state's regime type has no direct impact on its quality and provision of intermediary public goods. For these reasons, I do not expect democracy to be a factor in determining FDI inflows into a developing country.

In the following sections, I shall briefly review previous empirical work relating governance infrastructure and domestic institutional quality to a state's economic outcomes, in particular foreign direct investment. This is followed by the development of the main theoretical argument that motivates this study and a discussion of the research design. The empirical domain of this research consists of developing countries from 1996 to 2007. This focus is due to the disparate distribution of FDI inflows throughout the world and is highlighted by the fact that since 2000 approximately 75 percent of FDI inflows have been directed to OECD countries.⁴ Due to the heterogeneous distribution of foreign direct investment and its acknowledged benefits, the need to more fully understand the aforementioned causal pathways from institutional quality to the investor's decision has never been more important for developing countries. Finally, I present empirical results evaluating whether intermediary public goods are a causal link between governance infrastructure and FDI inflows and conclude with a discussion of the significance of these findings.

Governance Infrastructure and Economic Outcomes

It was not until the 1990s that governance was defined as a single concept. Governance was and is constituted of various separate intrastate institutions. These institutions include public policy, type and efficiency of the bureaucracy, civil rights,

⁴The data are from the World Bank ("World Development Indicators" 2008).

property rights, contract enforcement and the rule of law. While there is still no consensus on the definition of governance, the World Bank has a working definition that is well known. The World Bank now defines governance as “the traditions and institutions by which authority in a country is exercised” (Kaufmann et al. 1999a; 1999c pg. 1). This definition is rather broad and unwieldy, as well as too close to overlapping existing definitions of democracy to be of much use other than as a jumping off point for further theoretical and conceptual refinement, most of which takes place within the research design section of this paper.⁵ I redefine and narrow governance infrastructure to represent the core institutions within a state that facilitate government competency and economic efficiency. More specifically, this conceptualization includes institutions that account for bureaucratic efficiency, good government regulation, private property protection and control of corruption.

It has been repeatedly demonstrated that societies, which control corruption, subscribe to the rule of law and the market allocation of resources grow much faster than those that limit or exclude these institutions (North 1990; Barro 1991; Knack and Keefer 1995; Scully 1998). More recent studies have also shown that institutional quality influences foreign investment inflows (Wei 2000; Globerman and Shapiro 2003). Wei shows that states that have higher levels of corruption receive less FDI inflows from OECD countries than states with institutions that control corruption. Globerman and

⁵ Other definitions include one by the Institute on Governance, which is, in this author's opinion even vaguer and less useful. Additionally, Li and Filer (2007) created the term and concept of governance environment, which includes a similar part of governance infrastructure but also includes cultural aspects. I argue this is too broad of a concept to be able to parse out what is actually happening in the studies in which it is used. Unfortunately, directly testing this measure against my conceptualization is beyond the scope of this current paper and would bring to the forefront the debate of culture creating institutions or vice versa which is most definitely beyond this paper's purview.

Shapiro (2003) demonstrate that countries are more likely to receive FDI from the United States if they have a higher quality governance infrastructure and the amount of investment these states receive is directly related to the quality level of their governance infrastructure.⁶ These results are supported by the more recent studies, which use varying measures of domestic institutions and/or institutional quality (Ahlquist 2006; Asiedu 2006; Busse and Hefeker 2007; Li and Filer 2007; Pajunen 2008).

It is clear that institutional quality has a significant effect on economic outcomes. More importantly for this research, the institutions that comprise governance infrastructure have been repeatedly shown to be important determinants of FDI inflows. However, the primary thing to take note of is that nearly all of the preceding authors have one thing in common: they all either explicitly or implicitly posit that the causal connection between institutional quality and a firm's decision to invest is signaling. North (1990; 1991) argues that it is necessary for a state to develop institutions that support individual communication across time and space. The quality of a state's governance infrastructure signals its credible commitment to an economic environment that is favorable to MNCs, thereby implying that the transaction costs associated with poor institutional environments will be limited.^{7 8} While this theoretically implied causal link is almost certainly present, this "signaling" argument is incomplete because it fails to

⁶ Their measure of governance infrastructure is an index, which is used to overcome the collinearity of indicators, and is not theoretically constructed. Additionally, they used indicators that could easily be construed as measures that are not separable theoretically from democracy.

⁷ It has also been argued that preferential trade agreements, bilateral investment treaties, and tax incentives also signal to MNCs about the favorability of the investment climate and overall market policies (Raff and Srinivasan 1998; Tobin and Rose-Ackerman 2005; Buthe and Milner 2008).

⁸ This institutional transaction cost argument has also been used recently in arguing that firms choose where to trade based upon property rights protecting institutions over the differing institutions of regime type (Souva et al. 2008).

specify where MNCs will invest if two states are sending out comparable signals. Additionally, the institutional signaling argument fails to account for the role that governance infrastructure plays in creating intermediary public goods, which ultimately determine the firm's investment choice. The goal of this research is to theorize and empirically test a new, intuitive, and more readily observable causal mechanism connecting the quality of a state's governance infrastructure to a firm's decision to invest in a particular developing country.

Governance Infrastructure, Intermediary Public Goods, and FDI

In order to develop the causal pathway that connects the quality of a state's governance infrastructure to its quality and provision of intermediary public goods, which more directly affect a firm's decision to invest in a particular developing country, the case of Intel choosing to invest in the small developing state of Costa Rica will be examined. I will then discuss how intermediary public goods are an alternative, yet not mutually exclusive, causal mechanism to signaling. Additionally, I consider how the intermediary public goods explanatory logic not only accounts for established results of governance infrastructure being a determinant of FDI inflows into developing countries but also explains why measures of intermediary public goods used in previous research are inconsistent in their results. Empirical tests of the hypotheses follow the qualitative example and theoretical development.

Intermediary Public Goods and FDI Inflows: Intel and Costa Rica

In 1996, Intel shocked the investing world when they announced that they were going to be placing their newest production facility in Costa Rica. This seemed like a

highly unlikely fit to those in the foreign investor community. Intel's planned investment was valued at over \$300 million. The initial investment was to be a 400,000 square foot plant, employing a workforce of 2,000, that would grow to include four plants and 3,500 employees, culminating in a total investment of \$500 million (MIGA 2006). To demonstrate the magnitude of this investment, in 1995 Costa Rica only attracted \$337 million in foreign direct investment.⁹ Incredibly, Intel's investment was going to double the amount of foreign direct investment Costa Rica was receiving at the time.

What was it about Costa Rica that attracted Intel? Initially, Intel generated a list of potential investment targets that was comprised of twelve Latin American countries, including Costa Rica. Next, Intel narrowed the list to Mexico, Costa Rica, Brazil, and Chile based upon the following broad criteria: economic stability, regime durability, basic human resources, efficient bureaucracy and pro-business environment. Following this, Intel examined aspects of the countries that were of particular importance to them, including past investments, basic infrastructure, and legal transparency. As the four countries were similar enough in these respects, Intel moved on to a much more detailed inspection of the countries' characteristics that were most relevant to their potential investment. In effect, they were looking at the specific locational advantages or particular intermediary public goods that would maximize the profitability of this particular investment. The final stage of Intel's inspection examined whether these countries had sufficient and modern water and electrical resources to meet Intel's production needs, and whether their educational systems provided potential workers with

⁹ From the World Bank ("World Development Indicators" 2008).

the technical skills and capacity for more training that would benefit the production facility and increase Intel's efficiency and profit margin. Moreover, they examined whether the potential workforce's English proficiency was such that production efficiency would be maximized. Having matched the other three countries in the first two stages, Costa Rica excelled in the third stage, leading Intel to choose them as their investment destination (MIGA 2006).

Costa Rica came out ahead in the key areas Intel was looking for in health and educational capacity and skills of the potential workforce, as well as physical infrastructure. By 1994, Costa Rica's literacy rate had risen to 100 percent and their English proficiency, which was fairly high to begin with due to the abundance of English speaking tourists, was improved even more due to the introduction of foreign language instruction as part of primary education (Cordero and Paus 2008). Intel's desire for high quality intermediary public goods impelled them to choose Costa Rica as their investment destination.

Without considering the role that intermediary public goods played in Intel's decision-making, most observers would have picked Costa Rica last of the final four countries if asked where they believed Intel would invest. This is because the other three countries came out ahead of Costa Rica in other key determinants of FDI inflows at the time. Mexico was much closer to Intel's headquarters in California and had a much larger market. Brazil also had a larger market than Costa Rica and was more developed. Chile was also more developed economically than Costa Rica and had slightly higher

quality institutions.¹⁰ This demonstrates that not only were intermediary public goods the deciding factor in Intel's decision, but also that signaling as a causal mechanism between institutional quality and the decision to invest was only part of the story.

