

**Ratification Counts:
U.S. Investment Treaties and FDI flows into Developing Countries**

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Abstract

The proliferation of North-South bilateral investment treaties (BITs), which provide investors with favorable treatment and legal protections, is one of the most remarkable trends of the contemporary global economy. Presumably, developing countries conclude these agreements in order to attract much-needed capital to their economies. Although the positive effect of BITs on foreign direct investment (FDI) inflows may seem straightforward, the findings produced by extant research are mixed. This article advances the study of the relationship between BITs and FDI in two manners. First, it draws attention to the often underappreciated distinction between signed and mutually-ratified treaties. It argues that only BITs in force function as a costly signal of pro-investment climate and a credible commitment to the protection of FDI. Second, it employs a comprehensive data set on American investment in developing countries to empirically evaluate the effect of BITs on FDI inflows. Employing a variety of model specifications and accounting for potential endogeneity, the findings indicate that BITs have the expected positive effect on FDI inflows, but only to the extent that they are in force.

Presently, American Multinational Corporations (MNCs) are the largest source of FDI inflows to developing countries. In 2004 alone, these firms invested close to \$30 billion in the developing world. It was in the late 1970s, that the United States joined a growing number of developed countries in negotiating bilateral investment treaties (BITs), mostly with developing countries.¹ After concluding a small number of BITs in the 1980s, the United States signed numerous additional investment treaties in the 1990s and 2000s. On the whole, the United States concluded forty-eight agreements through 2004.² While many of these treaties are now in force, some of them still require the ratification of one or both parties to become legally binding. For example, the BITs with Haiti and Russia were signed in 1983 and 1992, respectively, and yet they still await mutual ratification. Moreover, not all the BITs that have eventually entered into force benefited from speedy ratification. It is not uncommon that six or seven years elapse between signature and joint ratification, as illustrated by the BITs with Honduras, Jordan, and Panama.

This considerable variation highlights an important, but frequently overlooked, dimension of bilateral treaties: to take effect, governments have to sign as well as mutually ratify them. Insofar as their legal status affects the purported effect of international treaties and to the extent that ratification varies across such treaties, this distinction has significant implications for our understanding of the role of international investment treaties – and international institutions more broadly – in world politics. This is particularly so if one accepts the claim that such institutions allow governments to tie their hands to a set of domestic policies (Abbott and Snidal, 2000; Guzman, 2005). In order to generate *credible commitments*, treaties have to be in force – only then can they carry strong legal obligations and penalize non-compliance (Guzman, 2005; Yackee, 2008a, 2008b). Signed but unratified treaties, on the other hand, involve fewer, if any,

¹ A notable exception is Canada, a participant in the North American Free Trade Agreement (NAFTA), which includes a BIT-like investment chapter.

² See the Appendix for a list of these agreements.

legal obligations and render the commitments made in the treaty much less credible. International institutions may also serve as a *costly signal* of governments' preferences and intentions (Abbott and Snidal, 2000; Martin, 2005, Thompson, 2006). In this respect, investment treaties allow states that are hospitable to foreign capital to convince investors that they are genuine. Here, too, the ratification process and the legal obligations created by the treaty produce the kind of costs that render the signal credible.

This study examines the effect of U.S. BITs on American FDI flow into developing countries in light of these purported causal mechanisms. In doing so, it joins a growing body of research that aspires to shed light on the BIT-FDI nexus. The findings produced by these studies are decidedly mixed. Some find that BITs foster FDI inflows (Büthe and Milner, 2008, 2009; Egger and Pfaffermayr, 2004; Kerner, 2009; Neumayer and Spess, 2005; Salacuse and Sullivan, 2005), but others find either a very limited or a highly conditional effect (Aisbett, 2007; Gallagher and Birch, 2006; Hallward-Driemeier, 2003; Tobin and Rose-Ackerman, 2006; UNCTAD, 1998; Yackee, 2008a). This study builds on and contributes to this literature in two ways.

First, despite the obvious significance of these treaties' legal status and despite invoking the logics of commitment and signaling, several empirical studies evaluate the effect of BITs on FDI with signed rather than mutually ratified treaties. These include the pioneering UNCTAD report (1998) and a number of additional prominent studies, such as Büthe and Milner (2009), Elkins, Guzman, and Simmons (2006), and Neumayer and Spess (2005). This study takes a closer look at the different costs associated with signed and mutually ratified BITs and their repercussions for the value of these treaties for both investors and governments. It argues that signing a BIT, in and of itself, is a rather costless action that does not offer foreign investors valuable information with respect to the manner by which the host government is likely to treat

them. In contrast, BITs in force function as a costly signal of as well a credible commitment to favorable treatment of FDI. I thus expect BITs in force, but not signed BITs, to increase FDI flow into the host countries that concluded them. The empirical analysis corroborates these expectations.

Second, the empirical study of FDI is plagued by poor and incomplete data. In particular, information on dyadic FDI flows is available only for developed countries and a limited subset of developing countries. This leads to the exclusion of many less developed countries, which arguably are the main beneficiaries of investment treaties, from the analysis. Indeed, studies at the dyadic level commonly include a sample of only twenty to forty host countries (Aisbett, 2007; Egger and Pfaffermayr, 2004; Gallagher and Birch, 2006; Hallward-Driemeier, 2003; Salacuse and Sullivan, 2005). Systematic differences between those states that report data and those that do not can potentially bias the results.

Several studies get around this problem by examining monadic data, which are available for most of the developing world. They do so by evaluating the effect of the cumulative number of BITs on FDI from the rest of the world (Büthe and Milner, 2008, 2009; Neumayer and Spess, 2005). As such, this approach gauges the effect of BITs (and other dyadic factors) indirectly. For example, the credibility of the commitments specified in the treaty hinges on the ability of foreign investors to turn to international arbitration. Presumably, only those investors whose government has a mutually ratified BIT with the host country can invoke this procedure. Because the monadic approach lumps all FDI, whether or not it is protected by an international treaty, it offers an incomplete picture in regards to the manners by which BITs affect FDI.

This study takes an alternative empirical approach. It examines the effect of BITs on FDI with a dyadic set up that includes one home country – the United States – and over one-hundred

and twenty developing countries.³ This strategy is less vulnerable to selection effects and can assess the effect of BITs on FDI directly. In addition, evaluating a single home state increases our confidence that investment treaties and the method by which FDI is measured are largely uniform. The selection of the United States emanates from its intrinsic importance to the global economy, the sizable variation displayed on BITs and FDI, and the availability of FDI data (Biglaiser and DeRouen, 2007; Blanton and Blanton, 2009). Of course, this approach limits our ability to infer from this study to other home countries, and in this respect, this study complements rather than competes with extant research.

This article proceeds as follows: the next section examines the relationship between BITs and FDI from a theoretical perspective. It elaborates on the causal mechanisms that link these two phenomena and considers their implications for signed and mutually ratified treaties. The third section presents the research design and elaborates on data, variables, and statistical techniques. The fourth section reports the results of the statistical analysis. The fifth section takes a closer look at the issue of endogeneity. The final section concludes.

