REACHING THE CREDIBILITY THRESHOLD: BITS, FDI, AND THE RICH AUTOCRATIC REGIME

BY KWOK CHUEN TERENCE TEO

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and approved by

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ABSTRACT OF THE DISSERTATION

Reaching the Credibility Threshold:
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by Kwok Chuen Terence Teo

Dissertation Director: Robert R. Kaufman

This dissertation asks how autocrats can resolve domestic commitment problems that inhibit investment and growth. This is a particularly salient issue with respect to developing countries attracting foreign direct investment (FDI). Many scholars have explored how bilateral investment treaties (BITs) may help governments provide policy assurance to multinational firms and attract FDI. Unfortunately, this research remains inconclusive. I argue that a credible commitment to property rights protection is the key factor in attracting FDI, not the level of property rights per se. I further argue that the impact of BITs on FDI depends on a country's domestic political institutions. In particular, BITs can help some authoritarian governments reach the credibility threshold and attract foreign direct investment. I use a combination of formal and quantitative methods to assess my theory. I first construct a signaling model that shows how a BIT can help firms distinguish between committed and less committed governments. In addition, I use the theory of global games to illustrate how a BIT can facilitate the coordination

of investment decisions by multinational firms. Next, I use multilevel models to examine the variation in BIT formation across developing countries, and matching and instrumental variables models to assess the impact of BITs on FDI among authoritarian regimes. In sum, my analysis shows that the impact of BITs on FDI depends on the type of authoritarian regime: BITs attract more FDI in military and multiparty authoritarian regimes. It also explains the variation in BIT formation and FDI across authoritarian regimes. My findings that the effects of international treaties are contingent on domestic political institutions which may be reinforcing in some instances, and undermining in others, has implications beyond the literature on property rights and development to issues of international security and human rights.

Acknowledgements

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Chapter 1

Introduction

"With few exceptions, democracy has not brought good government to new developing countries…"

Lee Kuan Yew, *Democracy, Human Rights, and the Realities 1992*

1.1 The Puzzle of the Rich Autocratic Regime

In 2013, the top five authoritarian regimes received approximately US$292 billion in foreign direct investment (FDI), almost twice that of the relatively paltry US$150 billion their democratic developing counterparts received. Even if one were to discount China, the four remaining authoritarian regimes received US$177 billion. What is more, China received more FDI inflows than any other nation in the European Union (US$124 billion compared to the United Kingdom's US$37 billion), and is second in the world only to the United States' US$188 billion (United Nations Conference on Trade and Development 2014).

The trend in FDI inflows over time paints a similar puzzle. Figure 1.1 shows the average annual FDI inflows by regime type from 1970 to 2007. Aside from the years between 1997 and 2002 (the Asian financial crisis), authoritarian regimes receive, on average, a greater amount of FDI inflows compared to democratic regimes.

Figure 1.1: Average Annual Foreign Direct Investment Inflows by Regime Type (UNC-TAD 2014)
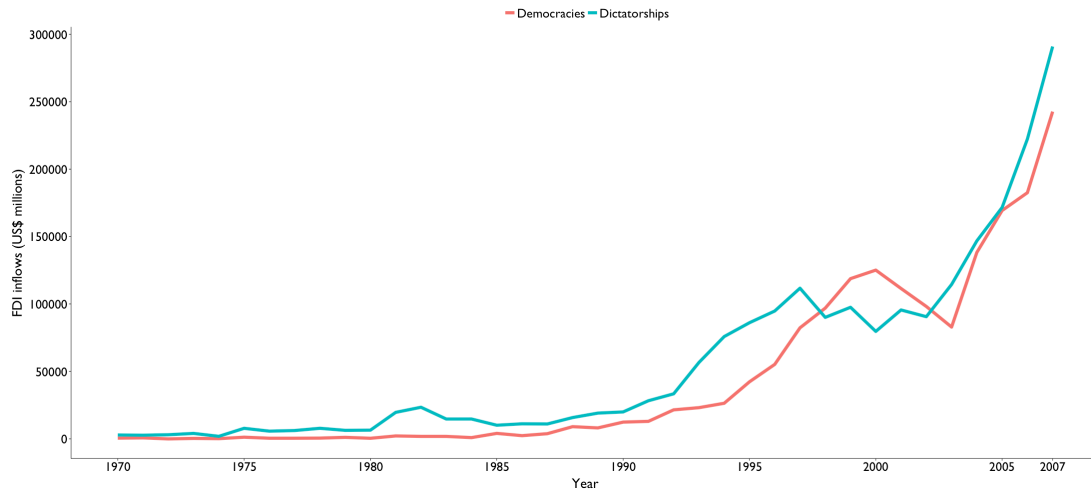
The above observation raises the question of why multinational firms would pour such vast sums of capital into authoritarian regimes, long-regarded as institutionally inferior, politically risky, and essentially untrustworthy compared to democratic regimes. The existing literature on the political economy of FDI suggests that foreign firms are profit-seeking and care not only about potential investment returns, but the security of their investments. In addition, because FDI is illiquid once invested, it is susceptible to a "hold-up" problem—prior to investment, any government can dangle all forms of policy inducements to the firm, from preferential tax breaks to lower setup costs. Once investment is made, however, a government can easily renege on its promises, and in extreme cases, even engage in expropriation. Vernon (1971) refers to this as the *obsolescing bargain* between the firm and the government. As such, given these preferences, foreign firms ought to be averse to investing in authoritarian regimes.

The fact that multinational firms are choosing to invest in authoritarian regimes is made more curious when one considers the average level of property rights between authoritarian and democratic regimes. As Figure 1.2 shows, between 1990 and 2007,

authoritarian regimes, on average, have much lower levels of property rights protection compared to their democratic counterparts.

Figure 1.2: Average Property Rights by Regime Type over Time
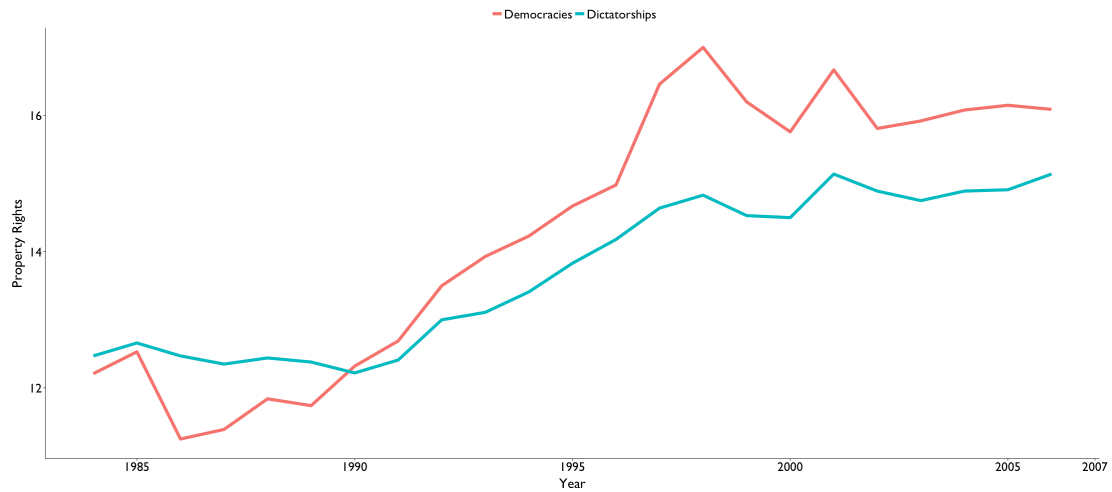
At the same time, however, there is significant variation in FDI inflows among authoritarian regimes (Figure 1.3). In addition, there are two outliers: China and Singapore, with approximately US$295 billion and US$61 billion respectively.

Figure 1.3: FDI inflows to Authoritarian Regimes in 2012 (US$ millions)
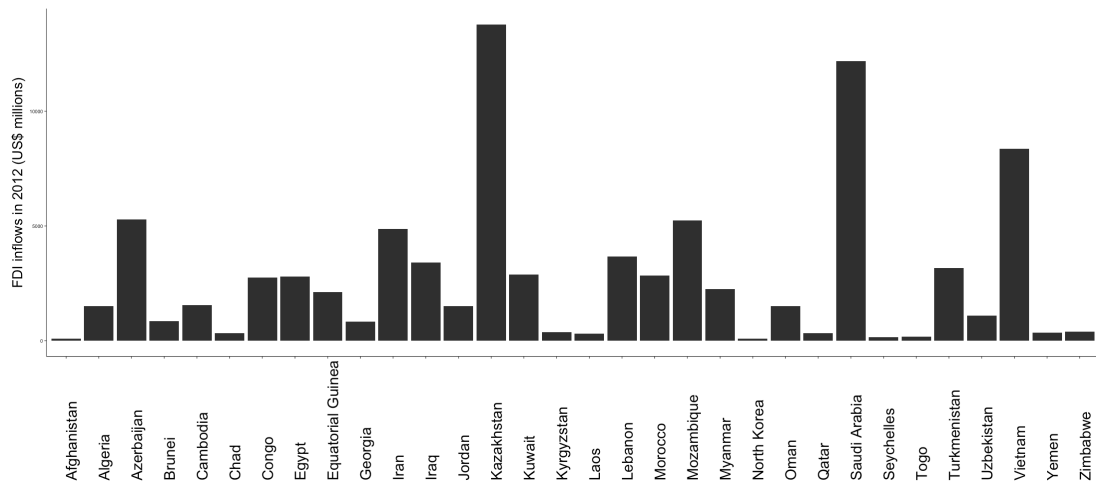
In this dissertation, I offer an explanation for how some authoritarian regimes are able to attract FDI despite having relatively weak property rights compared to democratic regimes. Specifically, I argue that authoritarian governments can use bilateral investment treaties (BITs) to increase the credibility of their commitment to property rights and in so doing, attract FDI.[1] From the perspective of a multinational firm, because of the obsolescing bargain, a primary concern is whether a government will live up to its promises after investment is made. Consequently, multinational firms are more likely to invest and continue investing in countries whose commitments are perceived as credible, even if they are authoritarian. I further explain the variation in FDI across authoritarian regimes by linking insights from the new literature on authoritarian institutions and the literature on BITs.

I depart from existing work on BITs and FDI in three ways. First, I develop a domestic theory of BIT signing and empirically assess the factors that motivate governments to sign BITs. Second, I focus on the variation in BIT signing and FDI inflows among authoritarian regimes, an issue on which there is surprisingly little work. Third, I show how BITs work in conjunction with domestic political institutions to increase the credibility of a government's commitments towards an investment-friendly environment and thereby attract FDI.

This dissertation lies at the intersection of political economy, international law, and the burgeoning literature on authoritarian institutions, and integrates insights from these separate literatures. The primary contribution of this project is an explanation of the variation in FDI among authoritarian regimes. Existing research on the political economy of FDI focuses mainly on how democratic and authoritarian regimes differ in their ability to attract FDI without acknowledging the rich institutional variation within authoritarian regimes.

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[1]Bilateral investment treaties (BITs) are legal agreements signed between states with the goal of protecting and promoting FDI.

Second, while much of the international organization literature explains state membership in bilateral or multilateral institutions as a process of norm or competitive diffusion, I highlight instead the role of domestic factors in influencing a government's incentives to turn to international institutions to fulfill its goals. This has implications for explaining the variation in treaty signing and ratification in other issue areas, such as trade, human rights, the environment, and membership in international organizations (IOs).

Finally, I show how domestic political characteristics condition the impact of bilateral investment treaties on FDI, thereby establishing a link between international organization and comparative authoritarian institutions. In so doing, I highlight the importance of multiple credibility mechanisms at both the domestic *and* international levels.

The rest of this chapter proceeds as follows. I first review the literature on the relationship between political freedom and economic performance. I next present my argument. I conclude with a road map of the dissertation.

1.2   The Search for the Holy Grail

A long-standing puzzle in political economy is the relationship between political freedom and economic prosperity, or more simply, democracy and growth. Does democracy lead to economic growth? Since the 1960s, captivated by the normative and practical implications of this question, scholars devoted much ink, paper, and more recently, computational cycles to investigating the nature of this relationship. Alas, a consensus remains elusive. In an early review of the literature, Przeworski and Limongi (1993) find little systematic evidence of a link between democracy and growth. In a separate review, Alesina and Perotti (1994) reach a similar conclusion. More recently, a meta-analysis of 84 studies on democracy and growth find that democracy has neither a positive nor negative effect on growth (Doucouliagos and Ulubasolgu 2008).

Perturbed but undeterred by the fading promise of democracy, scholars forged on

resolutely. Perhaps an explanation for the null finding lies in the less-than-adequate conceptualization of democracy used in existing statistical models. With renewed vigor, they turned their attention to institutions, proudly christened it "neo-institutionalism", and promptly spawned a wave that has had significant influence in both academic and policy circles—a feat comparable to the democratic peace hypothesis. This body of work asserts that it is not democracy per se that fosters growth, but specific institutions—namely the rule of law and property rights protection—that do. What is more, the benefits of the rule of law are wide-ranging: from growth and investment (Rodrik, Subramanian and Trebbi 2004, Dam 2006, Berkowitz, Pistor and Richard 2003), improved governance (Maravall and Przeworksi 2003, Andrews and Montinola 2004), better health care (Nessel 2002), environmental protection (Fredriksson and Mani 2002), to decreased crime (Orlova 2005); the rule of law is a veritable treasure trove.

There remains a blemish on the empirical record, however, and one that poses a significant challenge to such explanations: the presence of particular countries that have exhibited spectacular and sustained growth despite a less-than-stellar rule of law regime. What is more, these countries are attractive destinations for foreign direct investment.

The puzzle this dissertation seeks to address can be summed up as follows:

1. First, a well-established literature maintains that property rights lead to investment and economic growth.

2. Second, authoritarian regimes generally have poorer property rights than democratic regimes.

3. Third, despite having weaker property rights, some authoritarian regimes receive greater amounts of foreign direct investment.

1.3 The Argument

The argument of this dissertation is threefold. First, I argue that governments use international treaties strategically to advance specific goals. In particular, given that bilateral investment treaties (BITs) entail costs, governments will negotiate and sign these agreements only if they want capital that they cannot obtain otherwise. I contend that governments scarce in natural resources such as petroleum, minerals, and natural gas are more likely to sign BITs compared to their richer counterparts. In addition, governments with average levels of property rights are more likely to sign BITs than those with weak or strong property rights. In so doing, I develop a theory of BIT formation that rests on a government's motivations and incentives in response to *domestic* political and economic conditions.

My focus on the domestic factors that underlie BIT signing differs from existing work on BIT formation, which, as Milner (2014) notes, tends to draw from theories on "diffusion, power politics, and the rational design of institutions". For instance, Elkins, Guzman and Simmons (2006) view BIT formation as a competitive process of policy diffusion for FDI, and argue that BIT proliferation is not unlike the spread of neoliberal policies in international relations. Jandhyala, Henisz, and Mansfield (2011), on the other hand, contend that there are three distinct "waves" of BIT formation, and that each wave occurs within a distinct international context that influences the rate of BIT signing. Yet these studies provide only a partial explanation of BIT formation and are unable to account for the variation across less developed countries, much less among authoritarian regimes. That is, these arguments may shed light on the general rate of BIT signing in response to increasing global FDI or recognition of BIT costs, but are unable to adequately explain cross-country variation in BIT signing (see Figure 1.4).

Figure 1.4:   Average Annual Number of BITs by Authoritarian Regime Type, 1972–2010
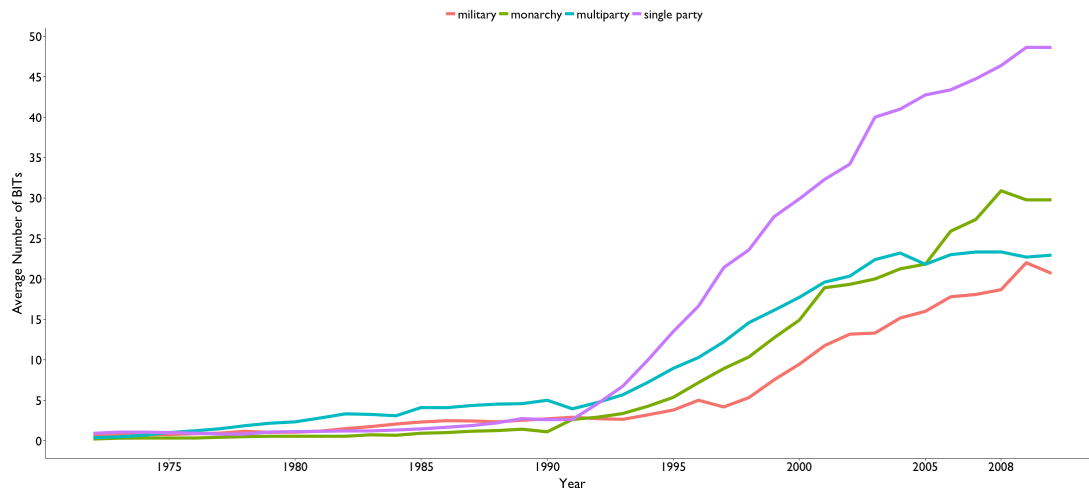
Second, one of the chief reasons why some authoritarian regimes attract significant amounts of FDI despite relatively weak property rights is a combination of the strategic use of BITs *and* certain features of their domestic institutions. In particular, I argue that it is not the level of property rights per se that reduce investment risk for multinational firms, but the extent to which the commitment to some level of property rights is sufficiently credible. To be clear, a regime must possess a minimal level of property rights to be considered a viable candidate for FDI. For instance, it is highly improbable that any multinational firm would find the property rights regime of North Korea or Cuba attractive. However, after some level of property rights, what matters is whether the government's commitment to property rights is *credible*. Put another way, a country's *de facto* level of property rights–the sum of its *de jure* level and credibility—is the characteristic that multinational corporations assess in making investment decisions.

Third, I argue that the institutional variation across authoritarian regimes results in considerable heterogeneity in the credibility of their commitments. I further contend that any commitment to property rights need only meet some threshold to be considered

credible by multinational firms; I call this the "*credibility threshold*". As such, a BIT will only attract FDI if it helps a government reach the credibility threshold, or the point at which multinational firms would believe the government's commitment. This has two implications: (1) BITs do not have the same effect across countries, and (2) the effect of BITs is contingent on a country's existing domestic mechanisms.

1.4   Road Map

To assess my argument, I use a mixed-method approach that combines game theory and statistical analysis. Given the numerous moving parts of my argument, a formal model allows me to explicitly formulate government and investor preferences, beliefs, strategies, costs, and constraints. Such an approach ensures that any assumptions I make are transparent to the reader, and any conclusions I draw from my formal analysis follow logically from my initial assumptions, i.e. logically consistent. Next, a series of quantitative analysis allows me to empirically test my hypotheses drawn in part from my formal analysis, and to ascertain whether the mechanisms I identify play out in practice.

The structure of the dissertation proceeds as follows. Chapter Two reviews three heretofore disparate literatures—the literature on the political economy of foreign direct investment, bilateral investment treaties, and authoritarian institutions, highlights the gaps in each of these literatures, and most importantly, integrates their core insights to develop my argument. The political economy of FDI focuses on the difference between democratic and authoritarian regimes (i.e. regime type), without paying heed to the significant variation in FDI within the class of authoritarian regimes. The literature on BITs and FDI concerns itself with whether BITs attract FDI—and to a lesser extent, how BIT signing is a process of competitive policy diffusion, or a wave-like phenomenon not unlike the "waves of democracy"—while ignoring the considerable heterogeneity in the rates of BIT signing across less developed countries, and authoritarian regimes in particular, and the subsequent amount of FDI these countries receive. Finally, the

promising literature on authoritarian institutions focuses on how authoritarian institutions affects domestic investment and growth, but has yet to examine how authoritarian institutions may condition the effect of international treaties on investment outcomes.

Chapter Three develops two game-theoretic models: a model of BIT signing, and a model of how BITs attract FDI. In the first model, I adapt the canonical Spence job-market signaling model, and using the Cho-Kreps intuitive criterion, show that there exists a unique separating equilibrium where only a country with low levels of property rights will sign a BIT. In the second model, I draw from the literature on global games and show how a BIT serves as a public signal that helps a country reach the credibility threshold, and foreign investors to coordinate on a unique equilibrium in which they invest in a country with a BIT.

The next three chapters constitute the empirical portion of the dissertation. Chapter Four examines the factors that underlie a government's decision to sign a BIT using multilevel models. I find support for the hypothesis drawn in part from the formal analysis in Chapter Three—governments with average levels of property rights are more likely to sign BITs compared to governments weak or strong in property rights. That is, there is a nonlinear (inverted-U shaped) relationship between a country's level of property rights and its likelihood of BIT signing. In addition, resource-scarce countries are more likely to sign BITs compared to their more resource-abundant counterparts.

Having established that governments are not all equally likely to sign BITs, and the presence of an endogeneity problem that must be addressed in any analysis of whether BITs attract FDI, Chapter Five uses matching models—coarsened exact matching (CEM) in particular—to address the problem of selection in BIT formation, and finds that BITs do attract FDI, contrary to some of the results in the literature, and supporting others.

Chapter 6 examines how the impact of BITs on FDI depends on the type of authoritarian institutions, and the conditions under which BITs can help regimes reach the credibility threshold. Using cross-national data on FDI inflows, I find that BITs have a greater impact on FDI inflows in multiparty authoritarian regimes compared to other

types of authoritarian regimes.

Finally, Chapter 7 discusses the implications of my findings, as well as the limitations and unaddressed issues in this dissertation. Accordingly, I suggest some possible avenues for future research.

Chapter 2

The Political Economy of FDI

"Thieves respect property. They merely wish the property to become their property that they may more perfectly respect it."

G. K. Chesterton, *The Man Who Was Thursday, 1908*

2.1   Introduction

The sheer ease with which capital flows around the world today is indisputable. In 2013, the amount of global foreign investment inflows (FDI) reached $1.45 trillion, and is projected to rise to $1.6 trillion in 2014 and $1.85 trillion in 2016 (World Investment Report 2014). FDI inflows have increased substantially over the past four decades, from approximately $45 billion at the beginning of the 1980s, to $200 billion in the 1990s, to over $1.3 trillion in 2010. That is, FDI inflows grew fivefold over two decades, and almost eightfold in the following two decades, and represents an overall fortyfold increase over a mere forty years.[2] The total value of global inward FDI stock reached $25.5 trillion in 2013, from $9 trillion in 2003, representing an almost threefold increase in less than a decade (The Economist Intelligence Unit 2011). More than 80,000 multinational enterprises (MNEs), along with more than 800,000 foreign affiliates operate globally.

FDI is defined as a cross-border investment by an entity (typically referred to as a "multinational enterprise/corporation" or "direct investor") in one economy (called the "home" country) with the goal of establishing a lasting interest in an enterprise

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[2]FDI is generally measured in terms of inflows or stocks. Inflows refer to the capital a foreign investor provides to a foreign affiliate, e.g. loans, equity, or reinvestment earnings, whereas stocks are the total value of foreign-owned assets at a given time.

(called the "foreign affiliate") situated in an economy (called the "host" country) other than that of the direct investor (IMF 2007, World Bank 2011).[3] FDI is widely regarded as a key driver of economic growth and development in developing countries, and the most important source of foreign capital for these countries (UNCTAD 2008). Access to foreign capital and investment provides governments with opportunities that they otherwise would not have.

Compared to other forms of capital such as portfolio investment, FDI is a more stable source of capital and is less susceptible to capital flight in the event of a crisis.[4] Multinational corporations (MNCs) bring employment opportunities (Markusen and Vernables 1999), transfer skills and production techniques, and share technological and managerial expertise (Findlay 1978, Baldwin, Braconier, and Forslid 2005), all of which increase productivity, enhance access to export markets, and boost the domestic economy (Lipsey 2002). As such, countries compete for FDI inflows and seek to use domestic policy, and in some instances, institutional reform to create an attractive investment climate (Jensen 2003, 2008, Li 2006, Biglaiser and Staats 2010).

An extensive empirical literature accompanies this surge in FDI flows, exploring the determinants and effects of FDI. However, most of these focus on economic variables to explain FDI inflows; not until the last two decades or so has attention shifted deservedly to political and institutional factors, with a concomitant growth industry in political risk consulting. Of the research on the political determinants of FDI, regime type occupies the bulk of scholars' attention, though there is increasing work on other factors such as the rule of law, institutional quality, and political stability.

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[3]Lasting interest implies management control over the foreign affiliate and consequently, a long-term relationship between a direct investor and a foreign affiliate. That is, the direct investor actively participates in managing the foreign affiliate, unlike the portfolio or indirect investor, who in contrast, profits passively from purchasing and holding a firm's stock. The minimum threshold for a foreign investment to be classified as FDI for statistical purposes is generally a stake of at least 10% of ordinary shares of the foreign affiliate.

[4]As Busse and Hefeker (2005) note, "Short-term credits and portfolio investment run the risk of sudden reversal if the economic environment or just the perception of investors change, giving rise to financial and economic crises."

In this chapter, I first discuss the existing research on the political determinants of FDI. I next examine the literature on credible commitment and how it relates to FDI. Drawing from recent work on authoritarian institutions, I focus on domestic mechanisms of credibility; from the literature on BITs, I explore how BITs can help enhance a government's credibility. Finally, I integrate the insights from these literatures and develop an argument that explains the conditions under which authoritarian regimes can use bilateral investment treaties to boost the credibility of their commitments towards property rights protection.

2.2   The Political Determinants of FDI

The literature on the political economy of foreign direct investment can be divided between domestic and international explanations, and both sub-literatures have developed somewhat orthogonally to each other. On the one hand, domestic explanations tend to center around regime type, examining the effect of democracy and autocracy on FDI. On the other, international explanations focus on the effects of bilateral investment treaties and—to a lesser extent—bilateral tax treaties on FDI.

Existing research on the domestic political determinants of FDI center on the effect of regime type on aggregate FDI flows. Some argue that the absence of constraints in authoritarian regimes makes them more attractive to foreign firms, since authoritarian leaders are better able to pass policies favorable to investment but which may be unpopular with constituents, such as undermining labor laws or environmental regulations, suppressing labor unions, and lowering capital taxes. In addition, unlike democratic leaders, who are accountable to a large electoral constituency, authoritarian leaders are more insulated from societal demands, and can more easily enact efficiency-enhancing reforms if necessary (Bueno de Mesquita, Smith, Siverson and Morrow 2003). Consequently, for some multinational firms, authoritarian regimes provide a more favorable investment climate compared to democracies (O'Donnell 1988, Huntington 1975, Li and Resnick 2003).

On the other hand, others argue that democratic regimes are more attractive to foreign investors, pointing out that the majority of FDI flows to the advanced industrialized democracies. In democracies, popular representation, a free press, and a relatively transparent decision-making process facilitate information flows. The electoral mechanism and constraints on elected officials disciplines policymakers, thereby increasing policy credibility through audience costs (Fearon 1995), and the existence of multiple checks and balances ensures a stable policy environment (Lipset 1960, Olson 1993, Tsebelis 1995, 2002, Jensen 2003). Some also contend that democratic leaders have longer time horizons and will therefore refrain from taking actions detrimental to investment (Jensen 2003, Jakobsen and de Soysa 2006). By contrast, policies in authoritarian regimes are less stable since these regimes have fewer constraints on public officials; the investment environment is thus more volatile and unpredictable compared to democratic regimes. Moreover, the risk of expropriation, however low it has become in recent years, is nonetheless ever-present in authoritarian regimes (Li 2009, Zheng 2011).

The theoretical debate thus revolves around whether multinational firms prefer policy flexibility or stability and how these preferences influence investment decisions. If foreign firms prefer the flexibility of authoritarian leaders to tailor policies to their investment needs, then they would invest in authoritarian regimes. However, if they prefer a stable and predictable policy environment, then they ought to invest in democratic regimes.

Like the literature on regime type and economic growth, empirical evidence on the relationship between regime type and FDI remains inconclusive. Some find that authoritarian regimes receive greater amounts of FDI, which suggests that multinational firms prefer a flexible investment environment. Analyzing FDI flows to nineteen developing countries between 1971 and 1993, Resnick (2001) finds a negative effect of democracy on FDI inflows. Tuman and Emmert (2004) examine FDI outflows from the U.S. to fifteen Latin American countries between 1979 and 1996 and likewise, find a negative relationship between democracy and FDI outflows from the U.S.

Others, however, find that democracies attract more FDI inflows. An analysis of

U.S. manufacturing FDI outflows to forty countries between 1982 and 1989 reveals a positive effect of democracy on FDI (Rodrik 1996). Similarly, Harms and Unsprung (2002) find that democracy increases FDI inflows on a sample of sixty-two countries between 1989 and 1997. Examining FDI inflows to 119 countries between 1970 and 1997, Jensen (2003) also finds a positive relationship between democracy and FDI.

Finally, some find no relationship between regime type and FDI at all. Examining U.S. FDI flows to forty-eight countries between 1950 and 1985, Oneal (1994) finds that regime type has no effect on FDI. He further finds that democracy reduces FDI inflows when the sample is restricted to Latin American countries. Büthe and Milner (2008), analyzing FDI inflows in 116 countries between 1975 and 2000, find no effect of regime type on FDI once they control for preferential trade agreements.[5]

In general, like empirical work on other areas such as inequality and economic growth, the effect of regime type on FDI seems to be highly sensitive to alternative specifications such as different democracy measures, sets of countries, time periods, and other covariates.