If Intel cared only that corruption was limited, the bureaucracy was efficient and stable and that the economic environment was pro-business, both Costa Rica and Chile would have sent a strong signal to Intel that they were credibly committed to these criteria both now and in the future due to the quality level of their governance infrastructure. These states were credibly committed now, because the institutions were in place now and into the future because of the path dependent nature of institutions and the fact that they are very difficult to change quickly or replace (Gilpin 2001 pg. 39-40). As my proposed causal mechanism is not mutually exclusive from signaling, the quality of these states' governance infrastructure most assuredly did send this "signal" to Intel. However, the signal was not sufficient to determine Intel's investment decision. The provision and quality of public goods that were due to governance infrastructure ultimately determined where Intel was going to invest.

Governance Infrastructure and Intermediary Public Goods

The example of why Intel chose to invest in Costa Rica demonstrates the importance of intermediary public goods in determining MNC investment decisions. If the quality level of these types of public goods is integral to the decision-making calculus of MNCs, then understanding why some states, particularly developing ones, have

¹⁰ As measured by the World Bank's Worldwide Governance Indicators (Kaufmann et al. 2008). See figure 1 to see the difference in Costa Rica and Chile's institutional quality. Additionally, Chile's GDP per capita in current US\$ was \$1000.00 greater than Costa Rica's in 1996 according to the World Bank ("World Development Indicators" 2008).

different amounts of these types of public goods is of the utmost importance. What broad characteristic of a state's composition is able to account for the provision and quality of its intermediary public goods without focusing on individual laws and policy decisions? The quality of a state's governance infrastructure is this characteristic, and is an integral determinant of the quality and provision of intermediary public goods within a developing country.

All states, excluding failed states, have a governance infrastructure.¹¹ However, the degree to which the quality of governance infrastructure varies is much greater among developing countries. For the most part, the quality of a state's governance infrastructure would most likely be minimally involved in the decision calculus of MNCs when choosing between members of the OECD in which to invest. This is because good institutional quality or governance infrastructure is required for a state to reach the upper thresholds of wealth (Knack and Keefer 1997). Knack and Keefer go on to conclude that poor countries with deficiencies in human capital and investment may have, as one explanation, poor institutions. Additionally, it has been demonstrated that increases in the quality of a developing state's governance infrastructure lead to lower infant mortality, as well as increases in literacy levels and overall levels of development (Kaufmann et al. 1999b). Based on previous research, the quality of a developing country's governance infrastructure appears to have a direct affect on its intermediary public goods.

¹¹ It could be argued that even failed states have some semblance of a governance infrastructure, whether it is absolutely minimal or even informal.

In sum, if a developing state increases the quality of its institutions that comprise governance infrastructure, it should see an increase in the quality and provision of its intermediary public goods, which, all other things being equal, should lead MNCs to choose to invest in the state in question. Intuitively, it makes sense that if a corrupt government is keeping tax revenue for themselves, the state income is not being spent on intermediary public goods, which ultimately deters investment. If a state's bureaucracy is so inept that it takes years to enact a newly passed law that makes foreign language education mandatory in primary schools, this state's intermediary public goods would clearly lag behind. While these examples are simple, they, along with previous research and Intel's decision to invest in Costa Rica, support my contention that a state's quality level of governance infrastructure is a determinant of its provision and quality of intermediary public goods. I reinforce this argument by presenting a simple bivariate plot of this relationship in Figure 1 below.^{12 13}

It is evident that there is a strong positive relationship between governance infrastructure and intermediary public goods. The solid lines in the graph represent the variables respective means and the dashed lines represent a one standard deviation increase above the respective means. Using a one standard deviation increase as a measure of quality, it is clear that a developing country cannot have high-quality

¹² The intermediary public goods measure here is constructed from the education and health indexes from the Human Development Index and runs theoretically from 0 to 1 ("Human Development Report" 2008). A measure of intermediary public goods represented by physical infrastructure is included in the empirical section of the paper. While the scatter plot of this measure and governance infrastructure is similar to figure 1, I do not include it due to space limitations. The governance infrastructure measure is derived the governance quality indicators from the World Bank and runs theoretically from 0 to 5 (Kaufmann et al. 2008). For further discussion of the construction and validity of these measures, see the research design section of the paper.

¹³ Scatter plots for the remaining years of the analysis look approximately the same for the given variables.

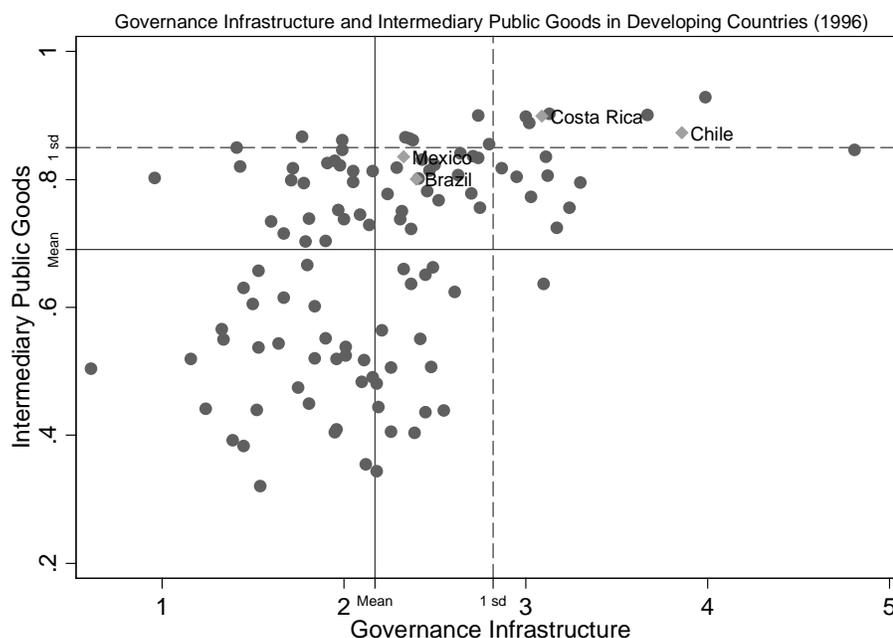


Figure 5.1: A bivariate plot of intermediary public goods and governance infrastructure

intermediary public goods without having a high-quality governance infrastructure. Figure 1 also empirically demonstrates the relationship between governance infrastructure and intermediary public goods for the four countries Intel had chosen as finalists for their investment in 1996.¹⁴ This shows that while Chile had a higher level of governance infrastructure; however, Costa Rica was also well beyond a one standard deviation increase above the mean. This demonstrates that both countries should have been sending a strong signal regarding their credible commitment to a pro-business environment, with Chile's signal being slightly stronger. However, Costa Rica clearly had the highest level of intermediary public goods, which reinforces the reasons Intel

¹⁴ As Mexico was one of Intel's four "finalists" countries it is included in this figure; however, as it is a member of the OECD it is not included in the analyses that follow. If Mexico is included in the statistical analyses, the results are not significantly different.

chose to invest in Costa Rica. If signaling was the only causal mechanism that connected domestic institutional quality to a firm's decision to invest, Intel would have most likely chosen Chile.

Figure 1 helps to demonstrate why the signaling argument is incomplete as well as why Intel chose Costa Rica. However, does greater provision and quality of intermediary public goods lead to greater FDI inflows in other developing countries? If there were little to no relationship between intermediary public goods and FDI inflows, it would give me pause concerning the validity of the causal chain and its proposed effect. Figure 2 plots FDI inflows in billions of constant US dollars on the y-axis and intermediary public goods on the x-axis for developing countries in 1996.¹⁵

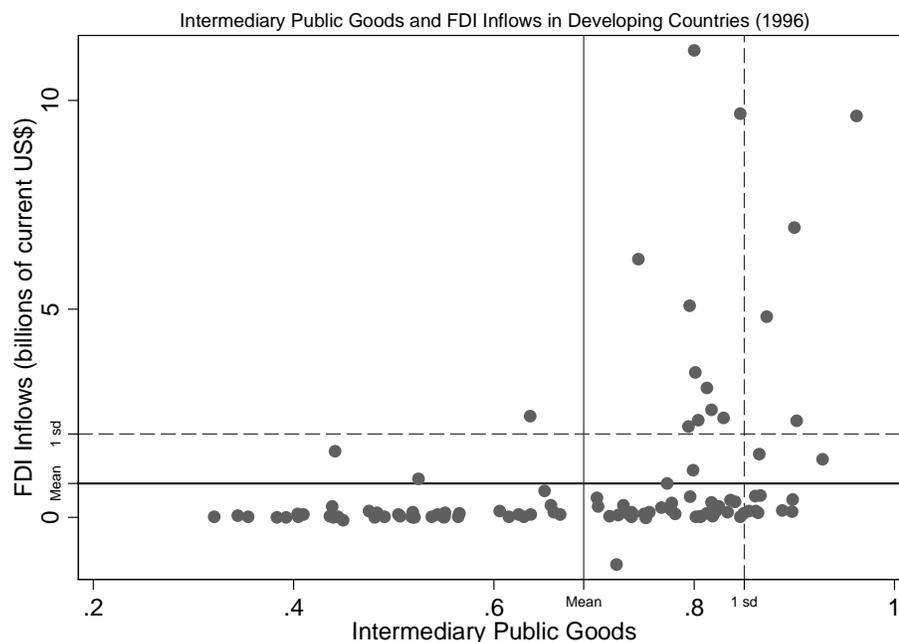


Figure 5.2: A bivariate plot of FDI inflows and intermediary public goods

¹⁵ China is excluded from this graph as it has 4 times the amount of FDI as the next closest country, Brazil and skews the aspect ratio of the graph. China is not excluded from the analysis.