Linking BITs and FDI

BITs are international agreements that provide legal protection and rights to foreign investors. Typical BITs include – among other things – most favored nation or national treatment of foreign investors (whichever is better), adequate compensation in the event of expropriation, and protection against restrictions on employment and currency transfer. Most BITs also specify mechanisms for dispute resolution and provide private investors with the right to binding international arbitration (Allee and Peinhardt, forthcoming). The standards of American BITs are particularly strict and uniform. As a former legal advisor to the American BITs negotiating team

³ Salacuse and Sullivan (2005) use a similar approach, but include a much smaller sample of host countries and years.

points out, ‘one feature of these negotiations was the unwillingness of the United States to compromise on the standards of compensation or the right of investors to binding third-party arbitration of investment disputes’ (Vandavelde, 1993: 628). Why, then, have developing countries been willing to sign agreements that undermine their sovereign rights and decrease their bargaining power vis-à-vis multinational corporations? The obvious answer is that they expect BITs to increase much needed FDI inflows to their economies (Salacuse and Sullivan, 2005; Guzman, 1998). Recent studies highlight two causal paths by which BITs may do so.

First, BITs may function as a *signaling* device (Fearon, 1997; Morrow, 1999). One significant impediment to FDI flows into the developing world involves the heightened risk associated with such investment and poor property rights laws. Historically, many developing countries had expropriated foreign assets without adequately compensating the owners of the assets. Domestic laws in these countries (or lack thereof) were also often unfavorable to foreign investors. As a consequence, foreign investors steered clear of many developing economies (Bubb and Rose-Ackerman, 2007; Guzman, 1998). Therefore, developing countries hoping to attract more capital need to convince foreign investors that they have ‘mended their ways.’ Such pro-FDI governments can do so by taking costly actions that countries inhospitable to foreign investment are unwilling to take. Insofar as the conclusion of investment treaties incurs significant sunk costs, it can serve as a credible signal to foreign investors.

Second, BITs may serve as an instrument of *credible commitment*, which solves time-inconsistency problems. To the extent that host governments can assure foreign businesses that they are welcome, they need to convince them that they will not violate the initial terms of the investment. Governments may find it difficult to do so for a number of reasons. First, because investment projects often require substantial sunk costs, investors face a gradually declining

bargaining power vis-à-vis host governments. As a consequence, governments can shift the terms of the deal after the initial investment in their favor (Vernon, 1971). This may take place, for example, if the government feels that the investment project fails to yield the expected return to the host economy or if external events alter the conditions under which the deal was struck.

In addition, the time horizon of the investment project may be longer than the one of the government that approved it. New governments may find the terms of the investment objectionable or incompatible with their preferences and policies (Ginsburg, 2005). Foreign investors understand this problem, and therefore may be reluctant to invest in developing countries to begin with (Guzman, 1998). Host countries can reassure investors and make their commitment more credible by self-imposing costly penalties on renegeing (Fearon, 1997; Rogoff, 1985). BITs that provide such *ex-post* penalties render the commitment made by the host government more credible and reduce the risk associated with the investment. As explained below, signing a BIT produces neither a costly signal nor a credible commitment. A mutually-ratified BIT, on the other hand, produces both.

The (Modest) Cost of Signing a BIT

The *ex-ante* cost of signing an investment treaty is fairly limited. It includes the bargaining phase, which sometimes involves several negotiation rounds, side payments, and the use of diplomatic skills (UNCTAD, 1998: 23-28; Allee and Peinhardt, forthcoming). Because BITs are rather uniform and commonly have a standard format, however, the negotiation process is not too cumbersome (Guzman, 1998). Even though negotiations may sometimes be difficult and disagreeable, the procedure itself is straightforward. Signing a BIT may also demonstrate the seriousness of the host government to improve the treatment of foreign investors and, more broadly, to promote a more liberal economic orientation (Ginsburg, 2005: 117; Neumayer and

Spess, 2005: 1571; Salacuse and Sullivan, 2005: 76). Even so, signing a BIT does not require the host government to ratify the treaty, nor does it compel the government to actually treat investors according to its provisions. In this respect, signing a BIT amounts to ‘cheap talk.’

A signed BIT that is not in force generates only minimal *ex-post* costs. Under the Vienna Convention on the Law of Treaties, states are obliged not to defeat the purpose of the treaty even if it is not in force. Nonetheless, to the extent that a BIT is not in force, investors cannot invoke the dispute settlement procedure agreed upon in the treaty (UNCTAD, 2005: 8; Yackee, 2008b: 430). More broadly, states are not bound by the treaty provisions until it takes effect. For example, in 2004, the United States signed a BIT with Uruguay’s conservative government. Shortly thereafter, this government was replaced by a left-of-center party that insisted on the renegotiation of the treaty. The treaty was indeed revised in favor of Uruguay, re-signed, and only then ratified (Salacuse, 2007). Thus, a signed BIT is unlikely to credibly commit the government to honor in the future deals they made with foreign investors in the present. In sum, the limited costs involved in signing a BIT render it an ineffective signal of a pro-investment climate or a commitment to favorable treatment of foreign investors. As a result, signing a BIT is unlikely to result in an increase of FDI inflows to developing countries.

The Cost of BITs in Force

In some instances, BIT ratification can generate *ex-ante* costs. In most countries, treaty ratification entails legislative approval of some kind, which in turn requires the government to garner domestic support for the agreement (Martin, 2005). This may be difficult if the government faces opposition from labor unions and other anti-globalization groups (Kerner, 2009). Nevertheless, considering that BITs rarely become a politically sensitive issue that leads to

mobilization of domestic opposition, these costs are probably rather limited.⁴ Upon entry into force, governments need to modify domestic laws in a manner that reflects the more favorable treatment of foreign investors. Such action is costly to the extent that it entails loss of revenues to the government, crowding out of domestic investors, and, more broadly, decreased capacity to dictate the terms of the investment (Kerner, 2009).

More importantly, BITs in force provide a useful commitment mechanism in several respects. First, states that renege on an investment treaty violate the general principle of international law that agreements should be respected (*pacta sunt servanda*). Thus, states that violate a BIT offend not only private investors but also the home government. Such violation is likely to have negative reputational repercussions that go above and beyond the specific investment decision (Abbott and Snidal, 2000: 426; Guzman, 2005). Moreover, most BITs provide for a binding dispute settlement procedure. Such provisions allow both foreign investors and their home governments to file a complaint against the host government in international arbitration bodies like the International Center for the Settlement of Investment Disputes (ICSID) (Allee and Peinhardt, forthcoming; Hallward-Driemeier, 2003: 6-7; UNCTAD, 1998). To the extent that the host country violates the agreement, it may be forced to compensate the investor.

These awards can be substantial. Several recent examples illustrate the potential price tags involved in investment arbitration. In three complaints against Argentina, ICSID awarded the American companies, LG&E, Enron, and Sempra, sixty, one hundred, and one hundred and thirty million dollars, respectively. In another case, UNCITRAL determined that Ecuador should pay

⁴ They are also likely to be conditioned on the legislative hurdles required for ratification, which vary a great deal across countries, as well as regime type. The latter is likely to affect the independence of the legislature and the political clout of the opposition. The relationships between these variables and treaty ratification are not well understood. For a study that begins to unpack this issue, see Haftel and Thompson (2008).