Li and Resnick (2003) contend that past studies "placed more emphasis on the preferences of the host state and paid less attention to the motivations of foreign investors." They make a more nuanced argument and argue that democracy has competing effects on FDI. Analyzing FDI inflows to fifty-three countries between 1982 and 1995, they find that whereas increases in democracy reduce FDI inflows, the improvement in property rights protection that occurs under democracy increases FDI inflows. Specifically, controlling for property rights, they find a negative effect of democracy on FDI inflows.[6] Li and Resnick's (2003) findings suggest that the stronger property rights protections in democracies are what attracts FDI, not regime type per se.

Li (2006) observes systematic differences in the levels of property rights protection

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[5]They do, however, note that "more subtle government interventions that reduce the profitability of investments have become the key political concern of investors (741)."

[6]Asiedu and Lien (2011) also find conflicting results on the impact of democracy on FDI inflows in a sample of 112 developing countries between 1982 and 2007.

and policy credibility between democratic and authoritarian regimes, and that democratic institutions "collectively serve to strengthen the rule of law and secure property rights." Jensen (2008) argues that the higher premia that political risk insurance firms charge for investments in authoritarian regimes reveals that investors would prefer investing in democratic regimes. Investors prefer the transparent legal systems often found in democracies for the enforcement of contracts and property rights to relying on the promises of authoritarian governments. Through a survey of chief executives of U.S. corporations, Biglaiser and Staats (2010) find that property rights protection factor prominently in investment decisions, lending further credence to the argument that the democratic advantage in attracting FDI is a consequence of stronger property rights.

This review of the literature highlights how domestic political characteristics confer particular advantages that influence a regime's attractiveness to foreign investors. Of particular note is the shift down the "ladder of abstraction" (Sartori 1970) to examine the specific institutions that influence FDI inflows. Yet this body of work has yet to investigate the variation in FDI that authoritarian regimes receive, a surprising gap in light of the renewed interest in authoritarian institutions of late.

We turn now to a discussion of how property rights might affect FDI, and more importantly, the credible protection of property rights.

2.2.1 From Regime Type to Property Rights

Property rights are social institutions that specify the privileges individuals and firms have over a fixed allocation of resources. Property rights are an aggregate of discrete rights, of which the most common are rights of control and rights over income (Haggard, MacIntyre and Tiede 2008). The secure and consistent enforcement of property rights and contracts increases the incentives for individuals to invest, and since investment is intimately tied to growth, the more likely sustained growth can occur. In the absence of such protection and the shadow of time inconsistency, individuals can either protect their own property or reach self-enforcing bargains, both of which involve monitoring and

enforcement costs that reduce and ultimately negate the gains from trade and investment. Uncertainty and asymmetric information further compound this problem. As such, the consistent application and enforcement of the rule of law allows individuals, as Ferejohn and Pasquino (2003) state, "to foresee accurately the consequences of their actions and not be subject to sudden surprises."

North (1981) is perhaps the most influential proponent of the central role of property rights in sustaining economic growth (North and Thomas 1973, North 1990). This idea was further popularized by de Soto (2000) and further expanded by the new growth theory in economics that places primacy on the role of institutions (Acemoglu, Johnson and Robinson 2001, 2002; Rodrik, Subramanian and Trebbi 2002; Easterly and Levine 2003; Helpman 2004). Economic development thus requires appropriate institutions. With the end of the Cold War, the capitalist/market approach to development stood triumphant over the smoldering ashes of the state-led model. Empirically, there is a near universal consensus that better property rights protection and contract enforcement (however measured) are associated with better long-run economic performance, investment, or productivity (Knack and Keefer 1995; Mauro 1995; Scully 1998; Clague et al. 1996, 1999; Hall and Jones 1999; Acemoglu, Johnson and Robinson 2001, 2002; Dollar and Kraay 2003; Keefer and Knack 2002). Clear, consistent and enforceable property rights and contracts minimize transaction costs, reduce the threat of coercion and expropriation, and encourage long-term investment. It is little wonder then that international financial institutions, non-governmental organizations and national aid agencies saw the promotion of property rights—and the rule of law, more generally—as the silver bullet against poverty and underdevelopment.

Amidst the chorus trumpeting the panacea to poverty, there are few discordant voices (Przeworski 2004; Glaeser, La Porta, Lopez-De-Silanes and Shleifer 2004; Gourevitch 2006; Martínez and King 2010, Melton 2011). Melton (2011) finds that while the strength of property rights predicts economic growth, there is substantial heterogeneity in developing countries from 1990 to 2005. Examining within-country variance in

property rights and growth, King and Martinez (2010) find no relationship between changes in a country's property rights score and economic growth in a sample of 162 countries between 1995 and 2005.[7]

Glaeser et al (2004) argue that measurement and endogeneity problems abound in these new institutionalist analyses, least of which is the possibility of reverse causality—that growth is what improves the quality and security of property rights instead of the other way around—and that other factors such as human capital, resource endowments and environmental constraints may be more important determinants of the relationship between property rights and growth. In addition, they charge that the so-called explanatory variables used in these analyses (e.g. risk of expropriation by the government, government effectiveness) reflect outcomes and more importantly, cannot distinguish between autocrats who choose to respect property rights and democratic leaders who have no choice but to respect them.

Glaeser et al's (2004) criticisms notwithstanding, there is another theoretical point of concern. To its credit, the literature, by referring to countries with strong or weak property rights, already recognizes that property rights protection (and contract enforcement) is a matter of degree. What it fails to realize is that a country need not have strong property rights protection to attract investment; it just needs to have sufficient property rights to assure investors and businessmen that their investments will be reasonably protected.[8] Furthermore, almost all research implicitly assumes a necessary precondition for property rights protection—one that Haggard, MacIntyre and Tiede (2008) points out as well—that the state is *capable* of enforcing these rights in the first place. Consequently, it is not possible to identify whether poor property rights protection are a function of

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[7]They do, however, find a positive effect of a country's level of property rights and economic growth. They conclude that either there is "no causal relationship between property rights and growth (at least in the short-run), or that the property rights indices have poor validity."

[8]A related point is the assumption that property rights protection and the investment that it attracts are a single monolithic category. That is, existing research does not distinguish among different types of property rights protection (e.g. intellectual property rights) and investments.

"bad" institutions or the more fundamental problem of state (in)capacity.[9]

Miller's (2009) definition of property rights best captures this point: property rights refer to the "…ability of individuals to accumulate private property, secured by clear laws that are *fully enforced by the state*" (emphasis added). This implies that it is not sufficient to have property rights; there must also be a credible commitment to the enforcement of property rights. Put another way, it is *de facto* property rights that matter, not de jure property rights. Kurrild-Klitgaard and Bergen (2002, 187) sums this up perfectly, "What is important is not the formal enumeration of de jure rights…, but the de facto protection of rights …." As an illustrative case, Peru and Bolivia started out with similar levels of property rights in 1990, and by 2005, had roughly doubled their levels of property rights. Yet Peru's economy managed an average economic growth rate of 2.8% over this period whereas Bolivia's economy only grew at 1.5%, almost half that of Peru. I contend that the credibility of each country's commitments to property rights explains this difference.

In sum, despite the recognition that the credibility of property rights is critical to realize its benefits of attracting investment (Haggard, MacIntyre and Tiede 2008), there remains a dearth of research that specifically addresses the problem of credibility that developing countries, and especially authoritarian regimes, face. Put simply, for property rights to promote investment, the state must ensure their credible protection. Countries with a credible commitment to the protection of property rights will attract more FDI than those without.

2.3   The Problem of Credibility

Classical political economy has long espoused the state as the enforcer of property rights and contracts (Smith 1776). Yet a central concern of the classical political economists is the fear that the very power that allows the state to enforce property rights is itself

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[9]As Samuels (2006) states, "programs have typically focused on institutional objectives and formal legal structures without a nuanced understanding of the political and economic dynamics that prevented such structures from existing in the first place."

the threat to property rights: what the state giveth, the state can taketh. Acutely aware of this fundamental dilemma, the American federalists went to great lengths to design institutions that would rein in the potential excesses of the state, and thus gave birth to the idea of institutional checks and balances that remain lauded to the present day. This dilemma is the *time inconsistency* or *credible commitment* problem: leaders (and governments) not only have the capacity to renege on their commitments, but can face powerful incentives to do so. In the presence of such incentives, and the recognition that individuals are fallible, property rights cannot be credible, placing the potential gains from investment at risk. The only way to reduce the likelihood of executive discretion is to create institutions that somehow constrain the potentially coercive hand.

North and Weingast (1989) argue that the series of institutional changes in Great Britain in the wake of the Glorious Revolution, including the abolition of the Star Chamber, and most importantly, the requirement that Parliament convene on a regular basis with an effective veto on the raising of new revenues, is what eventually led to the rise of Great Britain as an economic and military power. These changes essentially constrained royal power and in so doing, made the word of the sovereign credible. Weingast (1997) is more explicit about the problem of credible commitment; he states, "For economic growth to occur the sovereign or government must not merely establish the relevant set of rights, but must make a credible commitment to them."

Institutional checks à la veto points is one way to enhance the credibility of government commitments (Cox and McCubbins 2001, Tsebelis 2002, MacIntyre 2003). Veto points can arise from a variety of institutional arrangements (e.g. presidentialism or bicameralism), electoral rules (proportional representation and the probability of coalition governments), and the presence of independent agencies such as central banks, or courts. The presence of such checks reassures private actors that their investments and property will be protected. There is empirical evidence to suggest that these checks are associated with higher overall economic growth, lower policy volatility, and higher levels of foreign direct investment (Henisz 2000, 2002).

In general, any solution to the problem of credible commitment rests on the premise that constraints are necessary to check leader discretion and to reduce the predatory incentive to expropriate or otherwise take actions harmful to growth. These solutions seem to suggest that authoritarian rulers, whom by definition retain full discretion over policy, cannot credibly commit to the protection of property rights. Yet if this is the case, what then explains the impressive performance of some authoritarian regimes?

2.3.1 Credible Commitment via Domestic Means

Institutionalist arguments dot the landscape of credible commitment. Of late, there is a promising literature that seeks to identify the conditions under which autocratic leaders might create institutions as credible constraints on their rules, how these institutions work, and in turn, facilitate investment and economic growth. These studies take issue with the notion that parties, legislatures and elections serve the same purpose in authoritarian regimes: to co-opt potential opposition and to distribute rents to loyalists (Boix 2003, Boix and Svolik 2013, Escribà-Folch 2003, Gehlbach and Keefer 2012, Ghandi 2008, Ghandi and Przeworski 2006, Wright 2008). Instead, they seek to examine more closely the institutional diversity among different regimes in order to answer the following question: to what extent does institutional variation explain the differences in private investment across authoritarian regimes?

While Wintrobe (2000) shows how parties can be used as a loyalty-generating device to favor some citizens and to discriminate against others, and argues that this may be more important for "totalitarian" or power-maximizing dictators than "tinpot" or wealth-maximizing ones, Gehlbach and Keefer (2012) argue that parties may also be used to maximize wealth. In particular, Gehlbach and Keefer (2012) argue that institutionalized ruling parties allow autocrats to credibly commit to investors, and in so doing, promote investment. These parties work as a commitment device by facilitating collective action among a group of elites, which allows this group to check the power of the autocrat, and consequently, make credible the promises of the autocrat. In a departure from existing

analyses, which typically assume the existence of an elite group, Gehlbach and Keefer (2012) endogenize the creation of this group and in so doing, place emphasis on the autocrat's choice in determining the extent of institutionalization. Using the age of the ruling party as a proxy for the degree of institutionalization of the ruling party, they find that the older the party, the greater the quality of governance; and that ruling parties are older when society is split along religious lines and when the service sector constitutes a large proportion of GDP.

Boix and Svolik (2013) seek to uncover the reason(s) behind the creation of institutions in autocratic regimes. They argue that institutions, by serving as a commitment and monitoring mechanism, facilitate power-sharing between a ruler and his elites, thereby preventing unnecessary revolts and increasing authoritarian stability and autocratic survival. In a similar vein, Wright (2008) suggests that legislatures in autocratic regimes serve the same commitment function, albeit with a twist. Whereas Boix (2003) argues that the presence of an authoritarian legislature reflects the existence of multiple veto players, which increases property rights protection and security of investment, Wright (2008) argues that not all legislatures are created equal and distinguishes between two types of legislatures: binding and non-binding. Drawing on Geddes (1999) classification of authoritarian regimes, he distinguishes between two types of legislatures—binding and non-binding—and argues that not all authoritarian legislatures serve as a check on the autocrat's power.

Binding legislatures constrain the autocrat's power and tend to emerge in military and single-party regimes, which he argues are more dependent on domestic investment than natural resource revenue than personalist regimes and monarchies. Thus binding legislatures serve as a device with which autocrats can use to make credible their promises to investors. In addition, such legislatures ought to be more prevalent in wealthier autocracies with higher per-capita income and in regimes where leaders expect to stay in power for a long time. In Olsonian (1993) terms, stationary bandits are more likely to create binding legislatures.

By contrast, personalist regimes and monarchies typically have non-binding legislatures that serve a very different function: reward and punishment. Non-binding legislatures serve as a distributive and sanctioning device to co-opt yes-men and to destroy would-be challengers. Such legislatures are more likely to emerge when the regime is unstable, which decreases the time-horizon of leaders, and when the size of the population is relatively small.

Ghandi (2008) examines the impact of authoritarian institutions on economic growth and suggests that autocrats create legislatures and parties as vehicles for distributing rents and policy concessions, thus providing autocrats with instruments to co-opt, induce cooperation, and neutralize threats. As such, these institutions are not mere "window-dressing" but rather strategic responses to two fundamental problems of governance: how to avert rebellion and how to solicit cooperation from the masses. The types of institutions that arise are a function of the extent of threats to the autocrat's rule. Using a Heckman selection model to account for possible heterogeneity among autocrats, e.g. there may be dictators with "tutelary" motives, she finds that dictatorships with legislatures and multiple parties experience better economic performance on average.

These studies point to two features of successful authoritarian rule: the existence of a (binding) legislature (Boix 2003; Boix and Svolik 2013; Ghandi and Przeworski 2006; Wright 2008) and multiple parties (Gandhi 2008). However, the primary concern of these studies is autocratic survival, not economic performance per se. While economic performance is often tied to the survival of autocratic regimes—and these studies do get at how autocratic leaders are able to credibly commit using domestic institutions—they nonetheless neglect a critical feature of politics: the international environment and the opportunities it offers to autocratic leaders.

2.3.2 BITs and FDI

The defining feature of FDI relevant to political economists is its long-term nature, and in particular, its mobility *ex-ante*, and its illiquidity *ex-post*. That is, once foreign capital

is invested in a country, the investor is essentially subject to the whims of the country's leader. A leader, knowing that investments once made, are not easily withdrawn, may have incentives to alter taxes or regulations ex-post. Consequently, investors are cautious ex-ante, and in the absence of a credible commitment to the protection of investment, may refrain from investing which will leave both the government and investor worse off.

Bilateral investment treaties (BITs) are legal agreements signed between states that aim to protect and promote FDI. BITs define a set of clear rights for multinational investors and establish mutually-agreeable terms for foreign direct investment. Most BITs include: a standard of fair and equitable treatment, protection against arbitrary or discriminatory policies with regards to FDI, and "that investments shall not be expropriated or nationalized either directly or indirectly except for a public purpose; in a non-discriminatory manner; upon payment of prompt, adequate and effective compensation; and in accordance with the process of law (United Nations Model BIT, Article 6, UNCTAD 2007). From the perspective of the capital-importing country, their basic purpose is to help attract FDI. For the capital-exporting country, BITs protect its investors from political risks, and more generally, help safeguard investments made in the host country.

BITs also provide a forum for dispute resolution by delegating authority to a third-party arbitrator. In most BITs, this is the International Centre for the Settlement of Investment Disputes (ICSID) or the International Chamber of Commerce in Paris. Most importantly, in contrast to preferential trade agreements (PTAs) and other international agreements, BITs allow individual firms to seek arbitration at an international tribunal *without* the consent of either state's government. Arbitration awards are *binding*, and governments typically accede to these rulings for fear of retaliation by other actors and a loss of reputation, which may result in capital (FDI) outflows.

Unlike world trade, there is no international institution governing FDI. As such, for some scholars, BITs are "the most important international legal mechanism for the encouragement and governance" of FDI (Elkins, Guzman and Simmons 2004). By the

end of 2013, 2,902 BITs had been signed and 177 countries had entered into one or more BITs. China ranks first in the number of BITs signed (125). Authoritarian regimes also sign a greater number of BITs on average compared to democratic regimes (Figure 2.1).

There is considerable debate over the effects of BITs on FDI. A cross-sectional analysis of data from 1995 on 133 countries and 200 BITs by UNCTAD (1998) reveals a weak positive correlation between the presence of a treaty and an increase in FDI. Using data on FDI flows from twenty OECD countries to thirty-one developing countries from 1980 to 2000, Hallward-Driemeier (2003) finds little evidence of a positive relationship between BITs and increases in FDI flows. Salacuse and Sullivan (2005) find that while BITs signed by the US do increase FDI inflows, BITs signed by other OECD countries have no effect. In particular, they find that a developing country that signs a BIT with the US may receive up to an additional $1 billion in FDI inflows from the US per year. Gallagher and Birch (2006), however, find that BITs signed with the US has no such effect.

Neumayer and Spess (2005) argue that Hallward-Driemeier's (2003) and Salacuse and Sullivan's (2005) dyadic models cannot account for the possibility that BITs may attract more FDI from non-signatory countries and thus underestimate the FDI-attracting power of these treaties. That is, the use of dyadic data ignores the signaling and potential spillover effects of BITs in attracting FDI. Consequently, they use a monadic approach on a sample that includes 119 developing countries from 1970 to 2000 and find a positive and significant effect of the number of BITs on FDI flows. That is, the greater the number of BITs signed by a host country, a more FDI the country receives.

Tobin and Rose-Ackerman (2005) also use monadic FDI inflows on a panel dataset of sixty-three countries from 1980 to 2000. Their results reveal that the effects of BITs on FDI is contingent on the level of political risk: a greater number of BITs increases the amount of FDI a host country receives only at low levels of risk but lowers FDI at high levels of risk. In addition, they find no significant effect of BITs on FDI flows from the

US to developing countries in a separate dyadic analysis of fifty-four countries. Finally, Büthe and Milner (2009) examine FDI inflows as a percentage of GDP in a dataset of 122 developing countries over thirty-one years and find a positive correlation between FDI inflows and the number of BITs signed.

2.4 Credible Commitment via International Means

For BITs to work, it must be the case that they help reassure multinational investors that a host state will not flagrantly expropriate or otherwise take actions hostile to investment. More specifically, BITs help governments to increase the credibility of their commitment to maintain an investment-friendly environment.

In general, there are two ways in which a government can make its commitments credible. The first mechanism relies on reputation: if a country has not reneged on a previous commitment, then investors ought to expect it to keep its commitment in the future. The longer a country maintains its commitments, the better its reputation, and the more likely investors will trust the country. North and Weingast (1989, 804) refer to this as "setting a precedent of 'responsible behavior'." In principle, such a mechanism can work if a country has *never* violated its commitments (Barro and Gordon 1983). In practice, however, this is a tall order, especially for less developed countries.

The second mechanism relies on institutional rules that constrain a government from violating its commitments.[10] As discussed earlier, there are a variety of institutions that may enhance a government's credibility: democracy (Jensen 2008), checks and balances (North and Weingast 1989, Henisz 2000, Weymouth 2011), judicial independence (Feld and Voigt 2003, Voigt and Gutmann 2013), central bank independence (Moser 1999), and federalism (Weingast 1995). However, in addition to domestic institutions, international organizations can also help induce compliance and boost credibility. International

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[10]North and Weingast (1989) writes, "…constrained to obey a set of rules that do not permit leeway for violating commitments."

agreements provide a shared understanding of contractual obligations and facilitate information sharing and dissemination. This makes it easier to identify, monitor and punish noncompliance (Mansfield, Milner and Rosendorff 2002, Büthe and Milner 2008, Mansfield and Reinhardt 2008, Fang and Owen 2011).

In his seminal paper, Fearon (1997) describes two ways in which states may make credible commitments: "hand-tying" and "cost-sinking". By signing a BIT, a country may signal its desire for and willingness to protect foreign capital and more generally, provide a favorable investment environment. However, for this signal to be informative, investors must be able to distinguish between governments that value and would protect FDI and those that do not. Put another way, an informative signal is one that reveals a government?s "type". In the parlance of game theory, a signal is credible if it generates a separating equilibrium between types, such that only those that value foreign direct investment would send the signal.

I argue that a BIT is such an informative signal that a government can use to demonstrate a commitment to protect FDI in the hopes of attracting more FDI. It is informative because it is costly. The costs of signing a BIT implies that only governments truly committed to protecting FDI will take, and thereby allows such governments to distinguish themselves from less committed ones, or those that are bluffing. This is Fearon's (1997) "cost-sinking" mechanism of credible commitment. It is important to note that this signaling aspect of BITs occurs *ex-ante*; that is, it occurs prior to the receipt of investment.

BITs involve a variety of costs: diplomatic, sovereignty, arbitration, and reputational costs. Diplomatic costs arise in the direct negotiations between countries on investment policies, dispute resolution mechanisms, and compensation for contract violations when two governments decide to enter into a BIT (Elkins, Guzman and Simmons 2006). A government incurs sovereignty costs when it ratifies, and complies with an international treaty. In the context of BITs, this may include domestic policy reform as well as the restriction of available policy instruments such as taxation, regulation, and currency and

capital controls. Most important, however, are the costs associated with delegating adjudicative authority; as Elkins, Guzman and Simmons (2006) state, "virtually any legal change or rule that affects foreign investors is potentially subject to review by a foreign tribunal."[11]

Furthermore, by reducing the ambiguity of host country obligations, BITs are more precise than customary international law. This allows violations to be more easily detected and increases the reputational cost of reneging on the treaty (Abbott et al 2000; Guzman 2002). Büthe and Milner (2009) note that "the existence of a BIT makes it easier for foreign investors to recruit the assistance of their home governments to bring costly pressure to bear on FDI host country governments that renege on their commitments to economically liberal policies."

In addition, a BIT is also a commitment device that imposes costs on a government if it reneges on its word, thereby "tying the hands" of the government. As mentioned previously, most BITs contain a clause that delegates authority to a third-party adjudicator such as the ICSID in the event of a dispute. What is remarkable about these BITs is that they allow individual firms to file disputes with the ICSID without the consent of their home governments. In light of this feature, some scholars claim that BITs constitute a particularly strong commitment compared to other treaties.

Multinational firms can take a government that violates its BIT commitments to court, and indeed, as Allee and Reinhardt (2010) show, foreign investors do make use of these dispute resolution mechanisms to defend their investment rights and ensure appropriate compensation for contract violations. In 2013, 158 states are signatories to the ICSID convention. In the same year, the ICSID administered 195 investor-state disputes, more than three times the number of cases just a decade ago (63 cases in 2003). In addition, forty-three new cases were registered in 2013; according to the ICSID, "This is the most cases registered at ICSID in a single fiscal year and represents an increase of

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[11]The existence of sovereignty costs implies that not all governments will sign BITs; governments that do must necessarily expect greater benefits. I take up this point in chapter 4.

over 10% compared to the number of cases registered in FY2012"(ICSID Annual Report 2013).

For instance, in *Desert Line Projects LLC v. Republic of Yemen*, Desert Line Projects had a road-building contract with the Yemeni government. Yet after the bulk of construction was completed, the Yemeni government failed to make payment. Under the Oman-Yemen BIT, Desert Line Projects LLC filed suit against Yemen with the International Centre for the Settlement of Investment Disputes (ICSID), alleging that the Yemeni government had violated its BIT obligations. The ICSID ultimately ruled in favor of Desert Line Projects LLC, awarding the firm approximately 3.6 billion Rial, or US$18 million to be paid within 30 days (ICSID Case No. ARB/05/17).

In another case, when Vladimír's Železný's Czech Media Council violated its contract with Ronald S. Lauder's Central European Media Enterprises (CME) in 1999, Lauder initially filed suit with the courts in the Czech Republic but to no avail. Fortunately, the Czech Republic had signed a BIT with the United States in 1991, and Lauder was able to sue the Czech Republic as an individual for the failure of the Czech government to uphold his contracts with the United Nations Commission on International Trade Law (Ronald S. Lauder v. the Czech Republic, UNCITRAL Arbitration Proceedings 2001). Throughout these proceedings, Lauder also publicly denounced the Czech Republic in the New York Times and the Washington Post, warning U.S. investors about investing in the Czech Republic (Kerner 2009, U.S. Congress 2000).

In addition, because the Czech Republic had also signed a BIT with the Netherlands in 1999, Lauder filed suit as a corporate entity with CME, alleging that Železný's actions ruined a potential merger with the Dutch-owned Scandinavian Broadcasting Services. Though Lauder's personal suit under the Czech Republic-U.S BIT was unsuccessful, CME's suit under the Czech Republic-Netherlands BIT was successful, and the arbitration tribunal ordered the Czech government to pay CME damages of $353 million (see Kerner 2009 for details). Despite resistance from the Czech government at the size of

the award, it had little choice but to comply with the ruling. As Czech Foreign Minister Cyril Svoboda said, "prompt payment is a must in order to safeguard the nation's reputation abroad" (Desai and Moel 2008, 239).

The cases described above shows how investors are able to use BITs to protect their investments, especially in when domestic law fails to deliver. More importantly, it highlights the potentially high *ex-post* costs of BITs, how BITs can influence the behavior of governments, and how BITs can increase a government's credibility. Büthe and Milner (2009) writes, "BITs provide information about the nature of the commitment and about any actual occurrence of a violation—and they provide mechanisms for the enforcement of those commitments. All of this increases the costs of reneging…which in turn should raise the credibility of those commitments in the eyes of foreign investors."

Finally, Elkins, Guzman and Simmons (2006) argue that BITs in particular have several credibility-enhancing features: (1) They reduce the ambiguity of host country obligations, and are more precise than customary international law. This allows violations to be more easily detected and also increase the reputational cost of reneging on the treaty (Abbott et al. 2002; Guzman 2002). (2) Since BITs are negotiated between sovereign states, any violation of the treaty constitutes an infringement of the "fundamental principle of international law": *pacta sunt servanda*, which may lead to foreign policy consequences beyond the investor-host government relationship. (3) Finally, BITs contain an enforcement mechanism: dispute settlement provisions that allow the investor to initiate arbitration proceedings at an international tribunal without the consent of his/her home government and the host government. Furthermore, the host government has no influence over the decision of the international tribunal and refusing to comply with the court's decision may generate serious reputational effects. All in all, these characteristics raise the ex-post costs of shirking, which make a BIT a credible commitment.

2.5   Generating Credibility

The above discussion shows that governments face a formidable challenge to credibly guarantee the protection of property rights and an investment-friendly environment. Yet governments must demonstrate a credible commitment to property rights in order to reassure foreign investors and receive greater amounts of foreign direct investment. The scholarly consensus is that authoritarian regimes generally find it more difficult to generate credibility due to their comparatively weaker institutions compared to democratic regimes. Figure 2.2 shows that on average, democracies have a greater number of executive constraints (*xconst* from the POLITY IV dataset) compared to their authoritarian counterparts.

I argue, however, that a government can generate credibility by combining multiple mechanisms at the domestic and international level. In particular, authoritarian governments can use bilateral investment treaties to enhance the credibility of their commitments to the protection of foreign direct investment. I depart from existing research in two ways:

First, contra previous research, I argue that BITs can act as a costly signal that separates committed governments from less committed ones for two reasons:[12] (1) BITs are highly visible agreements. The United Nations Conference on Trade and Development (UNCTAD) makes the full text of all BITs available on their website, as does the International Centre for the Settlement of Investment Disputes. Furthermore, countries publicize BIT signings in the national media (Büthe and Milner 2009, 184). As such, a BIT sends a public signal to all potential investors of a government's intentions to provide a liberal, investment-friendly environment.[13] (2) As discussed at length above, BITs

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[12]Büthe and Milner (2009), for instance, writes, "we rely on a logic of credible commitment…rather than a signaling logic, since we do not believe BIT signing in and of itself can bring about a separating equilibrium, which would be required for a signaling model to work."

[13]In addition, Allee and Reinhardt (2011, 404) note that, "Governments that sign multiple treaties may be able to send a more effective signal, and this accumulation of numerous treaties demonstrates a stronger general commitment to protect investment and to promote a healthy investment climate for all foreign investors."

entail significant diplomatic and sovereignty costs; consequently, a rational government would sign a BIT if and only if the expected benefits from the BIT outweigh the potential costs. In so doing, I develop a theory of BIT signing that explicitly examines the *domestic* motivations that underlie a government's decision to sign a BIT in Chapter Four.