The solid and dashed lines once again represent the mean and one standard deviation increase, respectively. The graph suggests a positive relationship between public goods and FDI inflows into developing countries. While other factors obviously determine the amount of FDI a developing country attracts, no country with low-quality intermediary public goods appears to attract much foreign direct investment at all.

The preceding rationale presents a powerful yet parsimonious explanatory mechanism for explaining why developing states with higher quality governance infrastructure attract greater amounts of FDI based upon the role intermediary public goods play in investors' decision-making. This mechanism, while not mutually exclusive, is not directly related to the signaling of a state's credible commitment to pro-business environment, and demonstrates how signaling as causal mechanism is incomplete. Rather, a state with higher quality institutions has a government that is more competent and efficient, which allows the state to provide a higher provision and quality of intermediary public goods. It is the quality and provision of these types of public goods that is integral in the decision calculus of MNCs when making their final decisions on where to invest.

This explanatory logic also helps to explain an interesting empirical phenomenon within the literature: why are intermediary public goods not consistently significant determinants of FDI inflows? As Noorbakhsh, Paloni and Youseff (2001) point out, empirical evidence concerning differing measures are often anecdotal and the few large-N studies done have yielded mixed results, with education and literacy almost never consistently mattering as a determinant of FDI into developing countries (Root and

Ahmed 1979; Schneider and Frey 1985; Narula 1996; Cheng and Kwan 2000).¹⁶ Although measures of physical infrastructure tend to be more robust, they are not consistent determinants of FDI inflows unless rich countries are included in the analysis (Mody and Srinivasan 1998; Wheeler and Mody 1992; Loree and Guisinger 1995; Cheng and Kwan 2000).¹⁷ I argue that the reason intermediary public goods do not consistently show up as significant determinants of FDI inflows into developing countries is because, as my theory argues, the quality and provision of intermediary public goods is strongly related to the quality of a state's governance infrastructure and this is not accounted for in previous research.

The provision and quality of developing countries' intermediary public goods seem to figure very prominently into firms' decisions in where to invest. Additionally, the quality level of these states' governance infrastructure appears to be a direct determinant of the quality and provision of these intermediary public goods. Together governance infrastructure and intermediary public goods create a causal pathway to a MNC's investment decision. This causal pathway is illustrated in Figure 3 below.

¹⁶ Their own study is an exception, as it does find consistent evidence of human capital mattering in a sample of 36 developing countries over a 14-year period; however, they do not include domestic institutional variables in their model, which likely explains why their measure of human capital is highly significant. See their paper for further discussion of the previous studies on human capital and FDI.

¹⁷ The previous studies do not focus solely on developing countries; Cheng and Kwan (2000) are the exception as they look at different regions of China.

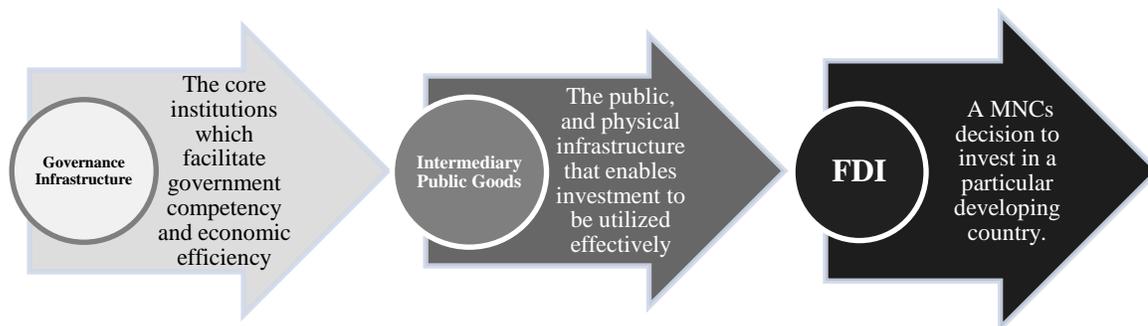


Figure 5.3: Causal pathway from the quality of states' governance infrastructure to firms' decision to invest

The next task is to create suitable measures and proper models to test my proposed hypotheses, which are as follows:

H1: Developing countries with higher quality governance infrastructure should receive a higher volume of FDI inflows.

H2: Developing countries with a higher provision and quality of intermediary public goods should receive a higher volume of FDI inflows.

H3: Developing countries with higher quality of intermediary public goods due to governance infrastructure should receive a higher volume of FDI inflows.

Because I am interested in the effect of domestic institutions on the quantity of FDI flows into developing countries, the important theoretical and empirical finding that the regime type of a developing country is an important determinant of FDI must be examined. I shall briefly discuss the previous empirical work as well as my alternative explanation for these findings and my expectations.

Regime Type and FDI Inflows

Much of the early research in this area contended that autocracies should and did attract greater amounts of FDI than democracies due to less executive constraint allowing for better entry deals for MNCs (O'Donnell 1978; Haggard 1990; Oneal 1994; Jessup 1999). However, the consensus within the literature appears to have shifted in recent years. It is now expected that the higher level of democracy a state has, the more FDI they should attract. The varying reasons for this finding are that democracies have greater civil liberties, larger selectorates, which tend to be more stable, and have higher property rights security. Additionally, democratic institutional constraints lead to more policy stability via veto players (Pastor and Hilt 1993; Jensen 2003; Pastor and Sung 1995; Henisz 2000; Feng 2001; Busse and Hefeker 2007).¹⁸ Li and Resnick (2003) come to a more nuanced conclusion when they show that democratic institutions affect FDI in a complex manner. It is democratic property rights as operationalized by Li and Resnick that allow democracies to present an optimal investment environment and lead to increased FDI inflows, while other aspects of democracy actually hinder FDI inflows.

Based on the theory outlined in this paper and previous work on democracy and FDI inflows, I do not expect regime type to have a significant impact on FDI inflows into developing countries. I argue that the reason why studies on regime type and FDI inflows have produced inconsistent results is that the institutions that affect investors' decisions are encompassed within the concept of governance infrastructure. The institutions of governance infrastructure vary across regime type, especially among

¹⁸ For a much more detailed discussion of regime type and FDI inflows see Jensen (2006).

developing countries; this variation could explain divergent results concerning regime type over different years and samples if governance infrastructure was not accounted for. Moreover, Li and Resnick's earlier finding that only the property rights aspects of democracy matter, while the other aspects decrease FDI inflows, bolsters this argument. Additionally and more directly related to my causal argument, there is no relationship with developing countries between regime type and intermediary public goods. This lack of a relationship is shown in Figure 4.¹⁹

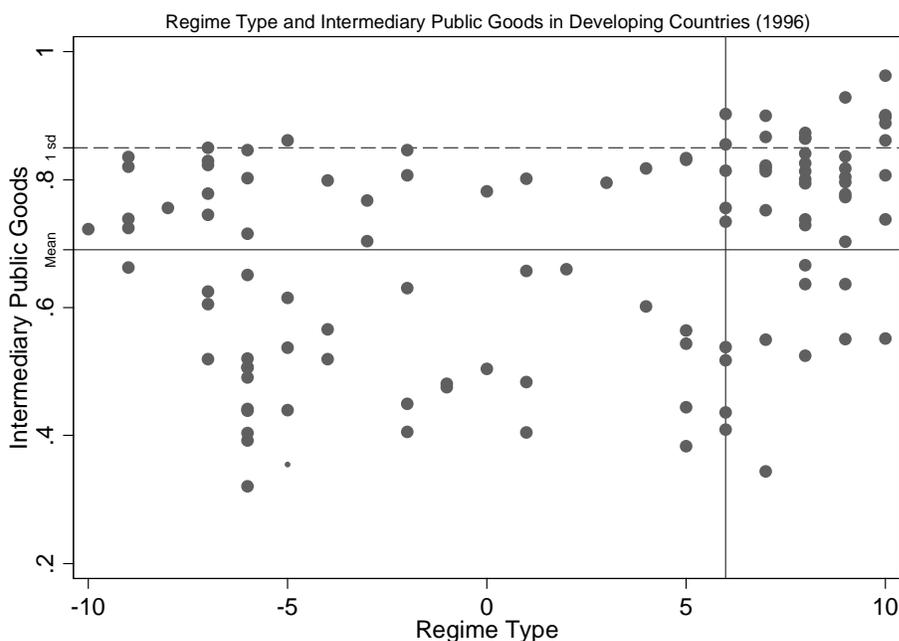


Figure 5.4: A bivariate plot of intermediary public goods and regime type (polityIV)

¹⁹ It is important to note that Baum and Lake (2001; 2003) find strong statistical support that democracy does affect public goods in a positive manner. Most likely the differences in their findings and mine are derived from the different samples and time periods examined, especially considering their samples included developed countries. Additionally, the authors did not include variables to account for governance infrastructure when examining democracy's effect on public goods.