Occidental Oil 75 million dollars.⁵ Although these international courts lack enforcement power, rates of compliance with tribunal rulings are very high. Not the least because a network of international agreements gives investors the power to confiscate property of the host government in third countries against the award (Van Harten 2005: 610; Yackee, 2008b). Moreover, a handful of challenges to awards handed down by these international courts were unsuccessful (Baldwin, Kantor, and Nolan, 2006: 1).⁶

Even if the host country wins the dispute, it is still likely to incur costs associated with the arbitration process. Most ICSID and UNCITRAL rulings that reject the complaint filed by a private investor still require the defendant government to bear its own legal expenses. On the other hand, if the tribunal decides in favor of the investor, it tends to shift the costs of the proceedings to the respondent government (Schill, 2006). An UNCTAD report (2005: 15) estimates that on average, governments incur one to two million dollars in legal costs per case. In one recent case, PSEG Global, an American energy services company, filed a complaint in ICSID against Turkey, based on the term of the U.S.-Turkey BIT.⁷ The tribunal decided in favor of the company and determined that Turkey should pay PSEG Global about nine million dollars and two-thirds of the arbitration costs, which amounted to thirteen million dollars. Thus, the legal expenses were higher than the awarded compensation. These expenses can be quite substantial for developing countries, especially if faced with multiple claims (Hallward-Driemeier, 2003: 22; Salacuse and Sullivan, 2005: 87-90). An UNCTAD report (2006b: 8) concludes that developing countries are highly vulnerable to binding international dispute settlement procedures because of “their limited technical capacity to handle investment disputes, the potentially high costs involved

⁵ Investment Treaty News, various issues. See, <http://www.iisd.org/investment/itn/>.

⁶ The experience in this area is limited, however. With the increasing number of BITs, arbitrations, and awards, attempts to challenge such rulings are expected to increase (Baldwin, Kantor, and Nolan, 2006). Nonetheless, until such challenges succeed, investors can reasonably expect that governments will comply with the courts’ rulings.

⁷ See ICSID’s website, Case No. ARB/02/5, award decision on January 17, 2007.

in conducting such procedures, and the potential impact of awards on the budget and a country's reputation as an investment location.”

In short, mutually-ratified BITs generate sunk costs as well as tie the hands of the host government to its provisions. Most crucially, violating the treaty may trigger a binding and costly international arbitration procedure.⁸ Thus, a BIT in force credibly commits the host country to a favorable treatment of foreign investors. In turn, MNCs are more likely to invest in (or not withdraw their assets from) countries that have a BIT in force with their home government. This should result in a higher level of FDI inflows from the home country.

Research Design

The effect of BITs on the flow of American FDI into the developing world is evaluated with a data set that includes more than one-hundred and twenty developing countries from 1977 to 2004.⁹ Following a number of recent extensive studies of BITs and FDI, states with fewer than one million people are dropped from the sample. These micro-states tend to have extreme values on a number of important variables, as well as poor data coverage (Büthe and Milner, 2009; Tobin and Rose-Ackerman, 2006). A list of all countries included in the sample is provided in the appendix. 1977 was the year in which the United States launched its BIT program and 2004 is the most recent year for which data on many variables is available.

The data is analyzed with a fixed-effects regression model. This model accounts for cross-sectional heterogeneity not captured by the independent variables. It is widely used by studies on the effect of BITs on FDI (Aisbett, 2007; Büthe and Milner, 2008; Egger and Pfaffermayr, 2004;

⁸ This logic applies during the time in which the treaty is in force. U.S. BITs commonly last for ten years and then are either terminated or renewed for an indefinite duration. Only rarely treaties are terminated upon the initial phase. Moreover, even if the BIT is terminated, investments made prior to the date of termination continue to be protected for ten more years.

⁹ Developing countries include all non-OECD countries as well as countries that have joined the OECD in recent years. The latter include the Czech Republic, Hungary, Mexico, Poland, Slovakia, South Korea, and Turkey.

Neumayer and Spess, 2005; Tobin and Rose-Ackerman, 2006). A modified Wald test indicates that the dependent variable is heteroscedastic. This problem is addressed with cluster-corrected (robust) standard errors.¹⁰ All independent variables are lagged one year to reduce the risk of endogeneity. Summary statistics and a correlation matrix are reported in the appendix. To assess the robustness of the results, a number of alternative models that are used by extant studies on the determinants of FDI are also employed. These include a fixed effects model with a first order autocorrelation (AR1), a random effects model, a panel corrected standard error (PCSE) model with panel specific AR1, and a model with de-trended variables. These specifications are discussed in more detail below.

Dependent Variable

The dependent variable, labeled *FDI*, is the net annual FDI inflows as a percentage of the host country's gross domestic product (GDP). Net FDI refers to the inflow of long-term foreign capital to minus capital flight from the host economy. To the extent that the latter is larger than the former, negative FDI inflows are registered. Measuring the dependent variable in the form of FDI as a percentage of GDP rather than absolute inflows allows a meaningful comparison across time and space. This is the preferred specification in a variety of other recent studies (Büthe and Milner, 2008, 2009; Choi, 2009; Jensen, 2003).¹¹ FDI data are provided by the U.S. Bureau of Economic Analysis (BEA).¹² This is the most comprehensive source of American foreign investment and was employed by other studies on its determinants (Blonigen and Davies, 2004;

¹⁰ The command `xttest3` in Stata is used.

¹¹ For a detailed discussion of the advantages of FDI flows over FDI stocks, see Aisbe4(e)2(st.465T/TT00/TT7/TT)v)-1. Fmrs(h)-1(a)8

Biglaiser and DeRouen, 2007; Blanton and Blanton, 2009). The Penn World Tables 6.2 provides GDP data (Heston, Summers, and Aten, 2006).

Independent Variables

The primary variables involve BITs between the United States and developing countries. *Signed BIT* is a dichotomous variable that indicates if the host country has a signed BIT or an economic integration and investment agreement (EIIAs) that includes a BIT-like investment chapter with the United States.¹³ *Signed BIT* scores one even after the treaty enters into force. From this perspective, to the extent that mutually-ratified treaties have a stronger effect on FDI, the estimated effect of this variable is likely to be biased upwards, because it attributes the effect of a BIT that is signed *and* in force to a treaty that is only signed. Thus, this should be an “easy” test for this variable.

BIT in Force scores one if the BIT is mutually ratified and zero otherwise. This variable is operationalized with the date of entry into force rather than the date of the host countries’ ratification for two reasons. Theoretically, the commitments made in the treaty become legally binding only after both governments ratify the treaty. Practically, information on particular ratification dates is not readily available. The list of BITs as well as the dates of signature and entry into force is based on data available at the U.S. Trade Compliance Center website and is reported in the Appendix.¹⁴ *Signed BIT* and *BIT in Force*, are highly correlated ($r = 0.75$) and are reported in separate models.

