

The conditional effects of multiple commitment institutions on FDI inflows

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Introduction

Under what conditions do Foreign Directed Investment (FDI) inflows increase? As the importance of FDI in the global economy has underscored, uncovering the conditions inducing FDI inflows has been an important research question among scholars. Given the illiquidity of FDI and the time-inconsistency problem foreign investors face, scholars have answered the question, focusing on the role of commitment mechanisms by which foreign assets can be protected. Existing explanations include, for example, the role of veto players, property rights institutions, and democratic institutions at the domestic level (Heinz 2000, Feng 2001, Jensen 2003, Li and Resnick 2003, Ahlquist 2006, Choi and Samy 2008) and another set of explanations heavily lean on the idea that international investment institutions (e.g. PTAs and bilateral investment agreements) provide additional commitment mechanisms for member countries (Elkins, Guzman, and Simmons 2006, Büthe and Milner 2008, 2009).

While these arguments are correct in proposing explanations of determining FDI inflows, they are incomplete. Countries are exposed to multiple numbers of commitment institutions both at the domestic (i.e. property rights) and international level (i.e. international investment treaties). As the global economy has been integrated rapidly, it is not uncommon to observe that countries have commitment institutions at the domestic level, but they are the members of international investment institutions. For example, since the first Bilateral Investment Treaty (BIT) was signed between Pakistan and Germany in 1959, more than 2500 BITs are signed among countries currently, and they incorporate some countries such as China and Singapore who have relatively strong

domestic institutions as well as less developed African countries suffering from weak domestic institutions. However existing research is surprisingly less concerned with the nexus among different investment institutions. Given these complicated, multiple facets of international environment, we cannot draw conclusions without considering both domestic and international factors altogether. How do different institutions – international and domestic affect FDI inflows? This is the starting point of this paper. I focus on how these commitment institutions affect FDI inflows together. Precisely, my concern is how domestic and international source of commitment devices relate to each other in attracting FDI inflows.

Given the nature of multiple commitment institutions, two competing arguments are expected. On the one hand, domestic and international commitment institutions are expected to have a substitutive effect on FDI inflows. Countries with weak domestic institutions may want to rely to international commitment devices to attract more foreign investments. Furthermore, given the lack of strong domestic commitment institutions, the importance of international commitment institutions will be more important to foreign investors. On the other hand, it is possible to expect that the effects of international commitment institutions have a role to play even stronger among those who have good domestic institutions. Considering the significant costs of noncompliance that host countries face, countries with strong domestic institutions are likely to have incentives to enter international institutions thereby increasing FDI inflows. Along with this screening effect, foreign investors may also prefer hassle free partners. Even if two potential host countries have signed the same number of BITs, given the relative higher possibility of noncompliance that the country with weak domestic institutions entails, foreign investors

may want to minimize potential transaction costs by making investments in countries with strong domestic institutions.

Using a time series cross sectional design, covering all non OECD countries from 1970 to 2008, I test the possible interaction effects between domestic property rights and the cumulative numbers of BITs. The results support the idea that domestic and international commitment institutions are complementary to each other. That is, the effect of the cumulative number of BITs which countries signed is conditioned by the strength of domestic property rights. The effect of BITs on FDI inflows is positive and significant only when the host countries possess relatively strong domestic property rights. This result is robust with different measures of international commitment devices (e.g. PTAs) and modeling techniques.

The paper consists of the following sections. In the next section, I briefly survey how the previous literature examines the factors inducing FDI inflows. This survey mainly focuses on domestic and international commitment institutions. Next, I turn our attention to the theory and explain why two mechanisms can be substitutive or complementary in inducing FDI inflows. The next two are assigned to discuss empirical models and report analysis results, respectively.

The Logic of FDI Protection: Previous studies

FDI is defined as “investment to acquire a lasting management interest (10% or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is

the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments” (World Bank 2008). FDI contrasts with other types of investment (i.e. portfolio investment) in the sense that it requires direct management of foreign firms. FDI is costly in the sense that it entails the foundation of new factories, technology transfers, job education, and firm operation, all of which are hard to move when the investment faces any potential threat of exploitations. This illiquid nature has been described as an “obsolescing bargaining” (Vernon 1971) in that the bargaining power shifts from foreign investors to host governments as fixed foreign assets in the country increase. This issue becomes more severe with the time-inconsistency problem faced by host governments which have a short term incentive to renege on initial terms. Given that FDI is exposed to the potential of *ex-post* violations by host country governments, the most important mechanism determining FDI inflows centers on the presence of credible commitments which assure foreign investors that their assets will be protected.