The solid and dashed lines on the y-axis represent the mean and one standard deviation increase, respectively, while the solid line on the x-axis represents a cut-off point for classifying a regime type as a democracy (usually 6 - 10).²⁰ Clearly, there is no easily discernable relationship between intermediary public goods and regime type within developing countries, which lends validity to my argument concerning the proper construction of the proposed causal chain and to my expectation that regime type should have no effect on FDI inflows into developing countries.

Observation and Measurement

An ordinary least squares regression will be used to test the aforementioned hypotheses. It is important to note that country fixed-effects are not being used in the following models as the key independent variables of interest are very slow moving and country fixed-effects are known to be very inaccurate in estimating the effects of slow moving variables (Beck and Katz 2001; Wawro 2008).²¹ In order to get the most accurate standard errors, Arelleno (1987) robust standard errors clustered on country are used. In keeping with theory and previous research, a simple econometric model of FDI inflows into developing countries will first be specified. A series of additional models will follow, adding the key independent variables of interest, governance infrastructure, intermediary public goods, and intermediary public goods due to governance infrastructure.²²

²⁰ Polity IV is used to measure regime type and runs on a scale from -10 to 10.

²¹ In addition, I believe that results presented in the following models are generalizable to any “non-rich” country, making the use of country fixed-effects inappropriate.

²² As this is a preliminary study to determine whether the proposed causal pathway exists and whether it is significant, I use a simple model, leaving out international institutional variables that have been shown to be determinants of FDI inflows in developing countries. These include institutional memberships,

The data are pooled cross-sectional time-series with the unit of analysis being the developing country year. This analysis covers the years 1996, 1998, 2000, and 2002 – 2007. The missing years are due to the limited data availability of the World Bank’s “Worldwide Governance Indicators” dataset that is used to construct the key independent variable governance infrastructure.²³ To ensure proper temporal ordering, all independent variables are lagged by one observational period. The phrase “one observational period” is used due to the missing years of data just discussed.²⁴ Because I am specifically interested in the effects of my proposed causal pathway on developing countries, the sample is restricted to non-OECD countries with a population over 1 million as these countries have the possibility to receive FDI.²⁵

Dependent Variable

As I am interested in whether developing countries attract more FDI inflows based upon the quality and provision of their intermediary public goods that are due to governance infrastructure, the dependent variable is the natural log of net FDI inflows in millions of current US dollars into developing country i at time t , and is taken from the World Bank’s *World Development Indicators* 2008. The natural log of net FDI inflows is used to minimize extreme values and is commonly used in empirical research on the

preferential trade agreements and bilateral investment treaties. See Tobin and Rose-Akerman (2005) and Buthe and Milner (2008) for more detailed discussions.

²³ As an additional test, I filled in the missing years by using the average of the indicator scores, and ran supplemental models with all years from 1996 to 2007. The results from these models were comparable to the ones presented later in the paper.

²⁴ Lagging the independent variables also helps to account for endogeneity. Data limitations do not allow me to implement more lags to help account for the possibility of endogeneity. While endogeneity should not be taken lightly, I believe that following the literature and lagging the independent variables by one-period will allow me to determine if the proposed relationship that I hypothesize exists.

²⁵ Restricting the sample to countries with a population over 1 million is customary within the literature and helps avoid small country bias.

determinants of FDI inflows. It is important to note that results of the key independent variables of interest are insensitive to different specifications of the dependent variable. These specifications include FDI as a percentage of GDP, FDI per capita, and the non-logged dependent variable. Due to possible divestment, net FDI inflows into a country can be negative. Because the dependent variable can take on negative values, I follow Busse and Hefeker (2007) and transform the variable using the following equation: $y = \ln(x + \sqrt{x^2 + 1})$. As the authors point out, by following this procedure I am able to keep the sign of the dependent variable, which means divestments will still be negative after the transformation.

Key Independent Variables of Interest

As governance infrastructure is theoretically prior to intermediary public goods, I will begin with its specification. I define governance infrastructure as the core institutions that facilitate government competency and economic efficiency. Governance infrastructure is comprised of the institutions that determine the quality of states' government effectiveness, bureaucratic efficiency, regulatory quality, rule of law, and control of corruption. These individual indicators are from the World Bank's Worldwide Governance Indicators; however, as outlined in chapter 2, I combine them in a theoretically consistent manner in order to get a single measure of the quality level of a state's governance infrastructure. Governance infrastructure is rescaled from its original scale of -2.5 to 2.5, to a scale running from 0 to 5.0. This is unproblematic as the original zero point is theoretically uninteresting.

Governance infrastructure is the first step in my proposed causal pathway, with the second step being, intermediary public goods. As I have defined intermediary public goods as public goods such as education, health, and technical skills, as well as the quality and availability of roads, electricity, airports, railroads and waterways, I will use two different measures of these types of public goods. The first measure is derived from the United Nations Human Development Index (HDI), which represents health and education. The second measure is the number of telephone lines per capita in a country, which is a well-established measure of physical infrastructure and represents this aspect of intermediary public goods.²⁶ These two measures were chosen because of the reliability of the data and the number of developing countries they cover is much greater than other measures. Moreover, education, health, and physical infrastructure are the key intermediary public goods discussed in the Costa Rica example, making this conceptualization appropriate for the theory outlined.

HDI is composed of three components, the education index, the health index, and the wealth index, and theoretically runs from 0 to 1, with each index comprising a third of the measure.²⁷ As economic development will be accounted for in the model by a separate variable, I remove the wealth index, leaving the scale to run theoretically from 0 to .66. I then linearly rescale this measure so that it runs from 0 to 1; again, this is done so that the results are easier to interpret. This measure represents health and education

²⁶ Data are obtained from the World Banks ("World Development Indicators" 2008).

²⁷ HDI is reported every five years. In order to fill in the missing data I averaged the scores between those five years. I do not consider this problematic, as HDI is a very slow-moving indicator. For example, if from 2000 to 2005 a country improved from .80 to .85, each year between 2000 and 2005 would have an increase of .01 in HDI for that particular country.

aspects of intermediary public goods and the data is from United Nations Development Project ("Human Development Report" 2008).

Finally, I construct the variable intermediary public goods due to governance infrastructure in the following manner. Following Li and Resnick (2003), I estimate a regression model with the health and education intermediary public good measure as the dependent variable and the measure of governance infrastructure lagged by an observational period with standard errors clustered on country. The predicted values of this simple model are then used as the measure of health and education portion of intermediary public goods that are due to governance infrastructure.²⁸ I repeat this process with telephones per capita.²⁹ Once again, the predicted values of this model are the physical infrastructure portion of intermediary public goods due to governance infrastructure.³⁰ The residuals from both models are also included in the following models as control measures of intermediary public goods not due to governance infrastructure.³¹

Independent Variables

The rest of the independent variables included in the model are all considered domestic economic and political determinants of FDI inflows.³² Included in the model is

²⁸ Li and Resnick used a tobit model in their research because some of the predicted values exceeded the range of the dependent variable if a regression was used. A regression models are used here for ease of interpretation; however, a tobit model was also used and the predicted values were identical to that of the regressions

²⁹ Both measures of intermediary public goods due to governance infrastructure are not included in the same models as they are both measures intermediary public goods due to governance infrastructure and are very collinear.

³⁰ These measures were normalized to non-negative values.

³¹ These two simple regression models appear in the appendix.

³² All of the following data, unless otherwise specified, was obtained from the World Banks ("World Development Indicators" 2008).

the size of the economic market. As is customary in the literature, this is represented by the natural log of the population of the country, which helps to deal with its skewed distribution. Larger markets are expected to attract more foreign direct investment as they have a larger opportunity for future returns and growth (Oneal 1994). I expect market size to be positive and significant in terms of increasing FDI inflows. Additionally, the overall economic openness of the country should lead to an increase in FDI inflows. Openness is measured as total trade divided by the GDP of the country.

