Journal of Social and Political Sciences

The Asian Institute of Research *Social and Political Sciences* is a peer-reviewed International Journal. The journal covers scholarly articles in the fields of Social and Political Sciences, which include, but not limited to, Anthropology, Government Studies, Political Sciences, Sociology, International Relations, Public Administration, History, Philosophy, Arts, Education, Linguistics, and Cultural Studies. As the journal is Open Access, it ensures high visibility and the increase of citations for all research articles published. The *Journal of Social and Political Sciences* aims to facilitate scholarly work on recent theoretical and practical aspects of Social and Political Sciences.

Natural Resources, Property Rights, and the Domestic Logic of BIT Signing

Terence K. Teo[1]

[1] Assistant Professor, Department of Political Science & Public Affairs , Seton Hall University, 400 S Orange Avenue, South Orange, NJ 07079

Abstract

In contrast to the substantial scholarship on whether bilateral investment treaties (BITs) increase foreign direct investment (FDI), there is less work on what drives governments to sign these treaties in the first place. I develop a theory of treaty signing that emphasizes the domestic factors that motivate a government to sign BITs. Using a panel dataset of developing countries from 1960 to 2010, I find that governments scarce in natural resources are more likely to sign BITs compared to their richer counterparts. In addition, governments with middle levels of property rights are more likely to sign BITs compared to those with low or high levels. Finally, the most likely BIT signers are resource-scarce countries with middle levels of property rights. That strategic dynamics exist in BIT signing has implications for assessing the effects of these treaties in other issue areas such as trade, human rights, and the environment.

Keywords: Natural Resources, Property Rights, Foreign Direct Investment, Bilateral Investment Treaty

1. Introduction

Of the key developments in the latter half of the twentieth century, the surge in foreign direct investment (FDI) flows, from approximately US$45 billion at the beginning of the 1980s to over US$1.5 trillion in 2010, is perhaps the most evident. Unlike world trade, there is no international institution governing FDI. In its stead lies a network of international investment agreements (IIAs) that began with the first bilateral investment treaty (BIT) between West Germany and Pakistan in 1959. At the end of 2013, there were 6,092 international investment agreements (IIAs), with BITs constituting almost half of all agreements across 176 countries (World Investment Report 2014).

BITs are legal agreements signed between states to protect and promote 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. BITs are thus regarded as instruments that developing country governments can use to enhance the credibility of their commitment to the proper treatment of FDI.

An extensive literature accompanies this rise in BITs, the bulk of which focus on whether these treaties fulfill their intended purpose of attracting FDI (UNCTAD 1998, Neumayer and Spess 2005, Tobin and Rose-Ackerman 2005, Büthe and Milner 2009). Unfortunately, this research remains inconclusive. 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), but 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 the lack of consensus to the different research designs and estimation approaches of each study. Methodological concerns aside, there is another question: What determines BIT signing in the first place? There is substantial variation in the number of BITs—signed and ratified—across time and space, yet few studies explicitly examine the determinants of BITs signing. The few that do emphasize 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 certainly play a role in BIT signing, these explanations paint only a partial picture of the BIT landscape. That is, these arguments may shed light on the general rate of BIT signing in response to global FDI or recognition of BIT costs, but are unable to adequately explain cross-country variation in BIT signing.

Since BITs entail costs, I argue that governments negotiate and sign these agreements only if they want capital that they cannot obtain otherwise. I show 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 middle levels of property rights are more likely to sign BITs than those with weak or strong property rights. Using a panel dataset of all developing countries from 1960 to 2010, I find that all else equal, resource-rich countries are less likely to sign a BIT. I also find that a country is more likely to sign a BIT as its property rights improves. However, this effect is non-linear: countries with low and high levels of property rights are less likely to sign a BIT. Finally, the most likely BIT signers are resource-scarce countries with middle levels of property rights.

The contribution of this paper is threefold. First, I develop a theory of BIT formation that rests on a government's motivations and incentives in response to domestic political and economic conditions. This 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." Second, if BIT signing is a product of strategic government decisions, then empirical analyses must account for this selection process in assessing whether BITs work. Finally, refocusing attention on the domestic factors that motivate governments to turn to international institutions has implications for scholars seeking to explain the variation in and effects of treaties across issue areas, such as trade, human rights, and the environment.

2. BITs in A Time of Plenty

In this era of mobile and plentiful capital, many countries want a share of foreign direct investment (FDI), and compete for the attention of multinational firms. FDI is 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. [1] Scholars and policymakers 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). 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

---

[1] 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.

finance, remittances, and private financial institution loans—since multinational firms generally have long time horizons and make investment decisions accordingly.[2]

At the same time, governments that seek to harness the promise of FDI face a time-inconsistency problem. Unlike other capital flows, FDI is vulnerable to a "hold-up" problem. 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. Once investment is made, however, relative bargaining power shifts to the host country, as the firm's assets are now immobile and not easily withdrawn, i.e. the firm is no longer able to credibly threaten exit. This generates incentives for the host government to impose additional conditions on the firm ex-post, from altering tax policy to outright expropriation. Consequently, multinational firms are cautious ex-ante, and—given the risks and challenges of ascertaining a host government's long-term commitment to the proper treatment of their assets—may refrain from investing, leaving both the firm and host government worse off.

A crucial determinant of FDI is therefore a host country's domestic environment. Some argue that the relative 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 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).

Others contend that democratic regimes are more attractive to foreign investors. In democracies, popular representation, a free press, and a relatively transparent decision-making process facilitate information flows. The electoral mechanism 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). Democratic leaders also have longer time horizons and will therefore refrain from taking actions detrimental to investment (Jensen 2003, Jakobsen and de Soysa 2006).