Figure 2.3: Average Level of Executive Constraints (POLITY IV) by Authoritarian Regime Type
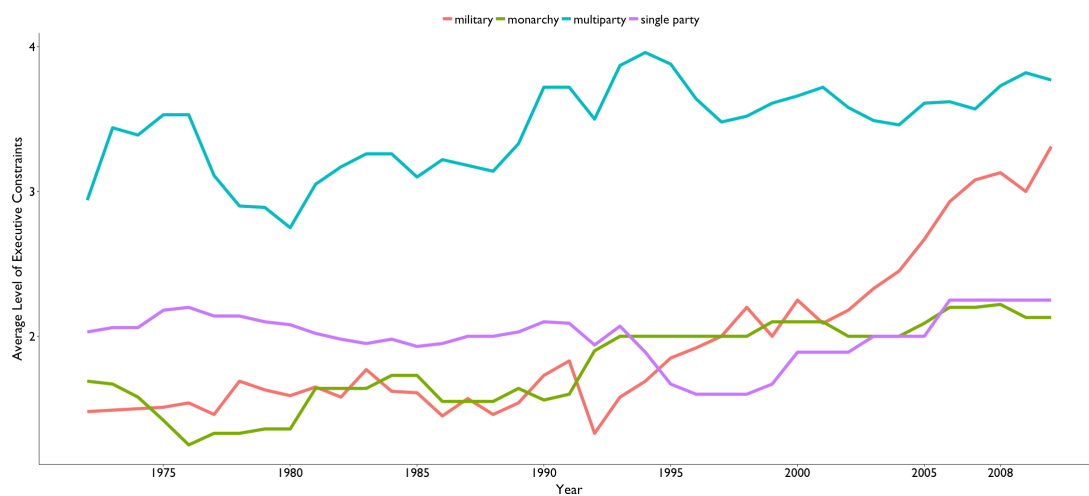
Second, unlike existing research on FDI, I do not cast authoritarian regimes as a single category against democratic regimes; neither do I simply assess the impact of BITs on FDI without considering the impact of domestic institutions. Instead, I contend that authoritarian regimes vary in the credibility of their commitment to property rights; some regimes are more credible than others. This credibility variance is a consequence of the institutional variation that the work on authoritarian institutions reveals. As Figure 2.3 shows, authoritarian regimes clearly differ in the number of executive constraints (*const* from the POLITY IV dataset). As such, the credibility-enhancing power of a BIT differs across countries; BITs do not have the same effect in all countries. This suggests that not all authoritarian governments with BITs will receive increased FDI.

The extent to which a BIT will attract FDI depends on a country's domestic credibility mechanisms. I thus contribute a resolution to the current state of conflicting evidence on the effects of BITs on FDI. More importantly, I provide an explanation for the puzzle of the high-performing authoritarian regime; to paraphrase Adam Smith, it is not from the benevolence of the dictator that we expect foreign direct investment and economic growth, but from his regard to his own interest to stay in power.

Chapter 3

Signaling Credibility

"A good model in economic theory, like a good fable, identifies a number of themes and elucidates them. We perform thought exercises that are only loosely connected to reality and that have been stripped of most of their real-life characteristics. However, in a good model, as in a good fable, something significant remains."

Ariel Rubinstein, *Dilemmas of an Economic Theorist 2006*

3.1 Introduction

In Chapter Two, I discuss the literature on credible commitment, which suggests that states have three ways to make their commitments credible: reputation, "tying hands", and "sinking costs" (North and Weingast 1989, Fearon 1997). Relying on reputation is rarely an option for developing countries since these states tend to have varied and often turbulent histories. Scholars tend to regard international institutions, including bilateral investment treaties (BITs), as a "hands-tying" mechanism, which generates disincentives for states to violate commitments *ex-post* (Neumayer and Spess 2005, Tobin and Rose-Ackerman 2005, Büthe and Milner 2009). In the context of BITs, the delegation of dispute settlement authority to a third-party adjudicator, along with the ability of individual firms to seek redress against host states, constitutes this mechanism.

BITs as a "cost-sinking" mechanism is less convincing as a way for states to credibly

commit to the protection of foreign direct investment. As Büthe and Milner (2009) writes, "…we do not believe BIT signing in and of itself can bring a separating equilibrium, which would be required for a signaling model to work." I beg to differ. I argue that BITs can generate sufficiently high *ex-ante* costs to send a credible signal, such that only states that are truly committed to maintaining a favorable investment climate will sign BITs. Moreover, states publicize BIT negotiations and formations in the media; a BIT is therefore a public signal that all potential investors can observe.

In particular, the relevant *ex-ante* costs in BITs are sovereignty and diplomatic costs (Elkins, Guzman and Simmons 2006). Most BITs contain provisions that constrain a host state's regulators and policymakers, limitations that may be politically costly for the leaders and legislators who pursue BITs. For instance, foreign mining companies, using the terms of BITs, have challenged the post-apartheid property reallocation policy in South Africa (Peterson 2004). BITs can also potentially influence policy: due to its BIT obligations, the Canadian government may not be able to extend its public health care into services provided by foreign firms (Canadian Centre for Policy Alternatives Consortium on Globalization and Health 2002).

Following Rubinstein (2006), I use two game theoretic models to highlight how BITs can help states credibly signal their commitment to property rights and investment protection. First, drawing from Spence (1973), I show that a BIT can lead to a separating equilibrium where only low risk countries (i.e. countries with strong property rights) sign BITs, and high risk countries (those with weak property rights) do not. To do so, I use the Intuitive Criterion (Cho and Kreps 1987) to refine the set of multiple equilibria and identify a unique separating equilibrium. Next, I draw from the theory of global games to model how a BIT can act as a public signal that helps coordinate the investment decisions of firms. In particular, I show that the extent to which a BIT can attract foreign direct investment depends on the level of credibility it adds to a country's level of property rights.

3.2 Credible Signaling

There are two players: a country and a foreign firm. The foreign firm is deciding whether to invest in the country. Suppose that the country can either have low political risk or high political risk. Let θ_L and θ_H denote low and high political risk respectively. The level of political risk is the country's *type*, θ. The firm will receive greater profit if it invests in a country with low political risk than one with high political risk. That is, $\theta_L > \theta_H > 0$.

The game unfolds as follows: at time 0, nature determines the country's type θ. The country knows its type but the foreign firm does not, i.e. θ is private information. With some probability, x, the firm believes that the country has low political risk, and with corresponding probability, $1 - x$, the firm believes that the country has high political risk. That is, $Pr(\theta = \theta_L) = x$ and $Pr(\theta = \theta_H) = 1 - x$.

At time 1, the country decides whether to sign a BIT, b, where $\underline{b} \leq b \leq \bar{b}$. One can think of the range $[\underline{b}, \bar{b}]$ as the strength of a BIT.[14] Let $\underline{b} = 0$. In addition, as discussed in chapter Two, BIT signing entails *ex-ante* costs. Suppose that the cost, c, depends on the strength of the BIT and the country's type, i.e. $c(b, \theta)$. I further impose the following assumptions on the cost function:

1. Not signing a BIT entails no costs: $c(0, \theta) = 0$.

2. The cost of signing a BIT increases with the strength of the BIT: $\dfrac{\partial c}{\partial b} > 0$.

3. The cost of signing a BIT decreases with a country's level of risk. That is, a low risk country incurs lower costs from signing a BIT compared to a high risk country: $\dfrac{\partial c}{\partial \theta} < 0$.

4. The marginal cost of signing a BIT increases with the strength of the BIT: $\dfrac{\partial(\frac{\partial c}{\partial b})}{\partial b} < 0$.

---

[14]As Yackee (2008) notes, there are formally strong and weak BITs. Strong BITs are treaties with strong and meaningful arbitration clauses; weak BITs lack these.

5. The marginal cost of signing a BIT decreases with a country's level of risk: $\frac{\partial(\frac{\partial c}{\partial \theta})}{\partial \theta} < 0$. This is known as the *single crossing* property or Spence-Mirrlees condition.

The single crossing property merits some discussion. Intuitively, this condition states that if a high risk country *weakly* prefers to sign a stronger BIT to a weaker BIT, then a low risk country would *strictly* prefer to do so as well. This implies that a low risk country will never sign a weaker BIT than a high risk country in equilibrium. Being a low risk country reduces both the *total* cost of signing a BIT (Assumption #3) *and* the *marginal* cost of signing a BIT.

More formally, suppose that a country of type θ chooses to sign a BIT of strength b. If b is a possible choice for a low risk country, and some other BIT of strength b' is a possible choice for a high risk country, then the single crossing property implies that $b \geq b'$. To see this, note that the low risk country could have chosen b' instead of b. In this case, its utility would be:

$$u_i(b, \theta) - c(b, \theta_L) \geq u_i(b', \theta) - c(b', \theta_L)$$

The high risk country could have chosen b instead of b', so that:

$$u_i(b', \theta) - c(b', \theta_H) \geq u_i(b, \theta) - c(b, \theta_H)$$

Since $\theta_L > \theta_H$, $b \geq b'$.

At time 2, the firm observes a country's choice of b, and updates its beliefs on whether the country is of type θ_L (or low political risk) with probability $\alpha(b)$, and with corresponding probability $1 - \alpha(b)$, that the country is of high political risk, θ_H. The firm then purchases some amount of risk insurance, γ. The greater the risk, the higher the insurance premium. The amount of risk insurance the firm purchases depends on its beliefs about the level of risk in the country. That is: $\gamma(b) = \alpha(b)\theta_L + (1 - \alpha(b))\theta_H$. The game ends at time 2.

3.2.1 Solving the Game

If the firm can perfectly observe the country's type, i.e. there is complete information, then it would pay exactly $\gamma = \theta_L$ if the country is low risk, since $\alpha(b) = 1$; and $\gamma = \theta_H$ if the country is high risk ($\alpha(b) = 0$ in this case). Note that in the absence of a BIT, the firm will pay $\gamma = E[\theta] = x\theta_L + (1 - x)\theta_H$, where x is the firm's *ex-ante* beliefs about the risk of the country.

Let u_H and u_L be the utilities of a high and low risk country respectively. In any separating equilibrium, a high risk country would choose $b^*(\theta_H) = 0$. A low risk country, however, will choose a BIT such that $\tilde{b} < b^*(\theta_L) < \hat{b}$, where: (1) $\tilde{b}$ is an implicit function of $u_H(b = 0, \gamma = \theta_H) = u_H(b = \tilde{b}, \gamma = \theta_L)$ and; (2) $\hat{b}$ is implicitly given by $u_L(b = 0, \gamma = \theta_H) = u_H(b = \hat{b}, \gamma = \theta_L)$. Any *separating* equilibria thus satisfies $b^*(\theta_H) = 0$ and $\tilde{b} < b^*(\theta_L) < \hat{b}$. That is, a high risk country would not sign a BIT while a low risk country would. Moreover, there is some variance over the strength of a BIT signed by low risk countries. The key here, however, is that a country can signal to the firm that it is low risk by signing a BIT.

Unfortunately, there are also *pooling* equilibria, in which both types of countries will sign BITs. In this case, a BIT is non–informative; the firm will not be able to distinguish between high and low risk countries since both types will sign BITs. In particular, both types of countries will choose $b^* \in [0, \tilde{b}]$ in a pooling equilibrium. Finally, there is a class of *semi-separating* equilibria in which one or both types of countries randomize.

3.2.2 The Intuitive Criterion

The above discussion highlights that in the canonical Spence (1973) signaling model, the concept of sequential equilibrium leads to multiple equilibria with indeterminate predictions. The main issue stems from the lack of restrictions on beliefs *off* the equilibrium path on the part of the firm. The Intuitive Criterion (Cho and Kreps 1987) provide a means to narrow these beliefs and in so doing, pin down a unique separating

equilibrium.

Choose some non-equilibrium signal b, and suppose that for some type of country, even if it would receive more investment if it sent the signal b, it would still prefer to stick to its equilibrium signal b^*. In this case, the non-equilibrium signal b is *equilibrium-dominated* for this country type (Cho and Kreps 1987). Such a country would never send such a signal b.

In the context of my model then, the Intuitive Criterion states that: if, under some current equilibrium, a firm receives a non-equilibrium signal that is equilibrium-dominated for some country types but not others, then the firm's beliefs cannot place a positive probability on the former.

Proposition 1. *There exists a unique separating equilibrium that satisfies the Cho-Kreps Intuitive Criterion in which a high risk country chooses $b^*(\theta_H) = 0$ and a low risk country chooses $b^*(\theta_L) = \tilde{b}$.*

Proof. First, I rule out all pooling and semi-separating equilibria where both types θ_H and θ_L choose the same value of b with some positive probability. At this value b, the payoff to each type is:

$$[\alpha\theta_L + (1 - \alpha)\theta_H] - c(b, \theta)$$

where α, as stated earlier, is the firm's posterior belief after observing b.

However, there always exists a $b' > b$ such that:

$$[\alpha\theta_L + (1 - \alpha)\theta_H] - c(b, \theta_H) = \theta_L - c(b', \theta_H)$$

and

$$[\alpha\theta_L + (1 - \alpha)\theta_H] - c(b, \theta_L) < \theta_L - c(b', \theta_L)$$

There also exists some $b'' > b'$ that is equilibrium-dominated for the high risk type:

$$[\alpha\theta_L + (1 - \alpha)\theta_H] - c(b, \theta_H) > \theta_L - c(b'', \theta_H)$$

but is *not* equilibrium-dominated for the low risk type:

$$[\alpha\theta_L + (1-\alpha)\theta_H] - c(b, \theta_H) < \theta_L - c(b'', \theta_L)$$

Since b'' is not equilibrium-dominated for the low risk type, then a low risk country will deviate to b''. By the Intuitive Criterion, the firm, upon observing b'', must believe that the country is a low risk country with probability one. At the same time, since a low risk country benefits from deviating to b'', it will not choose b in equilibrium; we thus remove the pooling and semi-separating equilibria.

Next, consider all separating equilibria in which a high risk country θ_H chooses $b = 0$ while a low risk country θ_L chooses some $b > b_1$. Suppose there is some other value, b' where $b > b' > b_1$. Such a value b' is equilibrium-dominated for the high risk type but not for the low risk type. Once again, by the Intuitive Criterion, if a firm observes b', it believes for certain that the country is a low risk type. As such, a low risk country will deviate to b' and b cannot be an equilibrium.

The only equilibrium that survives the Intuitive Criterion is the one where a high risk country chooses $b^*(\theta_H) = 0$ and a low risk country chooses $b^*(\theta_L) = \tilde{b}$. $\tilde{b}$ is just sufficiently strong so that a high risk country has no incentive to pretend to be a low risk country.

$\square$

Consequently, if the firm observes a country signing a BIT, $b = \tilde{b}$, then it receives a credible signal that the country is low risk. Similarly, if the firm observes $b = 0$, then it knows that the country is high risk.

3.2.3 Implications

The analysis above shows that a BIT can indeed act as a signal that separates low risk from high risk countries. There is a unique equilibrium in which high risk countries do not sign BITs whereas their low risk counterparts do. As such, firms who observe a country

signing a BIT can infer that the country is indeed low risk; the BIT essentially allows low risk countries to separate themselves from high risk ones. Firms would therefore prefer investing in countries with BITs, leading to the following hypothesis: *Countries with BITs will attract more foreign direct investment than those without.*

3.3 Global Games

The above model illustrates how BITs can help countries signal their commitment to property rights. However, I did not model explicitly how a BIT can induce firms to invest in a country. To do so, I draw on recent advances in game theory—the theory of global games. Pioneered by Carlsson and van Damme (1993) and popularized by Morris and Shin (1998), global games provide a framework with which to analyze coordination games, and more importantly, help resolve the issue of multiple equilibria that arises in such games.

I begin with a brief description of a benchmark global games model in which there are no BITs, i.e. a model in which there is no information acquisition. I next introduce signaling into the model by allowing the host country to sign a BIT.

3.3.1 The Benchmark Model

There is a continuum of multinational firms indexed by $i \in [0, 1]$. Each firm has to decide whether to invest (k) or not invest ($\sim k$) in a host country. If a firm invests, it incurs a cost $c \in (0, 1)$. The simultaneous decision of investors form the aggregate level of investment the host country receives: $\mathcal{K}$. Investment returns depend on: (1) the strength of property rights in the host country, θ, and: (2) the aggregate level of investment in the host country, $\mathcal{K}$. If there is sufficiently high investment, i.e. $\mathcal{K} \geq 1 - \theta$, then investment is successful. In this case, each firm that invests will receive a payoff of 1 minus the cost of investment c, or $u(k, \theta, \mathcal{K}) = 1 - c$. If investment is unsuccessful, then the payoff of a firm that invests is simply $-c$. I normalize the cost of not investing,

$u(\sim k, \theta, \mathcal{K})$, to zero.

Summarizing, the payoffs of each firm are:

$$u(k, \theta, \mathcal{K}) = \begin{cases} 1 - c & \text{if } \mathcal{K} \geq 1 - \theta \\ -c & \text{if } \mathcal{K} < 1 - \theta \end{cases}$$

and

$$u(\sim k, \theta, \mathcal{K}) = 0$$

Whether investment is ultimately successful depends in part on the strength of property rights in the host country θ, which in turn affects the aggregate level of investment necessary for firms to earn returns $\mathcal{K}$. For instance, if θ is high, i.e. the host country has a strong property rights regime, then $1 - \theta$ is low. In this case, a firm would invest and be successful with only a small proportion of other firms that invest ($\mathcal{K}$) and obtain a payoff of $1 - c$. On the other hand, if θ is low, $1 - \theta$ will be high, and a firm will choose to invest only if a large proportion of other firms also invest. One can interpret a firm's decision as follows: if I believe that a country has weak property rights (low θ), then I would invest only if I expect a large number of other firms investing since the risk of expropriation is spread out over a larger number of firms.

If firms know the host country's level of property rights θ, i.e. there is complete information, then the game will either have a unique or multiple symmetric pure strategy Nash equilibria. The type of equilibria depends on the value of θ:

1. If $\theta \geq 1$, then all firms will invest (k is a dominant strategy) and investment is successful.

2. If $\theta < 0$, then no firms invest ($\sim k$ is a dominant strategy).

3. If $\theta \in [0, 1]$, there are *multiple* equilibria.

#3 is the classic problem of equilibrium selection in coordination games—a consequence of the assumption that all relevant features of the game are *common knowledge,*

or known to every player. A global game relaxes the assumption of common knowledge; the above game becomes one of incomplete information. Morris and Shin (1998) show that when players have incomplete information about the "state of the world" or "underlying fundamentals", denoted by θ in my analysis, then a unique equilibrium will emerge.

Accordingly, suppose that *all* firms begin with a common belief about the country's level of property rights θ, where:

$$\theta \sim \mathcal{N}(\mu, \frac{1}{\alpha})$$

This defines the initial common prior of firms about θ, which is normally distributed with mean μ and variance $\frac{1}{\alpha}$.

In addition, each firm observes a *private* signal, x_i, about the value of θ, the country's level of property rights. This signal is private information (known only to the individual firm), and heterogeneous (different firms receive different signals). This signal is noisy, i.e. there is some uncertainty in a firm's signal about the level of property rights. We can write this as follows:

$$x_i = \theta + \epsilon_i$$

$$\epsilon_i \sim \mathcal{N}(0, \frac{1}{\beta})$$

where ϵ_i denotes each individual firm's idiosyncratic uncertainty about θ. ϵ_i is independently and identically distributed (i.i.d) across firms with mean zero and variance $\frac{1}{\beta}$ over the standard normal, and is independent of θ. x_i is a private signal in the sense that it is unobservable by other firms and known only to firm i.

Morris and Shin (1998) show that there now exists a unique Bayesian Nash equilibrium to the game. In brief, this equilibrium is characterized by two components: a firm's belief about the country's level of property rights and the actual level of a country's

property rights, or $(\hat{x}, \hat{\theta})$. $\hat{x}$ is the *threshold* signal that defines a firm's strategy such that if a firm observes $x_i \geq \hat{x}$, it will invest, and it will refrain from investing if $x_i < \hat{x}$. Similarly, $\hat{\theta}$ corresponds to the critical level of property rights where investment will be successful if $\theta \geq \hat{\theta}$, and unsuccessful if $\theta < \hat{\theta}$. Such a solution $(\hat{x}, \hat{\theta})$ always exists and is unique for all μ if and only if $\beta \geq \dfrac{\alpha^2}{2\pi}$.

Proposition 2 (Morris and Shin 1998). *There exists a unique Bayesian Nash equilibrium if and only if $\beta \geq \dfrac{\alpha^2}{2\pi}$. This equilibrium is in monotone strategies and characterized by a pair of thresholds $(\hat{x}, \hat{\theta})$.*

Note that the pair of thresholds $(\hat{x}, \hat{\theta})$ depend crucially on α and β, the precision of the public and private signals respectively. In addition, the iterated deletion of strictly dominated strategies ensures that the monotone equilibrium is the unique equilibrium.

3.3.2 The General Setup

I now analyze the case where the country can sign a BIT. As before, there is a continuum of multinational firms indexed by $i \in [0, 1]$. Each firm chooses a level of capital, $k_i \in \mathbb{R}^+$, to invest in the country. Let $\mathcal{K}$ be the total amount of investment the country receives, i.e. $\mathcal{K}$ is the action profile over all firms. Two factors enter into each firm's decision to invest: (1) the strength of the country's property rights, θ, and (2) whether or not other firms will invest, k_{-i}. The uncertainty over the former (θ) is known as *fundamental* uncertainty; the latter (k_{-i}) is referred to as *strategic* uncertainty.

I contend that multinational firms care not only about their own investments, but that of other firms. Profit-seeking firms face competition from other firms in the same sector (e.g. apparel and low-skill manufacturing). In light of these pressures, a firm would take into account the investment decisions of its competitors. More specifically, it would seek to invest in countries where its competitors are also investing.

As such, a firm's investment decision depends on its beliefs about the level of property rights in the host country *and* its beliefs about the investment decisions of other firms

(its competitors for instance). Morris and Shin (2003) put it as follows: rational behavior "depends not only on economic agents' beliefs about common fundamentals, but also depends on beliefs of higher-order—that is, players' beliefs about other players' beliefs, players' beliefs about other players' beliefs about other players' beliefs, and so on."

Suppose that each firm places a weight π on the actions of other firms. It places the corresponding weight $1 - \pi$ on the host country's level of property rights. In the parlance of global games, $0 < \pi < 1$ captures the degree of complementarity in the firms' actions. Each firm's utility function is thus:

$$u_i(k, \mathcal{K}, \theta) = [\ \underbrace{\pi \mathcal{K}}_{\text{concern for other firms' actions}} + \underbrace{(1 - \pi)\theta}_{\text{concern for country's property rights}}]k_i$$

A firm's optimal (best-response) strategy is given by the first-order condition:

$$k_i^* = \pi E_i(\mathcal{K}) + (1 - \pi)E_i(\theta)$$

where $E_i(\cdot)$ is the expectation operator for firm i, and $\mathcal{K} = \int_0^1 k_i \, di$, the average action of the mass of firms. Since $0 < \pi < 1$, each firm places strictly positive weight on its expected actions of other buyers $\mathcal{K}$ as well as its expected value of the country's property rights θ.[15]

3.3.3 BITs as Public Signals

Suppose the firms are uncertain over a country's level of property rights θ. However, the country signs a BIT, y:

$$y = \theta + \tau$$

$$\tau \sim N(0, \sigma_y^2)$$

where τ is independent of θ, independent and identically distributed (i.i.d) over all firms

---

[15]The fixed point of this best-response condition constitutes the equilibrium of the game.

with mean zero and variance σ_y^2 drawn from the standard normal.

All multinational firms are able to observe whether or not a country has signed a BIT, i.e. a BIT is a public signal, and *common knowledge* to all firms. After observing the realization of y, the firms decide the amount of capital, k, they will invest. In this case, firm i's expected payoff is simply $E(u_i|y)$, where $E_i(\cdot)$ is the expectation operator. Given y, the firm believes that θ is normally distributed with mean y and variance σ_y^2. Consequently, firm i's best response is:

$$k_i^*(y) = \pi \int_0^1 E(u_j|y)\ dj + (1-\pi)E(\theta|y)$$

where u_j represents the utility of other firms given the public signal y. Since $E(\theta|y) = y$ and the strategies of all firms are measurable with respect to y, $E(k_j|y) = k_j(y)$. This results in a unique equilibrium where:

$$k_i^* = y$$

This result implies that if firms rely solely on whether or not a country has signed a BIT in making their investment decisions, the equilibrium amount of capital invested by all firms depends on the precision (or strength) of the BIT.

3.4   The Actual Model

Suppose now that in addition to the BIT, firms have private information about the level of property rights θ in the host country. As stated earlier, this private signal:

$$x_i = \theta + \epsilon_i$$

$$\epsilon_i \sim \mathcal{N}(0, \sigma_x^2)$$

where ϵ_i is independent of θ, and i.i.d across firms with mean zero and variance σ_x^2. ϵ_i

captures each individual firm's idiosyncratic uncertainty about θ, and is a *private* signal since it is unobservable by other firms and known only to firm i. One can interpret x_i as the outcome of each individual firm's research about the host country.

3.4.1 Timing of the Game

The game proceeds as follows: at time 0, a country's type θ, known only to the country, is realized. At time 1, the country signs a BIT, y. All firms are able to observe y, and will subsequently update their private information x_i regarding θ. At time 2, the firms decide their level of investment k_i.

3.4.2 Back to the Analysis

Whereas firms have different (heterogenous) prior beliefs about θ in the absence of a BIT (as in the benchmark model), the BIT (y) now provides them with a *common prior*. That is, each firm now possesses information about the level of property rights in the host country from two sources: their individual research (x_i) and the BIT (y). As such, firm i will form its posterior belief by updating its private signal with the public signal according to Bayes' Rule.

The pair of signals (y, x_i) captures all available information to firm i at the time of decision, and represents the information set of firm i: $\mathcal{I}_i$. The decision of firm i to invest is thus a function of its information set:

$$k_i(\mathcal{I}_i)$$

To ease exposition, let:

$$\alpha = \frac{1}{\sigma_y^2}$$
$$\beta = \frac{1}{\sigma_x^2}$$

Firm i's expected value of θ is then:

$$E_i(\theta|y, x_i) = E_i(\theta|\mathcal{I}_i) = \frac{\alpha y + \beta x_i}{\alpha + \beta}$$

Definition 1. *An equilibrium of the game consists of a set of beliefs for firm i and a set of strategies $k_i^* : \mathbb{R}^2 \to \mathbb{R}$ such that for all (y, x_i),*

$$u_i(k_i|y, x_i) = \arg\max_{k_i} \pi E_i(\mathcal{K}) + (1 - \pi)E_i(\theta) \tag{3.1}$$

Definition 2. *A linear equilibrium is any strategy that satisfies 3.1 and is linear in y and x_i.*

I now show that there exists a unique linear equilibrium to the game.

Proposition 3. *There exists a linear equilibrium in the game, $k_i^* = \gamma x_i + (1 - \gamma)y$, where*

$$\gamma = \frac{\beta(1 - \pi)}{\alpha + \beta(1 - \pi)}$$
$$\alpha = \frac{1}{\sigma_y^2}$$
$$\beta = \frac{1}{\sigma_x^2}$$

Proof. Recall that firm i's utility function is:

$$u_i(k, \mathcal{K}, \theta) = [\underbrace{\pi\mathcal{K}}_{\text{concern for other firms' actions}} + \underbrace{(1 - \pi)\theta}_{\text{concern for country's property rights}}]k_i$$

and that $k_i(\mathcal{I}_i)$ represents firm i's decision given its information set $\mathcal{I}_i$. Firm i's expectation of the host country's level of property rights, θ, is given by:

$$E_i(\theta) = \frac{\alpha y + \beta x_i}{\alpha + \beta}$$

The precision of the public and private signal is α and β respectively, where

$$\alpha = \frac{1}{\sigma_y^2}$$

$$\beta = \frac{1}{\sigma_x^2}$$

Suppose that the mass of firms is following a linear strategy such that:

$$k_j(\mathcal{I}_j) = \gamma x_j + (1 - \gamma)y \tag{3.2}$$

Then firm i's conditional expectation of $\mathcal{K}$, the average expected level of investment across all firms, , is:

$$
\begin{aligned}
E_i(\mathcal{K}) &= \gamma\left(\frac{\alpha y + \beta x_i}{\alpha + \beta}\right) + (1 - \gamma)y \\
&= \left(\frac{\gamma\beta}{\alpha + \beta}\right)x_i + \left(1 - \frac{\gamma\beta}{\alpha + \beta}\right)y
\end{aligned}
\tag{3.3}
$$

Substituting equation (3.3) into equation (3.2), firm i's optimal action is:

$$
\begin{aligned}
k_i(\mathcal{I}_i) &= (1 - \pi)E_i(\theta) + \pi E_i(\mathcal{K}) \\
&= (1 - \pi)\left(\frac{\alpha y + \alpha x_i}{\alpha + \beta}\right) + \pi\left(\left(\frac{\gamma\beta}{\alpha + \beta}\right)x_i + \left(1 - \frac{\gamma\beta}{\alpha + \beta}\right)y\right) \\
&= \left(\frac{\beta(\pi\gamma + 1 - \pi)}{\alpha + \beta}\right)x_i + \left(1 - \frac{\beta(\pi\gamma + 1 - \pi)}{\alpha + \beta}\right)y
\end{aligned}
\tag{3.4}
$$

Comparing coefficients from equations (3.2) and (3.4), we have

$$
\gamma x_j + (1 - \gamma)y = \left(\frac{\beta(\pi\gamma + 1 - \pi)}{\alpha + \beta}\right)x_i + \left(1 - \frac{\beta(\pi\gamma + 1 - \pi)}{\alpha + \beta}\right)y
$$

$$
\gamma = \frac{\beta(\pi\gamma + 1 - \pi)}{\alpha + \beta}
$$

Solving for γ, we get

$$
\gamma = \frac{\beta(1 - \pi)}{\alpha + \beta(1 - \pi)}
$$

Consequently, firm i's equilibrium strategy, k_i^*, is:

$$k_i^*(\mathcal{I}_i) = \frac{\alpha y + \beta(1-\pi)x_i}{\alpha + \beta(1-\pi)}$$

$$= \gamma x_i + (1-\gamma)y \tag{3.5}$$

$\square$

Proposition 4. *[Morris and Shin 2002] The equilibrium identified in proposition 3 is the unique equilibrium of the game.*

Proof. The proof of uniqueness follows from Morris and Shin (2002).