Previous FDI inflows into a country are also considered an important determinant of future FDI inflows. These previous flows send a signal concerning the state's business climate to the investment community. This signal is not unlike the signal the institutions of governance infrastructure are argued to send, making it important to account for given my hypotheses (Kinoshita and Mody 1997; Noorbakhsh et al. 2001). To account for this signal in the following models I include a measure of the change in the previous year's FDI inflows. This measure is in millions of current US dollars and is once again logged using the same equation that was used to transform the dependent variable, to account for divestment.³³

³³ To account for the expected signal sent by previous FDI inflows as well as serial correlation much of the literature includes a lagged dependent variable instead of change in the dependent variable. There are three reasons why I chose to include change in FDI inflows rather than simply the lagged measure of FDI inflows. First, when you include a lag of the dependent variable in the model you necessarily change the interpretation of the dependent variable. In this case including the lag of FDI inflows would change the interpretation from total FDI inflows increased or decreased by variable i in year t ; to FDI inflows from year $t-1$ to year t were increased or decreased by variable i . I am not interested in the change in FDI inflows from $t-1$ to t , so much as I am interested in the total change of FDI inflows. Second, I believe that the variable, change in FDI inflows, more accurately represents the theoretical reasoning for including a variable of a country's previous FDI signal to investors. A country's previous period of FDI flows may be positive, but if the inflows are down 90% from the previous year, this negative change is what investors will take notice of, not that the country still had minor positive investment. Third, I ran both models one using lagged FDI inflows, the other using the variable, change in FDI inflows; all substantive results were

It has been argued that more developed countries attract more FDI, as high technology sectors are usually beneficiaries of this type of long-term investment. To account for this the natural log of GDP per capita is included as a measure of economic development. Moreover, it is important to include a measure of economic development in the models to assure that my outlined causal pathway is not simply a proxy for development. Another important control is government spending. As Jensen (2006) points out, if the “race to the bottom” hypothesis is accurate, increases in spending should lead to a decrease in FDI, due to the fact that higher taxation goes along with higher spending, and firms are attracted to countries that do not tax them heavily. Government spending is measured as general government consumption as a percentage of GDP.

Economic growth is a common control variable as profit-maximizing investors are likely to invest in faster growing areas of the world. However, because FDI is a more long-term investment, the changes in growth over short periods would be expected to have less of an effect than growth fluctuations would have on portfolio investment. Economic growth is measured as percent change in GDP.

Currency volatility will discourage investors if they are risk-averse and assume the volatility to be a direct or indirect cost, meaning more volatility should lead to less investment (Kogut and Chang 1996). I measure exchange-rate volatility as the mean absolute deviation from the mean of the official exchange rate of local currency units per US dollar (Li and Resnick 2003). Following this logic, inflation is also expected to be a

similar in both models. Moreover, using the Schwarz Criterion (Bayesian Information Criterion) as a measure of model fit, the model using the variable, change in FDI inflows is the appropriate model as its criterion was much smaller for all models. For example, using the variables in model 2, the BIC for model with change in previous FDI inflows was 2878.615 compared to 3094.978 for the model with the lagged dependent variable (Greene 2000).

deterrent to longer-term investment as the value of the investment declines as inflation increases.

As my theory and models are intended to parse out the relationship of domestic institutions and public goods on FDI inflows, other domestic institutional variables must be accounted for. Therefore, following previous research I include controls for regime durability, political stability, and veto players (Henisz 2000; Jensen 2006). Each of these variables measures, to a different degree, the stability of the country, regime, and policy. All things being equal, economic actors prefer stability. States with more durable regimes, less political violence, and greater policy stability should see greater FDI inflows. Following Li and Resnick (2003) regime durability is measured as the number of years since the last regime transition, which has been defined as a three-point or greater shift in the main PolityIV index.

Political stability is measured using measure of civil war based upon Gleditsch (2002). Jakobsen and de Soya (2006 pg. 392) argue that “civil war measured at a low threshold of violence indicates that there is physical threat to property and that government's capacity to maintain law and order has failed. In addition, this measure is based on news reports of violence, which are likely to bring bad publicity that further affects the location decisions of MNCs.” The variable takes values of 0 and 1; 0 if there was no internal conflict and 1 if there was a record of internal conflict that resulted in over 25 deaths during a given year.³⁴

³⁴ The original formulation of the variable is 0 for no conflict, 1 for 25 to 999 deaths in a year, and 2 for over 1000 deaths in a year. The results are the same for this specification or the dummy variable that I include in the presented models. Data are from the UCDP/PRIO Armed Conflict Dataset (2009) V4.

Veto players are argued to make policy more stable and reduce the ability of leaders to enact sweeping policy changes that may harm firms. Firms should prefer stability and the knowledge that it is unlikely policies will be drastically altered after they enter a particular market (Keefer and Stasavage 2003; Tsebelis 2002; Jensen 2008). The measure of veto players used, was developed by Beck et al. (2001) and is the number of lawmaking institutions or political parties in government coalitions that can block a new proposal from becoming law.³⁵

When conducting a study concerning the domestic determinants of FDI into developing countries, a measure of natural resources must necessarily be included. Prevalence of natural resources, along with the size of states' markets are considered two of the most fundamental reasons a MNC chooses to invest in a country. Natural resources are measured as a state's primary-exports as a percentage of GDP.³⁶

Perhaps the most important variable not considered "key" is the regime type of the developing country. As stated earlier, I do not expect regime type to be a significant determinant of FDI inflows in this analysis. Institutional democracy is operationalized in the following manner. The Polity IV dataset is used to measure the institutionalized democracy level of the states and is a measure of the overall polity level of state from completely autocratic to democratic (Marshall and Jaggers 2002). This scale runs from -10 to +10, with -10 being completely autocratic and +10 being completely democratic.

Finally, I include dummy variables for the regions classified by the correlates of war database. Controlling for regional effects is important to help account for the

³⁵ Data are from the World Bank's *Database of Political Indicators* (2007).

³⁶ This measure has also been used in Sachs and Warner (1995) and Jensen (2006).

differences in institutional quality across regions due to colonial patterns as well as other systematic regional differences (Acemoglu et al. 2001; Busse and Hefeker 2007).

Analysis and Results

I present six successive models in Table 1 below. The first model is the simple econometric specification with a measure of regime type and basic domestic institutional variables included. The direction and sign of the economic control variables are for the most part as expected, with development level, market size, economic openness, and the change in the previous year's FDI inflows all being positive and highly significant. This is good evidence that the initial model is specified correctly as it demonstrates, unsurprisingly, that developing countries that are more developed, have larger markets, a greater degree of economic openness, and saw an increase in FDI inflows in the previous period should all receive higher FDI inflows. Economic growth, inflation, exchange rate volatility, and government spending are not significant. These variables have mixed results in terms of significance in the literature, and their lack of significance here is probably because they are more likely to affect shorter-term investments more adversely.

At first, it may seem curious that the regime type and the other basic domestic institutional variables are not significant given previous research. However, these results do hold across all models, and support my expectations. Additionally, in the extant literature regime durability, political stability, and veto players are not consistently significant determinants of FDI inflows into developing countries during all time periods. Most importantly, given my expectations, there appears to be no relationship between

Table 5.1: *The Relationship between Governance Infrastructure, Public Goods and FDI Inflows into Developing Countries*

Explanatory Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Governance Infrastructure	--	0.949** (0.297)	0.852** (0.295)	--	0.731** (0.275)	--
Total Intermediary Public Goods (Health & Education)	--	--	2.587 (1.820)	--	--	--
Intermediary Public Goods due to Governance Infrastructure (Health & Education)	--	--	--	9.672*** (2.822)	--	--
Intermediary Public Goods not due to Governance Infrastructure (Health & Education)	--	--	--	2.341 (1.861)	--	--
Total Intermediary Public Goods (Physical Infrastructure)	--	--	--	--	6.225* (2.566)	--
Intermediary Public Goods due to Governance Infrastructure (Physical Infrastructure)	--	--	--	--	--	13.98*** (3.838)
Intermediary Public Goods not due to Governance Infrastructure (Physical Infrastructure)	--	--	--	--	--	6.097* (2.640)
Regime Type	0.0198 (0.0310)	-0.000868 (0.0278)	0.0000644 (0.0335)	0.00108 (0.0334)	-0.00302 (0.0256)	-0.00381 (0.0260)
Change in FDI inflows	0.533*** (0.0356)	0.534*** (0.0346)	0.543*** (0.0354)	0.544*** (0.0352)	0.528*** (0.0346)	0.529*** (0.0348)
Regime Durability	-0.0164 (0.0174)	-0.0208 (0.0174)	-0.0229 (0.0171)	-0.0228 (0.0171)	-0.0238 (0.0171)	-0.0254 (0.0174)
Political Instability	0.0300 (0.572)	0.174 (0.566)	0.110 (0.573)	0.109 (0.573)	0.0947 (0.545)	0.132 (0.542)
Veto Players	0.0954 (0.101)	0.0800 (0.0974)	0.119 (0.0978)	0.117 (0.0968)	0.0954 (0.0958)	0.0961 (0.0966)
Natural Resources	-0.0429* (0.0196)	-0.0293 (0.0175)	-0.0276 (0.0200)	-0.0279 (0.0201)	-0.0237 (0.0162)	-0.0231 (0.0163)
Economic Openness	0.954** (0.344)	0.861** (0.322)	0.685 (0.349)	0.715* (0.347)	0.736* (0.327)	0.743* (0.339)
Market Size	0.875*** (0.155)	0.912*** (0.151)	0.871*** (0.161)	0.878*** (0.159)	0.880*** (0.148)	0.884*** (0.151)
Economic Development Level	0.904*** (0.157)	0.551** (0.209)	0.507* (0.208)	0.524* (0.206)	0.276 (0.249)	0.251 (0.254)
Economic Growth	0.0443 (0.0680)	0.0374 (0.0682)	0.0360 (0.0696)	0.0364 (0.0692)	0.0377 (0.0668)	0.0374 (0.0681)
Inflation	0.000570 (0.00158)	0.00126 (0.00154)	0.00205 (0.00164)	0.00202 (0.00161)	0.00103 (0.00150)	0.000961 (0.00153)
Government Spending	-0.0411 (0.0376)	-0.0431 (0.0368)	-0.0393 (0.0375)	-0.0387 (0.0375)	-0.0586 (0.0388)	-0.0519 (0.0382)
Exchange Rate Volatility	-0.000526 (0.000286)	-0.000487 (0.000279)	-0.000486 (0.000273)	-0.000485 (0.000273)	-0.000591* (0.000248)	-0.000614* (0.000246)
Constant	-18.36*** (3.206)	-18.22*** (3.132)	-17.87*** (3.336)	-22.27*** (3.373)	-15.00*** (3.721)	-15.98*** (3.507)
N	648	648	623	623	648	633
R ²	0.559	0.572	0.580	0.579	0.584	0.583