International explanations focus on the effects of international investment agreements (IIAs) but empirical support remains mixed. 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 dyadic data on FDI flows from 20 OECD countries to 31 developing countries from 1980 to 2000, Hallward-Driemeier (2003) finds little evidence of a positive relationship between BITs and increases in FDI flows. Using a cross-sectional dataset, Salacuse and Sullivan (2005) find that while BITs signed with the US do increase FDI inflows, BITs signed with other OECD countries have no effect.

Neumayer and Spess (2005) argue that dyadic models do not account for the possibility that BITs may attract more FDI from non-signatory countries and underestimate the FDI-attracting power of these treaties. Using a monadic approach on 119 developing countries from 1970 to 2000, they find that the greater the number of BITs signed by a host country, a more FDI the country receives. Similarly, Tobin and Rose-Ackerman (2005) find that the effects of BITs on FDI depends 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. Finally, Büthe and Milner (2009) examine FDI inflows as a percentage of GDP among non-OECD countries and find a positive relationship between BITs and FDI inflows.

---

[2] 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."

This discussion suggests that governments use two main strategies to attract foreign investors: (1) domestic reform, and (2) international institutions. Domestic reforms such as strengthening the rule of law, improving property rights, and reducing corruption require costly effort on the part of leaders. What is more, the benefits of these reforms take time to realize, and there is no guarantee of success; domestic reform is a long-term strategy that entails significant political costs at some risk. Hence in the short-term, turning to bilateral investment treaties (BITs), bilateral tax treaties (BTTs) and, to a lesser extent, preferential trade agreements (PTAs) with investment clauses, may help governments signal and make credible their commitment to protecting FDI. The rapid rise in the number of these agreements since the 1970s is suggestive of the popularity of this second strategy.

2.1. BIT Formation as Policy Diffusion

Much of the extant literature on BITs investigates the extent to which BITs affect FDI inflows. Fewer studies explain the differences in BIT signing across time and space and more importantly, deal with this potential selection problem in their analyses of these treaties on FDI. BITs are essentially assumed to arise spontaneously and treated as exogenous in empirical analyses.[3] Yet Figure 1 shows significant variation in the number of BITs over time between democracies and non-democracies, and within each regime type.
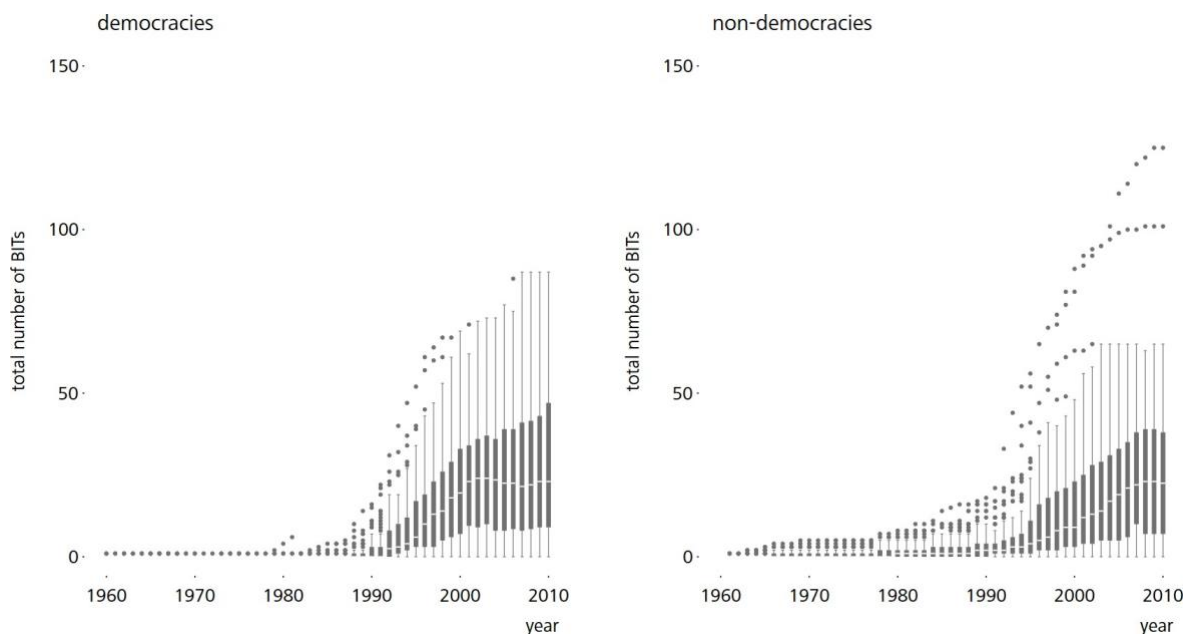

Figure 1: Total number of BITs by regime type, 1960–2010

The white horizontal line in each boxplot indicates the median number of BITs in a specific year; the dots indicate outliers where the number of BITs is greater than the 75th percentile value plus 1.5 times the inter-quartile range (IQR). The IQR is the difference between the 75th and 25th percentile number of BITs.

Sources: The total number of BITs are from the United Nations Conference on Trade and Development (UNCTAD). Countries with a Polity scores of six and above are democracies; non-democracies are those with Polity scores below six.

Two studies do explicitly examine why countries sign BITs. Drawing from the literature on policy learning and diffusion (see Simmons, Dobbin, and Garrett 2006), Elkins, Guzman and Simmons (2006) propose a competitive theory of BIT diffusion premised on the assumption that "BITs give host governments a competitive edge in attracting capital…" (p. 823). They argue that the proliferation of BITs resembles the spread of neoliberal policies in international relations. In particular, the rise of 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

---

[3] Rosendorff and Shin (2012) raise a similar point

countries that: (1) are substitutable investment locations, (2) have specific industry sectors, (3) lack credibility 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. 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 wave were attempts by host governments to credibly commit to protecting FDI. Finally, the third wave, in which the current BIT regime resides, is characterized by lower signing rates as countries become more aware of the costs associated with BITs in the form of increased investor-state disputes.