Scholars have examined various ways to credibly commit, which mainly can be categorized along two dimensions: domestic and international. At the domestic level, the credible commitment mechanisms center on various institutional qualities of host countries. For example, Henisz (2000) focuses on the role of veto players in determining FDI inflows. He argues that the larger the number of veto players in the host country, the lower the likelihood of policy change. Thus, a higher number of veto players is associated with future policy stability, thereby increasing the credibility of any agreement the two parties initially make. Therefore, it is expected that that the greater the number of veto players, the greater FDI inflows. Other research has examined the role of democratic

institutions on FDI inflows. The conventional wisdom was that foreign companies were likely to invest in authoritarian regimes. For example, Clague, Keefer, Knack and Olson (1994) argue that authoritarian regimes may enjoy high level of foreign investment because an authoritarian regime lowers the initial bargaining costs of MNEs (Multi National Enterprise) due to the lack of the pressure from special interest groups or the demands of labor which is frequently observed in democratic countries. Li and Resnick (2003) also specify a number of similar mechanisms through which autocratic government attracts more FDI than democratic ones and find evidence supporting their argument. On the contrary, Jensen (2003) among others argues that democratic countries have advantages over autocratic countries as they usually have more veto players, and more importantly, democratic institutions can generate audience costs (cf. Fearon 1994) to prevent their government from renegeing on the terms of the agreement, thereby producing credible commitment. While some studies do not find strong evidence that regime type is significantly related to FDI inflows (Harms and Ursprung 2002, Oneal 1994), recent quantitative studies find evidence that democratic countries are more likely to experience higher levels of FDI inflows (Ahlquist 2006, Choi and Samy 2008, Feng 2001, Jensen 2003). The last type of commitment institution which more directly protects foreign assets at the domestic level are property rights. North defines property rights are “the rights individuals appropriate over their own labor and the goods and services they possess” (North 1990, 33). When a country makes a commitment to protect property rights it implies that the tangible and intangible (i.e. intellectual property rights) goods of any members in the country will not be arbitrarily sized by the state. The importance of property rights in attracting FDI inflows is straightforward. By providing better property

rights, host countries can assure foreign companies from *ex-post* contract violations which may occur as a result of the time-inconsistency issue. Li and Resnick (2003) particularly suggest that better property rights protection is associated with more FDI inflows and they find evidence supporting their argument.

Host countries also can enhance FDI inflows by joining international institutions. The mechanisms can be described in two ways. First, joining international institutions can be the way of sending signals that host countries are willing to respect market friendly policies and follow the rule of law. In order to send an effective signal which distinguishes those from other ‘cheap talkers,’ the signal should be costly. The logic of sovereign costs arguments is an example of sending costly signals. By participating in international organizations, countries trade off benefits between membership and sovereignty, accordingly revealing their seriousness more effectively.¹ Second, and more importantly, countries can commit themselves by locking into international agreements. Although countries sometimes have an incentive to break international legal rules to achieve immediate benefits, when breaking the rules, countries may suffer from higher reputation costs in the long run as international institutions provide *ex post* information on the members’ behavior. These reputational costs are much higher along with the fact that some international institutions are equipped with their own dispute settlement systems which determine whether member countries abide by given international

¹ The IMF is a typical institution which requires a high level of conditionality including fiscal austerity, tight monetary policy, and currency devaluation. Vreeland (2003) describes this tradeoff: “governments entering into an IMF program are required to follow these conditions and thus sacrifice some sovereignty in return for the IMF loan” (p. 12)

agreements (Keohane 1984, Milgrom et al 1990, Mitchell 1994, Morrow 1994, Schachter 1991 Simmons 1998, 2000).

Regarding to FDI studies the interests of scholars focus on the role of international investment institutions such as PTAs or BITs.² Bütthe and Milner (2008), for example, argue that countries' participation in international trade agreements increases FDI inflows. They argue that participating in international institutions may be a credible commitment that the members protect liberal policies. As discussed above, they suggest that international trade institutions generally make contract violations easier to reveal to other member states. Trade organizations such as PTAs also often establish legal dispute settlement mechanisms which damage members' reputation for noncompliance. Their test shows that the cumulative number of PTAs that a country has have a positive impact on FDI inflows. More commonly, other research centers on the role of BITs on FDI inflows. A considerable number of studies suggest evidence that BITs increase FDI inflows (e.g. Allee and Peinhardt 2010, Bütthe and Milner 2009, Neumayer and Spess 2005, Egger and Pfaffermayr 2004, Haftel 2010, Kerner 2009, and Salacuse and Sullivan 2005).³ BITs increases credibility of host countries' commitments

² Of course, PTAs are basically international trade organizations. However, as countries more engage in vertical type of investment where trades and investments are closely linked, some PTAs specifically include investment clauses which can alleviate the time inconsistency problem (Please see Bütthe and Milner 2011).

³ The causal mechanisms of how BITs increase FDI inflows contain both signaling argument and commitment argument. For example, Neumayer and Spess (2005) emphasize the signaling logic such that signing BITs sends market friendly signals to (non-signing) third parties as well as functioning as commitment institutions between signatories. On the contrary, Buthe and Milner (2009) see BITs as commitment institutions rather than signaling mechanisms. They argue that BITs can increase FDI inflows not only among signatories but more generally to the host country because reneging on a BIT incurs reputation costs and the legal provision of a BIT such as most favored nation status provides a commitment mechanism to the third parties.

due to their institutional features. BITs usually include protection provisions such as national treatment, most-favored nation status, and dispute settlement clauses. As discussed earlier, the inclusion of dispute settlement is particularly important as it raises potential reputation costs host countries would face, in turn, constraining host countries' short term incentives to violate BIT commitments (Allee and Peinhardt 2010, 404). Similarly, Elkins, Guzman, and Simmons (2006) also propose three reasons as to why BITs make commitments credible. First, BITs clarify host governments' obligations, thereby increasing *ex post* costs of non-compliance. Second, BITs directly involve host governments as treaty partners, so that host governments directly face reputation costs, Third, BITs contain an enforcement mechanism such as mandatory dispute settlement provisions which investors initiate independently of the approval of either the home or the host government. This third characteristic particularly enhances the credibility of host government as they give foreign investors rights to receive a legal remedy (Elkins, Guzman, Simmons 2006, 824). In sum, along with the informational effect of international institutions, legalization is a key feature which makes BITs credible commitment institutions.