¹³ There are several important differences between BITs and EIIAs. The later has a much wider scope and is more politically visible. In the United States they are also ratified through different procedures. Because the number of EIIAs included in the empirical analysis is very small, I treat them as BITs in all models except Model 7.

¹⁴ http://tcc.export.gov/Trade_Agreements/Bilateral_Investment_Treaties/index.asp

The model also includes a number of control variables. There is no consensus in extant studies on the variables that ought to be included in the regression model and on how to operationalize and measure such variables. The selection of variables in this study follows one of the most extensive and compelling studies of BITs and FDI to date (Büthe and Milner 2008, 2009).¹⁵ The first three variables pertain to the economic conditions in the host country and are included in most studies on FDI (Biglaiser and DeRouen, 2007; Büthe and Milner, 2008, 2009; Carr, Markusen, and Maskus, 2001; Egger and Pfaffermayr, 2004; Jensen, 2003; Li and Resnick, 2003).

Economic Development is the natural log of GDP per capita in constant U.S. dollars. Higher levels of economic development are believed to be conducive to FDI inflows. Other studies argue that it is not necessarily the absolute level of economic development, but rather the change in the level of development that is important. Higher levels of economic growth may offer higher return on investment and may be more attractive for foreign investors. *Economic Growth* is the annual GDP growth of the host economy in percentages. *Market Size* is the natural log of the host economy's real gross domestic product (GDP) in thousand of U.S. dollars. The inclusion of GDP on both sides of the equation may violate the assumption that the independent variable is exogenous to the dependent variable, thus it is excluded from the basic model. Nonetheless, several studies include this variable (Büthe and Milner, 2008, 2009; Choi, 2009; Jensen, 2003), so it is accounted for in Model 5. The Penn World Tables 6.2 provides data for these variables (Heston, Summers, and Aten, 2006).

¹⁵ Several additional variables that are not discussed below were also examined. These include bilateral factors, namely alliance, shared interests, shared membership in international organizations, common language, armed dispute, contiguity, the sum of GDP, and the difference and squared difference between the home and host countries' GDP per capita. They also include the host country's exchange rate, the number of mutually-ratified BITs with other developed countries, war, and population as well the American business cycle measured as the total FDI outflows and a time trend. Most of these variables are statistically insignificant and do not change the main findings reported of the study. Models that include these variables are available in an on-line appendix on the Author's website.

Developing countries that conclude BITs with the U.S. may also implement domestic economic reforms. The signaling logic discussed above assumes that BITs actually complement such domestic liberalization efforts. From this perspective, the host country's economic orientation may be correlated w

Direct measures of property rights guaranties or the transparency and strength of the domestic legal system are few and far between. Moreover, these measures cover only a limited subset of developing countries over a short time span. This study follows a number of previous analyses and employs a composite measure of investment risk taken from the International Country Risk Guide (ICRG) provided by Political Risk Services (PRS) (Neumayer and Spess, 2005; Tobin and Rose-Ackerman, 2006). This variable, labeled *Political Risk*, includes twelve indicators that pertain to the domestic investment climate, and ranges from zero for high risk to 100 for low risk.¹⁸ This measure provides the most comprehensive coverage of investment risk currently available. It is still far from complete, however, and reports data only since 1984 for about 100 countries. Including this variable in the model reduces the number of countries by about 20% and the number of observations by close to 35%. The results are reported both with and without *Political Risk*.

Extant research emphasizes domestic political factors unrelated to political risk. One factor emphasized in these studies is the number of veto players. Bütthe and Milner (2008, 2009) and Neumayer and Spess (2005) argue that more veto players make it harder to reverse existing policies and, thus, increase stability. To the extent that foreign investors care about policy stability and predictability, more veto players should result in more FDI inflows. Li and Resnick (2003), on the other hand, maintain that greater political constraints boost the power of FDI critics, who limit the ability of the government to provide foreign investors with incentives and rents. These contradictory expectations are assessed with the political constraints index (POLCON) constructed by Henisz (2002). *Political Constraints* ranges from zero, which

¹⁸ The indicators include government stability, socioeconomic conditions, investment profile, internal conflict, external conflict, corruption, military in politics, religious tensions, law and order, ethnic tensions, democratic accountability, and bureaucracy quality. For more detail on the indicators and on the construction of this measure see PRS's web page: http://www.prsgroup.com/ICRG_Methodology.aspx.

indicates complete executive discretion to reverse policies, to one, which indicates complete infeasibility of policy change. Other studies consider the link between regime type and foreign investment. For example, Jensen (2003) and Choi (2009) argue that democracies attract more investment relative to non-democracies (but see Li and Resnick, 2003). This argument is captured with the variable *Democracy*, which is a dichotomous variable that scores one if the combined Polity score is larger than 6, and zero otherwise. The Polity IV data set is used for this variable (Marshall and Jaggers, 2002). *Political Constraints* and *Democracy* capture similar concepts and arguments and are highly correlated ($r = 0.58$). The former variable is used in most models and the latter is presented as an alternative specification (Model 6).

The end of the Cold War and the consequent era of globalization resulted in the integration of many developing countries into the world economy. Former communist countries, in particular, went through a rapid process of modernization and economic reforms. From this perspective, the dramatic transformation of the international system and the growing global interdependence may lead to an increase in FDI flows into developing and former socialist economies. Because many of these countries concluded a BIT with the United States shortly after the end of the Cold War, it is possible that this systemic change accounts for both the conclusion of BITs and the increase in FDI inflows (Hallward-Driemeier, 2003: 13; Vandevelde, 1993). A dichotomous variable that scores one for 1990-2004 and zero otherwise, labeled *Cold War*, accounts for this possibility.

Finally, the models that do not include a country fixed effects include the distance between the United States and the host country. *Distance* is the natural log of the distance between Washington DC and the capital of the host country. EUGene generated the data for this

variable (Bennett and Stam, 2000). It is expected that shorter distances will be associated with more investment.

Results

Table 1 reports the results of four basic models. The first two models examine the effects of signed BITs and BITs in force with a number of key control variables. The third and fourth models include a measure of political risk. Table 2 presents the substantive effects of the variables that are statistically significant in the basic model. Table 3 reports four models with additional independent variables

The results reported in table 1 and 3 indicate that BITs in force have a positive and significant effect on the flow of FDI into developing countries. *BIT in Force* is significant at a ninety percent level of confidence or higher in all models. Thus, mutually-ratified BITs increase FDI inflow from the United States to the countries that concluded them. The estimates on this variable suggest that the effect of BITs in force is not only statistically significant but also substantively meaningful. A jointly-ratified BIT increases American foreign investment in the host country from 0.07% to 0.24% of GDP. In contrast, and consistent with my theoretical expectations, signed BITs that are not in force fail to increase FDI inflows. *Signed BIT* is positive but statistically insignificant in the two models reported in Table 1. Keeping in mind that this variable scores one before *and* after a BIT is mutually-ratified and that BITs in force have a positive and significant effect on FDI, it appears that including the years in which the treaty is signed but not yet in force detracts from the positive effect BITs on FDI. Thus, unratified BITs fail to provide the host countries with the expected benefits - an increase in FDI inflows from the home country.