3. A Domestic Theory of BIT Signing

Most studies on BITs begin with the premise that all countries want FDI and sign BITs to enhance their attractiveness to investors. These studies therefore focus mainly on assessing whether BITs increase FDI inflows and pay relatively little attention to the determinants of BIT signing. Such an assumption, however, is questionable. As Elkins, Guzman, and Simmons (2006) indicate, BITs involve a variety of costs: diplomatic, sovereignty, arbitration, and reputational costs. Diplomatic costs arise in the direct negotiations between countries on investment related polices. A government incurs sovereignty costs when it signs a BIT, which may include domestic policy reforms. 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." As such, governments are not equally likely to sign BITs.

I argue that there are two basic conditions under which a government would consider signing a BIT. First, the government must need foreign capital. A government already receiving substantial amounts of FDI without having BITs has little incentive to spend the time and effort to negotiate and sign a BIT, as evidenced by the almost complete lack of BITs between the industrialized democracies. 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 government needs FDI, it must have trouble obtaining the investment by existing means. In short, governments sign BITs because they need FDI and are unable to obtain FDI due to existing domestic credibility problems.

Engerman and Sokoloff (1997, 2000) trace the development of political institutions and their subsequent impact on long-run economic growth to a country's initial factor endowments and the incentives these created for European imperialists. Colonies endowed with sun, fertile soil, and an unsuspecting pool of indigenous labor—ripe for the cultivation of labor-intensive crops such as sugar cane and coffee—were forced on a brutal path of development. The imperialists established large-scale plantations to exploit these colonies and imported slaves from West Africa to supplement and replace indigenous labor. Colonies rich in mineral deposits and native labor suffered a similar fate. These production methods resulted in high levels of inequality in wealth and human capital, and the elites who ruled these colonies established institutions that reinforced their political and economic dominance. The long-run consequences were stagnant living standards, weak property rights, a lack of suffrage, and dismal growth.

Colonies less endowed with sun, soil, and labor—conditions appropriate for grain agriculture— experienced a more benign mode 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 representative institutions that shared political power, which established a more level political and economic playing field. The long-run outcomes were rising living standards, strong property rights, universal suffrage, and sustained growth.

Factor endowments thus influence the initial mode of economic production and the development of human capital, which in turn, affect the distribution of political power. The distribution of political power subsequently shapes the types of law and policies—from property rights, labor, education, to a host of growth-related inputs—and the quality of institutions. What is more, the effects of these initial institutions may linger to the present day. Engerman and Sokoloff 's (1997, 2000) historical analysis shows that a country's initial factor endowments may have a lasting impact on elite behavior and institutions. Drawing on this framework that links endowments to incentives and behavior, I consider how natural resource endowments (or the land factor) structure a leader's motivation to sign a BIT.

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 is widely and popularly known as the resource curse (Sachs and Warner 1995).

Recent work on the political economy of natural resources cast doubt on whether such a curse exists (Alexeev and Conrad 2009, Dunning 2008). This 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). Further studies emphasize the distinction between resource wealth and resource dependence. 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 FDI.

Natural resources lie in a decidedly non-random fashion around the world; multinational firms have little choice but to invest in specific locations if they seek to exploit these resources, irrespective of the level of political risk. What is more, 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. In light of the FDI that resource abundance attracts, I focus here on how resource wealth influences government incentives to sign BITs—because resource-rich countries are more attractive to foreign investors than their less endowed counterparts, the governments of these countries have less incentive to negotiate and sign a BIT. After all, if one already receives FDI without a BIT, then why would one incur the additional costs to sign one? This leads to my first hypothesis:

Hypothesis 1. Resource-abundant countries are less likely to sign BITs compared to resource-scarce countries.

3.2. Political Determinants

A need for foreign capital may be necessary but is not sufficient to induce BIT 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 one of the factors that reflect a country's need for FDI, the quality of domestic political institutions influences whether a country will turn to BITs in order to attract FDI.

Property rights are social institutions that specify the privileges that individuals and firms have over a fixed allocation of resources (Haggard, MacIntyre, and Tiede 2008). The secure and consistent enforcement of property rights and contracts increases the 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 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." The lack of strong property rights—and the rule of law more generally—is a key inhibitor of investment in the developing world. Multinational investors are especially vulnerable to the problem of weak property rights since production and extraction facilities are not easily relocated in response to arbitrary policy changes.

Consequently, governments with strong property rights have little motivation to sign a BIT. Any commitment that such a government makes is ex-ante credible, and since BIT signing entails a strictly positive cost with little additional benefit, this government would prefer not to sign a treaty. At the other end, governments with weak property rights have little incentive to sign a BIT as well: First, the costs of BIT signing for such a government is prohibitively high; and second, even if such a government signs a BIT, it is unlikely that investors will perceive such a commitment as credible.[4] The most likely candidates of BIT signing are therefore governments with "middle" levels of property rights. For these governments, the potential benefits that BITs confer in terms of FDI Outweigh the costs of signing.

Hypothesis 2. Countries with middle levels of property rights are more likely to sign BITs compared to those with low or high levels.

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 government to sign BITs. My core argument, however, is that these factors jointly influence whether a government will do so. As Hypothesis 1 indicates, resource-rich countries are less likely to sign BITs irrespective of their level of property rights, all else equal. Resource-scarce countries, however, are not all equally likely to sign BITs. Since BITs are costly, a resource-scarce country is more likely to sign a BIT only if: (1) it is unable to obtain FDI due to weak property rights, and (2) its property rights regime is not so poor that investors would discount any BITs. As such, I expect that:

Hypothesis 3. Resource-scarce countries with middle levels of property rights are more likely to sign BITs than resource-scarce countries with lower or higher levels of property rights.