Firm i's best response is:

$$k_i^* = \pi E_i(\mathcal{K}) + (1-\pi)E_i(\theta)$$

Let $\bar{E}(\theta)$ be the average expectation of θ across all firms. Substituting $\bar{E}(\theta)$ for $E_i(\mathcal{K})$,

$$k_i^* = (1-\pi)E_i(\theta) + \pi(1-\pi)E_i(\bar{E}(\theta)) + \pi^2(1-\pi)E_i(\bar{E}^2(\theta)) + \dots$$

$$= (1-\pi)\sum_{k=0}^{\infty} \pi^k E_i(\bar{E}^k(\theta)) \tag{3.6}$$

To show that the infinite sum is bounded, we solve for $E_i(\bar{E}^k(\theta))$. Note that firm i's expectation of θ is:

$$E_i(\theta) = \frac{\alpha y + \beta x_i}{\alpha + \beta}$$

Across all firms, the average expectation of θ is

$$\bar{E}(\theta) = \int_0^1 E_i(\theta) \; di = \frac{\alpha y + \beta\theta}{\alpha + \beta}$$

Firm i's expectation of the average expectation of θ across buyers is therefore:

$$
\begin{aligned}
E_i(\bar{E}(\theta)) &= E_i(\frac{\alpha y + \beta \theta}{\alpha + \beta}) \\
&= \frac{\alpha y + \beta(\frac{\alpha y + \beta x_i}{\alpha + \beta})}{\alpha + \beta} \\
&= \frac{(\alpha^2 + 2\alpha\beta)y + \beta^2 x_i}{(\alpha + \beta)^2}
\end{aligned}
$$

and, $\bar{E}^2(\theta)$, the average expectation of the average expectation of θ is

$$
\bar{E}^2(\theta) = \bar{E}(\bar{E}(\theta)) = \frac{(\alpha^2 + 2\alpha\beta)y + \beta^2 \theta}{(\alpha + \beta)^2}
$$

Morris and Shin (2002) show, by induction, the following lemma.

Lemma 1. *For any k, $\bar{E}^k(\theta) = (1-\phi^k)y+\phi^k(\theta)$ and $E_i(\bar{E}^k(\theta)) = (1-\phi^{k+1})y+\phi^{k+1}x_i$, where $hi = \dfrac{\beta}{\alpha + \beta}$.*

Substituting the result from Lemma 1 into equation (3.6), we get

$$
\begin{aligned}
k_i^* &= (1 - \pi) \sum_{k=0}^{\infty} \pi^k [(1 - \phi^{k+1})y + \phi^{k+1} x_i \\
&= (1 - \frac{\phi(1 - \pi)}{1 - \phi\pi})y + (\frac{\phi(1 - \pi)}{1 - \phi\pi})x_i \\
&= \frac{\alpha y + \beta(1 - \pi)x_i}{\alpha + \beta(1 - \pi)} \\
&= \gamma x_i + (1 - \gamma)y \qquad\qquad (3.7)
\end{aligned}
$$

Since equation (3.7) = equation (3.5), the linear equilibrium identified in proposition 3 is unique.

$\square$

3.5   Implications

The global games analysis reveals that the relative precision of public (BIT) and private information is paramount. The more precise the public signal, i.e. a high α, the more firms will rely on the BIT as a credible signal of the host country's level of commitment. The precision of a BIT is, in turn, a function of the extent of obligations specified by the treaty. The more specific the obligations, the more effective the BIT. On the other hand, if the public signal is noisy (α is low), then firms are more likely to rely on their private information; the equilibrium, in this case, depends on the accuracy of the firms' beliefs (β). More precisely, when $\alpha \to 0$ and $\beta \to \infty$, the BIT is essentially useless and loses its coordination purpose. However, when $\alpha \to \infty$ and $\beta \to 0$, then firms will rely solely on the BIT and choose a level of investment $k_i = y$.

In addition, the weight that firms place on coordination, π, which can be interpreted as the level of competition between firms, plays a key role in the extent to which firms rely on information the BIT provides (the public signal) and their own research (their private signals). If firms do not care about coordination ($\pi = 0$), then the equilibrium level of investment is simply the firms' expectation of θ. However, in the more realistic case where $\pi \neq 0$, then the equilibrium behavior of firms depends on the precision of the BIT and their private signals, as described above.

3.6   Conclusion

Taken together, the models above show a BIT can facilitate the emergence of a separating equilibrium, thereby allowing states committed to the proper treatment of foreign direct investment to distinguish themselves from less committed ones. That is, in addition to "tying hands", BITs also "sink costs". Furthermore, BITs provide a focal point for the coordination of investment by multinational firms. The presence of a BIT provides firms with a common belief about a state's commitment; if the BIT is sufficiently credible, then firms will invest in the state.

I turn to an empirical analysis of BIT formation and the effects of BITs on FDI in the ensuing three chapters.

Chapter 4

The Domestic Logic of BIT Signing

"Then came the churches, then came the schools. Then came the lawyers, then came the rules."

Mark Knopfler, *Telegraph Road 1982*

4.1 Introduction

Of the many key developments in international relations in the post–World War II period, the rapid proliferation of international institutions is perhaps the most evident. A second phenomenon is the dramatic surge in foreign direct investment flows, from approximately US$45 billion at the beginning of the 1980s to over US$1.5 trillion in 2010. Unlike world trade, there is no international institution governing foreign direct investment (FDI). Instead, a vast network of international investment agreements (IIAs) has sprung up since West Germany and Pakistan signed the first bilateral investment treaty in 1959. At the end of 2013, the universe of international investment agreements (IIAs) totaled 6,092, with bilateral investment treaties (BITs) making up almost half of all agreements (2,807). 176 countries had entered into one or more BITs, and China tops the list of nondemocratic countries with 125 BITs (World Investment Report 2014).

Bilateral investment treaties (BITs) are legal agreements signed between states with the goal of protecting and promoting FDI. For the capital–importing (or host) country, the primary purpose of BITs is to attract FDI. For the capital–exporting (or home) country, BITs help safeguard investments made in the host country. Thus BITs are typically regarded as instruments that developing country governments can use to enhance the

credibility of their commitment to the proper treatment of FDI.

Many scholars have explored whether BITs attract FDI (UNCTAD 1998, Neumayer and Spess 2005, Tobin and Rose-Ackerman 2005, Büthe and Milner 2009). Unfortunately, this research remains inconclusive. Whereas some find that BITs result in increased FDI inflows (Salacuse and Sullivan 2005, Tobin and Rose-Ackerman 2005, Elkins, Guzman and Simmons 2006, Büthe and Milner 2009), others find that these treaties have little to no effect on FDI at all (Hallward-Driemeier 2003, Gallagher and Birch 2006, Yackee 2007). Some attribute this lack of consensus to the different research designs and estimation approaches of each study. For instance, whereas some (Aisbett 2007, Hallward-Driemeier 2003, Kerner 2009, Salacuse and Sullivan 2005, Tobin and Rose-Ackerman 2011) focus only on FDI outflows from developed to developing countries (which restrict the number of BITs in the sample), others (Busse, Koniger, and Nunnenkamp 2010) include BITs among all countries. Others quibble over whether one should use dyadic (Hallward-Driemeier 2003, Kerner 2009) or monadic (Neumayer and Spess 2005, Büthe and Milner 2009) data. In short, the debate surrounding the seeming inconsistent effects of BITs on FDI tends to revolve around a Sisyphean discussion of the appropriateness of a myriad of statistical methods instead of a more fruitful reflection of conceptual issues.

In this chapter, I focus on how *domestic* economic and institutional factors influence a leader's incentives to sign a BIT.[16] Despite a substantial literature, few studies explicitly examine the determinants of BITs signing; those that do rely on a policy diffusion logic typical in the literature on international institutions (Elkins, Guzman, and Simmons 2006, Jandhyala, Henisz, and Mansfield 2011). While diffusion and competitive dynamics may certainly play a role in BIT signing, I argue that such an approach paints only a partial picture of the BIT landscape.

A complete explanation must consider the *domestic* factors that motivate governments

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[16]In Chapters Four and Five, I examine the extent to which BITs attract FDI in light of my findings in this chapter.

to sign these treaties in addition to potential competitive pressures at the international level. I thus contend that there are two *joint* conditions under which a government will sign a BIT: one, the government must need FDI (economic); and two, such a government must be unable to obtain FDI by existing means (political). Drawing on the new literature on the international political economy of natural resource endowments, I first explore how the availability of natural resources—oil and other valuable export commodities in particular—structure a leader's incentives to sign a BIT. I next examine how these incentives *interact* with the motivations that arise from features of the domestic political environment, i.e. property rights and the rule of law.

To assess my hypotheses, I examine the direct effects of natural resource endowments, and the conditional effects of property rights and the rule of law on a government's likelihood of signing a BIT. Methodologically, I move beyond the "fixed versus random effects" debate typical in the analysis of time-series cross-sectional (TSCS) data and use a "unified" approach that allows one to ascertain how changes in an explanatory variable across time within a country (within-country effects), and across countries (between-country effects) affect an outcome.

Using a dataset of all developing countries from 1960 to 2010, I find that increases in resource rents over time makes it less likely for a government to sign a BIT. In addition, as a country's property rights improves, it is more likely to sign a BIT. However, this relationship is non-linear: countries with high levels of property rights are less likely to sign a BIT. Finally, resource-scarce countries with "middle" levels of property rights are most likely to sign BITs, *ceteris paribus*.

Refocusing attention—and placing primacy—on the domestic factors that influence government incentives to turn to international institutions has implications for scholars seeking to explain the variation in treaty signing and ratification across issue areas, such as trade, human rights, and the environment, issue linkage, and international organization (IO) membership.

The rest of the chapter proceeds as follows: I first briefly review the existing literature on BITs. Section 3 presents my argument for the variation in BIT signing across countries. Section 4 discusses and operationalizes the relevant variables. A discussion of the estimation approach follows in section 5. Section 6 presents the results, and section 7 concludes.

4.2 The Political Economy of BIT Signing

In this era of mobile and plentiful capital, all countries want a share of the proverbial pie of foreign direct investment (FDI), and seek the attention of multinational firms.[17] Scholars and politicians alike have shifted from a discussion of *whether* countries should attract FDI to *how* countries can attract FDI. FDI has the potential to promote economic growth, increase worker and firm productivity, generate positive spillover effects through technology and knowledge transfers, and contribute to long-run economic development (Markusen and Vernables 1999, Baldwin, Braconier and Forslid 2005, Jensen 2003, Jensen 2008, Biglaiser and Staats 2010). As Kerner and Lawrence (2013:14) state:

> "If a country can manage to get the institutions right, they can expect more
> FDI, and with it more and more stable capital inflows, higher employment
> levels, modernization of domestic industry and improved skills in the do-
> mestic labour force, and consequently, higher growth rates."

In addition, the relatively long-term nature of FDI makes it more stabilizing than other sources of capital—such as portfolio investment, foreign aid, multilateral finance,

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[17]Foreign direct investment is defined as a cross-border investment by an entity (typically referred to as a "multinational enterprise/corporation" or "direct investor") in a "home" country with the goal of establishing a lasting interest in an enterprise (called the "foreign affiliate") situated in a "host" country other than that of the direct investor. Lasting interest implies management control over the foreign affiliate and consequently, a long-term relationship between a direct investor and a foreign affiliate. That is, the direct investor actively participates in managing the foreign affiliate, unlike the portfolio or indirect investor, who in contrast, profits passively from purchasing and holding a firm's stock. FDI is typically measured in terms of inflows or stocks. Inflows refer to the capital a foreign investor provides to a foreign affiliate, e.g. loans, equity, or reinvestment earnings, whereas stocks are the total value of foreign-owned assets at a given time.

remittances, and private financial institution loans—since multinational firms generally have long time horizons and make investment decisions accordingly. FDI can also generate political benefits by providing an additional source of revenue that a government can use for development or defusing dissent.

At the same time, however, governments that seek to harness the promise of FDI face a critical time-inconsistency problem that has received considerable attention in the literature on the political economy of FDI. Unlike other capital flows, FDI is vulnerable to a "hold-up" problem. A key feature of FDI is its mobility *ex-ante*, and illiquidity *ex-post*. To illustrate this, consider how the bargaining relationship between a multinational firm and a host country government changes over time. Prior to investment, the firm holds most of the bargaining power; since it has yet to invest its mobile capital, it can pick and choose between alternative locations, i.e. it has outside options. However, once investment is made (or sunk), relative bargaining power begins to shift to the host country government, as the firm's assets are now immobile and not easily withdrawn. Put another way, the firm is no longer able to credibly threaten exit. This may generate incentives for the host government to impose additional conditions on the firm, from altering tax policy to outright expropriation. This is Vernon's (1971) *obsolescing bargain*. Consequently, multinational firms are cautious ex-ante, and given the risk and challenge of ascertaining a host government's long-term commitment to the proper treatment of FDI, may refrain from investing, leaving both the firm and host government worse off.

As such, a host country's domestic environment is a crucial determinant of FDI. The difficulty of credibly committing to protecting FDI is one of the main reasons for the difference in investment flows between the advanced industrialized nations and the developing world. As discussed in Chapter Two, the literature on the political economy of FDI can be divided into domestic and international explanations, and both sub-literatures have developed somewhat orthogonally to each other. On the one hand, domestic explanations tend to center around regime type, examining the effects of democracy and

autocracy on FDI flows. On the other hand, international explanations focus on the effects of international investment agreements (IIAs)—BITs, BTTs, and to a lesser extent, PTAs—on FDI.

The findings from the literature on FDI suggest two main strategies that a leader can use to make his/her country more attractive to foreign investors: (1) domestic institutional reform, and (2) international institutions. Domestic institutional reforms such as strengthening the rule of law, improving property rights, and reducing corruption require much effort on the part of leaders. Furthermore, the benefits of these reforms take time to be realized, and there is no certain likelihood of success. Simply put, domestic institutional reform is a long-term strategy that entails significant political costs at some risk. Hence in the short-term, turning to international institutions such as bilateral investment treaties (BITs), bilateral tax treaties (BTTs) and, to a lesser extent, preferential trade agreements (PTAs) with investment clauses, may help governments signal their commitment to protecting FDI. The rapid rise in the number of these agreements between countries since the 1970s is suggestive of the popularity of this second strategy.

4.2.1   BIT Formation as Policy Diffusion

As the preceding discussion illustrates, much of the extant literature on BITs investigates the extent to which BITs affect FDI inflows. Unfortunately, this takes place at the expense of a closer examination of *why* countries sign BITs in the first place. Put another way, existing studies do not offer an explanation for the variation in BIT signing across time and space, whether democratic or nondemocratic regimes are more likely to sign BITs, and more importantly, do not deal with this potential endogeneity problem in their empirical analyses. BITs are essentially treated as identical across countries and time, and assumed to arise spontaneously (or at random). Yet as Figure 4.1 and Figure 4.2 show, there is significant variation in the average number of BITs over time between democracies and non democracies, and across authoritarian regime types.

Figure 4.1: Average Annual Number of BITs by Regime Type, 1972–2010
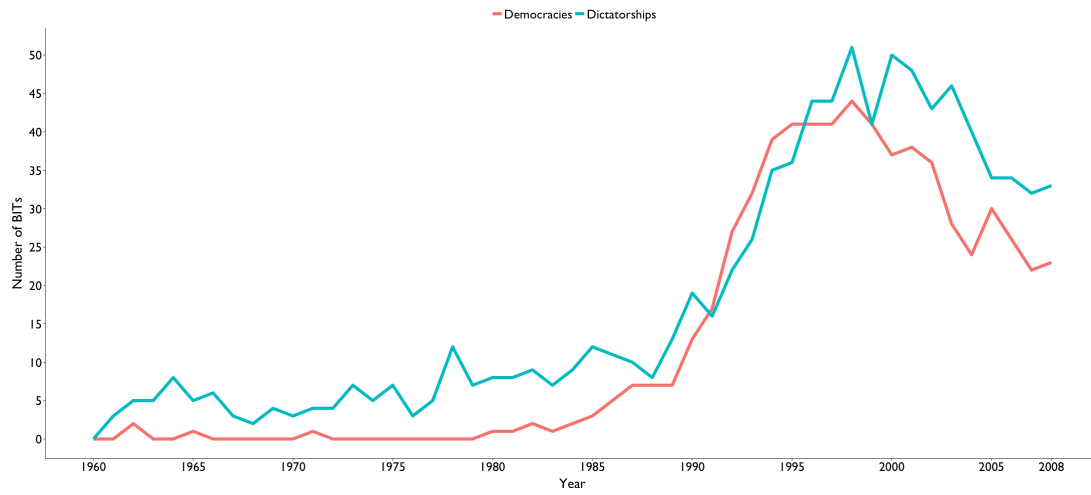
Figure 4.2: Average Annual Number of BITs by Authoritarian Regime Type, 1972–2010
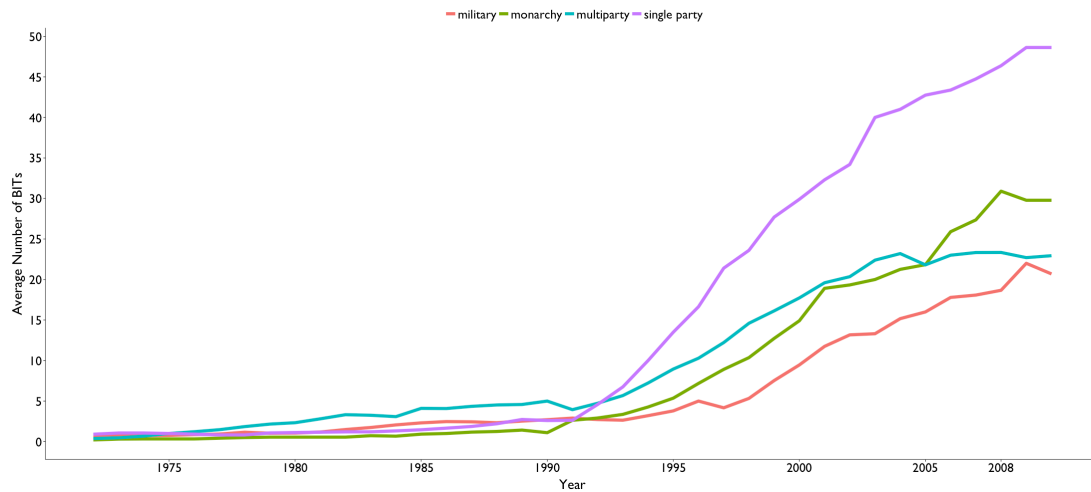
That said, there are two articles that *do* explicitly examine why countries sign BITs that merit detailed discussion. Drawing from the literature on policy learning and diffusion in international relations (Simmons, Dobbin, and Garrett 2006), Elkins, Guzman

and Simmons (2006) propose a "competitive theory of BIT diffusion" under the assumption that "BITs give host governments a competitive edge in attracting capital…" (p. 823). They argue that the proliferation of BITs is a process similar to the spread of neoliberal policies in international relations. In particular, the rise in BITs is a consequence of increasing competition among developing host countries for FDI. Competition is especially fierce, and thus a BIT most likely, among host countries that: (1) are substitutable investment locations, (2) have particular industry sectors, (3) are credibility-challenged because of weak property rights, and (4) as the global pool of FDI increases.

Jandhyala, Henisz, and Mansfield (2011) argue that the policy diffusion argument does not apply wholesale to the trajectory and scope of BIT signing. Rather, they contend that BIT signing occurred in three distinct temporal waves (or stages), not unlike the "waves" in studies of democratization. Of the three waves, only the second wave, beginning in the late 1980s, is suggestive of policy diffusion or a norm cascade à la Elkins, Guzman and Simmons (2006). During this period, the rate of BIT signing grew much faster, from less than 20 in the earlier (first) wave to an average of over 100 per year (Jandhyala, Henisz, and Mansfield 2011). BITs signed in the initial or first wave were attempts by host governments to credibly commit to protecting FDI, i.e. the function that BITs were originally designed to fulfill. Finally, the third wave, in which the current BIT regime resides, is characterized by a relative slowing of signing as countries become cognizant of the costs associated with BITs in the form of increased state-investor disputes.

Both Elkins, Guzman, and Simmons (2006), and Jandhyala, Henisz, and Mansfield (2011) use event history analysis on a dyadic dataset and find general support for their hypotheses. However, as Jandhyala, Henisz, and Mansfield (2011:22) astutely note in their conclusion, "…our empirical tests have relied on inference rather than direct examination. Instead of directly examining the motivations of adopters, we have tended to infer these motivations from other characteristics such as political systems and cultural similarities." In the next section, I develop an argument that examines the specific motivations

that leaders have to sign BITs, and in so doing, show that diffusion and competitive dynamics explain only part of the BIT phenomenon. This focus on micro-processes and incentives has implications that extend beyond BIT signing to other international institutions more generally.

4.3   A Domestic Theory of BIT Signing

As it stands, the literature on BITs suffers not from a lack of theorizing of how (and whether) BITs work, but a more direct examination of the incentives that a country's domestic economic and political environment creates for leaders to sign BITs. Most studies on BITs begin with the premise that all countries want FDI and would sign BITs in order to enhance their attractiveness to investors. They thus focus mainly on assessing whether BITs promote FDI, and pay relatively little attention to the determinants of BIT signing in the first place.

Such an assumption, however, is questionable. If the purpose of bilateral investment treaties (BITs) is to help governments credibly commit to protecting FDI, then there are two conditions under which a leader would consider signing such a treaty. First and foremost, the leader must need foreign direct investment (FDI). A leader already receiving substantial amounts of FDI has little incentive to invest spend the time and effort to negotiate and sign a BIT. As Elkins, Guzman, and Simmons (2006:843) state, "Most governments would prefer to avoid the explicit commitments contained in these treaties; there continue to be few concluded between the wealthiest countries of the world." As such, a necessary condition for BIT signing is a need for FDI. Second, even if a leader needs FDI, s/he must have trouble obtaining the investment by existing means. Put simply, leaders sign BITs because they need FDI and believe themselves unable to obtain FDI without a BIT due to domestic credibility problems.

In an influential piece, Engerman and Sokoloff (1997, 2000) trace the development

of political institutions and the subsequent impact of these institutions on long-run economic growth to a country's initial factor endowments—land, labor and capital—and the incentives these created for European imperialists. Colonies well-endowed with ample sun, fertile soil, and an unsuspecting pool of indigenous labor—ripe for the cultivation of labor-intensive crops such as sugar cane and coffee, i.e. plantation agriculture—were forced onto a brutal path of development. The imperialists established large-scale plantations to exploit these colonies, importing slaves from West Africa to supplement or replace indigenous labor. In colonies rich in mineral deposits and native labor, similar institutions were set up to plunder the earth's wealth. These production methods resulted in high levels of inequality in wealth and human capital and the elites in these colonies were able to indulge their megalomaniac tendencies, crafting institutions that reinforced their political and economic dominance, and passing discriminatory laws and policies that cemented their power. The long-run consequences were stagnant living standards, weak property rights (if any), and dismal growth.

Colonies endowed with less sun, soil, and labor—conditions more appropriate for small-scale grain agriculture—experienced a radically different and more benign path of development. In these colonies, a relatively equal distribution of wealth and human capital emerged, and coupled with a higher degree of homogeneity in the population, the elites who found themselves here had little choice but to create institutions that shared political power and established a more level political and economic playing field. The long-run outcomes were strong property rights, universal suffrage, sustained growth, and rising living standards.

In short, factor endowments influence the mode of economic production and the distribution of human capital, which in turn, impact the distribution of political power. The distribution of political power ultimately shapes the types of law and policies—from property rights, education, to a host of growth-related inputs—and the quality of institutions that emerge. What is more, the effects of these initial institutions may linger to the present day.

Engerman and Sokoloff's (1997, 2000) historical analysis is often taken to illustrate that a country's initial factor endowments may have a lasting impact on institutions. More importantly, however, their argument outlines how factor endowments may create incentives for leaders and elites to undertake certain policies and to set up particular institutions. Drawing on this framework that links endowments to incentives and subsequent behavior, I consider how natural resource endowments (or the land factor) structure a leader's motivation to sign a BIT.

4.3.1 Natural Resource Endowments and Foreign Direct Investment

The effects of resource wealth has captivated political economists since the 1970s. Politically, resource wealth has been linked to rentierism, civil conflict and wars, authoritarian stability, democratic fragility, and poor institutions (Collier and Hoeffler 2000, Fearon and Laitin 2003, Humphreys 2005, Ross 2006). Economically, resource abundance is associated with poor growth and development outcomes. The pernicious impact of resource abundance on political and economic outcomes has led to what is widely and popularly known as the "resource curse" (Sachs and Warner 1995).

However, new work on the political economy of natural resources cast doubt on whether such a "curse" really exists (Alexeev and Conrad 2009, Dunning 2008). This promising body of research examines how domestic political institutions, the global economy, and globalization may condition the effects of resource wealth (Bearce and Hutnich 2011, Kurtz and Brooks 2011, Morrison 2011). At the same time, however, there remains a curious dearth of research on the effects of natural resources on foreign direct investment outcomes despite the recognition that natural resources is one of the factors that constitute FDI potential (United Nations Conference on Trade and Development 2005). What is more, to my knowledge, none have examined how natural resources influence the likelihood of BIT formation.

Jensen and Johnston (2011) examine how resource abundance affects government incentives to expropriate foreign investment, and uncover a positive relationship between resource wealth and expropriation risk. They argue that because natural resource-abundant economies are more attractive to the typical investor, leaders of these countries can "…choose a higher level of expropriation in a natural-resource-dependent economy and attract substantially more investment than a leader in a resource poor country" (Jensen and Johnston 2011:667). In a separate study, Poelhekke and van der Ploeg (2010) find that natural resource abundance increases resource-motivated FDI (though at the expense of non-resource motivated FDI), providing some evidence that resource wealth does attract FDI.

Natural resources lie in a decidedly non-random fashion around the world, thus energy multinationals have little choice but to invest in these countries if they seek to exploit these resources, irrespective of the level of political risk. For instance, it is not at all likely that an oil or mining multinational will choose to invest the substantial capital to construct an extraction facility in a resource-poor country. Furthermore, whereas the initial investment may be resource-motivated, it may help spur investment in other related sectors such as construction, finance, and services. This suggests that all else equal, resource-abundant economies will attract more FDI than resource-scarce economies.

Figure 4.3: Average Level of Resource Rents (% of GDP) by Authoritarian Regime Type, 1972–2010
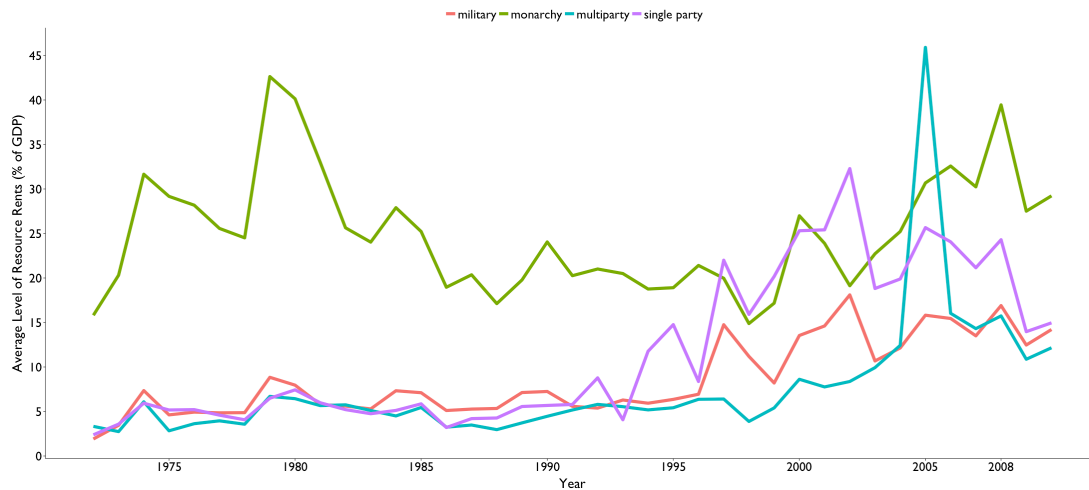
In light of the FDI that resource abundance attracts, I focus here on how natural resource wealth influence government incentives to sign BITs (Figure 4.3). In particular, because resource-rich countries are more attractive to foreign investors than their less endowed counterparts, the leaders of these countries have less incentive to negotiate and sign a BIT. After all, if I already receive FDI without a BIT, why would I incur the additional costs to sign one? This leads to my first main hypothesis:

H1: Natural resource-abundant countries are less likely to sign BITs than those that lack these resources.

4.3.2   Political Determinants

A need for foreign capital may be necessary, but is certainly not sufficient to induce treaty signing. In addition, a leader must be unable—or, at the very least, find it difficult—to obtain said investment without the potential benefits of a treaty. While the above discussion outlines factors that reflect a country's need for foreign direct investment, the quality

of domestic political institutions influences whether a country will turn to BITs in order to attract FDI. Only if a country lacks the domestic political institutions to credibly commit to protecting FDI will it consider turning to bilateral investment treaties.

The lack of strong property rights—and more generally, the rule of law—is generally regarded as a key inhibitor of investment in the developing world. Property rights represent "…the ability of individuals to accumulate private property, secured by clear laws that are fully enforced by the state" (Miller 2009, 449). Secure property rights generate incentives for individuals to invest. In the absence of such protection and the shadow of time inconsistency, individuals can either protect their own property or reach self-enforcing bargains, both of which involve monitoring and enforcement costs that reduce and may ultimately negate the gains from investment. Uncertainty and asymmetric information further compound this problem. Multinational investors are especially vulnerable to the problems that weak property rights potentially create, since production and extraction facilities, once constructed, are not easily moved in response to policy change. Consequently, investment—domestic and international—ought to be higher where property rights are protected. As Figure 4.4 shows, authoritarian regimes exhibit considerable variation in their level of property rights over time.