[Tables 1, 2 and 3 here]

As I argued above, since signing a BIT is not costly, foreign investment cannot rely on this action to distinguish between pro-FDI and anti-FDI countries. In this interpretation, signing a BIT does not add believable information to foreign investors. A signed BIT does not protect investors in situations in which the host government violates their legal rights. It is not surprising, then, that signed treaties fail to boost FDI. On the other hand, BITs that have entered into force allow host governments to credibly commit to the protection and favorable treatment of foreign investors. It seems that American investors are more willing to invest in (or not to withdraw existing investment from) states that have a BIT in force with the United States. Presumably, foreign investors believe that the potential costs associated with violating the treaty, the risk of litigation in international courts, and costly settlements, will deter developing countries from breaking their promises. To the extent that host governments renege on their commitments, investors have confidence that they will be able to recover their losses through international arbitration.

Turning to the control variables, the effects of economic conditions in host country on FDI inflows are not very strong. The estimate of *Economic Development* is not statistically significant and has a negative sign in most models, indicating that higher levels of development are not conducive to FDI inflows. In contrast, *Economic Growth* is always positive and reaches statistical significance in some models. Its substantive effect is quite small, indicating that economic growth attracts more FDI, as expected, but that the effect of this variable is somewhat weak. This finding corresponds to most existing studies. As Model 5 indicates, *Market Size* is negative and statistically significant. This result echoes previous analyses and is probably an artifact of the fixed-effects specification and the inclusion of GDP in the operationalization of the dependant variable (Büthe and Milner, 2008, 2009; Kerner, 2009; Neumayer and Spess, 2005).

Trade Openness is positive and highly significant. Substantively, an increase in one standard deviation in the ratio of trade to GDP increases investment flows from 0.07% to 0.21% of GDP. This result is consistent with several recent studies and with the notion that developing countries that are more open to trade attract more FDI. Hence, trade and investment are complements rather than substitutes, at least for developing countries (Busse and Hefeker, 2007; Bütthe and Milner, 2008). In addition, to the extent that trade openness is an indicator of a liberal economic orientation, this finding suggests that American foreign investors find such economic climate more attractive. Model 7 shows that PTA is positive and highly significant as well, suggesting that NAFTA boosts American FDI in Mexico. In spite of excluding NAFTA from the list of BITs in this specification, *BITs in Force* remains positive and significant.

Domestic political variables do not perform well. In contrast to my expectations, the composite measure of domestic political risk is negative (a higher value indicates lower risk) and not significant, indicating that domestic political risk has no effect on FDI inflows. This finding is surprising in light of the attention political risk receives from scholars and policy makers alike. At the same time, extant research provides mixed evidence regarding the effect of political risk on FDI (Busse and Hefeker, 2007; Bütthe and Milner, 2008; Jensen, 2003; Tobin and Rose-Ackerman, 2006). It is possible that foreign investors take greater notice of external assurances provided by investment treaties than domestic political factors. Alternatively, the limited temporal and spatial coverage of this measure may produce erroneous estimates. The effect of *Political Constraints* is negative and reaches statistical significance in a few models. The substantive effect of this variable is rather small, suggesting that investors may be more concerned with the policy itself rather than the ability of the executive to reverse any particular policy. In other words, MNCs may prefer higher constraints if current policies offer protection and benefits but lower

constraints if existing policies are unfavorable for FDI. The effect of regime type is considered in Model 6. The estimate of *Democracy* is positive but not significant, indicating that this variable is not an important factor in decision making regarding foreign investment. This is not surprising considering the mixed findings regarding the effect of regime type on FDI (Choi, 2009; Jensen, 2003; Li and Resnick, 2003).

Consistent with previous studies (Biglaiser and DeRouen, 2007; Egger and Pfaffermayr, 2004), the estimate on *Cold War* is positive, statistically significant in several models, and substantively meaningful. It indicates that during the post-Cold War era, developing countries attracted a greater amount of American direct investment, compared to the earlier period. Notably, accounting for the systemic change and the remarkable domestic reforms that accompanied this change does not wipe out the positive effect of mutually-ratified investment treaties.

Alternative Estimation Techniques

Do the results presented above an artifact of the specific model and variables employed? While the fixed-effects model is employed by several recent studies, there is some disagreement regarding the most appropriate model specification. This section considers a number of alternative models used in extant research on FDI. These additional tests, reported in Model 8 in Table 3 and models 9 to 12 in Table 4, offer further support for the positive effect of mutually-ratified BITs on FDI inflows. In all models reported below, *BIT in Force* is significant at a ninety percent level of confidence or higher.

[Table 4 here]

Extant research indicates that decisions regarding investment locations are long-lasting. Some states persistently attract a great deal of FDI while others fail to do so. These enduring differences and the potential effect of past investment decisions on present ones are addressed in two manners. First, a one-year lag of the dependent variable, labeled *Lagged FDI*, is added to the basic model (Biglaiser and DeRouen, 2007; Jensen, 2003) and is presented in Model 8. The estimate of this variable is positive as expected, but insignificant, and does not change the results obtained from the basic model. Temporal dynamics may also lead to autocorrelation, which occurs in time-series when the errors associated with a given time period carry-over into future time periods. Autocorrelation violates some of the assumptions of the OLS regression technique, and if present, needs to be corrected. The presence of first order autocorrelation (AR(1)), which is the most common autoregressive dynamic, is tested with the Woolridge's statistic and a modified Durbin-Watson test, recommended by Bhargava, Franzini, and Narendranathan (1982). Both tests reject the presence of first order autocorrelation in the data. To be on the safe side, the basic model with AR(1) disturbances is estimated and reported in Model 9.¹⁹ This model offers additional support to the initial results. BITs in force remain substantively and statistically significant.

Several studies consider the random-effects model as an alternative specification to the fixed-effects model (Neumayer and Spess, 2005). One advantage of the random-effects model is that it can incorporate theoretically interesting variables that vary across countries but not across time. In the context of this study, the distance between the United States and the host country is likely to determine FDI inflows (Carr, Markusen, and Maskus, 2001; Egger and Pfaffermayr, 2004). The random-effects model assumes that individual effects captured in the error terms are

¹⁹ The `xtregar` command is used.

randomly distributed and thus uncorrelated with the explanatory variable. A Hausman test indicates that this assumption is warranted and that the random-effects model is consistent.²⁰

Model 10 reports the results of the random-effects model that includes all the variables reported in the basic model as well as *Distance*. As expected, *Distance* is negative and highly significant. Nonetheless, *BIT in Force* remains positive and statistically significant.

A number of FDI studies build on the work of Beck and Katz (1995) and use OLS with panel corrected standard errors (Büthe and Milner, 2008, 2009; Jensen, 2003; Li and Resnick, 2003; Yackee 2008a). Model 11 reports that results of a PCSE model with panel specific AR(1), the results are very similar to the random effects model. Finally, FDI, BITs, and other variables of interest are susceptible to trending, meaning they constantly increase (or decrease) over time. To address this issue, I de-trend all the variables that display this tendency with a procedure developed by Tim Büthe and described in Büthe and Milner (2008, 2009).²¹ As Model 12 shows, this does not change the results. Taken as a whole, it is apparent that the results are robust to alternative model specifications. BITs in force continue to have a sizable substantive and statistically significant positive effect on FDI inflows.