4. Empirical Approach

To assess my hypotheses, I use a time-series cross-sectional (TSCS) dataset that includes all developing countries from 1960–2010, with country-year as the unit of analysis. To deal with country-specific unobserved heterogeneity, I include country fixed effects in all logit regression models. To model temporal dynamics, I include a cubic polynomial following Carter and Signorino's (2010) recommendations. Finally, I lag all explanatory and control variables by one year.

Outcome

---

[4] This is not to say that such governments will not sign BITs, just that the likelihood of signing is low.

My main outcome of interest is BIT signing. I construct a binary dependent variable *BIT* coded one if a country signed a bilateral investment treaty (BIT) in a given year (and zero otherwise) from the United Nations Conference on Trade and Development's (UNCTAD) online database.

Explanatory Variables

A primary determinant of BIT signing is the extent to which a government needs FDI, and that this need is in part a function of a country's resource endowments. Natural resources such as petroleum, natural gas, coal, and minerals are particularly attractive to foreign investors. Unlike other goods, these resource deposits are immobile—a multinational enterprise that seeks to extract these resources must invest in the location of these resources. To operationalize natural resources, I use *resource rents* as a percentage of GDP to measure the extent of a country's resource wealth. These 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).[5]

To measure the extent of property rights protection, I follow established work and use contract- intensive money (*CIM*) by Clague, Keefer, Knack, and Olson (1999). *CIM* measures the proportion of non-currency money—which is computed by subtracting the currency held outside banks (C) from the total money supply—relative to the total money supply (M2). In countries with security of contract and property rights, individuals and firms are more likely to trust financial institutions with their assets. At the same time, financial institutions are more likely to lend to these actors (Claque et al. 1999). These countries therefore have higher CIM scores. CIM ranges from zero, which indicates that no money is held in banks (poor property rights and contract enforcement), to one, where all money is held in banks (strong property rights and contract enforcement). There are two advantages of CIM over existing property rights measures such as the International Country Risk Guide (Political Risk Group 2011). First, the use of data from the International Monetary Fund instead of expert surveys makes CIM less vulnerable to arbitrary evaluations and potential biases. Second, CIM is available for many countries over time. To assess the non-linear effect of property rights on BIT signing, I construct a squared variable, CIM^2.

As an alternative measure—and to facilitate comparison with existing empirical work on BITs— I use data from Allee and Peinhardt (2011), who construct an index from the International Country Risk Guide (*ICRG*) that ranges from 0 to 30, where higher values indicate a greater degree of property rights protection. To facilitate model convergence, I standardize this *ICRG* variable so that it ranges from 0 to 1.

Moderators

I expect that resource-scarce governments with middle levels of property rights protections are most likely to turn to BITs. To test the joint impact of resource endowment and property rights, I include interaction terms— *resource rents × property rights*—in separate models.

Controls

Finally, I control for variables that may affect the likelihood of BIT signing. Logged *per capita GDP* 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 *growth* as a percentage of GDP. I also include Chinn-Ito's (2003) index of *capital openness* to capture restrictions on capital flows. To measure *regime type*, I use Polity IV. I also include the *cumulative number of BITs* a country has signed up to (and including) a given year. Jandhyala, Henisz and Mansfield (2011) suggest 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

---

[5] In the appendix, 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.

for the period from 1988 through 2000, and two for the period from 2001 to 2010. Table 1 presents summary statistics of the variables in the analysis.

Table 1: Summary Statistics of Variables

Variable	N	Mean	S.D.	Distribution
BIT	7,148	0.22	0.42	
resource rents	4,592	9.22	12.08	
property rights (CIM)	4,884	0.74	0.17	
property rights (ICRG)	2,782	0.47	0.16	
development	5,447	7.25	1.26	
growth	5,452	4.03	6.90	
capital openness	4,105	-0.26	1.42	
cumulative # of BITs	7,290	7.54	14.83	
regime type	5,765	-0.12	0.69	

5. Results

Table 2 presents the results from the regression analysis. Model 1 shows the baseline model with resource rents as the main predictor, controlling for the level of development, growth, capital openness, the cumulative number of BITs, wave, and regime type. Recall that Hypothesis 1 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 has a negative and statistically significant effect on BIT signing; this indicates that as the amount of natural resource rents increases in a country over time, it is less likely to sign a treaty. Further inspection of the components that constitute natural resource rents reveal that oil, coal, and mineral (but not natural gas) rents have a similar effect: as these rents increase within a given country over time, it is less likely to sign a BIT.[6]

Next, models 2 and 3 show that property rights, whether measured by contract-intensive money (CIM) or ICRG, has a positive and statistically significant effect on the probability of BIT signing. For a given country, as the level of property rights improves over time, it is more likely to sign a BIT. However, I argue that the effect of property rights on BIT signing is non-linear and dome-shaped; that is, countries are more likely to sign BITs at middle levels of property rights but are less likely to do so at low and high levels. Models 4 and 5, which include squared property rights terms, provide evidence for this hypothesis (H2). The estimate on the property rights term is positive while that of the squared property rights term is negative. To correctly interpret these estimates requires the construction of marginal effects plots (Brambor, Clark, and Golder 2006).