Figure 4.4: Average Level of Property Rights by Authoritarian Regime Type, 1972–2010
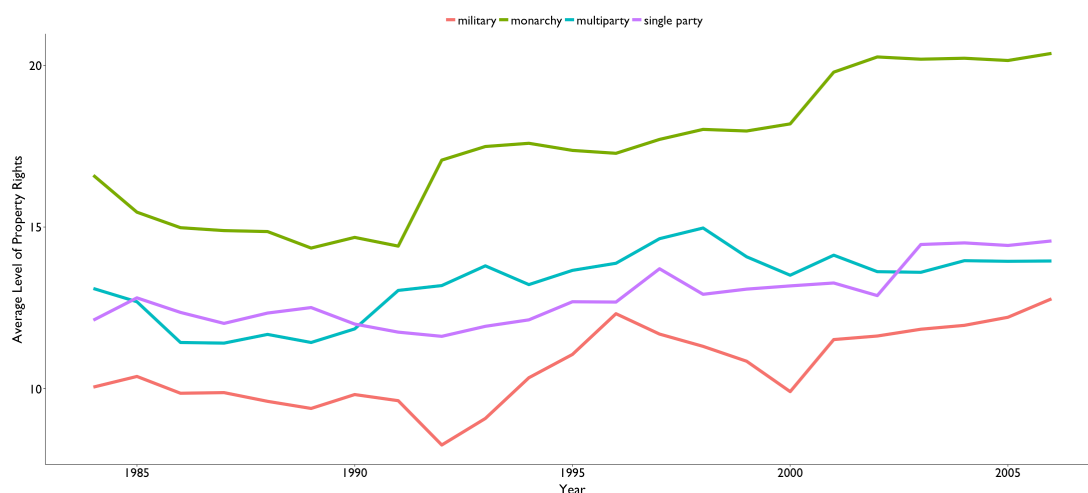
In Chapter Three, I show—through the use of a signaling model—how a BIT can function as a costly signal that helps committed governments distinguish themselves from less committed ones. That is, under certain conditions, a BIT facilitates the emergence of a separating equilibrium. Whereas extant explanations rely almost exclusively on a hand-tying logic to demonstrate how BITs may help convey government credibility, I focus instead on how signing a BIT is an act of cost-sinking, and model explicitly how these costs vary as a function of a country's level of property rights, or *type*.

The results from my model suggest that a government with weak property rights has little to no incentive to sign a BIT for two reasons: first, the costs of BIT signing for such a government is prohibitively high, and second, even if such a government does sign a BIT, it is unlikely that such a commitment will be perceived as credible. This is not to say that it will sign a treaty, just that the likelihood of signing is low. At the other end, a government with strong property rights also has little motivation to sign a BIT. Any commitment such a government makes is ex-ante credible, and since signing a BIT entails a strictly positive cost (though low) with no additional benefit, the government would prefer not to sign a treaty. The key implication is that governments with "middle" levels of property rights are most likely to resort to BITs in an effort to boost their credibility; the benefits that a BIT potentially brings to these governments far outweigh the costs of signing.

H2: Countries with "middle" levels of property rights are more likely to sign BITs compared to those with "low" or "high" levels.

4.3.3 Natural Resources, Meet Property Rights

Thus far, I have identified two main factors—one economic, and one political—that shape the specific motivations of a leader. My argument, however, is that these factors *jointly* influence the incentives of a leader to turn to bilateral investment treaties. A leader is more likely to sign a BIT if: (1) s/he needs foreign capital, and (2) s/he is unable to obtain it due to weak domestic institutions. That is, the probability of BIT signing is a

function of both economic and political factors.

H3: Resource-scarce countries with "middle" levels of property rights are more likely to sign BITs than resource-scarce countries with other levels of property rights.

4.4   Research Design

I investigate whether governments that need foreign direct investment but lack domestic credibility are more likely to sign BITs. This section describes the unit of analysis, the dependent variable, the key predictors, covariates, and estimation approach.

4.4.1   Unit of Analysis

To assess my hypotheses, I use a time-series cross-sectional (TSCS), or panel, dataset with country-year as the unit of analysis. The dataset includes all developing countries from 1960-2010. My argument suggests that a BIT is a costly signal; as such, a monadic dataset is more suitable than a dyadic one to evaluate the possible effects of signaling. To be sure, as Poast (2010) argues persuasively, the most appropriate data form is neither monadic nor dyadic, but "k-adic". However, whereas the study of alliances may be amenable to "k-adic" analysis, economic relationships are relatively more complex and challenging. I thus defer such an analysis to future research.

4.4.2   Outcome

One of the goals of this dissertation is to identify the factors that underlie the signing of bilateral investment treaties (BITs). Virtually all existing studies on the effects of BITs on FDI either use: 1) whether or not a country has signed a BIT in a given year, or (2) the cumulative number of BITs that a country has signed up to (and including) a particular year. That is, the presence of a BIT is typically—and quite naturally—used as an explanatory variable. However, these studies suffer from a shortcoming: they assume that BITs arise spontaneously between countries, and that all countries are equally likely

to sign BITs. Consequently, the only relevant relationship left to assess is whether or not a BIT leads to increased FDI inflows.

I argue that this assumption is invalid and in part explains why empirical evidence on the effects of BITs on FDI remains mixed. By not accounting for cross-country variation in the likelihood of BIT signing, these studies are unable to distinguish between countries that sign BITs because they need them to attract investment, and those that do so for other reasons. As such, my main outcome of interest is a country's likelihood of signing a BIT. To do so, I construct a binary dependent variable *BIT* that indicates whether or not a country has signed a bilateral investment treaty (BIT) in a given year (coded one if so, and zero otherwise). The United Nations Conference on Trade and Development (UNCTAD) maintains an online database of all BIT signatories as well as the dates of signature and ratification.

4.4.3   Explanatory Variables

A primary determinant of BIT signing is the extent to which a government needs foreign direct investment. I argue that this need is a function of a country's natural resource endowments. To operationalize natural resources, I draw on a variety of measures from the World Development Indicators (World Bank 2013).

Natural resources such as crude oil, natural gas, coal, and minerals (e.g. tin, gold, zinc) are particularly attractive to foreign investors. These resource deposits yield locational advantages, and unlike other goods, are immobile. A multinational enterprise that seeks to take advantage of these resources must invest in the location of these resources.

I use *resource rents* as a percentage of GDP to capture the extent of a country's resource wealth. Natural resource rents include the rents from oil, natural gas, coal, and minerals, and are the difference between the world price and total production costs of the specific commodity (World Development Indicators 2013). I further disaggregate this variable into its constituents—oil rents, gas rents, coal rents, and mineral rents—and include each separately in the analysis to ascertain the impact of specific resource types. In addition,

I also use Ross' (2010) data on oil and gas reserves, exports, and production.

Even if a government needs FDI, it ought not to sign a costly treaty if it can obtain FDI by existing means. That is, if a government already has reasonably sound domestic institutions such as property rights and the rule of law, it has little incentive to incur the costs of treaty signing.

To measure the extent of property rights protection, *property rights*, I use data from Allee and Peinhardt (2011).[18] Allee and Peinhardt (2011) construct an index from the Political Risk Group's (PRG) International Country Risk Guide (ICRG) that ranges from 0 to 30, where a higher value indicates a greater degree of property rights protection. The variable *property rights* ranges from 0.75 to 26.5, with a mean of 14.08 and a standard deviation of 4.19. Almost all empirical work on BITs use political risk measures from the ICRG. To assess my hypothesis that property rights has a non–linear effect, I construct a squared variable, *property rights*^{2}, that ranges from 0.57 to 702.3, with a mean of 215.82 and a standard deviation of 117.02.

4.4.4 Moderators

The crux of my argument hinges on the *joint* impact of economic and political factors. I expect that governments in need of foreign capital but lack the relevant domestic institutions are most likely to turn to BITs. Consequently, I include interaction terms of each economic and political variable in separate models.

4.4.5 Covariates

Finally, I must control for variables that may affect the likelihood of BIT signing. The logged value of GDP, *lngdp*, captures the market size of a country. Logged per capita GDP, *lngdpc* is a proxy for the level of development. Since economic growth rates may affect the level of FDI inflows and thus a country's need for foreign capital, I include

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[18]I thank Todd Allee and Clint Reinhardt for being forthcoming with their data and their encouragement.

growth as a percentage of GDP. *trade openness* and *capital openness* may also influence FDI inflows; I thus control for both variables. If a country is already receiving sufficient FDI, then signing a BIT may yield no additional benefit. As such, I include *fdi inflows* from UNCTAD's database of FDI statistics. I also include the cumulative number of BITs a country has signed up to (and including) a given year, *sumbit*.

Jandhyala, Henisz and Mansfield (2011) contend that BIT signing occurs in waves, with differing motivations behind each wave. To account for their argument, I construct a variable, *wave*, coded zero for the period from 1970 through 1987, one for the period from 1988 through 2000, and two for the period from 2001 to 2010, the end of the analysis period. In light of Elkins, Guzman, and Simmons' (2006) competitive theory of BIT signing, I include six regional dummies coded one if a country belongs to a particular region to control for spatial diffusion.

4.5   Estimation Approach

Time-series cross-sectional (TSCS) or panel data presents two main challenges. With respect to the "time-series" aspect of the data, there are two issues: (1) stationarity (or the presence/absence of unit roots); and (2) serial (or auto) correlation. Since the assumption of independence (i.e. the independence of observations) is critical in most statistical models, not accounting for temporal dynamics leads to biased standard errors and false inference.

A binary dependent variable further complicates the issue. Whereas one can include a lagged dependent variable (LDV) to account for temporal dependence, this approach only works for continuous variables. Failing to address the possibility of time dependence leads to inefficient (though consistent) parameter estimates; far more problematic, however, is that standard errors are wrong (Beck and Katz 1997, 2001). Beck and Katz (1997) show that standard errors may be underestimated by 50% or more, which renders statistical significance and hypothesis–testing suspect.

One popular solution is to correct the standard errors by using robust standard errors (Huber 1967) clustered on the unit of analysis (country-year in this case). However, this treats temporal dependence as a nuisance rather than a process to be theorized and explained. Time dummies are yet another frequently-used way to model temporal dynamics but these are subject to issues (see below).

Carter and Signorino (2010) show that time dummies are an inefficient way to deal with temporal dependence, especially when the duration of the data is relatively long (about fifteen periods and greater). This is because the number of parameters to be estimated (i.e. number of time dummies) is a function of the number of time periods in the data. My data spans 51 years; this means that I would require 51 time dummy parameters (dropping the constant)! A cubic polynomial approach, by contrast, requires the estimation of only three additional parameters.

Furthermore, time dummies may lead to estimation problems if the data exhibits separation. In binary data, separation occurs when some explanatory variable perfectly predicts a binary outcome (i.e. whether the outcome is zero or one). Carter and Signorino (2010) argue that one ought to consider the conditions under which data separation is more likely, to theorize about why temporal dependence exists in the data, and to plot and interpret the hazard instead of simply treating temporal dependence as a nuisance that one ought to "control for". In other words, one ought to "take time seriously". Using a series of Monte-Carlo simulations, Carter and Signorino (2010) show that a cubic polynomial models the hazard rate of a binary outcome more accurately than time dummies and splines. Furthermore, a cubic polynomial is flexible in that it can accommodate non-proportional hazards. Consequently, following Carter and Signorino (2010), I include a cubic polynomial to model time dynamics in all models.

4.5.1 Unit Heterogeneity

The cross-sectional aspect of the data gives rise to the issue of unit heterogeneity. It is unlikely that all countries in the data differ only in the levels of their predictors; instead,

one might expect that there are country-specific factors that may influence the outcome in addition to the variables in the model. That is, unit heterogeneity means that countries vary in ways not captured by observed independent variables. Failing to account for these unobserved differences between countries leads to omitted variable bias, and biased parameter estimates.

Standard regression models adopt a "complete pooling" approach. With respect to TSCS data with country-year as the unit of analysis, these models assume that any two countries (or higher-level entities in the parlance of multilevel models) are identical and can thus be "pooled" into a single population. That is, complete pooling assumes that residuals are independent and identically distributed, or $i.i.d$; once all covariates are specified, no further correlations exist among measures. This assumption, however, is rarely—if ever—satisfied in TSCS data since there exists country-specific factors that are not captured by the model, i.e. omitted variables. Irrespective of whether one uses panel-corrected standard errors (PCSEs), the "complete pooling" approach does not account for unobserved heterogeneity.

Two typical approaches to dealing with unit heterogeneity are fixed effects and random effects. Each approach has distinct advantages and disadvantages. Fixed effects is the most common way to resolve the problem of unit heterogeneity, and is sometimes referred to as a "no pooling" approach. The fixed effects model allows intercepts to vary by unit (in this case, by country), and is equivalent to centering all observations by country. This removes all cross-sectional variation and allows the analyst to focus solely on how temporal variation in a predictor affects an outcome. This satisfies the unit homogeneity assumption, and ensures consistent estimates and accurate standard errors.

However, problems arise when a variable of interest is "sluggish" or "slow-moving" over time (Beck 2001, Plumper and Troeger 2007). When a predictor changes "slowly" or is time-invariant, a fixed effects specification will typically drop this variable from the model since the fixed effects will be effectively collinear with this variable (Beck and Katz 2001). This means that it is not possible to examine the impact of such a

predictor on the outcome. To deal with the issue of time-invariant covariates, Plumper and Troeger (2007) propose a fixed effects vector decomposition (FEVD) framework. However, some argue that the FEVD approach is effectively an instrumental variable (IV) approach, and one that is inferior to a two-stage IV approach since FEVD is not likely to estimate standard errors correctly (Bruesch, Ward, Nguyen and Kompas 2011, Greene 2011).

Another problem with the fixed effects model relates to the substantive interpretation of coefficient estimates. Since each country's (fixed) intercept absorbs all cross-country—or between-cluster—variation, the impact of the predictors are solely within-cluster effects. That is, for a particular country, as some predictor X varies across time by one unit, Y changes by β units. Thus it is not possible to make inferences about how a variable's impact differs *across* countries. Since my interest is in between- *and* within-country effects, this is a major disadvantage of the fixed effects model. Finally, this approach introduces N new parameters into the model at the expense of degrees of freedom, which may lead to a loss of precision of the other parameter estimates in the model.

An alternative approach is a random effects model, also known as a random intercept—or more generally, a random coefficient—model. A random effects model allows one to account for unobserved heterogeneity at the country-level by treating cross-country variation as random. In the parlance of multilevel/hierarchical models, a random effects specification is a "partial pooling" approach. The random effects specification makes a key assumption: the predictors are independent of—or uncorrelated with—the residuals.

Unlike the fixed effects model, the random effects model allows one to assess the impact of slow-moving or time-invariant predictors, and to make cross-sectional (or between-country) inferences. However, since the coefficients from the model are partially pooled, these estimates assume equal within- and between-country effects, and

do not distinguish between these two sources of variation—the problem of cluster confounding. Furthermore, in these models, the impact of some predictor X is a *weighted average* of the within- and between-country variation in the data (Gelman and Hill 2007, Skrondal and Rabe-Hasketh 2004).

In short, random effects models are subject to the problem of omitted variable bias, which may lead to biased estimates. By contrast, fixed effects models drop time-invariant predictors, and restrict inference to only within-country changes over time.

4.5.2 How I Learned to Stop Worrying and Love the Random Effects Model

The Hausman (1978) specification test is the most common way to decide between a random or fixed effects model. This test assesses whether a significant difference exists between the estimates of the two models. If not, one may use the random effects model since it is more efficient. If so, then the estimates of the random effects model are biased, and the fixed effects approach is more appropriate. Of late, however, political methodologists are scrutinizing the Hausman test more closely and questioning the non-critical application of such a test to make model specification choices (Bartels 2008, Bell and Jones 2012, Clark and Linzer 2013).

Through a series of Monte-Carlo simulations, Clark and Linzer (2013) show that the Hausman test is not a reliable test to identify whether a random effects model will result in biased estimates. Furthermore, they contend that the "crucial" assumption that a predictor be uncorrelated with the unit effects is exaggerated since biased estimates occur only at extreme conditions, which is generally absent in most TSCS data. Clark and Linzer (2013) thus conclude that "the popular Hausman specification test is neither a necessary not sufficient statistic for choosing between fixed and random effects." Rather, they argue that analysts ought to examine their data and their theoretical hypotheses more closely instead of relying solely—and quite blindly—on a Hausman test to make

key modelling decisions. Bell and Jones (2012) concur, stating that "the Hausman test is not a test of FE (fixed effects) versus RE (random effects). It is a test of the similarity of within and between effects. A RE model that properly specifies the within and between effects will provide identical results to FE, regardless of the result of a Hausman test."

Bartels (2008) proposes an ingenious approach that leverages the strengths and offsets the limitations of the random effects model. This unified approach accounts for unit heterogeneity, solves the problem of cluster confounding, allows the inclusion of time-invariant or slow-changing variables (a significant drawback of the fixed effects model), and satisfies the key assumption that predictors be uncorrelated with the residuals (the Achilles' heel of the random effects model). Aside from its desirable statistical properties, a considerable advantage of this approach is that it allows the analyst to make substantive interpretations of how a particular predictor impacts an outcome both across time (within a country) and across countries. Bartels (2008) re-analyzes three existing studies that use TSCS data, and convincingly shows how his unified approach allows one to draw additional substantive inferences that make the best use of available data.

4.5.3   The Model

I treat my TSCS dataset as multilevel or hierarchical data in which level-one units are annual observations of each variable and level-two units are countries. The time period ranges from 1960 through 2010, i.e. the maximum number of time points, T, is 51, and the maximum number of countries (or cross-sectional units), N, is 165. In a multi-level representation, T is the number of measurement occasions per cluster (or level-one units), and N is the number of clusters (or level-two units). Thus the dataset contains 8,417 possible level-one units (measurement occasions) nested within 165 possible level-two units (countries), assuming no missing data. Following Bartels (2008) and Bell and Jones (2012), I construct between- and within- transformations of each variable prior to inclusion in the model. As described earlier, to model temporal dynamics, I include

a cubic polynomial per Carter and Signorino's (2010) recommendation. Since my dependent variable is binary, I use a multilevel logistic model. Finally, I lag all explanatory and control variables by one year.

Table 4.1 presents summary statistics of the variables in the analysis.

Table 4.1: Summary Statistics of Variables

Variable	N	Mean	S.D.
Resource Rents	7904	5.69	14.01
Property Rights	2370	14.08	4.19
Property Rights^2	2370	215.82	117.02
Log GDP	5791	22.80	1.95
Log GDP per capita	5788	7.30	1.27
Growth	5782	4.02	6.82
Trade Openness	5669	74.97	46.73
Capital Openness	4293	-0.26	1.42
Log FDI Inflows	4079	4.30	2.34

4.6 Empirical Results

Table 4.2 presents the main results from the multilevel (or mixed model) analysis. First, recall that hypothesis *H1* states that countries rich in natural resources will be less likely to sign a treaty than their poorer counterparts. As model 1 shows, *resource rents* (the sum of oil, natural gas, coal, and mineral rents) has a negative and statistically significant within-country impact on BIT signing, and a negative though statistically nonsignificant between-country effect. As the amount of natural resource rents increases within a country over time, it is less likely to sign a treaty. However, countries with higher natural resources are no more likely to sign a treaty than countries with lower natural resource rents.

Further inspection of the components that constitute natural resource rents reveal that oil, coal and mineral rents have a similar effect: as these rents increase within a given

country over time, it is less likely to sign a BIT. However, there is no between-country impact of these rents on the likelihood of BIT formation. On the contrary, natural gas rents has neither within- nor between-country effects on BIT signing.

Next, model 2 shows that *property rights* has a positive and statistically significant within- and between-country effect on the probability of BIT signing. That is, for a given country, as the level of property rights improves over time, it is more likely to sign a BIT. In addition, countries with higher levels of property rights are more likely to sign BITs. At first glance, this seems to suggest that property rights improvements lead to an increased likelihood of BIT signing.

However, recall that I argue that property rights exert a *non-linear* effect on BIT signing; that is, countries may be more likely to turn to BITs at middle levels of property rights but this tapers off at higher levels. Model 3 provides evidence for this hypothesis (*H2*). The coefficient on the squared property rights term is negative and statistically significant while that on the property rights term is positive and statistically significant. What is more, these are significant both between- and within-countries. That is, an initial increase in property rights may lead to a greater likelihood of BIT signing but only up to a point; countries with high levels of property rights are actually less likely to sign a BIT.

Table 4.2: Mixed Logit Estimates of the Effects of Natural Resource Endowments and Property Rights on the Likelihood of BIT signing

Outcome: BIT Signing	1	2	3	4	5
Within-Effects					
Resource Rents	–0.02***			0.00	0.00
	(0.01)			(0.01)	(0.01)
Property Rights		0.11***	0.35***	0.11***	0.37***
		(0.03)	(0.11)	(0.03)	(0.11)
Property Rights^2			–0.01**		–0.01**
			(0.00)		(0.00)
ResourceXProperty Rights				0.00	

	1	2	3	4	5
					(0.00)
ResourceXProperty Rights^2					0.00
					(0.00)
Log GDP	2.76***	1.27**	0.82	1.37**	1.24**
	(0.41)	(0.53)	(0.52)	(0.54)	(0.52)
Log GDP per capita	–3.20***	–1.48**	–0.82	–1.57**	–1.41***
	(0.48)	(0.68)	(0.69)	(0.69)	(0.68)
Growth	0.02***	0.02	0.01	0.02	(0.02)
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Trade Openness	–0.00	–0.00	–0.00	–0.00	–0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Capital Openness	0.06	0.05	0.06	0.05	0.05
	(0.06)	(0.07)	(0.07)	(0.07)	(0.07)
Log FDI inflows	0.27***	0.22***	0.22***	0.18***	0.20***
	(0.04)	(0.06)	(0.06)	(0.05)	(0.06)

Outcome: BIT Signing	1	2	3	4	5
Between-Effects					
Resource Rents	0.00			0.12*	0.06*
	(0.01)			(0.06)	(0.03)
Property Rights		0.08*	0.51**	0.13**	0.45**
		(0.04)	(0.21)	(0.05)	(0.20)
Property Rights^2			–0.02**		–0.01*
			(0.01)		(0.01)
ResourceXProperty Rights				–0.01*	
				(0.00)	
ResourceXProperty Rights^2					–0.00**
					(0.00)
Log GDP	0.54***	0.51***	0.55***	0.55***	0.55***
	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)
Log GDP per capita	–0.28**	–0.48***	–0.22**	–0.53***	–0.47***
	(0.12)	(0.05)	(0.12)	(0.16)	(0.15)
Growth	0.03	0.06**	–0.03	0.07	0.07
	(0.05)	(0.01)	(0.06)	(0.06)	(0.06)

Trade Openness	0.01***	0.01**	0.01***	0.01**	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Capital Openness	0.09	–0.01	0.10	0.05	0.06
	(0.10)	(0.09)	(0.10)	(0.07)	(0.09)
Log FDI inflows	–0.07	–0.27**	–0.23***	–0.36***	–0.35***
	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)
N	3267	1755	1755	1755	1755
T (average)	23.5	17	17.0	17.0	17
Groups	139	103	103	103	103
AIC	3277.5	2063.4	2068.5	2067.2	2062.3
BIC	3399.3	2183.8	2188.9	2209.5	2215.5

Standard errors are in (parentheses). Cubic polynomial, *wave* dummy, and spatial dummies included in all models (not shown). All variables are lagged by one year.

***, **, and * indicate statistical significance at the $p < .01$, $p < .05$, $p < .1$ respectively. All models estimated using *meqrlogit* in Stata 13.0.

Yet my key argument is that the probability of BIT signing is jointly influenced by economic need *and* property rights. To assess this hypothesis, I include interaction terms in models 4 and 5. These models show significant between-country effects of both the unsquared *resourceXpropertyrights*, and squared *resourceXpropertyrights²* but not within-country effects. However, the coefficient estimates of the interaction terms in models 4 and 5 cannot be directly interpreted. As such, I follow Brambor, Clark, and Golder's (2006) recommendation and construct marginal effects plots.

Figure 4.1 shows how the marginal effect of resource rents on the likelihood of BIT signing changes as a function of a country's level of property rights, holding all other covariates at their respective means. As a country's level of property rights increases,

the marginal effect of resource rents on the probability of signing a BIT is decreasing and statistically significant. This suggests that resource abundant countries are less likely to sign BITs even as their property rights regime improves. Note however that this is a *between-country* effect; there is no statistically significant interaction effect within-country. That is, changes in the two constituent variables—*resourcerents* and *propertyrights*—over time within a given country is not statistically significant.

Figure 4.5: Marginal Effect of Resource Rents on Likelihood of BIT signing
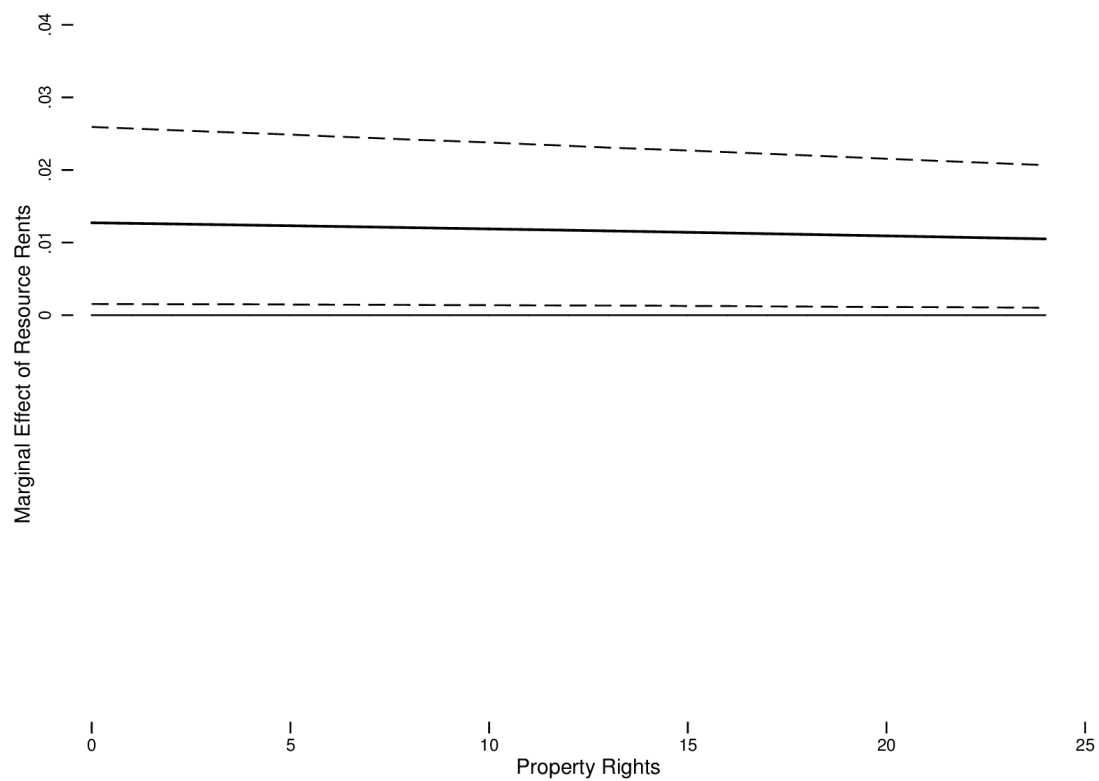
4.7 Conclusion

This chapter develops a theory of BIT signing grounded in the specific incentives that leaders have to attract foreign direct investment. Rather than assuming that all leaders

want foreign capital, I focus on the conditions that influence: (1) the amount of invest-ment a leader receives, and (2) whether a leader will turn to BITs. I show that the extent of natural resource wealth, by influencing the investment that a leader receives, affects the likelihood of treaty signing. Specifically, as resource rents increases, the less likely a country will sign a BIT. In addition, I find that leaders are more likely to sign BITs at middle levels of property rights, i.e. property rights have a non-linear effect on BIT signing. Finally, I show that the most likely BIT signers are resource-scarce countries at moderate levels of property rights. These findings are robust to alternative estimation methods and model specifications.

This approach stresses the domestic micro-processes and mechanisms that underlie treaty signing, and in so doing, provides an explanation for the temporal and cross-national variation in BIT signing. What is more, given that countries "select" into BITs, this has implications for the analysis of whether BITs fulfill their purported purpose of attracting foreign direct investment—a topic I will explore in the next chapter.

Chapter 5

BITs and FDI Revisited: A Matching Approach

5.1   Introduction

In the previous chapter, I show that states that sign bilateral investment treaties (BITs) are qualitatively different from those that do not. Developing country governments are more likely to sign BITs under two conditions: first, these governments require capital from foreign direct investment (FDI) that they cannot obtain otherwise. Second, these countries have relatively weak—but not terribly poor—property rights. In particular, I find that countries scarce in natural resources—petroleum, minerals, and natural gas—are more likely to sign BITs. In addition, countries with "average" levels of property rights are more likely to sign BITs; that is, there is an inverted-U shaped relationship between a country's level of property rights and likelihood of BIT signing.

Existing studies of BITs and FDI largely ignore the motivations that underlie BIT signing and assume that since these agreements are designed to attract FDI, all governments would sign them. Consequently, the empirical focus is on whether BITs attract FDI. However, without accounting for the variation in the likelihood of BIT signing, i.e. some countries are more likely than others to sign BITs, these studies suffer from an endogeneity problem. As such, empirical findings are mixed, and there remains a lack of consensus on the utility of BITs.