OLS estimates with Arellano (1987) robust (clustered) standard errors in parentheses. *** = $p < .001$, ** = $p < .01$, * = $p < .05$. All regional effects were suppressed. Data range is 1996, 1998, 2000, 2002-2007 and subject to availability. All parameters were lagged by one period to help account for causality.

regime type of a developing country and its ability to attract foreign direct investment inflows. This finding is examined in more detail in the final discussion of the paper. Perhaps most interesting, given previous theory on the domestic determinants of FDI in developing countries is the result that the measure of natural resources is negative and significant, meaning that if a state increases the amount of primary commodities it exports as a percentage of its GDP, it should expect to see a decrease in FDI inflows. I believe that this result is related to a transition in the primary types of FDI that developing countries are now receiving, from FDI based mostly on primary commodities to FDI being based mostly in higher-technology sectors. How this relates to my causal logic is discussed at length at the conclusion of this section.

Model 2 adds the measure of governance infrastructure to the simple econometric model. This variable is positive and highly significant and supports the previous studies discussed earlier. The institutions that comprise governance infrastructure obviously factor heavily into firms' decisions on where to invest. This result also lays the groundwork for my proposed causal pathway. Moreover, all variables that were significant in model 1 have the same direction and similar significance level, with the exception of natural resources, which, while continuing to be negative, is no longer significant.

As models 3 and 4, as well as models 5 and 6 are direct tests of my proposed causal chain, the key independent variables of interest in each pair of models has been shaded in for the sake of clarity. In model 3, we see that all of the variables from the

previous model have the similar directions and significance levels, with the exception of economic openness, which while no longer being significant at the 0.05 is significant at the 0.10 level. In addition, governance infrastructure is still positive and highly significant; however, intermediary public goods represented by health and education, while positive is not significant. As was discussed earlier, this is not a complete surprise. Previous studies have demonstrated that when similar measures are included along with institutional measures, the intermediary public goods of health and education are not significant determinants of FDI inflows into developing countries. Moving from model 3 to model 4, the measures of governance infrastructure and intermediary public goods represented by health and education are replaced by the measures of intermediary public goods whose quality and provision are directly due to the governance infrastructure, and the parts of intermediary public goods that are due to factors other than governance infrastructure are also included.³⁷ Once again, all the major economic control variables are signed correctly and statistically significant and economic openness is again significant at the 0.05 level. Most importantly, intermediary public goods represented by health education that are directly due to governance infrastructure is highly positive and significant, while the intermediary public goods that are not due to governance infrastructure, while positive, is not significant.

As a robustness check of the proposed causal mechanism, models 5 and 6 use a different measure of intermediary public goods, represented by a measure of physical

³⁷ I also ran the models without including the measures of intermediary public goods that were due to factors other than governance infrastructure. The results for the remaining variables were comparable in sign, significance and, coefficient size.

infrastructure. In model 5 governance infrastructure is again positive and significant; however, there are two interesting differences from model 3. First, intermediary public goods represented by physical infrastructure is positive and weakly significant, and second, economic development, while positive is no longer significant. This may be curious at first; however, this not too surprising considering that the level and quality of a state's physical infrastructure is directly related to its level of development, and the two variables are highly correlated at 0.75. Most likely, part of the physical infrastructure variable is accounting for economic development's effect on FDI inflows. Moving from model 5 to model 6, we see, as expected, intermediary public goods due governance infrastructure are once again positive and highly significant; and similarly to model 5 intermediary public goods not due to governance infrastructure is positive and weakly significant and economic development is positive and not significant, as its effect is most likely be captured in the former variable.

While the results from models 4 and 6 give strong statistical evidence that my proposed causal chain exists, these results must be interpreted substantively to determine their true impact. Because the dependent variable is expressed as the logarithm of FDI (in millions of dollars) and the key independent variables appear in their natural metric, these variables can be interpreted directly as proportional changes in FDI per unit change in governance infrastructure and intermediary public goods. For example, in model 2 a one-unit increase in governance infrastructure returns an average proportional growth of 94.9% in FDI inflows net of the other factors in the model. While this is a very large percentage increase, one must remember that the original values of FDI that most

developing countries are dealing with are small compared to the developed world, as evidenced by Costa Rica only attracting \$337 million before Intel's investment. Additionally, the quality of governance infrastructure changes slowly over time; a one-unit increase is incredibly large.³⁸ Given the actual observable values of the independent variables of interest the appropriate way to examine these variables impact is to examine their effect on FDI inflows if a developing state were to improve their quality by one standard deviation increases.³⁹

If a developing country were to improve the quality and provision of its intermediary public goods due to its governance infrastructure by one standard deviation, it should expect to see an approximate 69.6% and 85.3% increase in FDI inflows due to health and education and physical infrastructure, respectively. These statistical results strongly follow the expectations presented throughout this article, as well as what actually took place in the real-world example of Intel and Costa Rica. The progression of models presented here provides strong evidence in support of my theoretical argument concerning the causal pathway of governance infrastructure to public goods to foreign direct investment inflows.

Furthermore, if the proposed causal chain is accurate, we would expect improving the quality of governance infrastructure to have a smaller substantive impact on increasing FDI inflows than increasing the quality of intermediary public goods due to governance infrastructure. Based on model 2, if a developing state were to improve only

³⁸ In fact, within the population used in the analysis, the largest increase in quality was Mauritania. From 2000 to 2002 its quality of governance infrastructure only increased by 0.67, far below a change of 1.0.

³⁹ See Appendix 1 for the descriptive statistics.

its governance infrastructure by one standard deviation, it could expect to see its FDI inflows increase by approximately 58.6%. However, if it were to increase its intermediary public goods due to governance infrastructure by one standard deviation, it could expect to see its FDI inflows increase between approximately 70.0% and 85.0%. This makes intuitive sense because governance infrastructure is the farthest away in the causal chain from the MNC's actual decision to invest. Additionally, this lends validity to my assertion that signaling as the causal mechanism between governance infrastructure and a firm's decision to invest is incomplete. Overall, it is clear that improving the quality and provision of their intermediary public goods due to governance infrastructure is integral for developing countries if they wish to attract investment in a world where FDI is limited and the majority of its distribution is focused in the developed world.

Finally, the relationship between my proposed causal pathway and technology-based FDI must be addressed. While I believe that my results are relevant for all types of FDI, it is clear from the previous discussion in this paper concerning intermediary public goods and FDI, that they are most important for technologically based inflows. Additionally, while the dependent variable encompasses all types of FDI, it is important to realize that the majority of FDI over the time period examined are technologically based, which helps to explain why in the initial econometric model natural resources are negatively and significantly related to FDI inflows. The fact that we know that FDI inflows over the period examined are becoming more technology based emphasizes the importance of the presented causal chain and the results. If FDI inflows are increasingly technologically based, why then, when we know that the intermediary public goods,

health, education, literacy, and physical infrastructure are integral to this type of investment, do the initial measures of these types of intermediary public good tend to be insignificant? This result is because all intermediary public goods are not created equally. All states, with the exception of failed ones, have to some degree, public goods. However, states do not have high provision and quality of public goods unless they have a quality governance infrastructure. By separating intermediary public goods that are due to governance infrastructure from the ones that are not, I am able to demonstrate why measures of intermediary public goods that are not separated in this manner are not consistently significant predictors of FDI in developing countries, even given the strong theoretical reasoning that they should be.

The empirical results from the preceding analysis correspond well to the substantive example of Intel and Costa Rica presented earlier. Taken together, these provide very strong support to the causal pathway that is presented in Figure 3. Intermediary public goods appear to be a causal mechanism from the institutions of governance infrastructure to a firm's decision to place its foreign investment in a particular developing country. Moreover, the results from this analysis reinforce my argument that previous signaling arguments, whether implicit or explicit, are incomplete.