Are BITs Endogenous?

The findings reported so far indicate that mutually-ratified BITs increase FDI inflows. It is possible, however, that international treaties are endogenous to prior cooperation. That is, the United States may negotiate investment treaties with important economic partners and snub countries that attract little or no investment. The government may prefer to deal with countries that host more investment either for political reasons or due to political pressure from private

²⁰ $\text{Chi}^2(7) = 2.26; Pr > \text{Chi}^2 = .94$.

²¹ The Stata code for this procedure was downloaded from Tim Büthe's website, <http://www.duke.edu/~buthe>, on May 2009.

investors who own assets in these economies. Moreover, higher levels of FDI may reflect economic and political conditions that are conducive to FDI. These favorable conditions are likely to reduce costs associated with the BIT and its enforcement (e.g., Downs, Rocke, and Barsoom, 1996). Thus, the results may capture the effect of investment inflows on the likelihood of concluding a BIT rather than the other way around. Such endogeneity would exaggerate the effect of the investment treaties on FDI and may render the findings presented above spurious.

This issue was addressed above by lagging the independent variable. Here, I take a closer look at the level of U.S. FDI stock in the host countries included in the analysis. FDI stock refers to the total value of foreign investors' assets in a given country in a given year. To the extent that BITs are indeed endogenous to FDI, the United States should negotiate with those countries that have the highest level of accumulated American FDI. To evaluate this possibility, all developing countries are ranked according to their stock of U.S. FDI.²² The rank of the BIT partner in the years in which the treaty entered into force is considered. If endogeneity is present, most partners ought to be highly ranked. It is also possible that as time passes and the U.S. BIT program expands, it may be forced to go down the ladder and conclude treaties with less important partners. To account for this possibility, the number of countries ranked above the BIT partner that do not have a BIT with the United States is also considered. Table 5 presents the results of this analysis for BITs in force.²³

[Tables 5 here]

The data presented in the table offer little support for the notion that the U.S. government negotiates BITs primarily with major investment destinations. Most BIT partners are not among the top ten or even top thirty destinations of U.S. FDI. The average rankings reflect this reality.

²² This approach is borrowed from Blonigen and Davies (2004) who apply it to tax treaties and FDI.

²³ A parallel table for signed BITs offers a very similar picture and is not reported here.

The mean rank of BIT partners in the year in which the treaty went into force is forty-seven out of one hundred and twelve countries in the sample. Even more telling, on average, almost forty countries that do not have a BIT with the United States are ranked above the treaty partners in the year in which it entered into force. If the U.S. government were to seek the protection of the largest proportion of American assets, it could have selected any of the countries higher on the list.

This ranking is conservative for two reasons. First, it excludes highly-developed OECD countries, many of which are important destinations of American FDI outflows.²⁴ Second, for some BIT partners, FDI data in the year in which the treaty entered into force are not available. They are not included in the tables and in the calculations of the average rankings. For the most part, these are small countries in Eastern Europe, Central Asia, and Sub-Saharan Africa. Based on data available in other years and the characteristic of these countries, it is safe to assume that they attract little U.S. investment and that their ranking is below the mean ranking of BIT partners. In all likelihood, including these countries would further decrease the averages reported in Table 5.²⁵

This analysis offers additional support for the argument that investment treaties affect foreign direct investment and that they are not endogenous to existing FDI flows. The U.S. BIT program includes some important partners, like Mexico, Singapore, and Argentina. It also includes many developing countries that attract little, if any, investment, like Congo-Brazzaville, Mongolia, and Jordan. On the other hand, it excludes several other key investment destinations,

²⁴ In the past three decades, all or most of the top ten destinations include OECD countries and Bermuda, which is excluded from the sample.

²⁵ The only exception is the oil-rich Kazakhstan, which is commonly ranked in the top twenty destinations.

like Brazil, China, and India.²⁶ Overall, no clear pattern in the manner by which the United States selects its BIT partners emerges.

Conclusion

Over the last three decades, the United States concluded more than fifty BITs with developing countries. Many, but not all, of these treaties have entered into force. This study examines the effect of these treaties on the inflow of American FDI to the developing world. It argues that mutually ratified treaties operate as a costly signal of pro-investment climate and as a credible commitment to an irreversible protection of foreign investment. Signed but unratified BITs, on the other hand, do not provide investors with useful information and do not reduce the risk associated with long-term investment in developing countries. An empirical analysis of a data set including a large sample of developing countries offers substantial support for this argument. BITs in force increase, but signed treaties have no effect on, FDI inflows.

The findings reported in this paper contribute to the growing body of research on the effect of BITs on FDI. They may help accounting, for example, for the non-effect found in studies that looked solely on signed BITs (UNCTAD, 1998; Gallagher and Birch, 2006). They also further corroborate recent studies that find that BITs exert a positive effect of FDI (Büthe and Milner, 2008, 2009; Kerner, 2009). The dyadic set up and data adopted here add another layer of evidence to the contention that international treaties make a difference, and begin to specify the conditions under which they do so. Theoretically, it highlights some of the observable implications of two causal mechanisms by which institutions are believed to affect behavior: costly signals and credible commitments. While an empirical distinction between the two is hard

²⁶ It is possible that these countries attract enough FDI so that they rebuff American pressure to conclude a costly BIT. This is consistent with my argument that more FDI does not necessarily lead to an investment treaty. That said, Russia, India and China signed and ratified investment treaties with numerous OECD countries and the United States and China currently negotiate an investment treaty.

to make, the theoretical discussion suggests that the logic of credible commitments is more powerful than the signaling one. The logic of signaling depends mostly on the barriers to ratification, which are commonly pretty low.

Even if the hurdles for ratification are high, their utility as a costly signal is still questionable. This is because a credible commitment obviates the need for signaling. That is, if the host country is credibly committed, foreign investors are no longer concerned with its type and preferences because its hands are tied. In other words, credible commitment subsumes signaling and renders the latter redundant. One way to assess the signaling logic is to examine cases in which the host country ratified the BIT, but the home country did not. Here, the host government completed the ratification process but is not yet legally obligated to the treaty. Unfortunately, ratification data is not yet available. The collection of this information is likely to shed further light on the link between investment treaties and FDI (Haftel and Thompson, 2008).

From a policy perspective, the analysis indicates that governments of developing countries that go through the trouble of negotiating and signing a BIT should secure the ratification of the treaty by both parties. Only then will they obtain the expected benefits. Like in other issue-areas, these governments should better match rhetoric and practice (Haftel, 2007). Moreover, it is possible that signing but not ratifying a treaty sends investors a negative signal. Recipient governments that sign treaties but fail to ratify them may draw attention to their insincerity, incompetence, or weakness.