In this chapter, I draw from the insights in Chapter Three and examine whether BITs fulfill their expected function of attracting FDI. I use a matching approach and show that after accounting for endogeneity, BITs do result in increased FDI inflows. Specifically, I find that a country with a BIT receives an estimated 45% increase in FDI

inflows compared to one without a BIT.

The rest of the chapter proceeds as follows. Section 2 briefly outlines my theoretical expectations for the statistical analysis. Next, I describe my estimation approach—propensity score matching and coarsened exact matching—in section 3. Section 4 discusses my data and presents my results. Section 5 concludes with a discussion of the implications of my findings.

5.2   BITs and FDI: A Reprise

Bilateral investment treaties (BITs) are legal agreements between two governments that specify standards of treatment for foreign direct investment and are backed by third-party enforcement. BITs contain provisions that require governments not expropriate foreign investment without prompt and adequate compensation, treat foreign investors no less favorably than domestic investors (national treatment), and ensure the smooth transfer of a multinational's funds. Most importantly perhaps, BITs allow dispute settlement before a third-party arbitrator, usually the International Centre for the Settlement of Investment Disputes (ICSID), which helps allay investor concerns about a host country's potentially weak (and biased) domestic judiciary.

In principle, a BIT is designed to boost investor confidence, and subsequently attract greater inflows of FDI. Empirical evidence, however, is mixed. Whereas some scholars find that BITs do result in greater FDI inflows (Salacuse and Sullivan 2004, Neumayer and Spess 2005, Büthe and Milner 2009), others find no effect of BITs on FDI (Hallward-Driemeier 2003, Gallagher and Birch 2006). This chapter contributes to this debate, suggesting that the reason for the mismatch between theory and evidence is because existing analyses do not adequately deal with the problem of selection into BIT signing.

Work on the motivations for BIT signing lags behind the literature on the effects of BITs on FDI. Most studies begin with a detailed exposition of how the features in BITs are designed to attract FDI before proceeding to an empirical analyses of these

treaties. However, without exploring why countries would sign BITs in the first place, these studies implicitly assume that all countries are equally likely to sign BITs. Yet this is not the case: there is considerable variation in the number of BITs across countries. Consequently, the empirical analysis of BITs must statistically account for this selection problem or risk biased coefficient estimates and a false inference on the effects of BITs on FDI.

To my knowledge, only two studies conduct an empirical examination of why countries sign BITs. Using event history techniques on a sample of 178 countries between 1960 and 2000, Elkins, Guzman and Simmons (2006) find that the rate at which a given county enters into a BIT increases with the signing rate of its competitors, and that the rate of BIT signing increases with annual FDI flows. Jandhyala, Henisz and Mansfield (2011), using event history analysis as well on a dataset of 166 countries between 1970 and 2007, find that BIT signing took place over three distinct temporal waves.[19]

The findings above, in conjunction with my results in Chapter Three, show that countries do indeed exhibit variation in BIT signing, and that the likelihood of signing depends on both domestic and international factors. It is thus curious why subsequent work on the impact of BITs do not seem to empirically account for the motivating factors that Elkins, Guzman and Simmons (2006) identify in their analysis. The analysis in this chapter aims to rectify this issue. Given the legal design of BITs, I expect that: *After accounting for endogeneity, a country with a BIT will attract more FDI than one without a BIT.*

5.3 Matching

Perhaps the most straightforward to ascertain whether BITs work is to answer the following question: what would have happened to FDI inflows if a country with a BIT in

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[19]Chapter Three discusses these studies in greater detail.

a particular year had *not* signed a BIT? However, this is impossible to know in observational studies. Since there is only information on whether country X signed a BIT in year t and a corresponding amount of FDI inflows in year $t + 1$ (assuming a one-year lag before the BIT takes effect on FDI inflows), there is no way to ascertain what would have happened to FDI inflows in year $t + 1$ if country X had *not* signed a BIT in year t. This is due to the fact that there is no data on FDI inflows in the counterfactual event in which country X did not sign a BIT. Rosenbaum and Rubin (1983) christen this the *fundamental problem of causal inference.*[20]

Rosenbaum and Rubin (1983) define a *propensity score* as the conditional probability of treatment assignment given observed baseline covariates. In my analysis, a propensity score is the predicted probability of signing a BIT given a vector of observable covariates. In Chapter Four, I identify a list of variables that influence the likelihood of BIT signing and will use them to obtain the propensity score for each unit of analysis, i.e. country-year. Next, I will match two countries with identical propensity scores with the condition that only one of the countries in this pair actually signed a BIT whereas the other did not. In the parlance of experimental studies, the presence of a BIT is the "treatment" and the absence of one, the "control". Since these two units have the same propensity score, i.e. the likelihood of BIT signing, the only difference between them is the presence (or absence) of a BIT. Consequently, any difference in FDI inflows between these two units is due to the BIT. That is, I am able to estimate the *average treatment effect (ATE)* of a BIT on FDI inflows.

5.3.1   A Foray into Assumptions

Before I discuss the process of matching, a discussion of the assumptions underlying this approach is in order. First, the *unconfoundedness* assumption states that I have included all possible covariates in the estimation of the propensity score. As such, there are no

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[20]Some observe that this problem can be framed as one of missing data, since we lack data on the counterfactual world.

unobserved differences between those countries that sign BITs and those that do not. Second, the *overlap* assumption specifies that the probability of BIT signing is strictly positive, i.e. between 0 and 1. This ensures that there are sufficient units in both treatment (BIT) and control (no BIT) groups with similar propensity scores for matching. If both unconfoundedness and overlap hold, then the treatment (BIT signing) is considered *strongly ignorable*, and the matching analysis can proceed.[21]

5.4 Research Design

I assess whether BITs attract FDI by using a matching approach to generate a sample of country-pairs, one with a BIT and one without. This allows me to directly evaluate the impact of a BIT on FDI. This section describes the unit of analysis, dependent variable, main predictor, covariates, and estimation approach.

5.4.1 Unit of Analysis

I use a time-series cross-sectional (TSCS) dataset with country–year as the unit of analysis. This dataset includes all developing countries from 1960 to 2010.

5.4.2 Dependent Variable

The primary outcome is annual foreign direct investment inflows, *FDI.* This is the sum of a given's country direct investment flows by foreign firms in a given country from the World Development Indicators (World Bank 2013). *FDI* ranges from –13.50 to 4.98, with a mean of 0.20 and a standard deviation of 1.92.

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[21]There is one additional assumption: the stable unit treatment value assumption (SUTVA) which states that the effect of a BIT on FDI inflows in one country does not affect FDI inflows in another country that also has a BIT. This is a problematic assumption that I take up in the limitations section of Chapter Seven.

5.4.3 Predictor

The outcome in the propensity score equation is whether a country has a BIT in a particular year. This variable, *BIT*, is a binary variable coded one if a BIT exists for a country, and zero otherwise (United Nations Conference on Trade and Development 2013).

BIT is also the main predictor, or "treatment" in the final estimation of whether BITs predict greater FDI inflows.

5.4.4 Covariates

I list the covariates I use in the estimation of the propensity score here and refer the reader to Chapter Four for more detail. These include: resource rents as a percent of GDP, property rights, the natural logs of GDP and per capita GDP, trade openness, capital openness, and the natural log of prior FDI inflows.

For convenience, I present summary statistics of the variables in Table 5.1 here:

Table 5.1: Summary Statistics of Variables

Variable	N	Mean	S.D.
Resource Rents	7904	5.69	14.01
Property Rights	2370	14.08	4.19
Log GDP	5791	22.80	1.95
Log GDP per capita	5788	7.30	1.27
Growth	5782	4.02	6.82
Trade Openness	5669	74.97	46.73
Capital Openness	4293	–0.26	1.42

Log FDI Inflows	4079	4.30	2.34

In addition, Table 5.2 shows the mean values of the covariates between countries with BITs and countries without BITs in the sample. There is a significant difference between BIT and non–BIT countries in most cases. These differences suggest that these countries are not directly comparable; without an appropriate estimation approach, the estimates of the impact of a BIT on FDI is likely to be unreliable and invalid.

Table 5.2: Mean Values of Covariates for Countries With and Without BITs

Variable	BIT	No BIT
Property Rights	15.70	13.61
Resource Rents	9.26	8.20
GDP	24.92	24.06
GDP per capita	8.42	8.00
Growth	4.76	3.82
Trade Openness	75.79	67.90
Capital Openness	0.14	–0.27
Prior FDI	0.48	0.12

5.4.5 Estimation Approach

The analysis occurs in three stages. First, I estimate the propensity score using a logistic regression.

$$\text{Probability}(Y_{it} = 1 \mid X_{it}) = \alpha + \beta_{it} X_{it} + \epsilon_{it}$$

where Y_{it} is the probability of signing a BIT by country i at time t, and X_{it} is a vector of covariates of country i at time t. The propensity score is the predicted value of Y_{it} from this logistic regression. Next, I select a method to generate a sample of matched observations. The goal of matching, as Iacus, King and Porro (2011) state, is to "prune observations from the data so that the remaining data have better *balance* between the treated and control groups (emphasis in original)."

Nearest-neighbor matching matches a country with a BIT to a country without a BIT with the closest propensity score, and discards unmatched country-pairs. Kernel-based matching matches a country with a BIT to a weighted sum of countries with similar propensity scores but without BITs. It assigns greater weight to the countries without BITs with propensity scores closest to the country with a BIT; the further the propensity scores of the countries without BITs are from the propensity score of the country with a BIT, the smaller the weight. Radius matching (Dehejia and Wahba 2002) matches all countries without BITs within a predetermined radius of the propensity score of a country with a BIT, and excludes unmatched countries outside the radius from the analysis.

Each of these matching methods has advantages and disadvantages. Nearest-neighbor matching minimizes bias by selecting country-pairs with similar propensity scores. However, this greatly reduces the number of matched pairs and discards a large amount of information. While kernel-based matching increases the number of matched pairs, it runs the risk of generating country-pairs that are only weakly matched, which increases the possibility of bias. Like kernel-based matching, radius matching increases the number

of matched pairs and reduces information loss. However, the selection of a predetermined radius is at the discretion of the analyst, and there is also the risk of weak matches.

Coarsened Exact Matching (CEM) is an alternative method that works in three steps: first, a user-customizable algorithm recodes individual values of each covariate into substantively meaningful groups, i.e. "coarsens" the data. For instance, one can recode the seven-point partisan identification scale typical in American politics into three categories: Democrat, Independent, and Republican, without the loss of relevant information. Another example is the common practice of using age groups, e.g. 18-24, 25-29, 30-34, 35-39, instead of exact ages. In essence, this procedures generates variable-sized strata on which to apply matching. Next, exact matching matches a country with a BIT in one strata in the coarsened data sample to a country without a BIT in the same strata. Finally, the procedure removes the coarsening and retains the original values of the matched data. The advantages of CEM are twofold: (1) it is less reliant on model specification compared to propensity score matching, and (2) it reduces bias and improves efficiency (Iacus, King and Porro 2011).

Finally, I estimate the impact of BITs on FDI inflows using the matched sample with ordinary least squares (OLS) regression. I perform all analyses using MATCHIT version 2.4-21, R version 3.1.1.[22]

5.5 Results

Figure 5.1 shows the distribution of cases with and without BITs across the range of estimated propensity scores. The height of each bar represents the proportion of cases with a specific propensity score, or predicted probability of BIT signing. The orange bars indicate observations that actually signed BITs while the gray bars represent observations without BITs.

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[22]Ho, Daniel, Kosuke Imai, Gary King and Elizabeth Stuart (2007). MATCHIT: Nonparametric Preprocessing for Parametric Causal Inference. Available at http://gking.harvard.edu/matchit

Figure 5.1: Distribution of Propensity Scores Between BIT and Non–BIT countries
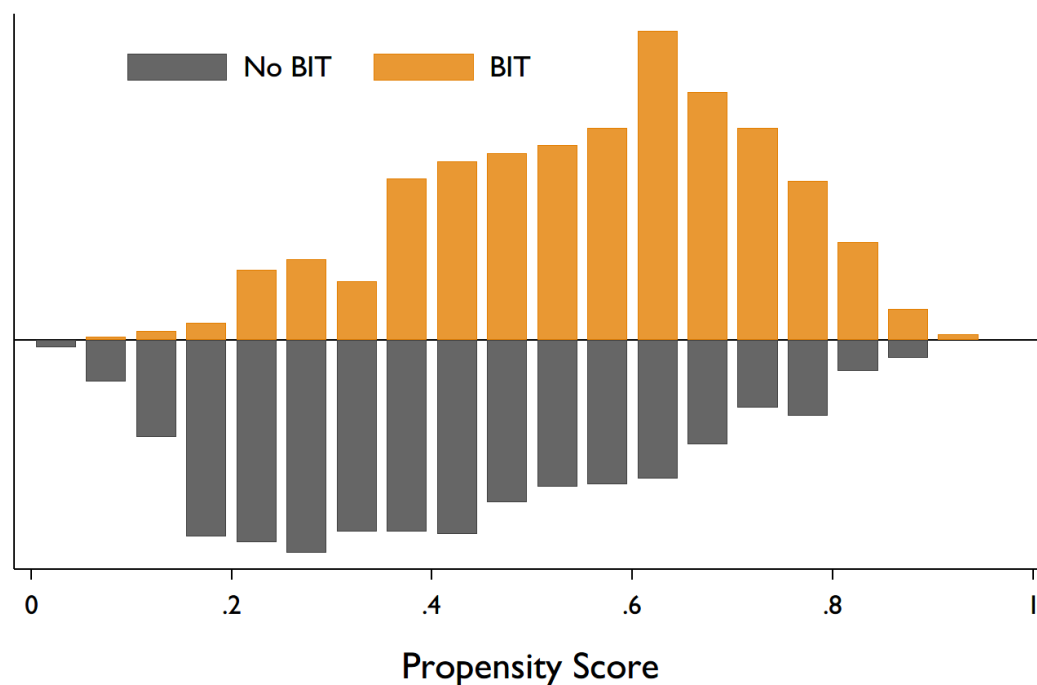
The graph illustrates that the propensity score equation satisfies the *overlap* assumption. The range of estimated propensity scores is strictly positive (falls between zero and one), and there are observations that fall across the entire range. More importantly, at each given value of the propensity score, there are cases that have signed and not signed BITs. As such, I am able to match countries with similar propensity scores, one with and one without a BIT.

Table 5.3 compares the mean values of covariates between countries with BITs and countries without BITs before and after nearest–neighbor (NN) matching. There is a decrease in the difference in means of some of the covariates, although differences remain.

Table 5.3: Mean Value of Covariates Before and After NN Matching

Variable	BIT (Before)	No BIT (Before)	BIT (After)	No BIT (After)
Property Rights	15.70	13.61	15.70	13.99
Resource Rents	9.26	8.20	9.26	8.54
GDP	24.92	24.06	24.92	24.18
GDP per capita	8.42	8.00	8.42	8.04
Growth	4.76	3.82	4.76	4.21
Trade Openness	75.79	67.90	75.79	69.37
Capital Openness	0.14	–0.27	0.14	–0.22
Prior FDI	0.48	0.12	0.48	0.18

Next, Table 5.4 shows the percentage in balance improvement after nearest–neighbor matching.

Table 5.4: Balance Improvement After NN Matching (%)

Variable	% Improvement
Property Rights	18.32
Resource Rents	32.32
GDP	14.08
GDP per capita	11.48
Growth	41.08
Trade Openness	18.71
Capital Openness	13.01
Prior FDI	14.70

Given the potential drawbacks of nearest–neighbor matching discussed in the previous section, I now present the results of coarsened exact matching (CEM). Table 5.5 shows the differences across covariates for countries with BITs and countries without BITs, and compares the differences to the original (unmatched) sample. There is a clear

and considerable decrease in the means of the covariates between both groups. What is more, there is a substantial reduction in covariate means compared to that under nearest-neighbor matching (see Table 5.3).

Table 5.5: Mean Value of Covariates Before and After CEM

Variable	BIT (Before)	No BIT (Before)	BIT (After)	No BIT (After)
Property Rights	15.70	13.61	15.14	15.11
Resource Rents	9.26	8.20	6.12	6.36
GDP	24.92	24.06	24.36	24.40
GDP per capita	8.42	8.00	7.99	8.02
Growth	4.76	3.82	4.67	4.73
Trade Openness	75.79	67.90	68.20	68.33
Capital Openness	0.14	–0.27	0.11	0.10
Prior FDI	0.48	0.12	0.59	0.62

Similar to Table 5.4, Table 5.6 shows the percentage in balance improvement after CEM. Compared to nearest-neighbor matching, there is a drastic improvement in balance. This increases confidence that the units in this sample are better matched than those in nearest-neighbor matching. As such, I use this sample from CEM in the final regression analysis of BITs on FDI.

Table 5.6: Balance Improvement After CEM (%)

Variable	% Improvement
Property Rights	98.76
Resource Rents	77.00
GDP	95.50
GDP per capita	93.38
Growth	92.74
Trade Openness	98.37
Capital Openness	97.52
Prior FDI	91.02

Figure 5.2 presents a graphical depiction of balance before and after coarsened exact matching, using histograms on the left, and jitter plots on the right. I discard all observations in both treated (BIT) and control (no BIT) groups outside the support of the distance measure, i.e. that do not match on propensity scores.

Finally, Table 5.7 presents the results from the regression analysis on the sample matched by CEM. There is a positive and statistically significant effect of BITs on FDI. In the parlance of causal inference, there is a positive average treatment effect of BIT on FDI inflows—BITs do result in greater FDI inflows.

Table 5.7: Regression Estimate of the Effects of a BIT on FDI inflows

Variable	Estimate	Standard Error	t-value
BIT	0.34	0.15	2.21
Constant	0.40	0.11	3.55

Figure 5.3 shows the predicted amount of FDI inflows a country will receive with and without a BIT. A country with a BIT receives an estimated 45% increase in FDI inflows compared to one without a BIT.

5.6 Conclusion

In this chapter, I show that after accounting for the variation in BIT signing across countries, bilateral investment treaties do result in greater foreign direct investment inflows. In contrast to existing research, I use a matching approach to resolve the problem of selection and generate a matched sample on which to derive the average treatment effect of a BIT. By matching units on all characteristics save one—the presence or absence of a BIT, I am able to estimate the extent to which a BIT attracts FDI inflows.

Chapter 6

BITs, the Credibility Threshold, and FDI

"Then the trick from my angle is to make my play strong enough to tie you up, but not make you mad enough to bump me off against your better judgement."

Sam Spade, *The Maltese Falcon 1941*

6.1   Introduction

In Chapter Five, I show that after accounting for the motivations behind the signing of bilateral investment treaties (BITs), and using a matching approach to resolve this endogeneity problem, BITs do attract foreign direct investment (FDI). In this chapter, I turn to the main question of this dissertation and focus on the extent to which BITs work to attract FDI in authoritarian regimes. Authoritarian regimes, compared to their democratic counterparts, suffer from a lack of credibility; woe betides the investor who takes the word of a dictator at face value. If BITs boost credibility by delegating authority to a third-party arbitration mechanism then all authoritarian regimes with BITs ought to receive increased FDI inflows. Yet this is not the case; as Figure 6.1 shows, there is significant variation in inward FDI flows received by authoritarian regimes with BITs.

Figure 6.1: FDI inflows to Authoritarian Regimes in 2012 (US$ millions)
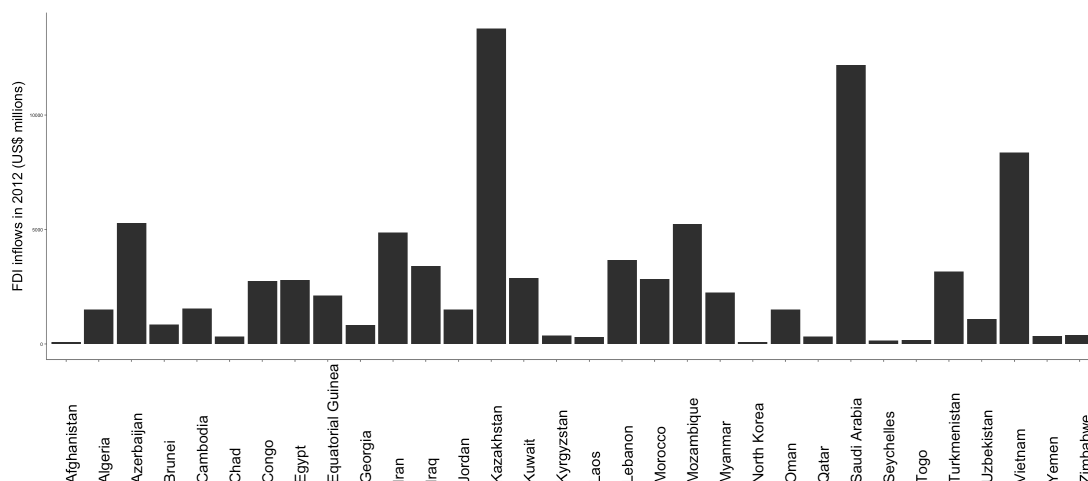
In this chapter, I focus on whether and how BITs work in authoritarian regimes. I show that the type of authoritarian regime conditions the effects of these investment agreements. Since investors do not merely consider the presence (or absence) of a BIT in decision-making, the existing institutional features of the regime can either buttress or weaken its appeal.

The rest of the chapter proceeds as follows. Section 2 briefly recapitulates the literature on BITs and FDI. Section 3 presents my argument for how authoritarian governments can use BITs to attract FDI and specifies my hypotheses. Section 4 describes my research design for assessing the relationship between BITs, domestic institutions, authoritarian regime type, and FDI inflows. Section 5 presents the empirical results, and Section 6 concludes.

6.2   BITs and FDI

Bilateral investment treaties (BITs) typically contain provisions on the protection of foreign assets, standards of treatment, and the process of dispute settlement—issues directly

related to foreign investment. Signing a BIT thus indicates that a government is willing to provide an investor-friendly environment, and in principle, ought to help attract more foreign direct investment (FDI). Multinational firms, however, do not simply look at whether a country has a BIT when they make investment decisions. In addition to economic factors, they also consider political ones such as political stability, favorable rules and regulations, and secure property rights. In general, BITs are an attempt by governments to reassure potential investors of property rights protection, in particular that they will not expropriate investment.

Empirical evidence on whether BITs fulfill their expected function of attracting FDI remains inconclusive. Some studies find that the more BITs a country has, the greater the amount of FDI inflows (UNCTAD 1998, Neumayer and Spess 2005, Desbordes and Vicard 2009, Büthe and Milner 2009, Kerner 2009, Busse, Koniger and Nunnenkamp 2010, Allee and Peinhardt 2011). Others, however, find that BITs have no effect on FDI (Hallward-Driemeier 2003, Gallagher and Birch 2006, Yackee 2008).

One reason for this mixed finding may be because certain conditions are necessary in order for BITs to fulfill their purpose of attracting FDI. Multinational firms do not simply look at whether a country has a BIT when they make investment decisions. In addition to economic conditions such as market size, labor costs, manufacturing costs, and labor skill, investors must also assess the political climate in the host country and other potential risks from policy change, leadership turnover, civil violence, and public opinion.

Tobin and Rose-Ackerman (2005) argue that the effect of BITs depends on a country's level of political risk. BITs only attract FDI at low levels of risk, and (oddly) has a negative impact at high levels of risk. Busse, Koninger and Nunnenkamp (2010) show that BITs have a greater effect on FDI in states with fewer executive constraints, and suggest that BITs may substitute for weak domestic institutions. Neumayer and Spess (2005) find a similar substitutive effect of BITs for poor domestic institutions but this result is sensitive to different measures of institutional quality.

Using bilateral data on FDI, Desbordes and Vicard (2009) find that the quality of political relations between signatories influences the amount of FDI a BIT brings. BITs have a greater impact on FDI inflows between countries with political tensions; those with good relations already receive increased FDI. They also find that BITs complement—rather than substitute for—good domestic institutions in attracting FDI, a result that Hallward-Driemeier (2003) obtains as well. Allee and Peinhardt (2011) posit that BITs increase FDI only if signatory governments comply fully with the terms of the treaties. They show that countries with disputes filed at the International Centre for the Settlement of Investment Disputes (ICSID)—the most common third-party arbitration mechanism—receive reduced FDI inflows. What is more, countries that lose these disputes suffer a greater loss of FDI. Their analysis suggests that the effectiveness of BITs is contingent on compliance.

Haftel and Thompson (2013) focus on treaty ratification rather than signature. Whereas signature typically involves two leaders putting pen to paper in front of a group of reporters, ratification involves consent by a county's legislature and subsequent implementation of the treaty terms. In short, BIT ratification, not signature, is what matters. Thus a primary reason for the inconsistent effects of BITs is a failure to distinguish between ratified and (merely) signed BITs. They find that ratified BITs increase FDI outflows from the United States to her BIT partners.

This body of research suggests that BITs may help governments signal their commitment to property rights protection but the effectiveness of this signal is contingent on the existing quality of domestic institutions. If BITs work, they work in conjunction with other institutional factors that influence a government's credibility. More generally, the effects of international institutions are conditional on existing domestic institutions. Like previous work, I argue that the effects of BITs depend on existing political institutions. Unlike prior research however, I go one step further to account for the prior stage of (or selection into) BIT signing using instrumental variables regression.

6.3 The Credibility Threshold

The central issue facing developing economies is one of credible commitment to the proper treatment of FDI. Prior to investment, an investor can "shop around" for the host government willing to offer the "best" terms; once the investment is made, however, such a host government can easily renege on its commitments since FDI is typically not easy—and in some cases, impossible—to withdraw. Guzman (1998:659) writes, "Regardless of the assurances given by the host before the investment and regardless of the intentions of the host at the time, the host can later change the rules if it feels that the existing rules are less favorable to its interests than they could be." Consequently, absent any commitment mechanism, investors may refrain from investing. Yet why do some authoritarian regimes—countries whose commitments are generally regarded as non-credible—receive considerable FDI inflows?

My core argument is that in authoritarian regimes, bilateral investment treaties (BITs) can play a key role in attracting inward FDI. [23] In particular, BITs can help some authoritarian governments reach the "credibility threshold"—the point at which their commitment to protect FDI becomes sufficiently credible—to attract investment from multinational firms. This "credibility threshold" is a function of the existing domestic credibility mechanisms within the regime. Put another way, authoritarian sovereigns can, under a limited set of conditions, use BITs to signal (and boost) their credibility, thereby attracting FDI. In so doing, BITs can alter investor perceptions without a government having to enact costly institutional reform. Since democratic regimes are more likely to have institutions that promote credibility such as regular elections and electoral turnover, and a greater number of checks and balances, I expect, after statistically accounting for the motivations of BIT signing, that *BITs are more likely to attract FDI in authoritarian regimes than their democratic counterparts.* (H1).

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[23]A BIT is an "interstate agreement designed to protect FDI by establishing a broad set of investors' rights, and in most cases, by allowing investors to sue host states in an international tribunal if these rights are violated" (Kerner 2009).

At the same time, not all regimes are alike. Both democratic and authoritarian regimes exhibit institutional variation that a binary regime-type variable does not capture. These include whether a polity is unitary or federal, presidential or parliamentary, or unicameral or bicameral. The degree to which key decision-making institutions are independent, i.e. insulated from political pressures, such as the judiciary or central bank also varies across regimes. While these are important distinctions, I focus on one factor that pertains most closely to the credibility threshold: the number of checks and balances, or veto players in the regime.[24]

In any polity, there are actors whose consent is necessary to change a policy, i.e. veto players. Veto players can either be individual politicians or political parties who have the power to block proposals to change current, or status quo, policies. The larger the number of veto players, the more difficult to change a policy (Tsebelis 1995, 2002). As such, states with multiple veto players tend to have a status quo bias. To paraphrase Newton's First Law of Motion, a policy in place is likely to remain in place (unless all veto players consent to changing it). This implies that investors, who seek stability with regards to investment policies such as tax incentives and exemptions, the level of corporate taxation, and the regulatory framework, will prefer a state in which legislation tends to remain stable; policy stability reduces risk and uncertainty.

Although democratic states tend to have more veto players than authoritarian states, this is not always true. In many authoritarian regimes, the dictator relies on the support of key actors such as the economic elite or the military in order to stay in power. As such, the dictator is at least somewhat constrained by the preferences of these elite groups. These groups of elites constitute "informal" veto players who may have the power to block proposals to change the status quo. Thus the literature on veto players goes beyond the democratic-autocratic dichotomy, and provides a useful framework with which to analyze the effects of institutions on political and economic outcomes.

Unlike other international treaties, BITs allow an individual firm to file suit directly

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[24]I use these terms—checks and balances, and veto players—interchangeably.

against a host government at an international tribunal—usually the International Centre for the Settlement of Investment Disputes (ICSID)—if the state takes action detrimental to investment. By delegating authority to a third-party arbitrator in the event of a dispute—and thereby providing firms with an "exit option"—BITs can create a disincentive for states with a small number of veto players to change policies towards FDI at a whim, and an incentive to maintain the policies that enticed the firm to invest in the first place. Consequently, I expect that *BITs are more likely to attract FDI in regimes with fewer veto players, or checks and balances (H2).* To be clear, BITs may also provide the same incentives to states with many veto players. However, since policies in these states tend to be stable, the impact of BITs may be weaker.