Table 2: Fixed Effects Logit Estimates of Resource Income and Property Rights on BIT Signing

	1	2	3	4	5
resource rents	-0.17***			-0.16***	-0.14**
	[0.04]			[0.04]	[0.06]
property rights (CIM)		3.71***		9.21*	
		[0.89]		[4.98]	

---

[6] See Table A1 in the appendix.

property rights (ICRG)			4.93***		13.13***
			[0.84]		[4.34]
property rights^2 (CIM)				-4.09	
				[3.45]	
property rights^2 (ICRG)					-9.73**
					[4.52]
development	0.56**	0.04	0.19	0.31	0.06
	[0.26]	[0.24]	[0.55]	[0.28]	[0.61]
growth	0.00	0.00	0.01	0.00	0.01
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]
capital openness	0.05	0.09	0.11	0.03	0.06
	[0.06]	[0.05]	[0.07]	[0.06]	[0.08]
cumulative BITs	-0.00	-0.00	-0.01*	-0.00	-0.01
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]
regime type	0.08***	0.07***	0.08***	0.07***	0.06***
	[0.01]	[0.01]	[0.02]	[0.02]	[0.02]
wave	0.85***	0.62***	0.36***	0.76***	0.51***
	[0.11]	[0.09]	[0.12]	[0.11]	[0.15]
N	2,599	3,119	1,854	2,404	1,535
Countries	103	111	96	96	85
AIC	2799.2	3019.4	2009.9	2428.7	1699.6
BIC	3444.1	3061.7	2048.6	2480.8	1747.6

Robust standard errors are shown in [brackets]. All explanatory and control variables are lagged by one year. Country fixed effects and time splines not shown. ***, and ** denote statistical significance at p < .01 and p < .05 respectively.

Figure 2 (left panel) shows the effects of property rights (CIM) on the likelihood of BIT signing. Where the confidence intervals (dashed lines) do not include zero indicates a statistically significant effect. This plot provides evidence of a quadratic relationship between property rights and BIT signing, which supports hypothesis 2. Countries at low and high levels of property rights are least likely to sign BITs, although this effect is not significant. As a country's property rights improves, however, it is more likely to sign a BIT up to a point (approximately 0.55), after which the likelihood of signing starts to fall. The right panel of Figure 2, which uses the ICRG measure of property rights, reveals a similar relationship between property rights and BIT signing.
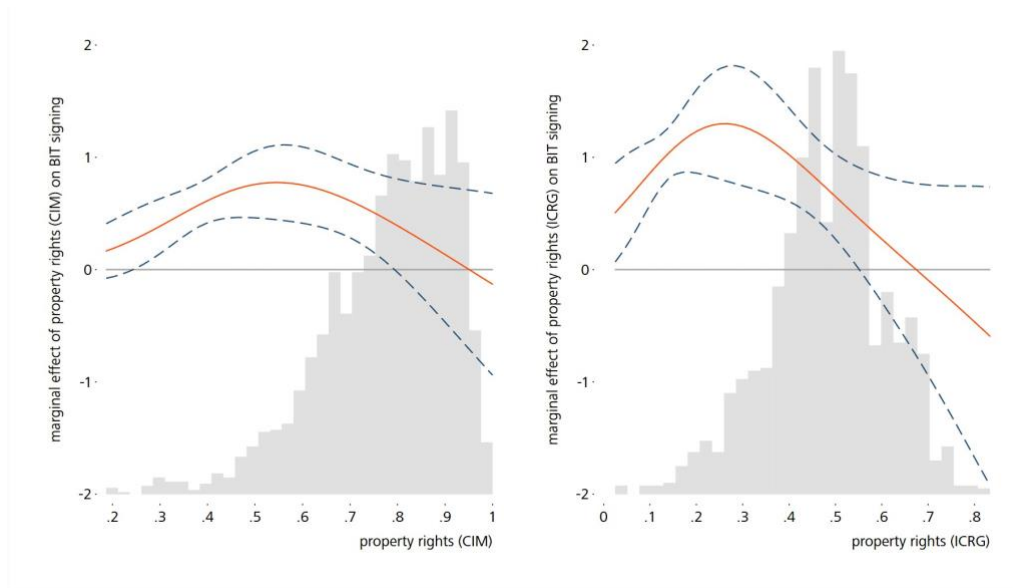
Figure 2: Quadratic effect of property rights on likelihood of BIT signing
The solid and dashed lines indicate the estimated coefficient and its associated 95% confidence intervals respectively. The histograms display the distribution of the property rights (CIM and ICRG respectively) variable. The coefficient estimate is statistically significant at p < .05 where the confidence intervals (dashed lines) do not include zero.

Yet my key argument is that the BIT signing depends on both economic need as proxied by resource rents and the level of property rights. To assess this hypothesis (H3), I include interaction *terms resource rents × property rights* and *resource rents × property rights²* as well as all constitutive terms in models 6 and 7. Whereas the coefficient estimates of resource rents and property rights as measured by ICRG are statistically significant (Table 3, model 7), they are not significant with CIM as the measure of property rights (model 6).

Table 3: Fixed Effects Logit Estimates of Resource Income × Property Rights on BIT Signing

	6	7
resource rents	-0.83	1.24***
	[0.63]	[0.47]
property rights (CIM)	3.06	
	[5.21]	
property rights² (CIM)	1.15	
	[3.75]	
property rights (ICRG)		18.77***
		[5.20]
property rights² (ICRG)		-15.11***
		[5.28]
resource rents × property rights (CIM)	2.14	
	[1.29]	
resource rents × property rights² (CIM)	-1.64	
	[1.29]	
resource rents × property rights (ICRG)		-5.62***
		[2.02]
resource rents × property rights² (ICRG)		5.24**
		[2.05]

development	0.26	0.05
	[0.28]	[0.59]
growth	0.00	0.01
	[0.01]	[0.01]
capital openness	0.01	0.04
	[0.06]	[0.08]
cumulative BITs	-0.00	-0.00
	[0.01]	[0.01]
regime type	0.07***	0.07***
	[0.02]	[0.02]
wave	0.75***	0.50***
	[0.11]	[0.14]
N	2,404	1,535
Countries	96	85
AIC	2430.3	1690.7
BIC	2494.0	1749.4

Robust standard errors are shown in [brackets]. All explanatory and control variables are lagged by one year. Country fixed effects and time splines not shown. ***, and ** denote statistical significance at p < .01 and p < .05 respectively.