This is not to argue that developing countries necessarily benefit from concluding BITs, either individually or as a group. Some scholars and practitioners point out that the network of bilateral treaties leads to undesirable competition between developing countries to the benefit of the more developed countries (Guzman, 1998; Van Harten 2005; but see Bubb and Rose-

Ackerman, 2007). Arguably, a multilateral agreement would be preferable to the developing world. Others highlight the high costs of and the common inconsistencies in the rulings of international arbitration bodies and call for reforms in this system (Salacuse, 2007). Despite these legitimate concerns, the prospects of a multilateral investment agreement are dim and reforming international arbitration is likely to be a long and incremental process. In the meantime, it is still useful to know if and to what extent BITs boost FDI.

Two caveats to this conclusion are warranted. First, the empirical analysis examines relationship between the United States and developing countries. Generalization of the results beyond the United States should be made carefully. American BITs tend to be more uniform, inflexible, and pro-investment, relative to BITs signed by other industrialized countries. It is, therefore, possible that BITs concluded with the U.S. reflect a stronger and more credible commitment of the host country, compared to BITs signed with other countries. Hence, the effect of U.S. BITs on the inflow of foreign capital is likely to be stronger than the effect of other BITs (Yackee, 2008b: 417). An empirical bilateral analysis of other developed countries and developing countries is needed to determine the generalizability of my findings. Second, this study examines aggregate FDI flows across sectors and industries. Potentially, the effect of BITs on FDI varies across economic sectors. For example, investment treaties may play an important role in extractive or public utility sectors, where the sunk costs are high and the expropriation is more frequent. Despite the very limited availability of industry-level FDI data, a more fine-grained analysis along these lines is a promising avenue of future research.

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Table 1: fixed-effects estimates of the sources of U.S. FDI net inflows, 1977-2004

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>
Signed BIT	2.13e⁻⁴ (0.29)		1.28e⁻³ (1.37)	
BIT in Force		1.68e^{-3*} (1.95)		2.30e^{-3**} (2.36)
Economic Development	-1.24e ⁻³ (-0.49)	-1.30e ⁻³ (-0.51)	-5.09e ⁻⁴ (-0.13)	-5.56e ⁻⁴ (-0.15)
Economic Growth	6.34e ⁻⁵ (1.47)	6.39e ⁻⁵ (1.49)	7.00e ⁻⁵ (1.10)	7.19e ⁻⁵ (1.13)
Trade Openness	3.63e ^{-5***} (2.80)	3.57e ^{-5***} (2.76)	3.70e ^{-5**} (2.51)	4.63e ^{-5**} (2.47)
Political Constraints	-1.82e ⁻³ (-1.40)	-2.14e ^{-3*} (-1.67)	-5.04e ⁻⁴ (-0.28)	-1.00e ⁻³ (-0.60)
Cold War	1.27e ^{-3*} (1.83)	1.09e ^{-3*} (1.67)	1.65e ^{-3***} (2.83)	1.56e ^{-3***} (2.79)
Political Risk			-3.03e ⁻⁵ (-0.58)	-3.28e ⁻⁵ (-0.66)
Constant	8.33e ⁻³ (0.41)	8.81e ⁻³ (0.43)	3.25e ⁻³ (0.11)	3.96e ⁻³ (0.13)
n	121	121	98	98
N	2,157	2,157	1,442	1,442

Note: *p<.1; **p<.05; ***p<.01 (two-tailed). Figures in parentheses are *t* statistics. N is the total number of observations; n is the number of states.

Table 2: estimated substantive effects of significant variables

Variable	Change in FDI as a % of GDP Resulting from a One Standard Deviation Increase / Moving from Zero to One
BIT in Force	+ 0.17%
Economic Growth	+ 0.5%
Trade Openness	+ 0.14%
Cold War	+ 0.11%
Political Constraints	-0.4%

Note: continuous variables are held at their mean and dichotomous variables are held at zero in the baseline model. The expected value of FDI as a % of GDP in the baseline model is 0.07%. Standard deviations are reported for continuous variables and one for dichotomous variables. Predictions are based on Model 2 in Table 1.

Table 3: extended fixed-effects estimates of the sources of U.S. FDI net inflows, 1977-2004

	<i>Model 5</i>	<i>Model 6</i>	<i>Model 7</i>	<i>Model 8</i>
BIT in Force	1.78e^{-3**} (2.06)	1.42e^{-3*} (1.67)	1.66e^{-3*} (1.77)	1.62e^{-3*} (1.79)
Economic Development	5.65e ^{-3*} (1.73)	-1.65e ⁻³ (-0.63)	-1.50e ⁻³ (-0.57)	-1.31e ⁻³ (-0.51)
Economic Growth	6.35e ⁻⁵ (1.49)	6.39e ⁻⁵ (1.41)	6.68e ⁻⁵ (1.52)	7.04e ⁻⁵ (1.38)
Trade Openness	3.43e ^{-5***} (2.67)	3.86e ^{-5***} (2.83)	3.70e ^{-5***} (2.77)	3.71e ^{-5***} (2.67)
Political Constraints	-1.49e ⁻³ (-1.10)		-1.99e ⁻³ (-1.52)	-2.14e ⁻³ (-1.59)
Cold War	3.13e ^{-3***} (3.27)	7.88e ⁻⁴ (1.67)	1.11e ^{-3*} (1.69)	1.06e ⁻³ (1.51)
Market Size	-7.12e ^{-3***} (-2.66)			
Democracy		1.78 ⁻⁴ (0.37)		
PTA			3.88e ^{-3***} (2.76)	
Lagged FDI				6.63e ⁻² (.60)
Constant	7.58e ^{-1**} (2.17)	1.12e ⁻² (0.53)	1.03e ⁻² (0.49)	8.87e ⁻³ (0.43)
n	121	120	121	121
N	2,157	2,155	2,118	2,041

Note: *p<.1; **p<.05; ***p<.01 (two-tailed). Figures in parentheses are *t* statistics. N is the total number of observations; n is the number of states.

Table 4: alternative estimates of the sources of U.S. FDI net inflows, 1977-2004

	<i>Model 9</i> <i>AR(1)</i>	<i>Model 10</i> <i>Random Effects</i>	<i>Model 11</i> <i>PCSE</i> <i>Panel Specific AR1</i>	<i>Model 12</i> <i>Detrended</i> <i>Variables</i>
BIT in Force	1.77e^{-3*} (1.90)	1.39e^{-3*} (1.92)	2.74e^{-3*} (1.90)	1.95e^{-3**} (2.35)
Economic Development	-8.54e ^{-4*} (-1.91)	1.25e ⁻⁴ (0.18)	7.68e ⁻⁴ (1.16)	-1.21e ⁻³ (-1.42)
Economic Growth	7.68e ^{-5***} (2.64)	6.18e ⁻⁵ (1.56)	6.94e ⁻⁵ (1.25)	6.47e ^{-5**} (2.51)
Trade Openness	4.75e ^{-5***} (4.27)	3.25e ^{-5***} (3.30)	4.96e ^{-5***} (3.42)	3.74e ^{-5***} (4.00)
Political Constraints	-2.30e ⁻³ (-1.53)	-1.40e ⁻³ (-1.33)	3.42e ⁻⁴ (.24)	-1.46e ⁻³ (-1.08)
Cold War	8.24e ⁻⁴ (1.62)	6.69e ⁻⁵ (1.34)	3.15e ⁻⁴ (0.36)	
Distance		-3.02e ^{-3***} (-2.79)	-2.74e ^{-3***} (3.33)	
Constant	4.65e ⁻³ (0.72)	2.31e ^{-2*} (1.78)	1.38e ⁻² (1.34)	2.39e ⁻¹² (0.00)
n	121	121	121	121
N	2,036	2,157	2,157	2,158

Note: *p<.1; **p<.05; ***p<.01 (two-tailed). Figures in parentheses are *t* statistics. N is the total number of observations; n is the number of states.