Discussion

This analysis is consistent with the expectations presented at the beginning of this paper and expands on previous research in a variety of ways. It furthers previous governance infrastructure research by showing that the quality level of governance

infrastructure continues to be an important determinant of economic outcomes. Most importantly, however, this paper introduces and tests a new casual connection between the institutions of governance infrastructure and FDI inflows, with the only previously identified causal mechanism being signaling. Moreover, by theoretically outlining and statistically demonstrating that the quality of a developing country's governance infrastructure determines in large part the quality and provision of its intermediary public goods, which in turn determines the amount of FDI inflows it receives, this research explains why education and health have been inconsistent determinants of FDI inflows in developing countries (Noorbakhsh et al. 2001; Globerman and Shapiro 2003; Asiedu 2006).

Within this analysis, regime type has no effect on FDI inflows in developing countries, while governance infrastructure is consistently a significant determinant. This provides support for my argument that the institutions that comprise governance infrastructure and lead to a higher provision and quality of intermediary public goods are separate from those that comprise regime type. Therefore, if a regime type, democracy in particular, is an important determinant of FDI inflows into developing countries during different time-periods, it is most likely due to some other aspect of democracy such as civil liberties, rather than the institutions that protect private property and lead to increased government effectiveness. These types of institutions comprise the concept of

governance infrastructure, can be found in autocracies as well as democracies, and lead to the quality and provision of public goods.⁴⁰

This analysis has clear limitations while pointing the way forward for future research. The most prominent limitation is the short time period that I am able to examine. Expanding the data set on governance infrastructure and testing these results over a much longer period of time is clearly an important next step in this area of research. Additionally, because the models presented here are intended to demonstrate that the theoretically developed causal pathway actually exists, only the effect of the causal chain on totality of FDI inflows was examined. If my hypotheses are correct, we would expect to find differences based upon different types of FDI, with the strongest results coming from FDI based in high technology areas. Knowing these differences could be very beneficial for policy makers in developing countries.

A final substantive example may be appropriate for emphasizing the potential importance of the causal chain presented here, as well as opening up future avenues of potential research. Since 2005, Rwanda has seen economic growth of over 5% a year; this has been attributed to President Kagame's doctrine of security, government

⁴⁰ In the discussion of regime type and public goods, this author would be remiss if the selectorate theory was not discussed. As the size of a developing country's winning coalition increases, one would expect its provision of public goods to increase. However, these public goods do not necessarily equate to the ones that MNC's are attracted to and discussed in this paper. Although, one could also make the argument that the higher quality institutions that make up governance infrastructure are some of the most basic public goods. Therefore, in the context of the causal chain presented in this paper, the size of the winning coalition would be prior to governance infrastructure. Unfortunately this line of inquiry is beyond the scope of this paper. However, given the results presented here and the strength of the selectorate theory, this area of research is part of a future research agenda. Due to data limitations, I did run the previous models for the years 1996, 1998, and 2000 including w , the size of the winning coalition. In that limited examination, w was not statistically significant and did not significantly change the results that are presented in this paper.

competency and anti-corruption. These results and his plans have accorded him and Rwanda ardent support of some development experts in the United States.

Kagame and other government leaders looked to the top-down Asian models, especially Singapore and China... ..Kigali is probably the safest city in Africa today, and Rwanda one of the safest countries in the world. That makes foreign investors and entrepreneurs confident about moving to Rwanda... ..Kagame believes Rwanda can rise to prosperity by becoming the trade and commercial hub of East and Central Africa (Kinzer 2007).

Kagame argues that once Rwanda has a sustained record of growth, investment, and human development and infrastructure, they will then focus on becoming a sustainable democracy.

While further research is needed, it would appear that policy-makers of developing states might want to invest their usually limited resources in creating a strong governance infrastructure, which leads to higher quality and provision of intermediary public goods, which in turn promotes and facilitates growth while attracting FDI inflows. Moreover, the additional investment offers developing countries the opportunity to reach a higher growth trajectory than if they were to rely solely on available domestic investment. Considering the strong statistical evidence that demonstrates that any democratic country with a per capita GDP of \$7,000 or greater has a very low probability of regressing from democracy, the causal pathway presented in this paper may eventually be able to be extended and included into the huge and still divisive literature on economic development's relationship to democracy (Przeworski et al. 2000). Hypothetically, higher quality governance infrastructure would lead to higher quality and provision of intermediary public goods, which leads to higher and more efficient economic growth, which is only augmented by the increase in foreign direct investment that one would

expect given the results of this paper. This causal pathway should lead to developing countries reaching the threshold of \$7000 per capita that Przeworski et al. discuss. If a country were to then transition to democracy, it should be protected from regressing to a non-democracy. Essentially this is the model that Kagame is advocating and South Korea and other East Asian countries have arguably traveled.

CHAPTER 6: Conclusions and Future Research

Throughout this dissertation project I have demonstrated that the institutions that comprise a state's governance infrastructure are separate conceptually and empirically from the institutions that comprise democracy, and that in order to truly test many existing causal hypotheses concerning governance and democracy, these concepts must be theorized and defined in such a manner, as they do not overlap conceptually or empirically. This argument, which was laid out in chapter 2, led to the creation of the concept of governance infrastructure. Using this newly created concept, governance infrastructure, allowed me to demonstrate that the quality of developing states' governance infrastructure is a positive and significant determinant of economic development in developing countries regardless of regime type. Moreover, once governance infrastructure is accounted for regime type is never a positive and significant determinant of economic development in non-rich countries.

Additionally, as has been implicitly theorized in extant literature the institutions of governance infrastructure send a signal to investors concerning potential transaction costs that investors may incur, ultimately determining the amount of FDI developing states receive, while apparently being the only domestic institutions that affect investors' decision making through a signaling mechanism. Finally, this research has demonstrated that signaling is not the only causal mechanism between the quality of a state's governance infrastructure and firms' decision to invest. The quality of developing states' governance infrastructure also determines the quality and provision of states'

intermediary public goods, which are an additional causal mechanism to signaling in determining a state's FDI inflows. The results from the studies in the presented in this project provide the foundation for much more detailed exploration of the relationships between governance infrastructure and democracy, and GI, democracy, and development, not to mention further exploration of which types of investment are affected most by the two causal mechanisms connecting the quality of states' governance infrastructure to firms' decision to invest.

In chapter 2, through examination of various GI aggregations substantive impact, explanatory power, and affect on model fit in a simple model of economic development, I determined that the arithmetic mean aggregated governance infrastructure is the most appropriate aggregation. However, it is important to note that given the tests used to determine the appropriate aggregation of GI, it may only be the appropriate aggregation for exploring the relationship between the quality of GI and developing state's economic outcomes. Depending on theory, there may be different weighting schemes that may need to be applied to the various indicators. This must be kept in mind for all future research, and the conceptual aggregation should follow theory (Goertz and Dixon 2005).

Chapter 3 presents a novel a way to explain the diverging results that continue to plague the democracy/development debate, arguing that governance infrastructure is an intervening variable in the democracy/development relationship. As discussed previously, the results of this chapter indicate that democracy is only a positive and significant determinant of economic development absent governance infrastructure. However, implied throughout the chapter, and supported tangentially by these results is

that governance infrastructure also appears to be a precondition for high quality democracy. If this is the case, this line of research could bring the democracy/development argument basically to a close. This would also explain Przeworski et al's (2000) finding concerning a certain threshold of economic development all but guaranteeing that a transitioning democratic state would not regress or fail in its transition. Because if better quality GI leads to development, and higher quality democracy, as state cannot reach Przeworski et al's development threshold without higher quality governance infrastructure, so the argument then becomes, it is not the economic development level that is preventing transitioning democracies from regressing, it is the quality governance infrastructure, which allowed a country to reach that development threshold, that is actually preventing the transitioning democracy from regressing.

If the above hypotheses are correct, this has important ramifications for not only scholars, but policy-makers as well. This finding would argue that it is unwise to install democratic institutions into non-democratic states unless they have the proper quality level of governance infrastructure (bureaucratic efficiency, regulatory quality, rule of law, and control of corruption) to prevent a democratic backslide. Moreover, if correct, these hypotheses do not bode well for democratic success in developing countries like Iraq and Afghanistan. Obviously, at this point all of the above is speculation based upon tangential research; however, this does emphasize the important role that research on governance infrastructure could potentially play. Two key areas of research will need to be undertaken in order test these hypotheses. First extending the temporal domain of

governance infrastructure is necessary, so that the proper models (event history) can be run to determine whether GI a significant determinant of failed democratic transitions is statistically. Second, in depth case studies of successful and failed democratic transitions through time, where data on institutional quality would be nigh impossible to gather must be done to confirm any statistical results, otherwise the results could be explained away as an artifact of the period examined. Three time periods in which case studies could shed light on this area of research are the democratic transitions that take place in 19th century Europe, the democratic transitions that take place in the former Soviet sphere following the end of the Cold War, and the democratic transitions that have taken place in South-East Asia in the 20th century.