Figure 3 (left panel) shows the marginal effect of resource rents on the likelihood of BIT signing as a country's level of property rights (CIM) changes, holding all other covariates at their respective means. As before, where the confidence intervals (dashed lines) do not include zero indicates a statistically significant effect. As a country's level of property rights increases, the marginal effect of resource rents on BIT signing is negative, increasing, and statistically significant between 0.3 and 0.9. This suggests that all else equal, resource abundant countries are less likely to sign BITs even as their property rights regime improves. To better assess this interactive relationship, the right panel of Figure 3 shows the marginal effect of property rights (CIM) on BIT signing as resource rents change. At low resource rents, the effect of property rights on BIT signing is positive and statistically significant at log values of resource rents between -6 and 2. As the level of resource rents increase, however, this effect decreases. Taken together, this shows support for hypothesis 3.
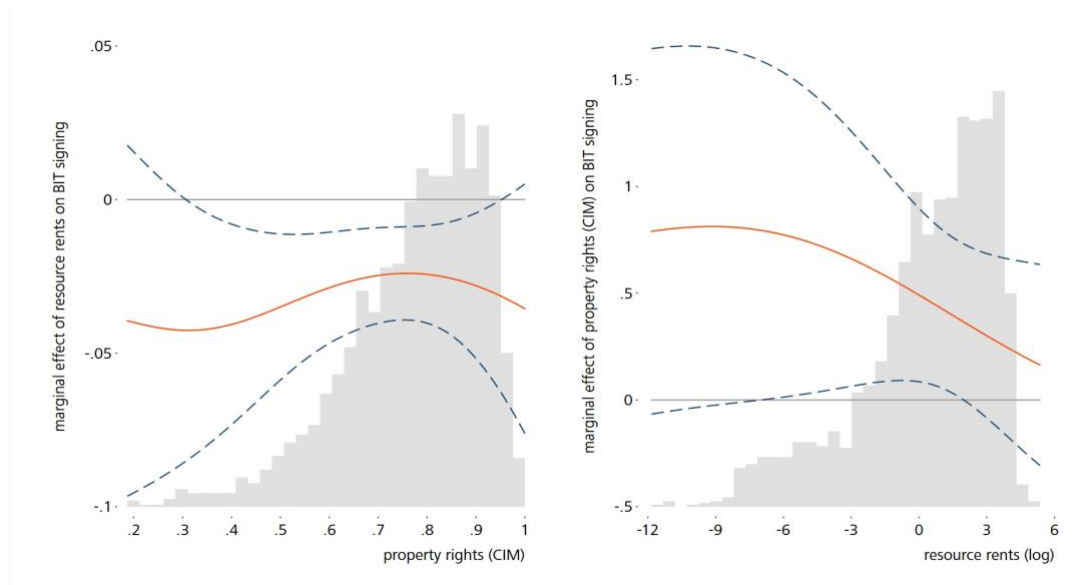
Figure 3: Marginal effect of resource rents (left panel) and property rights (right panel) on BIT signing

The solid and dashed lines indicate the estimated coefficient and its associated 95% confidence intervals respectively. The histograms display the distribution of the property right (left) and resource rents (right) variables. The coefficient estimate is statistically significant at p < .05 where the confidence intervals (dashed lines) do not include zero.

5.1. Substantive Effects

Figure 4 shows the predicted probabilities of BIT signing at three levels of resource rents—low (25th percentile), median, and high (75th percentile)—as the level of property rights increases. At low levels of resource rents (left panel), the likelihood of BIT signing is highest at middle levels of property rights as hypothesized, and small at low and high levels of property rights. This quadratic effect is present at median levels of resource rents (middle panel) as well but the probability of signing is lower across the range of property rights values. At high levels of property rights, the probability of BIT signing is linear with respect to property rights and rises with property rights improvements. While this result seems to contradict my hypothesis, there are two issues of note. First, at middle levels of property rights (approximately 0.6), the probability of BIT signing (0.40) is lowest among the three levels of resource rents (0.62 (low), and 0.50 (median)). Second, there are no cases in the dataset at levels of property rights exceeding 0.8, which renders these extrapolated estimates unreliable.
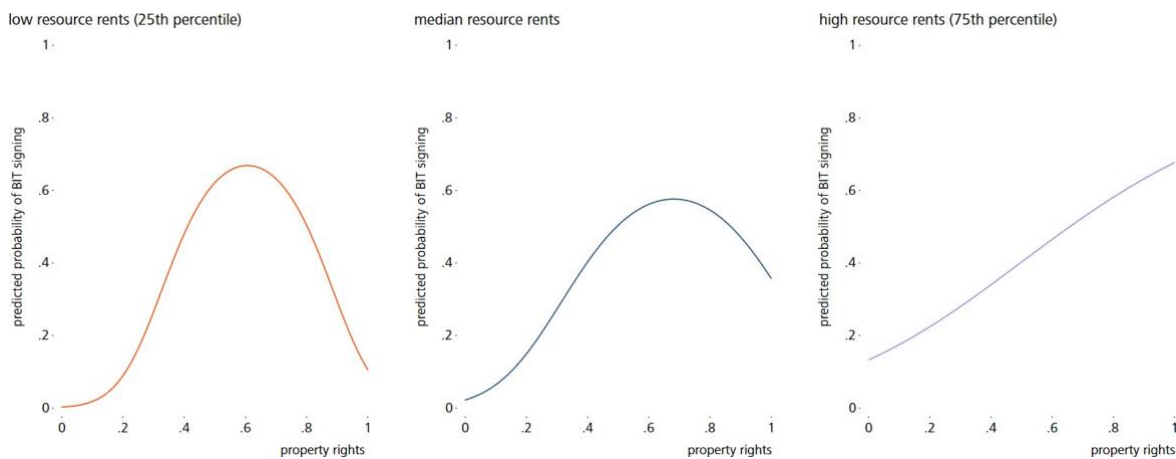

Figure 4: Predicted probability of BIT signing at low (left panel), median (middle panel), and high (right panel) levels of resource rents

The lines indicate the predicted probabilities of BIT signing across the level of property rights at three levels of resource rents—low (left panel), median (middle panel), and high (right panel)—with all other covariates held at their means.