Table 5: relative rank of American BIT partners in U.S. outward FDI position in the year the treaty entered into force

Year	BIT Partner	Rank in Terms of U.S. Outward FDI Stock	Number of Countries Ahead in Ranking with no Treaty in Force
1989	Bangladesh	60	58
	Congo, DR	41	40
	Grenada	85	82
1990	Senegal	56	53
	Turkey	22	21
1991	Morocco	48	45
	Panama	3	2
1992	Czechoslovakia	42	37
	Egypt	17	15
1993	Sri Lanka	69	59
	Tunisia	60	52
1994	Argentina	6	3
	Bulgaria	75	59
	Mexico	2	1
	Poland	27	21
	Romania	60	49
1996	Trinidad & Tobago	34	28
	Ukraine	82	65
1997	Ecuador	33	25
	Georgia	107	82
	Jamaica	19	16
1998	Albania	114	87
2001	Azerbaijan	37	26
	Bahrain	80	51
	Bolivia	47	29
	Croatia	78	50
	Honduras	57	36
2004	Chile	8	4
	Singapore	2	0
	Average	47 (of 112)	38 (of 95)

Note: ranking is among developing countries for which data is available. FDI data is not available for the year of entry into force for the following BIT partners: Cameroon, Congo, Kazakhstan, Kyrgyzstan, Moldova, Armenia, Latvia, Estonia, Armenia, Lithuania, and Jordan.

Table A1: U.S. BITs with developing countries, 1977-2004

State	Signed	In Force	State	Signed	In Force
Albania	1995	1998	Jordan	1997	2003
Argentina	1991	1994	Kazakhstan	1992	1994
Armenia	1992	1996	Kyrgyzstan	1993	1994
Azerbaijan	1997	2001	Latvia	1995	1996
Bahrain	1999	2001	Lithuania	1998	2001
Bangladesh	1986	1989	Mexico*	1992	1994
Belarus	1994	NIF	Moldova	1993	1994
Bolivia	1998	2001	Mongolia	1994	1997
Bulgaria	1992	1994	Morocco	1985	1991
Cameroon	1986	1989	Mozambique	1998	NIF
Chile*	2003	2004	Nicaragua	1995	NIF
Congo, DR	1984	1989	Panama	1982	1991
Congo (Brazzaville)	1990	1994	Poland	1990	1994
Croatia	1996	2001	Romania	1992	1994
Czech Republic	1991	1992	Russia	1992	NIF
Ecuador	1993	1997	Senegal	1983	1990
Egypt	1986	1992	Singapore*	2003	2004
El Salvador	1999	NIF	Slovakia	1991	1992
Estonia	1994	1997	Sri Lanka	1991	1993
Georgia	1994	1997	Trinidad & Tobago	1994	1996
Grenada	1986	1989	Tunisia	1990	1993
Haiti	1983	NIF	Turkey	1985	1990
Jamaica	1994	1997	Ukraine	1994	1996
Honduras	1995	2001	Uzbekistan	1994	NIF

Note: NIF = BIT not in force by 2004. * Investment chapter in a free trade agreement.

Table A2: descriptive statistics

Variable	N	Mean	STD	Min	Max
FDI	2,280	0.001	0.01	-0.15	0.12
Signed BIT	3,126	0.17	0.37	0	1
BIT in Force	3,126	0.10	0.30	0	1
Economic Development	2,891	7.95	0.99	5.13	10.75
Economic Growth	2,871	1.19	7.84	-63.31	77.64
Trade Openness	2,894	69.01	48.47	2.00	623.45
Political Constraints	3,045	0.17	0.21	0	0.69
Cold War	3,223	0.59	0.49	0	1
Political Risk	1,918	57.07	13.73	8.50	89.12
Market Size	2,891	17.22	1.63	12.72	22.57
Democracy	3,067	0.25	0.43	0	1
PTA	2,968	0.003	0.06	0	1
Lagged FDI	2,224	0.001	0.02	-0.15	0.12
Distance	3,223	8.55	0.43	7.27	9.15

Host Countries Included in the Sample:

Afghanistan, , Albania, Algeria, Argentina, Armenia, Azerbaijan, Bangladesh, Belarus, Benin, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Central African Republic, Chad, Chile, China, Colombia, Congo, Costa Rica, Croatia, Cuba, Czech Republic, Democratic Republic of Congo, Dominican Republic, Ecuador, Egypt, El Salvador, Eritrea, Estonia, Ethiopia, Gabon, Georgia, Ghana, Guatemala, Guinea, Haiti, Honduras, Hungary, India, Indonesia, Iran, Iraq, Ivory Coast, Jamaica, Jordan, Kazakhstan, Kenya, Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Lithuania, Macedonia, Madagascar, Malawi, Malaysia, Mali, Mauritania, Mauritius, Mexico, Moldova, Morocco, Mozambique, Namibia, Nepal, Nicaragua, Niger, Nigeria, North Korea, Oman, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Romania, Russia, Rwanda, Saudi Arabia, Senegal, Sierra Leone, Singapore, Slovakia, Slovenia, Somalia, South Africa, South Korea, Sri Lanka, Sudan, Swaziland, Syria, Taiwan, Tanzania, Thailand, Togo, Trinidad & Tobago, Tunisia, Turkey, Turkmenistan, Uganda, Ukraine, United Arab Emirates, Uruguay, Uzbekistan, Venezuela, Vietnam, Yemen, Yugoslavia, Zambia, Zimbabwe

Table A3: Correlation Matrix

	Signed BIT	BIT in Force	Economic Development	Economic Growth	Trade Openness	Political Constraints	Cold War	Political Risk	Market Size	Democracy	PTA	Lagged FDI
BIT in Force	.75											
Economic Development	.06	.07										
Economic Growth	.01	.02	.10									
Trade Openness	.05	.08	.41	.07								
Political Constraints	.13	.18	.32	.06	.02							
Cold War	.20	.24	.03	.04	.15	.19						
Political Risk	.10	.17	.57	.19	.43	.39	.32					
Market Size	.01	.03	.45	.16	-.09	.21	.02	.29				
Democracy	.09	.09	.29	.02	-.03	.58	.13	.33	.16			
PTA	.13	.17	.06	-.01	-.02	.04	.04	.06	.14	-.01		
Lagged FDI	.11	.11	.16	.01	.24	.09	.06	.14	.03	.10	.05	
Distance	-.21	-.07	-.15	.06	.09	-.23	.03	-.01	.13	-.31	-.15	-.14