Chapter 4 deals with actually testing implied signaling arguments concerning domestic institutions and the decision by firms to invest. Interesting avenues of future research involve examining all of the information these signals provide to firms. While this chapter treats the signals as competing and some being subsumed, which helpful for determining what signals/institutions matter the most in terms of firms decision-making, it is unlikely, that while a firm may focus on the signal sent by the quality of states' GI, that they completely ignore any other information they may receive from other institutional signals. Firms are rational actors after all. What may be happening is that firms are collecting all available information from all available signals, and that what this chapter has done is present a rank order of signal importance. In effect, a weighting scheme for all of the available signals. If this is the case, then the next logical step in this research would be to aggregate these individual signals, using this chapter to generate

hypotheses concerning the individual signals (indicators) weights, into one overarching signal representing the totality of a countries investment environment.

As chapter 5 focuses on intermediary public goods as an alternative causal mechanism to signaling, a next logical step would be to see if this argument holds at the micro-level. There are already case studies of states within China and India that seem to indicate intermediary public goods are the key to attracting investment away from other states within the country, and that the quality of these public goods is highly dependent on each states institutional quality, which varies quite a bit throughout these countries. These case studies at the micro-level, along the causal pathway and hypotheses developed and tested in this paper clearly present a need to replicate the findings in this chapter at the micro-level within these states. Fortunately, a new economic data-set of Chinese states has recently become available through the University of Michigan. Using this FDI data, in similarly specified models is the next logical step to testing the robustness of the alternative causal pathway to signaling presented in chapter 5.

It is clear that while each of the chapters of this dissertation project laid the foundation for the next, and has in fact demonstrated the primacy of governance infrastructure over democracy in development and FDI in developing countries for the period examined; they have also laid the foundation for much future research. This future research can/will not only test the robustness of the hypotheses presented throughout this project, but expand our understanding of age old debates, and have much greater ramifications in terms of successful democratic transitions and how to re-build a state after conflict.

APPENDIX A: Descriptive Statistics to Accompany Chapter 2

Table A.1: *Summary Statistics of Differently Aggregated Measures of Governance Infrastructure*

	Observations	Mean	Std. Deviation	Minimum	Maximum
GI (max)	1540	0.228	0.979	-1.870	3.340
GI (min)	1540	-0.346	1.005	-3.880	1.950
GI (mean)	1540	-0.127	1.957	-4.790	4.375

APPENDIX B: Descriptive Statistics to Accompany Chapter 3

Table B.1: *Summary Statistics for the Variables in Table 3.3*

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
ln(GDP/pc)	944	6.980	1.225	4.400	9.387
Lag Governance Infrastructure	944	-0.398	0.630	-2.200	1.350
Lag Polity	944	2.760	6.180	-10.000	10.000
Lag Freedom House	944	4.100	1.716	1.000	7.000

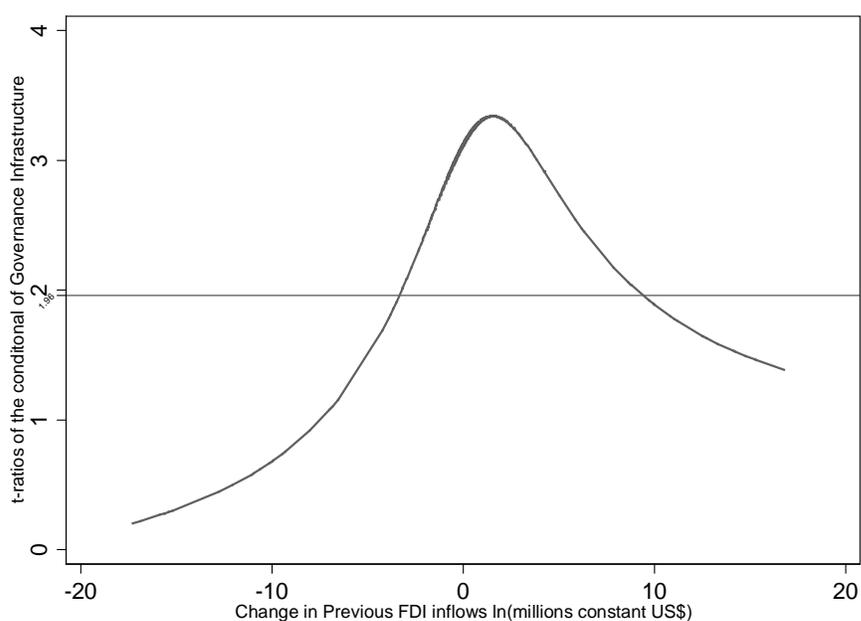
Table B.2: *Correlation matrix for the Independent Variables in Table 3.3*

	Lag Governance Infrastructure	Lag Polity	Lag Freedom House
Lag Governance Infrastructure	1.000		
Lag Polity	0.492	1.000	
Lag Freedom House	0.705	0.898	1.000

APPENDIX C: Descriptive Statistics to Accompany Chapter 4

Table C.1: Summary Statistics of the sample used in Model 6, country dummies suppressed.

Variable	N	Mean	Standard Deviation	Minimum	Maximum
Dependent Variable	648	6.368	3.103	-9.689	12.531
Governance Infrastructure	648	8.741	2.468	3.880	19.560
Change in previous FDI	648	0.196	2.901	-17.288	16.777
Regime Type	648	13.397	6.111	0.000	20.000
Veto Players	648	2.847	1.709	1.000	18.000
Regime Durability	648	17.154	17.782	0.000	87.000
Political Instability	648	0.239	0.494	0.000	2.000
Natural Resources	648	9.611	11.425	0.023	56.000
Economic Openness	648	4.290	0.508	2.704	6.137
Market Size	648	16.344	1.473	13.860	20.994
Economic Development Level	648	7.239	1.199	4.402	10.343
Economic Growth	648	4.716	4.112	-13.127	34.500
Inflation	648	12.074	50.508	-3.846	1096.678
Government Spending	648	14.356	5.095	4.070	30.504
Exchange Rate Volatility	648	145.158	493.424	0.000	6058.806

**Figure C.1:** *t*-ratios of the Conditional Slope of Governance Infrastructure over the Range of Change in Previous FDI inflows in Developing Countries, (years – 1996, 1998, 2000, 2002 – 2007)

Appendix D: Descriptive Statistics to Accompany Chapter 5

Table D.1: *Summary Statistics based on the Sample in Table 5.1*

Variable	N	Mean	Standard Deviation	Minimum	Maximum
Dependent Variable	648	6.368	3.103	-9.689	12.531
Governance Infrastructure	648	2.185	0.617	0.970	4.890
Total Intermediary Public Goods (Health & Education)	623	0.716	0.162	0.268	0.954
<i>Intermediary Public Goods due to Governance Infrastructure (Health & Education)</i>	<i>623</i>	<i>0.706</i>	<i>0.072</i>	<i>0.564</i>	<i>1.017</i>
Intermediary Public Goods not due to Governance Infrastructure (Health & Education)	623	0.390	0.145	0.009	0.657
Total Intermediary Public Goods (Physical Infrastructure)	648	0.118	0.116	0.002	0.473
<i>Intermediary Public Goods due to Governance Infrastructure (Physical Infrastructure)</i>	<i>633</i>	<i>0.163</i>	<i>0.061</i>	<i>0.042</i>	<i>0.429</i>
Intermediary Public Goods not due to Governance Infrastructure (Physical Infrastructure)	633	0.172	0.100	0.008	0.518
Change in previous FDI	648	0.196	2.901	-17.288	16.777
Regime Type	648	3.397	6.111	-10.000	10.000
Regime Durability	648	17.154	17.782	0.000	87.000
Political Instability	648	0.239	0.494	0.000	2.000
Veto Players	648	2.847	1.709	1.000	18.000
Natural Resources	648	9.611	11.425	0.023	56.000
Economic Openness	648	4.290	0.508	2.704	6.137
Market Size	648	16.344	1.473	13.860	20.994
Economic Development Level	648	7.239	1.199	4.402	10.343
Economic Growth	648	4.716	4.112	-13.127	34.500
Inflation	648	12.074	50.508	-3.846	1096.678
Government Spending	648	14.356	5.095	4.070	30.504
Exchange Rate Volatility	648	145.158	493.424	0.000	6058.806

Table D.2: *Regression Estimates for Intermediary Public Goods due to Governance Infrastructure in Developing Countries for the years – 1996, 1998, 2000, 2002 – 2007*
The DV in model 1 is the Health & Education Index
The DV in model 2 is Telephone Lines per Capita

Explanatory Variable	Model 1	Model 2
Governance Infrastructure	0.115*** (0.0166)	0.0985*** (0.0129)
Constant	0.452*** (0.0413)	-0.0980*** (0.0259)
R ²	0.210	0.322
N	854	887

OLS estimates with Arellano (1987) robust (clustered) standard errors in parentheses.
 All parameters were lagged by one observational period to account for causality.
 *** = $p < .001$, ** = $p < .01$, * = $p < .05$.

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