6. Conclusion

Despite substantial scholarship on whether BITs increase FDI, there remains relatively less work on the domestic factors that motivates governments to sign BITs. Rather than assuming that all leaders want or would compete for foreign capital, I focus on the conditions that influence: (1) the amount of investment a leader receives, and (2) whether a leader will turn to BITs. I show that the extent of natural resource wealth—by influencing the ex-ante level of investment that a leader receives—affects the likelihood of treaty signing. Specifically, as resource rents increase, the less likely a country will sign a BIT. This finding is consistent with Ross and Voeten (2015), who find that oil-exporting countries are less likely to join intergovernmental organizations. In addition, leaders are more likely to sign BITs at middle levels of property rights than at low or high levels, i.e. property rights have a non-linear effect on BIT signing. Finally, the most likely BIT signers are resource-scarce countries with moderate levels of property rights.

This paper contributes to an emerging literature that treats BITs as outcomes instead of BITs as causes. For instance, Billing and Lugg (2017) find that governments that experience civil conflict are more insecure, and therefore more willing to sign BITs to attract FDI without the need for costly domestic reforms. The approach here also demonstrates the value of exploring the domestic processes and mechanisms that underlie treaty signing. The study of network, competitive, and diffusion dynamics currently dominate the scholarship on international institutions. While these effects undoubtedly affect state behavior, treaty negotiation and international organization (IO) membership are first and foremost motivated by domestic concerns—namely government survival—which are subsequently influenced by international (or external) conditions. To understand the variation in IO membership then requires theory development and empirical testing at multiple levels of analysis.

The finding that resource abundant countries are less likely to sign BITs adds to the "resource curse" literature as well. I find support for the argument that since resource rich countries tend to already receive (resource-motivated) FDI, these governments need not rely on either domestic reform or international treaties—both of which are costly actions—to attract foreign capital. In addition, I show that the effects of resource wealth (or lack thereof) on BIT signing depends on the strength of a country's property rights regime. This extends Ross and Voeten's (2015) argument by highlighting how domestic institutions might condition the effect of oil dependence on a country's willingness to participate in certain international institutions but not others.

Finally, this paper's emphasis on the domestic determinants of treaty signing reveals that governments are not equally likely to sign BITs. This selection into BIT signing suggests that analyses of whether BITs fulfill their purported purpose of attracting FDI must account for this endogeneity to accurately assess the effects of BITs. This has implications for recent work that explains the effects of BITs on outcomes other than FDI, such as income inequality and leader survival, as well as the design and content of international economic agreements (Allee and Peinhardt 2014, Manger and Peinhardt 2017). More broadly, treaty selection on the part of governments has ramifications for identifying the impact of agreements in other issue areas such as double taxation, trade, human rights, and the environment.

References

Aisbett, Emma. (2007) Bilateral Investment Treaties and Foreign Direct Investment: Correlation versus Causation. *CUDARE Working Paper Series*. University of California, Berkeley.

Alexeev, Michael and Robert Conrad. (2009) The Elusive Curse of Oil. *Review of Economics and Statistics* 91(3): 586–598.

Allee, Todd, and Clint Peinhardt. (2011) Contingent Credibility: The Impact of Treaty Investment Violations on Foreign Direct Investment. *International Organization* 65(3): 401–432.

Allee, Todd, and Clint Peinhardt. (2014) Evaluating Three Explanations for the Design of Bilateral Investment Treaties. *World Politics* 66(1): 47–87.

Baldwin, Richard, Henrik Braconier, and Rikard Forslid. (2005) Multinationals, Endogenous Growth, and Technological Spillovers: Theory and Evidence. *Review of International Economics* 13(5): 945–963.

Bearce, David H. and Jennifer A. Laks Hutnick. (2011) Toward an Alternative Explanation for the Resource Curse: Natural Resources, Immigration, and Democratization. *Comparative Political Studies* 44(6): 689–718.

Biglaiser, Glen, and Joseph L. Staats. (2010) Do Political Institutions Affect Foreign Direct Investment? A Survey of U.S. Corporations in Latin America. *Political Research Quarterly* 63(3): 508–522.

Brambor, Thomas, William Roberts Clark, and Matt Golder. (2006) Understanding Interaction Models: Improving Empirical Analyses. *Political Analysis* 14(1): 63–82.

Bueno de Mesquita, Bruce, Alastair Smith, Randolph Siverson, and James Morrow. (2003*) The Logic of Political Survival*. Cambridge, MA: MIT Press.

Busse, Matthias, and Carsten Hefeker. (2005) Political Risk, Institutions and Foreign Direct Investment. *HWWA Discussion Paper 315*. Hamburg Institute of International Economics.

Busse, Matthias, Jens Koniger, and Peter Nunnenkamp. (2010) FDI Promotion through Bilateral Investment Treaties: More than a Bit? *Review of World Economics* 146(1): 147–177.

Büthe, Tim, and Helen Milner. (2008) The Politics of Foreign Direct Investment into Developing Countries: Increasing FDI through International Trade Agreements*? American Journal of Political Science* 52(4): 741–762.

Carter, David B. and Curtis S. Signorino. (2010) Back to the Future: Modeling Time Dependence in Binary Data. *Political Analysis* 18(3): 271–292.

Clague, Christopher, Philip Keefer, Stephen Knack, and Mancur Olson. (1996) Property and Contract Rights in Autocracies and Democracies. *Journal of Economic Growth* 1:243–276.

Clague, Christopher, Philip Keefer, and Mancur Olson. (1999) Contract-Intensive Money: Contract Enforcement, Property Rights, and Economic Performance. *Journal of Economic Growth* 4(2): 185–211.