Next, I turn to the credibility threshold in authoritarian regimes. Recent work on the political economy of authoritarian regimes highlights the considerable institutional variation across authoritarian regimes, and there is mounting evidence that these differences have key implications for economic growth, development, and investment. Many authoritarian regimes permit the formation of parties, hold elections, and maintain legislatures. The typical perspective is that these institutions are epiphenomenal and serve primarily to placate Western observers. Such a view, however, fails both logical and empirical tests. Gandhi (2008) best captures the logical test with a simple question—"if legislatures are nothing but mere ornamentation, then why would some dictators "dress their windows"?"

The new literature on authoritarian institutions provides one answer to Gandhi's (2008) question by casting elections and legislatures as instruments of co-opting potential opposition. Formal institutions such as legislatures can reduce the transaction costs of negotiations (Coase 1937), and provide a forum for repeated interactions (Williamson 1975, 1985). According to the co-optation argument, authoritarian rulers use elections and legislatures to give certain societal groups a voice in policy-making, so as to defuse the potential threat that these groups may pose to the ruler. These groups, which may

comprise elites, special interests, or opposition party members, would otherwise be excluded from the policy-making process.[25] Legislatures provide an efficient means with which to incorporate these groups, hence co-opt, and extend the ruler's reign.[26]

Wright (2008) distinguishes between what he calls "binding" vs "non-binding" legislatures. Regimes with binding legislatures allow authoritarian leaders to make credible their commitment to domestic economic policy, thereby increasing economic growth. As Boix (2003) previously notes, authoritarian legislatures can create additional veto points. Authoritarian leaders who value economic growth may have incentives to create legislatures that can credibly constrain their power to expropriate. What constitutes a "binding" legislature is critical here. Wright (2008) uses the type of authoritarian regime to code whether a "binding" legislature exists. He argues that single-party and military regimes are more likely to have binding legislatures, and therefore better economic performance, compared to monarchies and personalist regimes.

The logic of the credibility threshold suggests that given their institutional variation, authoritarian regimes have different initial levels of credibility; the credibility of their commitments thus vary in their distance to the credibility threshold (Figure 6.2). For instance, a regime such as North Korea may find it nearly impossible to convince foreign firms to invest, irrespective of the number of BITs the government signs. On the other hand, China, a single-party regime, may be able to reassure investors of its friendly intentions towards FDI by signing BITs to increase its credibility to the point at which it reaches the credibility threshold. Thus BITs do not have the same effect across authoritarian regimes; the extent to which BITs are effective depends on the regime's distance to the credibility threshold, which is, in turn, a function of the institutions within the authoritarian regime, or more generally, the authoritarian regime type.

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[25]Gandhi and Przeworski (2006, 2007) writes, "Authoritarian rulers may need cooperation and may fear a threat from various segments of society. Cooperation can be induced and the threat can be reduced by sharing spoils or by making policy compromises."

[26]A related but distinct argument contends that instead of co-opt, authoritarian institutions provide the ruler with a power-sharing mechanism (Boix and Svolik 2013, Gehlbach and Keefer 2012).

Figure 6.2: Average Level of Executive Constraints (POLITY IV) by Authoritarian Regime Type, 1972–2008
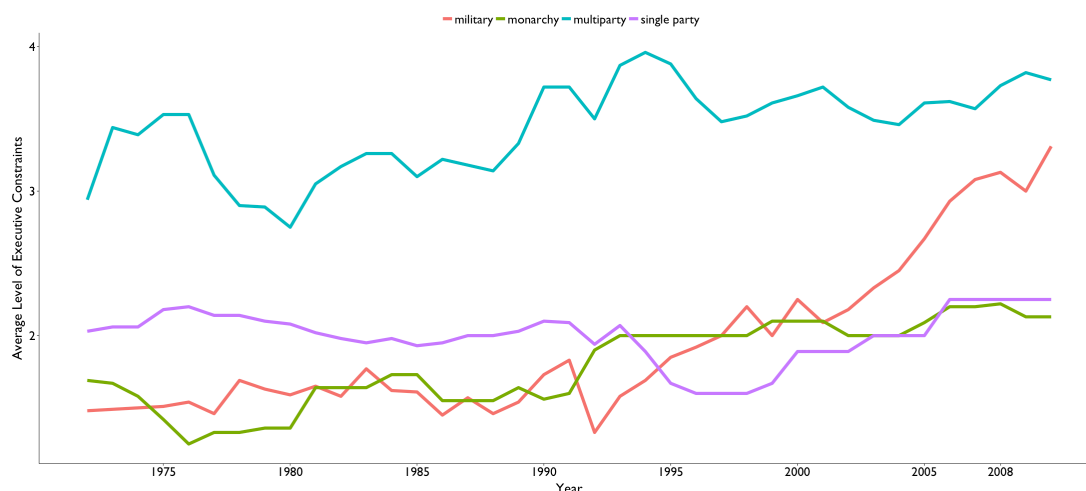
I argue that authoritarian regimes with multiparty legislatures are closer to the credibility threshold, and most likely to benefit from a BIT. A multiparty authoritarian regime is one that holds parliamentary or presidential elections in which candidates not part of the ruling regime can participate. In such a regime, electoral turnover may be unlikely, but it is *possible*. Furthermore, a regime that permits candidates or parties independent of the ruling party suggests a need for cooptation, and a lower ease and likelihood of sudden policy changes. From the perspective of the investor, investment policies in a multiparty authoritarian regime ought to be more stable and thus credible compared to other authoritarian regimes. As such, I expect that *BITs are more likely to increase FDI inflows in multiparty regimes than other types of authoritarian regimes (H3).*

6.4 Research Design

I assess whether BITs lead to increased FDI inflows in authoritarian regimes, with a particular focus on how domestic institutions condition the effects of these agreements. To test my hypotheses, I use data encompassing all developing countries from 1960–2012.

To determine whether a regime is authoritarian, I use Cheibub, Gandhi and Vreeland's (2010) set of coding rules: (1) the chief executive is elected in popular elections; (2) the lower house of the legislature is elected; and (3) there is more than one party. If any of these is not true, then the regime is authoritarian. In addition, a regime is coded as authoritarian if "the incumbents will have or already held office continuously by virtue of elections for more than two terms or have held office without being elected for any duration of their current tenure in office, and until today or until the time when they were overthrown they had not lost an election."

In what follows, I detail my unit of analysis, dependent variable, key explanatory variables, key moderating variables, control variables, and estimation approach.

6.4.1 Monadic versus Dyadic

Most empirical analyses use a dyadic design with bilateral FDI flows as the primary outcome. Such a design allows a researcher to examine FDI flows from one country—typically an advanced industrialized country—to a specific developing country, and to assess whether the presence of a BIT between a country pair (or dyad) results in higher FDI flows between the pair over time, or compared to country pairs with no BITs. In dyadic data, the unit of analysis is the dyad–year (or country pair–year) and this can either be directed or undirected.

Büthe and Milner (2009) argue that a monadic design is more suited to the analysis of BITs on FDI for the following reason: Bilateral FDI flows (or FDI flows between a country pair) typically record only the immediate source and/or destination of capital flows. This may, in some instances, mischaracterize the flow of capital and reasons for investment.[27] They cite a detailed study of U.S outward investment to Vietnam, which finds that a large portion of the investments by American multinational corporations into Vietnam were not made by these firms per se but their existing subsidiaries in South

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[27]Neumayer and Spess (2005) make a similar argument in an earlier paper.

Korea or Japan. Yet these (clearly American) investments were not recorded as U.S. FDI into Vietnam, but as FDI from South Korea or Japan into Vietnam. Bilateral FDI data do not account for such flows and using such data as an outcome may underestimate the effects of BITs on FDI. In monadic data, the unit of analysis is the country-year.

Notwithstanding the potential mischaracterization of the FDI source, there is one other issue with a dyadic design. One benefit of a dyadic design is that it allows the researcher to evaluate whether a BIT between a specific dyad fulfills its (supposed) role of increasing FDI from one country in the pair to the other. The drawback, however, is that such a design is unable to assess whether a BIT increases FDI flows from other sources in addition to one's treaty partner. Furthermore, BITs are not secret pacts or alliances. When a government begins negotiations towards signing a BIT with another, other governments and multinational firms will be able to observe these negotiations taking place. That is, BITs are a public signal that all interested actors can observe, and BIT signing is common knowledge to these actors.

For the above reasons, I follow Büthe and Milner (2009) and use a monadic design. The resulting dataset is time-series cross-sectional (TSCS) with developing country-year as the unit of analysis. I impose two sample restrictions and include only: (1) independent host countries with the ability to set its own policies towards FDI, and (2) countries with a population of more than one million.

6.4.2 Outcome

The dependent variable is annual FDI inflows—the sum of a given year's direct investment by foreign firms in a given country—from the World Development Indicators (World Bank 2013). I use FDI inflows over stocks for two reasons: first, data on inflows are more complete than stocks; there is significantly more missing data for stocks. Second, stock data exhibits a higher degree of autocorrelation, and are non-stationary for most countries. Given the highly right-skewed nature of the variable, I will take its natural log before inclusion in the model. The resulting variable, *FDI*, ranges from

–13.50 to 4.98, with a mean of 0.20 and a standard deviation of 1.92.

6.4.3   Main Predictor

The primary explanatory variable is whether or not a country has a bilateral investment treaty (BIT). Based on data from the United Nations Conference on Trade and Development's (UNCTAD) Investment Instruments online, I code all BITs signed by developing countries to create a binary variable *BIT*, which equals one if a country has a BIT in year *t*, and zero otherwise.

6.4.4   The Role of Domestic Institutions

To account for the effect of domestic credibility mechanisms on BITs, I include the following variables. The first variable I use is Executive Constraints (*xconst*) from the POLITY IV dataset. This variable measures the extent to which the decision-making powers of chief executives are constrained by institutions. These constraints include legislatures, elite councils, the military in coup-prone polities, and the judiciary. This variable, *xconstraints*, thus captures limited government, and is not restricted to democracies. *constraints* range from 1 to 7, where 7 indicates the greatest level of constraints.

I also use a measure of checks and balances from the Database on Political Institutions (DPI 2012). This variable, *checks*, takes into account the type of political system (presidential versus parliamentary), the number of political parties, and the strength of the opposition. The greater the number of checks, the more difficult it is to change policy, and the more credible a policy (once passed) is.

In addition, I use *polconv* from Henisz's (2002) Political Constraints Dataset. This variable captures the degree to which political actors in a regime are constrained in their choice of future policies by other actors with veto power.[28] *pconstraints* range from 0 to 1, where 0 indicates total discretion (or no constraints on decision-making).

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[28]*polconv* shares identical coding rules with *polconiii*, but includes the judiciary and sub-federal entities as two additional veto points.

6.4.5   Types of Authoritarian Regimes

While there are a number of datasets on authoritarian regimes, from the seminal one by Geddes (1999), another by Svolik (2008), to a recently revised one by Geddes, Wright and Frantz (2013), I use Hadenius and Teorell's (2007) dataset on authoritarian regimes. Following Geddes (1999), Hadenius and Teorell (2007) use the qualitative differences among authoritarian regimes to generate a typology. Their coding and distinction among electoral regimes is particularly useful for my purposes. They distinguish between what they call "true one-party regimes" in which no opposition is permitted, and dominant party regimes (where a single party rules but there is room for opposition). They also include a definition of a limited multiparty regime: one that holds elections in which candidates independent of the ruling regime are allowed to participate. For instance, they consider Mexico up to the year 2000 as a limited multiparty regime, a departure from most other scholars who code Mexico and other similar cases as one–party states.

From Hadenius and Teorell's (2007) five-category regime type variable (regime1ny): monarchical, military, no-party, one-party, and multiparty, I generate four binary (dummy) variables that takes the value one if the regime falls into that category, and zero other–wise. These are: *monarchy*, *military*, *singleparty*, and *multiparty*. I exclude no-party since only one country—the Maldives—falls into this category.

6.4.6   Control Variables

Finally, I must control for factors aside from BITs that could explain FDI inflows. In a working paper, Blonigen and Pigerr (2012) find that research on the determinants of FDI share little agreement on the covariates that ought to be included in empirical analyses. What is more, empirical findings are sensitive to the choice of covariates. Using Bayesian model averaging on 56 possible variables, they find that GDP, per capita GDP, relative (skilled) labor endowments, measures of cultural distance, and regional trade agreements have consistently high inclusion probabilities, and thus ought to be included in analyses

of FDI determinants. On the other hand, trade openness, infrastructure, business costs, and political institutions have little support for inclusion. With this in mind, I begin by describing the economic controls.

Economic Controls

Economic growth is a robust predictor of FDI inflows in a number of previous studies. This may be because rapidly growing economies are attractive to foreign investors, who see growth as an indicator of future development potential (Scheider and Frey 1985). I thus include *growth*, measured as the annual percentage change in GDP, from the World Development Indicators.

Since part of a firm's decision to invest abroad is access to a host country's domestic market, I use a country's *Gross Domestic Product (GDP)*, measured at purchasing power parity (PPP) in current international dollars, as a proxy for market size. A country's level of economic development may also influence investment decisions since more developed countries typically have more highly skilled labor which is attractive to certain types of FDI. I use *per capita GDP* (also measured at PPP in current international dollars) as a proxy for development. Since both *GDP* and *per capita GDP* are highly right-skewed, I take their natural logs before inclusion in the models.

In addition, I include a measure of annual global FDI inflows in all countries, *global FDI*. Since global FDI inflows are fixed in a given year, this variable helps control for year-to-year changes in the magnitude of FDI inflows (or year effects) and common economic shocks. Again, given the right-skewed nature of the variable, I log-transform the variable before including it in the models.

Finally, since FDI flows in one year are highly correlated with flows in previous years, I include a lagged dependent variable, *lag FDI*, to account for first-order autocorrelation. I also lag all economic controls by one year in the models.

A Note on Other Typical Economic Controls

While other studies include additional control variables such as measures of trade openness and capital openness, I exclude them in the main empirical analysis given Blonigen and Piger's (2012) findings in the interest of model parsimony. I do, however, include these additional controls in my robustness checks.

Political Controls

Next, I consider political variables that may influence the environment for investment. I use the mean value of the following variables in the Political Risk Group's (PRG) International Country Risk Guide (ICRG): corruption, law and order, and bureaucratic quality. This (rescaled) variable, *governance*, ranges from from 0 to 1, where higher values indicate a higher quality of government and lower political risk. Lower corruption, stronger legal institutions and lower crime rates, and greater bureaucratic strength, expertise, and independence ought to increase investor confidence and FDI.

To control for political stability, I use *civtot* from the Major Episodes of Political Violence (MEPV) dataset. Created by the Center for Systemic Peace, the same source of the POLITY IV dataset, this measure is the sum total of the magnitudes of civil violence, civil war, ethnic violence, and ethnic war. Investors ought to avoid countries that experience such episodes of political violence given the potential loss of property, lives, and profit.

Table 6.1 presents summary statistics of the variables described above.

Table 6.1: Summary Statistics of Variables

Variable	N	Mean	S.D.
FDI	5205	0.20	1.92
BIT	7803	0.21	0.41
Constraints (POLITY)	5755	3.55	2.16
Checks (DPI)	4894	2.21	1.58
Constraints (Henisz)	6353	0.23	0.29
Single Party	5400	0.18	0.39
Multiparty	5400	0.28	0.45
Military	5400	0.18	0.38
Monarchy	5400	0.08	0.27
Growth	5584	4.10	6.75
Log GDP	4083	23.75	2.01
Log GDP per capita	4080	8.19	1.15
Governance	3032	0.47	0.16
Political Stability	6379	0.77	1.77
Global FDI	6579	12.14	1.58

6.5 Estimation Approach

I have panel or time series cross-sectional (TSCS) data. I have described in detail the challenges to inference involved in the analysis of such data in Chapter Four. In brief, I must: (1) account for unobserved differences between countries (or unit-level heterogeneity), which if left unaddressed, can lead to omitted variable bias, and (2) ensure that my outcome variable (*FDI*) is stationary. More pressing, however, is the problem of endogeneity in BIT signing: countries that sign BITs are substantively different from countries that do not. The results from the previous chapter suggest that there is indeed a difference between signers and non-signers. Consequently, standard regression techniques will yield biased (and inconsistent) estimates of the relationship between BITs and FDI if this is not addressed in the statistical analysis.

6.5.1 Resolving Endogeneity

There are two common ways to deal with endogeneity issues: (1) instrumental variables (IV) estimation, (2) a Heckman selection model. Instrumental variables (IV), also known as two-stage least squares (2SLS), relies on the use of a variable (typically denoted as Z) that affects the endogenous predictor or "treatment" (denoted X) but has no effect on the outcome (Y).[29] In the context of my analysis, for such an instrument, Z, to be valid, it must predict BIT signing but not FDI inflows. If this exclusion restriction, sometimes referred to as the exogeneity assumption (of the instrument), is not satisfied, then coefficient estimates will be biased.

6.5.2 Defending the Instrument

Most research that uses the instrumental variables approach spill much ink convincing the reader that the instrument is indeed exogenous; I shall do no different. I argue that a government that participates actively in international agreements reveals an inclination to use these institutions to achieve its goals (whatever they are). Such a preference for signing international agreements, such as human rights treaties, is likely to correlate with a government's willingness to sign a BIT. At the same time, however, it is unlikely that a government's inclination towards the use of international institutions has an effect on FDI inflows.

I have three potential candidates for instruments—governments that ratified the provisions of: (1) the 1987 Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment (CAT), (2) the 1976 International Covenant on Civil and Political Rights (ICCPR), and (3) the 1981 Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW). These human rights treaties—*CAT*, *ICCPR*, and *CEDAW*—are binary variables coded one if a government ratified the treaty, and zero otherwise (Hathaway 2007).

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[29]More formally, the instrument must be correlated with the relevant predictor but uncorrelated with the error term in the second stage.

To ascertain the validity of each instrument, I run several diagnostic tests in addition to an inspection of the cases in my dataset. First, bivariate correlations between *BIT* and each human rights treaty are: 0.45 (*CAT*), 0.33 (*ICCPRR*), and 0.45 (*CEDAW*), all of which are statistically significant at the $p < 0.01$ level. On the other hand, bivariate correlations between *FDI* and each human rights treaty are: 0.20 (*CAT*) and 0.17 (*CEDAW*), both of which are statistically significant at the $p < 0.01$ level, and 0.03 (*ICCPRR*), which does not reach statistical significance at the $p < 0.05$ level ($p = 0.08$). While not ideal, each human rights treaty is clearly less correlated with *FDI* than BIT; in particular, if I were to select one instrument of the three, *ICCPRR* is the best choice.

To further probe the appropriateness of each instrument, I conduct a second, more in-depth test for underidentification. Since I use heteroskedastic-robust standard errors in all models (and thereby drop the assumption of independent and identically distributed (i.i.d) errors), I report the Kleibergen-Paap LM statistic, a generalization of the Anderson canonical correlations test, in all models (Kleibergen and Papp 2006). The Kleibergen-Paap LM statistic is a Lagrange Multiplier (LM) test of the null hypothesis that the equation is underidentified, distributed chi-squared χ^2. The Kleibergen-Paap LM statistic ranges between 6.92 and 8.79 and is statistically significant at the 95 percent level of confidence in roughly half of the models. I can therefore conclude that these models are identified.

However, I cannot reject the null hypothesis that the equation is underidentified in several models, notably the ones in Table 4 with two-way interaction terms. I thus conduct additional tests of weak identification. Weak identification refers to the "weak" correlation between the instruments and endogenous regressor, *BIT*, in my case. Again, since my models drop the i.i.d assumption, I report the appropriate Kleibergen-Paap Wald F-statistic instead of the Cragg-Donald F statistic (Stock and Yogo 2005). Finally, since I use all three instruments in my analyses, I use (and report) the Hansen J statistic, a test for overidentification.

6.6 Results

Model 2.1 (Table 6.2) shows the results of a baseline multilevel model of FDI inflows for all developing countries, democratic and nondemocratic. Consistent with much of the literature, bilateral investment treaties have a positive and statistically significant effect on FDI inflows. Among the economic variables, per capita GDP and growth have the expected positive impact on FDI inflows. GDP, however, has a negative effect. Neither governance nor political stability (political controls) reach statistical significance.

The results in model 2.1, however, do *not* account for the endogeneity of BIT signing. Model 2.2 thus shows the results from a baseline fixed instrumental variables regression with robust standard errors. As discussed earlier, I use three variables to instrument for *BIT*: *ICCPRR*, *CAT*, and *CEDWR*. *BIT* continues to have a positive and statistically significant effect on FDI inflows. Among the controls, growth, prior FDI inflows, and global FDI inflows also predict FDI inflows as expected. However, per capita GDP, GDP, governance, and political stability have no significant impact on FDI inflows.

The most straightforward way to ascertain whether domestic credibility mechanisms condition the effects of BITs on FDI inflows is to include interaction terms between *BIT* and the respective moderator. However, I use a split-sample design for two reasons: first, the inclusion of interaction terms increases the number of instruments required. While I do have sufficient instruments, this increases the likelihood of underidentification. Second, the instrumental variables approach is already sensitive to the instruments used to estimate the first stage equation; including interaction terms may further complicate inference. For the purposes of interpretation, a split-sample design can be thought of as interacting all variables in the model with the moderator. That is, if I split the sample into nondemocracies and democracies as I do in models 3a and 3b, I am imposing the assumption that the impact of all other control variables in the model such as growth and per capita GDP differ across the two regime types.

Models 2.3a and 2.3b show the results from fixed effects instrumental variables regressions with robust standard errors. As model 3a shows, BITs have a positive and statistically significant effect on FDI inflows in nondemocracies; there is, however, no significant effect of *BIT* in democracies (Model 3b). That BITs succeed in attracting FDI inflows only in nondemocracies suggests that these investment agreements do help these authoritarian states achieve some credibility threshold necessary to assuage investors' concerns. Among the economic control variables, growth and prior FDI inflows predict FDI inflows in nondemocracies as expected. Global FDI inflows, however, have no significant effect. On the other hand, only prior FDI inflows and global FDI inflows predict FDI inflows in democracies. Of the political controls, neither governance nor political stability appear to affect FDI inflows in either regime type.

Next, I include other institutional variables: *xconstraints*, *checks*, and *pconstraints* to models 2.3a and 2.3b. Models 2.4, 2.5 and 2.6 show that none of the institutional variables are statistically significant. The lack of significant findings lends some support to Blonigen and Piger's (2012) argument that political institutions may have little reason to be included in models predicting FDI inflows.

Table 6.2: Estimates of the Effects of BIT and Political Institutions on FDI Inflows

Outcome: FDI	2.1 Multilevel: All	2.2 IV: All	2.3a IV: Nondemocracies	2.3b IV: Democracies	2.4 IV: All	2.5 IV: All	2.6 IV: All
Explanatory Variables							
BIT	0.11★★	2.01★	2.86★	-1.76	2.03★	1.35	1.72
	(0.04)	(1.20)	(1.54)	(2.28)	(1.23)	(1.27)	(1.37)
Executive Constraints					0.00		
					(0.00)		
Checks (DPI)						0.00	
						0.04	
Political Constraints							0.13
							(0.34)
Controls							
Growth	0.01★★★	0.01★	0.02★	0.02	0.01	0.01★★	0.01★
	(0.04)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)
Log GDP	-0.09★★★	-2.18	-3.14	2.63	-2.23	-1.28	-1.78
	(0.03)	(1.91)	(2.48)	(3.40)	(1.92)	(1.93)	(2.06)
Log GDP per capita	0.08★	1.99	2.83	-2.64	2.00	1.23	1.63
	(0.04)	(1.72)	(2.26)	(3.31)	(1.72)	(1.72)	(1.84)
Governance	0.33	-1.17	-1.66★	2.51	-1.19	-0.64	-0.99
	(0.20)	(0.97)	(0.92)	(2.50)	(0.97)	(0.96)	(0.97)

Political Stability	0.01	0.03	0.06	0.01	0.04	0.02	0.03
	(0.02)	(0.03)	(0.05)	(0.06)	(0.03)	(0.03)	(0.04)
Prior FDI	0.55***	0.37***	0.38***	0.36***	0.36***	0.38***	0.38***
	(0.02)	(0.05)	(0.07)	(0.09)	(0.06)	(0.05)	(0.06)
Global FDI	0.27***	0.30***	0.20	0.38**	0.31***	0.28***	0.29***
	(0.03)	(0.10)	(0.15)	(0.15)	(0.10)	(0.10)	(0.10)
Observations	2067	1385	720	660	1385	1370	1384
K-P LM Statistic		7.91**	7.09*	1.20	7.79*	5.91	5.50
Hansen J Statistic		1.22	0.31	1.96	1.15	2.12	1.16
Groups	101	97	63	54	97	97	97
Log-Likelihood	−2764.91						
AIC	5551.82	4334.49	2536.67	1893.06	4346.45	3971.93	4183.08
BIC	5613.79	4376.36	2573.30	1928.99	4393.55	4018.93	4230.18

My core interest, however, is to examine whether BITs may help explain why some authoritarian regimes manage to attract FDI. As such, I now include variables that tap into authoritarian institutions in the models in Table 2. I further construct interactions between *BIT* and the relevant moderator and show these results in Table 6.3.

Model 3.1 (Table 6.3) shows that single-party regimes have a negative and statistically impact on FDI inflows while BITs remain a predictor of increased FDI inflows.[30] Model 3.2 replaces the single-party variable with a limited multiparty regime variable. As expected, limited multiparty regimes (*multiparty*) significantly predict FDI inflows in contrast to their single-party counterparts. BITs continue to have a positive effect on FDI inflows, as do growth and prior FDI inflows.[31] Models 3.3 and 3.4 assess the impact of military dictatorships and monarchies respectively. While the coefficient estimates on each variable is positive, it is not statistically significant. *BIT*, however, retains statistical significance in both models.

Table 6.3: IV (2SLS) Estimates of the Effects of BIT and Regime Type on FDI Inflows

Outcome: FDI	3.1	3.2	3.3	3.4
Explanatory Variables				
BIT	2.25★★	2.89★	2.63★	2.77★
	(1.06)	(1.54)	(1.41)	(1.53)
Single-Party	-0.81★★			
	(0.32)			
Multiparty		0.46★		
		(0.25)		
Military			0.46	
			(0.32)	
Monarchy				0.59
				(0.78)
Controls				

[30]Note that Hadenius and Teorell (2007) code single party regimes as those in which "all parties but one are forbidden (formally or de facto) from taking part in elections".

[31]One surprising result here is the negative effect of governance on FDI inflows.

Growth	0.00	0.02★	0.02★★	0.02★★
	(0.01)	(0.01)	(0.01)	(0.01)
Log GDP	–3.34★	–3.80	–2.72	–2.96
	(1.99)	(2.64)	(2.29)	(2.50)
Log GDP per capita	3.04	3.60	2.40	2.67
	(1.89)	(2.45)	(2.07)	(2.28)
Governance	–1.73	–1.65★	–1.60★	–1.63★
	(1.10)	(0.92)	(0.88)	(0.91)
Political Stability	0.03	0.06	0.06	0.06
	(0.05)	(0.05)	(0.05)	(0.05)
Prior FDI	0.37★★★	0.37★★★	0.38★★★	0.38★★★
	(0.05)	(0.07)	(0.07)	(0.07)
Global FDI	0.37★★★	0.21	0.19	0.19
	(0.13)	(0.15)	(0.14)	(0.15)
Observations	845	720	720	720
K-P LM Statistic	8.79★★	7.03★	7.90★★	6.92★
Hansen J Statistic	1.12	0.21	0.45	0.31
Groups	64	63	63	63
AIC	2646.23	2539.41	2766.54	2786.17
BIC	2693.62	2580.62	2813.93	2833.57

While the results in Table 6.3 suggest that the type of authoritarian regime does affect FDI inflows, they do not directly assess whether the effects of BITs are conditional on the type of regime. I thus construct interaction terms between *BIT* and each authoritarian regime type, resulting in four interaction terms. As stated earlier, this procedure is risky since each interaction term has to satisfy the exogeneity assumption of the IV approach which raises the bar for identification. Furthermore, interactions cannot be directly interpreted; I must construct marginal effects plots to interpret the effects. Table 4 presents the results from this analysis.

Table 6.4, Model 4.1 shows the coefficient estimates from a model similar to Model 3.1, with an additional *BIT*singleparty* interaction term. The effect of *BIT* on *FDI*

remains positive and statistically significant. Moreover, *BIT*singleparty* is negative and statistically significant, which suggests that the effect of BITs on FDI inflows is indeed conditional on the authoritarian regime type; the impact of BITs on FDI inflows is significantly reduced in single-party regimes.

Model 4.2 replaces the *singleparty* moderator with the *multiparty* variable. As Model 4.2 shows, *BIT* continues to significant predict increased FDI inflows. There is also a negative and statistically significant *BIT*multiparty* interaction effect, once again providing support for my argument that the type of authoritarian regime conditions the effects of BITs. I obtain similar results in model 4.3, which substitutes *multiparty* for *military*. Finally, model 4.4 shows no significant interaction effect between *BIT* and *monarchy*.