Dunning, Thad. (2008) *Crude Democracy: Natural Resource Wealth and Political Regimes*. New York, NY: Cambridge University Press.

Elkins, Zachary, Andrew T. Guzman, and Beth A. Simmons. (2006) Competing for Capital: The Diffusion of Bilateral Investment Treaties, 1960–2000. *International Organization* 60(4): 811– 846.

Engerman, Stanley L. and Kenneth L. Sokoloff. (1997) Factor Endowments, Institutions, and Differential Paths of Growth among New World Economies: A View from Economic Historians of the United States. In *How Latin America Fell Behind*, Stephen Haber (ed). Stanford, CA: Stanford University Press.

Ferejohn, John, and Pasquale Pasquino. (2003) Rule of Democracy and Rule of Law. In *Democracy and the Rule of Law*, Maravall, José María and Adam Przeworski (eds). Cambridge, UK: Cambridge University Press.

Gallagher, Kevin, and Melissa Birch. (2006) Do Investment Agreements Attract Investment? Evidence from Latin America. *Journal of World Investment and Trade* 7(6): 961–976.

Guzman, Andrew T. (2002) The Cost of Credibility: Explaining Resistance to Interstate Dispute Resolution Mechanisms. *Journal of Legal Studies* 31(2): 303–326.

Haggard, Stephan, Andrew MacIntyre, and Lydia Tiede. (2008) The Rule of Law and Economic Development. *Annual Review of Political Science* 11: 205–234.

Hallward-Driemeier, Mary. (2003) Do Bilateral Investment Treaties Attract FDI? Only A Bit and They Could Bite. *World Bank Policy Research Paper WPS 3121*.

Humphreys, Macartan. (2005) Natural Resources, Conflict, and Conflict Resolution. *Journal of Conflict Resolution* 49(4): 508–537.

Jandhyala, Srividya, Witold Henisz, and Edward Mansfield. (2011) Three Waves of BITs: The Global Diffusion of Foreign Investment Policy. *Journal of Conflict Resolution* 55(6): 1047–1073.

Jensen, Nathan M. (2003) Democratic Governance and Multinational Corporations: Political Regimes and Inflows of Foreign Direct Investment. *International Organization* 57(3): 587– 616.

Jensen, Nathan M. (2008) Political Regimes and Political Risk: Democratic Institutions and Expropriation Risk for Multinational Investors. *Journal of Politics* 70(4): 1040–1052.

Jensen, Nathan M. and Noel P. Johnston. (2012) Political Risk, Reputation, and the Resource Curse. *Comparative Political Studies* 44(6): 662–688.

Kerner, Andrew. (2009) Why Should I Believe You? The Costs and Consequences of Bilateral Investment Treaties. *International Studies Quarterly* 53: 73–102.

Kurtz, Marcus J. and Sarah M. Brooks. (2011) Conditioning the "Resource Curse": Globalization, Human Capital, and Growth in Oil-Rich Nations. *Comparative Political Studies* 44(6): 747– 770.

Li, Quan, and Adam Resnick. (2003) Reversal of Fortunes: Democracy, Property Rights and Foreign Direct Investment Inflows in Developing Countries. *International Organization* 57(1):175–214.

Manger, Mark S. and Clint Peinhardt. (2017) Learning and the Precision of International Investment Agreements. *International Interactions* 43(6): 920–940.

Markusen, James R. and Anthony J. Vernables. (1999) Foreign Direct Investment as a Catalyst for Industrial Development. *European Economic Review* 43(2): 335–356.

Milner, Helen V. (2014) The Global Economy, FDI, and the Regime for Investment. *World Politics* 66(1): 1–11.

Morrison, Kevin. (2012) What Can We Learn About the "Resource Curse" from Foreign Aid? *World Bank Research Observer* 27(1): 52–73.

Neumayer, Eric, and Laura Spess. (2005) Do Bilateral Investment Treaties Increase Foreign Direct Investment to Developing Countries? *World Development* 33(10): 1567–1585.

Peinhardt, Clint, and Rachel L. Wellhausen. (2016). Withdrawing from Investment Treaties but Protecting Investment. *Global Policy* 7(4): 571–576.

Poelhekke, Steven, and Frederick van der Ploeg. (2010) Do Natural Resources Attract FDI? Evidence from Non-Stationary Sector-Level Data. *CEPR Discussion Papers 8079*.

Ross, Michael. (2006) A Closer Look at Oil, Diamonds, and Civil War. *Annual Review of Political Science* 9: 265–300.

Ross, Michael, and Erik Voeten. (2015) Oil and International Cooperation. *International Studies Quarterly* 60(1): 85–97.

Sachs, Jeffrey D. and Andrew M. Warner. (1999) The Big Rush, Natural Resource Booms, and Growth. *Journal of Development Economics* 59(1): 43–76.

Sokoloff, Kenneth L. and Stanley L. Engerman. (2000) Institutions, Factor Endowments, and Paths of Development in the New World. *Journal of Economic Perspectives* 14(3): 217–232.

Tobin, Jennifer, and Susan Rose-Ackerman. (2005) Foreign Direct Investment and the Business Environment in Developing Countries: The Impact of Bilateral Investment Treaties. *Yale Law School Center for Law, Economics, and Public Policy Research Paper No. 293*.

Tobin, Jennifer, and Susan Rose-Ackerman. (2011) When BITs Have Some Bite: The Political- Economic Environment for Bilateral Investment Treaties. *The Review of International Organizations* 6(1): 1–32.

United Nations Conference on Trade and Development. (1998) *World Investment Report: Trends and Determinants*. New York, NY: United Nations Publications.

World Bank. (2014) World Investment Report 2014.

Zheng, Yu. (2011) Credibility and Flexibility: Political Institutions, Governance, and Foreign Direct Investment. *International Interactions* 37(3): 293–319.