Table 6.4: IV (2SLS) Estimates of the Effects of BIT, Authoritarian Regime Type and BIT★Regime Type on FDI Inflows

Outcome: FDI	4.1	4.2	4.3	4.4
Explanatory Variables				
BIT	3.74★★★	3.70★★	3.81★★	1.97★
	(1.31)	(1.57)	(1.48)	(1.05)
Single-Party (HT)	1.89★★			
	(0.91)			
Multiparty (HT)		2.13★★		
		(0.90)		
Military (HT)			–1.02★★	
			(0.43)	
Monarchy (HT)				–0.32
				(1.93)
Two-Way Interactions				
BIT★Single-Party	–5.07★			
	(2.66)			
BIT★Multiparty		4.13★★		
		(1.74)		
BIT★Military			2.45★★	
			(1.19)	
BIT★Monarchy				–0.66

	(3.14)			
Controls				
Growth	0.00	–0.01	–0.01	0.00
	(0.01)	(0.01)	(0.01)	(0.01)
Log GDP	–0.18★	–0.19★	–0.34★★★	–0.22★★
	(0.10)	(0.12)	(0.11)	(0.09)
Log GDP per capita	–0.13★	–0.06	–0.02	0.12★★
	(0.07)	(0.07)	(0.07)	(0.05)
Governance	–1.08★★	–0.22	–1.28★	–0.32
	(0.52)	(0.71)	(0.66)	(0.44)
Political Stability	0.04	0.02	0.04	0.03★
	(0.03)	(0.03)	(0.03)	(0.02)
Prior FDI	0.73★★★	0.65★★★	0.62★★★	0.62★★★
	(0.06)	(0.02)	(0.03)	(0.05)
Global FDI	–0.46★★	–0.33	–0.58★★	–0.19
	(0.22)	(0.29)	(0.27)	(0.12)
Observations	1417	1417	1417	1417
K-P LM Statistic	4.01	4.17	3.91	5.25
Hansen J Statistic	0.68	0.23	0.37	0.57
AIC	5886.23	5513.65	6086.83	4761.72
BIC	5944.05	5571.47	6144.65	4819.54

Following Brambor, Clark and Golder (2006), I construct plots to correctly inter-
pret the marginal effect of *BIT* on *FDI* given each authoritarian regime type variable.
Figure 6.3 shows the marginal effect of a BIT on FDI inflows in multiparty authori-
tarian regimes. As predicted, there is a substantially larger marginal effect of a BIT on
FDI inflows in multiparty regimes (red line) compared to non-multiparty regimes. Even
in the absence of a BIT (cyan line), multiparty regimes receive more FDI inflows than
non-multiparty regimes. This suggests that multiparty regimes benefit far more from a
BIT and lends credence to my argument that the effect of a BIT is more pronounced in
regimes that already possess a reasonable level of credibility. Put another way, BITs are

more effective at "boosting credibility" in multiparty regimes.

Figure 6.3: Marginal Effect of BIT on FDI Inflows (Multiparty Regimes)
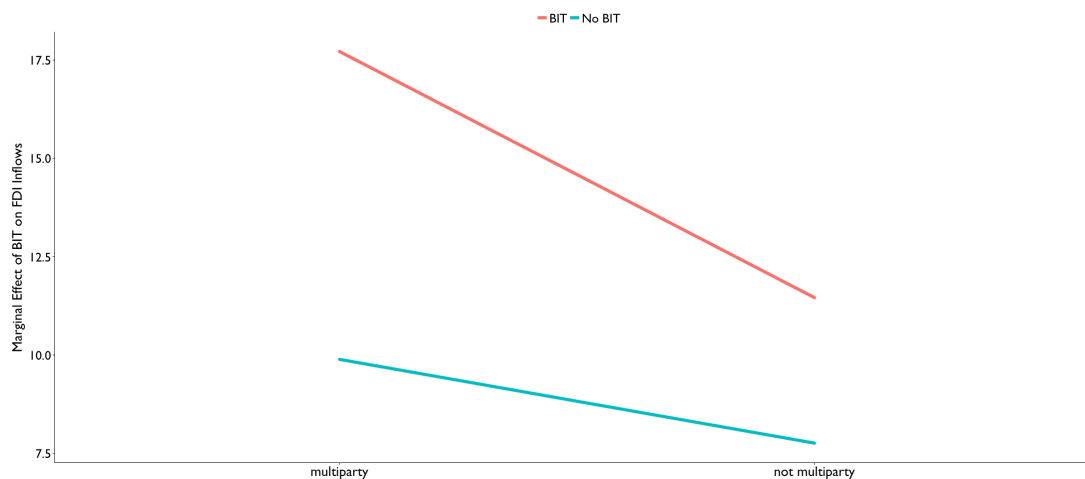
Military regimes also seem to benefit from a BIT (Figure 6.4). Absent a BIT (cyan line), military regimes receive lower FDI inflows than non-military regimes. However, there is a significant marginal effect of a BIT on FDI inflows in military regimes (red line).

Figure 6.4: Marginal Effect of BIT on FDI Inflows (Military Regimes)
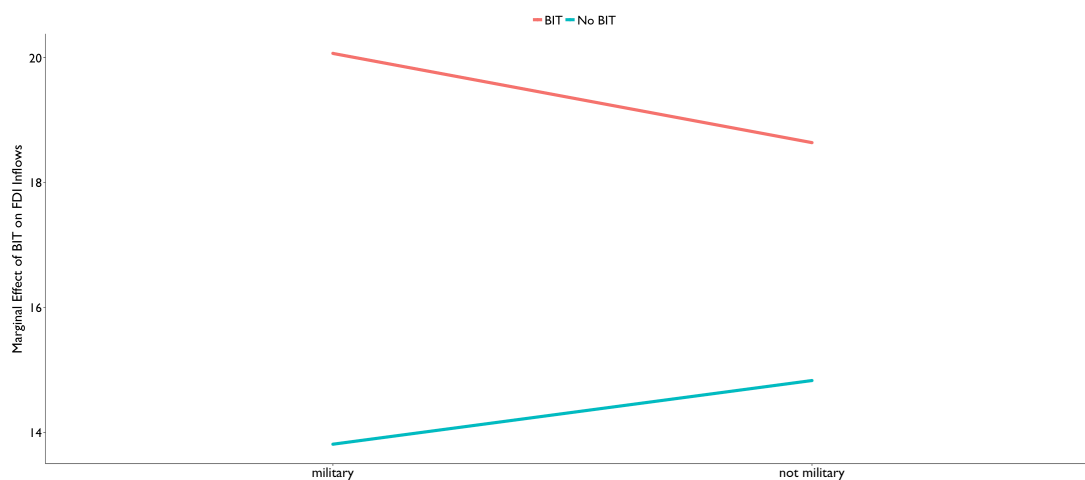
Finally, we turn to single party authoritarian regimes. Here, the relationship runs contrary to expectations: single party regimes appear to receive lower FDI inflows *with* a BIT than without.

Figure 6.5: Marginal Effect of BIT on FDI Inflows (Single Party Regimes)
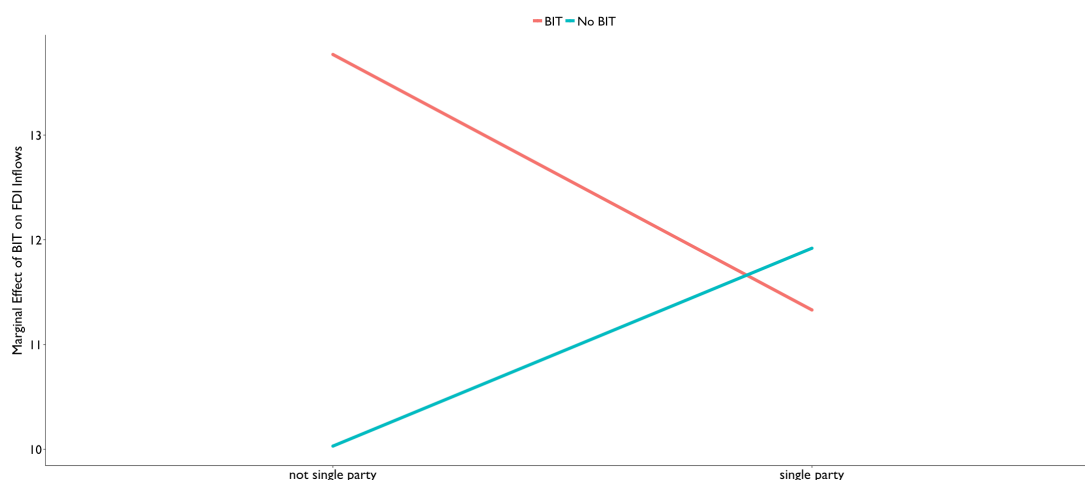
6.7 Implications

Summarizing, I find that, controlling for endogeneity, BITs significantly predict increased FDI inflows only in nondemocracies. In addition, the findings show that the type of nondemocratic regime matters: whereas BITs have a positive and statistically significant impact on FDI inflows in single-party and multiparty regimes, single-party regimes result in lower FDI inflows whereas multiparty regimes are more likely to receive greater FDI inflows (Table 6.3). Taken together, these results suggest that BITs do work, but under a limited set of conditions. In particular, the effects of BITs on FDI inflows in authoritarian regimes depend on the regime's existing institutions. Authoritarian institutions that are more credible, such as the presence of multiple parties and the ability of these parties to engage in electoral competition, help these states attract FDI; these states are also more likely to benefit from increased FDI inflows by signing BITs.

Chapter 7

The Final Chapter

"I've been through the desert on a horse with no name, it felt good to be out of the rain."

America, *A Horse with No Name 1971*

7.1   In Closing

That some authoritarian regimes receive large amounts of foreign direct investment and experience remarkable rates of economic growth remains a puzzle in search of an explanation. To answer this puzzle, this dissertation assesses the extent to which authoritarian governments can use bilateral investment treaties to boost their existing credibility with respect to the protection of property rights and in so doing, attract greater amounts of foreign direct investment. It further examines the incentives that motivate a government to sign bilateral investment treaties and provides an explanation for the variation in treaty signing rates over time and across authoritarian regimes.

Chapter Two highlights the theoretical and empirical literatures in the political economy of foreign direct investment (FDI), bilateral investment treaties (BITs), and authoritarian institutions. First, I argue that the emphasis on regime type and property rights neglects the crucial role that credibility plays in the security of property rights. Governments must not only have property rights, they must demonstrate a credible commitment to their protection. Next, I contend that the institutional variation across authoritarian regimes confers varying degrees of credibility to the commitments of these regimes. That is, authoritarian regimes differ in their distance to the *credibility threshold*—the level

at which their commitments become credible. Finally, BITs are an international credibility mechanism that work in conjunction with domestic credibility mechanisms to attract FDI. BITs signal a commitment to maintaining an investment-friendly environment to foreign investors. However, the extent to which this commitment is credible depends on a regime's domestic political institutions—BITs will result in greater FDI inflows only in multiparty authoritarian regimes.

Chapter Three uses game theoretic models to show how signing a BIT can help countries committed to the proper FDI distinguish themselves from less committed ones. That is, a BIT is a costly signal that facilitates the emergence of a separating equilibrium. Furthermore, a global games analysis reveals that a BIT can act as a focal point on which firms can coordinate investment. The effectiveness of this focal point, in turn, is a function of the precision (or strength) of the BIT.

In Chapter Four, I develop a theory of BIT signing and empirically assess the domestic political and economic factors that influence a government's decision to sign a BIT. I show that countries with low levels of resource rents are most likely to sign a BIT. Conversely, resource-abundant countries are less likely to resort to a BIT. Moreover, I find that an inverted-U shaped relationship between a country's level of property rights and likelihood of signing a BIT. Countries with "average" levels of property rights are most likely to sign BITs, compared to those with weak or strong property rights.

Chapter Five builds on the domestic determinants of BIT signing in chapter Four and uses matching models to assess whether BITs attract FDI. The findings from chapter Three show that governments clearly select into BITs; some are more likely than others to sign these agreements. Consequently, any empirical examination of whether BITs attract FDI must statistically account for this endogeneity problem. Matching not only allows me to resolve the endogeneity issue, but to address the fundamental problem of causal inference: what would have happened to FDI inflows if a country without a BIT had signed a BIT? Results from coarsened exact matching reveals that BITs do attract FDI; what is more, this finding is robust to alternative propensity score matching

methods.

Finally, Chapter Six examines how the credibility-enhancing effects of BITs depend on existing domestic credibility mechanisms within authoritarian regimes. After accounting for possible endogeneity or selection bias, I find that multiparty authoritarian regimes receive greater amounts of FDI compared to single-party, monarchical, and military regimes. In addition, there is a negative effect of single-party authoritarianism on FDI. Most importantly, I find that the effect of BITs on FDI depends on the type of authoritarian regime: BITs attract greater FDI inflows in multiparty authoritarian (and military) regimes.

7.2   Implications

The findings from this dissertation have several implications for the literatures from which it draws. First, Milner (2014:7) notes that research on the international investment regime tends to draw from theories on "diffusion, power politics, and the rational design of institutions." This is telling—compared to work on the effects on BITs on FDI, there is relatively little research on a government's motivations to sign a BIT. The purpose of BITs is to help otherwise credibility-challenged countries reassure foreign investors of their commitment to protect investment. As such, some scholars expect that countries weak in property rights and authoritarian regimes are more likely to sign BITs. Yet empirical work finds no significant effect of democracy on the likelihood of BIT signing (Elkins, Guzman and Simmons 2006, Neumayer and Plümper 2010). What is more, Elkins, Guzman, and Simmons (2006) arrive at the counterintuitive finding that countries *strong* in property rights are more likely to sign BITs.[32] Scholars also view BIT formation as a competition for foreign capital. The desire to attract foreign direct investment leads countries to attempt to "outsign" BITs with one another; Lupu and Poast (2014) aptly recognize this as a "race to the bottom" type argument. However, as

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[32]I thank Paul Poast for pointing this out.

Lupu and Poast (2014) notes, there is little empirical work that suggests such a race exists with respect to international economic competition.

In these studies, however, there is little to no mention of a crucial factor: a government's need for foreign capital in the first place. If BITs entail costs—as the literature rightly notes—and the purpose of BITs is to attract foreign capital, then a government already receiving large amounts of foreign capital has no need for a BIT and would be less likely to sign one. In Chapter Three, I show that this is indeed the case: resource-rich countries are less likely to sign BITs compared to their resource-scarce counterparts. In addition, I show that the impact of property rights on the likelihood of BIT signing is more nuanced than the straightforward linear relationship the literature assumes: the relationship between property rights and BIT signing is an inverted-U—countries with average levels of property rights are more likely to sign BITs than those with weak or strong property rights. I further find that the most likely BIT signers are countries that lack resources *and* have relatively weak property rights; that is, the probability of BIT formation depends on the *joint* impact of domestic economic and political factors that affect a government's need for and ability to attract foreign direct investment. My focus on the domestic determinants of BIT signing fills a gap in the literature on BIT formation, and highlights the importance of examining the domestic political *and* economic mechanisms that underlie treaty signing.

Second, there remains a lack of consensus on whether BITs fulfill their expected purpose of attracting FDI. A core issue in the analysis of BITs on FDI lies with the fact that the relationship between BITs and FDI is endogenous.[33] In particular, the issue is one of simultaneity: if countries sign BITs to attract FDI, then FDI levels ought to predict BIT signing. Yet if FDI levels predict BIT signing, then how can one identify whether BITs predict FDI inflows? Put another way, if FDI inflows affect BIT formation, and

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[33]That is, the independent variables in the equation of BITs on FDI (BIT in this case) is correlated with the error term, and thus violates one assumption of the Gauss-Markov theorem, and the ordinary least squares (OLS) assumption of homoskedasticity. While heteroskedasticity does not lead to biased coefficient estimates, it may result in biased standard errors which leads to false inference (statistical significance).

BITs influence FDI inflows, then it is difficult to ascertain the true magnitude of BITs on FDI Inflows. Another issue is the problem of selection. There is considerable variation in BIT formation across countries and time, which suggests that the process of BIT signing is nonrandom. If this issue is not addressed, then one cannot accurately identify whether BITs attract FDI since it is possible that some other variable that influences BIT signing may also affect FDI inflows—the omitted variable bias.

Studies that attempt to deal with the endogeneity problem tend to rely on the instrumental variables or two-stage least squares (2SLS) approach. This method rests on the use of a suitable instrument that predicts BIT formation but not FDI inflows. As one can imagine, it is challenging to find such an instrument. For instance, Hallward-Driemeyer (2003) and Tobin and Rose-Ackerman (2005) use the number of BITs ratified by a host country with other countries not part of the dyad (i.e. extra-dyadic countries) as an instrument for BITs ratified within the dyad. This instrument, however, is a statistically significant predictor of FDI inflows, rendering it most likely invalid (Kerner 2009). Kerner (2009) uses: (1) the "percentage of a host state's neighbors that have ratified a BIT with the home state" as well as: (2) a three-year moving average of new BITs ratified by a host state's neighbors as instruments for: (1) the presence of a ratified BIT and (2) the three-year moving average of the number of host country BITs ratified with extra-dyadic countries respectively. While these instruments generally pass statistical tests of exogeneity, the theoretical work on BIT diffusion and competitive BIT formation raises doubts about their suitability.

As such, in my instrumental variables analysis in Chapter Five, I use human rights treaties as instruments instead. I argue that governments who sign human rights treaties reveal a preference for using international institutions; human rights treaties thus ought to correlate with BIT formation. At the same time, it is unlikely that human rights treaties affect FDI inflows, rendering them suitable instruments. In addition to an instrumental variables approach, I use coarsened exact matching in chapter Four to deal with these issues. By pairing countries that are similar in all characteristics save the presence of a BIT,

I am able to identify the average effect of a BIT on FDI inflows: BITs do attract FDI. In so doing, I provide further empirical support to existing work that find a positive effect of BITs on FDI inflows, more importantly, do so without relying on instruments. This highlights the promise of matching approaches in the analysis of international treaties on a variety of outcomes.

Third, the new literature on authoritarian regimes has yet to examine how the specific institutional features of these regimes influence the impact of international institutions, and international economic relations more generally. For instance, while there is research on how authoritarian regime types: (1) differ in their ability to generate audience costs and their subsequent credibility in international conflict (Weeks 2008); (2) mediate the effect of international sanctions (Escribà-Folch and Wright 2010); (3) affect nuclear aspirations and the likelihood of acquiring nuclear weapons (Way and Weeks 2014), there is relatively less work on the impact of authoritarian regime type on economic development, growth, and trade and monetary policy. This dissertation finds that the type of authoritarian regime does affect FDI inflows: multiparty regimes receive greater amounts of FDI inflows.

Fourth, much of the literature views BITs as a substitute for domestic property rights. By delegating dispute-settlement authority to a third-party, BITs help reassure foreign investors that any potential violation of property and investor rights will be heard by an impartial legal body with the power to make binding decisions. I argue, however, that what matters to foreign investors is the *credibility* of property rights protection. The credibility of property rights and a favorable investment climate can only be guaranteed through multiple, reinforcing mechanisms. A key function of BITs is to boost a country's existing level of credibility conferred by its domestic political institutions.

Finally, this dissertation contributes to the literature on international law and organization. It shows how the effect of international institutions are contingent on domestic institutions, and in particular, how the variation in regime type conditions the impact

of BITs on investment. I find that BITs predict greater FDI inflows in multiparty authoritarian and military regimes. My results suggest that research on the impact of international institutions such as human rights treaties, preferential trade agreements, and alliances must take into account the domestic political characteristics of a state.

7.3 Limitations

Every study has limitations, and this dissertation is no different. The quality of empirical research rests on the availability and quality of data. While there is relatively comprehensive data on economic variables such as foreign direct investment, economic growth, and per capita GDP that date back to the 1970s for most countries, data on political institutions such as property rights is less complete, and available for a smaller set of countries and a shorter time period. For instance, the World Bank only started collecting data on governance in 1996 and not until recently has the scope expanded to include most countries.

Missing data can lead to incorrect inference by biasing coefficient estimates and standard errors. To deal with this issue, I use several alternative measures to ensure that the inferences in my analyses are valid. Nonetheless, better data collection can help improve one's confidence that the inferences in this dissertation hold for all countries, rather than just countries with available data. Furthermore, most, if not all, research that use property rights as a variable rely on a single source: the Political Risk Group's (PRG) International Country Risk Guide (ICRG). While the PRG has considerable experience in analyzing and constructing indicators of political risk, research would benefit from more than one data source on property rights to probe its robustness.[34]

More importantly, the operationalization of some of the concepts in the literature

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[34]Jensen (2008), for instance, uses risk insurance data from the Belgian Export Credit Agency, ONDD. The World Bank's Multilateral Investment Guarantee Agency (MIGA) and the United States' Overseas Private Investment Corporation (OPIC) also provides political risk insurance for multinational firms (U.S. multinationals in the case of the latter) investing in developing countries.

on authoritarian institutions lags behind its rich theoretical development. While scholars such as Svolik (2008) have constructed novel datasets on authoritarian institutions, the literature would benefit immensely from an intensive data collection effort that is informed by cutting-edge theoretical work. While this is challenging given the nature of authoritarian regimes, data on specific institutional rules beyond authoritarian regime type would greatly improve our understanding of these nondemocracies.

Another limitation lies in the matching approach in Chapter Five. First, in the estimation of the propensity score, I assume that I have included all relevant factors that have a bearing on the likelihood of BIT signing—the *unconfoundedness* assumption. That is, there are no omitted variables. While I use theory from chapter Three to select the covariates, which helps minimize the risk of false inference, it is well-nigh impossible to rule out the possibility that I have omitted one or more key predictors of BIT signing. In addition, matching approaches necessarily lose information by dropping unmatched observations; more importantly, matching assumes that missing cases differ randomly from observed cases. While imperfect, one can use imputation techniques to resolve the problem of missing data. Perhaps the most problematic assumption of matching is the stable unit treatment value assumption (SUTVA) (Rubin 1974). In the context of my analysis, this assumption stipulates that FDI inflows to a country with a BIT is unaffected by FDI inflows to another country with a BIT. This is almost certainly violated in my analysis and at first glance, may seem to be an insurmountable problem. However, this assumption is frequently violated in studies that employ a matching approach, and the statistical literature shows that the threat to inference is small (Rubin 1990; Keele, Titiunik and Zubizaretta 2013, Sekhon 2007, Stuart 2010). Solutions to the violation of SUTVA remains an open statistical problem.

The instruments I use in Chapter Six—human rights treaties—is yet another limitation. While most of the instrumental variable regressions satisfy the exogeneity assumption, there are some that do not. As such, one must temper the inferences from these models. An obvious solution is to use better instruments that predict BITs but not FDI

inflows. This is challenging, however; as it stands, the literature on BITs and FDI has yet to identify suitable instruments.

7.4 Looking Ahead

The limitations of this dissertation notwithstanding, the results suggest opportunities for future research. First, bilateral investment treaties (BITs) belong to the class of international investment agreements (IIAs), which include bilateral tax treaties (BTTs) and investment contracts. The number of IIAs continues to grow annually, and more and more countries are negotiating and signing more of these agreements as global investment flows rise (UNCTAD 2014). In contrast to BITs, there is a relative dearth of work on the impact of BTTs on FDI inflows. BTTs are legal agreements signed between states with the goal of promoting foreign direct investment through the relief of double taxation—the payment of taxes in more than one national jurisdiction. In addition, BTTs facilitate information sharing between national tax agencies that aim to curtail tax avoidance by multinational firms.

Empirical work on BTTs and FDI, as it stands, lags behind that on BITs. Yet like the literature on BITs and FDI, there is little agreement on whether BTTs attract FDI (Blonigen and Davies 2004, Neumayer 2007, Di Giovanni 2005, Blongigen, Oldenski and Sly 2011). While research on BTTs has yet to accumulate, some find that BTTs do attract FDI (Neumayer 2007, Barthel, Busse, and Neumayer 2010), while others find no effect of these treaties on FDI (Blonigen and Davies 2004, Louis and Rousslang 2008). Unlike the more developed literature on BITs, research on BTTs has yet to consider how regime type and other political institutions may condition the effect of these treaties on FDI, and the extent to which BTTs promote FDI remains an open question. As such, a logical and fruitful extension of this dissertation is an examination of: (1) the domestic motivations of BTT formation (Chapter Four), (2) the impact of BTTs on FDI inflows (Chapter Five), and (3) the extent to which domestic political institutions condition the impact of BTTs on FDI inflows (Chapter Six).

In addition, given that BITs and BTTs essentially constitute the international invest-ment regime governing foreign capital flows and stocks, and that both types of treaties are designed to promote FDI, an examination of the comparative effects of BITs and BTTs on FDI inflows will prove useful.[35] Such an analysis will provide insight on: (1) which type of treaty is better suited to promote FDI, and: (2) whether a network of bilateral treaties can substitute for a multilateral framework. Existing research examines the im-pact of each type of agreement separately with only one exception: using a gravity model of bilateral FDI flows on a sample of transition countries from 1990 to 2004, Coupé, Orlova and Skiba (2010) find that BITs, but not BTTs, attract greater FDI inflows.[36] A comparative analysis of BITs and BTTs on a larger sample of countries—preferably all developing countries—over a longer period of time is another project I intend to pursue.

A final note on BITs: Poast's (2010) insight that most bilateral agreements (alliances and economic treaties for instance) are not actually bilateral, but rather *k*-adic, originat-ing from multilateral interactions between states, suggests yet another promising avenue of research. For instance, Lupu and Poast (2014) argue that BIT formation can occur through multilateral processes; as such, a dyadic analysis of BITs on FDI, by not fully capturing the data-generating process, may lead to incorrect inference. Analyzing sam-ples of *k*-ads from 1970 to 2000, they find that democratic states and states with strong investor protections are less likely to form BITs. In light of this, one ought to also apply Poast's (2010) *k*-adic approach to the analysis of BTTs and the comparative analysis of international investment agreements described above.

Second, most analyses of the effects of BITs on FDI rely on aggregate FDI flows, as does this dissertation. Yet in practice, investments occur for a variety of reasons and the motivation behind the investment may very well affect the decision for a particular loca-tion over another. This also implies that BITs may attract particular types of investment

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[35]I thank Professor Stephen Shay of Harvard Law School for bringing this to my attention.

[36]These transition countries include: Bulgaria, the Czech Republic, Hungary, Poland, Romania, Rus-sia, Slovakia, Slovenia, and Ukraine.

over others, conditional on a regime's political institutions.

Foreign direct investment is not a monolithic category and can be divided into three types: (1) resource-motivated FDI, (2) market-motivated FDI, and (3) efficiency-motivated FDI (UNCTAD 1998; Farrell, Gaston and Sturm 2004). Resource-motivated FDI, as its name suggests, seeks access to natural resources, notably petroleum and natural gas, but also minerals. It is, by definition, restricted to the primary sector and comprises mainly of oil and gas extraction and the mining of ores, coal, and minerals. Market-motivated FDI desires access to foreign markets in order to sell its products. To do so, it often establishes a local production facility (or foreign affiliate) in order to reduce transport costs for distribution. In this regard, service-sector FDI is almost entirely market-motivated but parts of manufacturing-sector FDI, especially those characterized by high transport costs and low product value such as food or chemicals are also of this type. Finally, efficiency-motivated FDI aims to reduce production costs and it is mainly this form of FDI that considers factor prices across nations as it usually involves the outsourcing of some part of the production process to a location with lower costs, especially labor. Such FDI is prevalent in the manufacturing sector characterized by low transport costs and high product value, such as clothing and textiles, electrical equipment, and machinery.

Similarly, property rights protection and contract enforcement are but one aspect of the rule of law, albeit a key one. A second relates to rules and regulations on issues such as the environment or labor. As such, the impact of a regime's rule of law on FDI is contingent on the motivations behind the investment. For instance, a country that lacks labor regulations may be attractive to investment whose main goal is to reduce labor production costs. While existing rule of law measures are too coarse to tease out this effect, the conflicting evidence on the impact of BITs on FDI may picking up cases such as that described above. Countries like China may seem to be receiving large amounts of FDI despite a questionable rule of law regime, but the types of investment it attracts may be quite different from those that a country with a better rule of law regime. In the

literature on democracy and FDI, some scholars suggest that the reason for incongruent findings is due to the use of aggregate FDI flows. For instance, Schulz (2009) argues that the reason why studies analyzing data from the 1960s and 1970s find no effect of democracy on FDI inflows whereas research focusing on the 1980s and 1990s show a positive effect is due to a declining share of FDI in the primary sector, i.e. resource-motivated FDI.

A promising extension of this dissertation is to consider the different motivations of FDI, and to examine whether BITs attract one type of FDI over others. There is scant research along these lines, largely due to a lack of quality data and the challenges associated with the disaggregation of FDI. However, a move away from aggregate FDI flows may reveal the more nuanced effects of BITs (and BTTs). In particular, if BITs attract a certain type of FDI, and such investment affects domestic economic, labor, and environmental conditions in the host country, then BITs may have an indirect effect on a host country's economy beyond investment inflows.

Finally, another potential project relates to how the institutional variation within authoritarian regimes influences political, economic, and social outcomes. My findings on the moderating role of authoritarian institutions on the effect of BITs in Chapter Six suggest that: (1) domestic institutions convey varying degrees of credibility to authoritarian regimes, and: (2) domestic institutions condition the effect of international institutions. As mentioned earlier, recent work in international security such as that by Weeks (2008) and political economy recognize the merits of moving beyond the democracy-dictatorship dichotomy to a closer examination of authoritarian regime types. Continuing along this vein, one proposal for future research is to explore the extent to which authoritarian regime type affects public good provision such as education, health care, and welfare, and how these policy choices in turn influence leader survival in these states.

These research extensions demonstrate the value of integrating insights from sub-literatures on international organization, political economy and comparative politics. Of

late, there is much proselytizing about the advantages of interdisciplinary work. However, before dabbling in fields that require considerable expertise (such as genetics or neuroscience), we ought to first engage in *intra*disciplinary work, especially between international relations, comparative politics, and political theory. This dissertation is an attempt to show how an intradisciplinary approach can shed light on an enduring puzzle in political economy—the wealth of nations; credibility-challenged authoritarian regimes can use international treaties to enhance the credibility of their commitments and thereby attract the foreign capital necessary for economic growth and development. In so doing, it hopefully pierces the shroud of mystery surrounding the rich autocratic regime.

In time perhaps, the rich dictatorship will no longer be an enigma.

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