Multiple Commitment Institutions and FDI inflows

In this section, I discuss the relationship between domestic and international commitment devices. Although there are multiple types of domestic and international institutions through which a country can make a credible commitment, these two types of mechanisms are relatively distinct in the sense that a country can join international institutions regardless of its regime type. I agree with previous research that the key

mechanism which determines FDI inflows is a credible commitment and the presence of domestic or international commitment institutions are positively associated with FDI inflows. However, I go one step further to argue that those two mechanisms interact with each other, thereby affecting the likelihood of FDI inflows jointly. Regarding to the interaction between the two levels of commitment institutions, two expectations are possible.

1. The substitutive argument

Although none of the FDI studies directly discuss a substitutive or complementary possibility of multiple commitment mechanisms, scholars have discussed a substitute incentive of host countries to increase FDI inflows. Quan Li (2006) for example, examines the tax incentives of host countries to attract more FDI. What he focuses on is a ‘compensating effect,’ and argues that “host countries that have weak property rights and low policy credibility tend to offer generous tax incentives to attract foreign capital.” (Quan Li 2006, 64) As democratic countries have an advantage in credible signaling, he posits that non-democratic countries will be more likely to be associated with higher levels of tax incentives while more democratic countries tend to offer less generous tax incentives. This argument implies that a country is more likely to rely on other mechanisms to attract foreign investments, in particular when it lacks a means of making credible commitment.

In general, commitment problems occur when one party is not sure whether another will renege on the contract they agree to. Thus, one party is more likely to rely on the commitment institution as the party is more vulnerable to promise breaking. This

implies that countries insulated from promise breaking are less likely to resort to commitment institutions (Staton and Reenock 2010). That is, the existing investment environment substitutes for the need for other commitment institutions. This is the same for the investment decisions of the MNE. Once a country has a strong credible commitment mechanism, the MNE is more likely to be insulated from experiencing possible expropriations as the country already entails the costs of potential contract breaking. If countries have strong property rights by which they can protect foreign assets relatively well, foreign investors may not see the need of additional institutions at the national level. If, however, there were no such strong domestic institutions, then joining international investment institutions will incur *ex post* violation costs, thereby affecting the future decisions of all other foreign investors.

This argument allows us to expect a substitutive relationship between domestic and international commitment institutions. If a country has strong domestic institutions which protect foreign assets properly, then the effect of international commitment institutions will be reduced as international investors as well as host government find less reason to rely on other commitment institutions to protect foreign assets. Therefore I can draw the hypothesis that:

H1. The effect of International Investment Treaties on FDI inflows is likely to be stronger among host countries which have weak domestic institutions

2. Complementary Argument: Conditional on Domestic institutions

On the other hand, domestic institutions and international institutions may complement each other for two reasons. First, considering the political costs of joining international commitment institution, we can expect that the costs may function as a selection mechanism which screens out potential candidates from joining the international institutions (e.g. Down, Rocke, and Barsoon 1996, Von Stein 2005). As I discussed earlier, the legalization of investment treaties and the accompanying political costs generated by joining the institutions are the main reasons to make the commitment credible. Signing BITs, for example, implies that host governments significantly lose bargaining power over foreign asset within their jurisdiction, as foreign company can simply bring any dispute cases to third party arbitration. However, not all countries may be able to afford the costs. In particular, countries with weak domestic institutions may find the expected costs too high. Since they are relatively less informed, have less experiences of practicing private assets protections, and are less sensitive to obeying given rules and contracts, they have relatively high probability of committing violations; *ex post* non-compliance costs will be much higher to them. Even though it could be true that such higher *ex post* noncompliance costs will make their signals much costly, thereby sending more effective signals to foreign investors, if violations are pervasive in the countries with weak domestic institutions, the long term reputation costs will damage the effectiveness of signaling as well. Therefore, countries with weak domestic institutions are less prone to enter international investment treaties, accordingly less benefit from such institutions.

Second, more importantly, there is a reason that countries with strong domestic institutions benefit more by joining international commitment institutions. From the

perspective of foreign investors, for example, BITs signatories who have strong domestic institutions can be much favored as investment partners. As I discussed above, countries with good domestic institutions are more likely to follow the rule of law, therefore less likely to renege on the terms of the investment. Even though the legal provisions of BITs provide assurance mechanisms when it comes to experiencing *ex post* violations, these hassle-free investment partners (i.e. those with strong domestic institutions) further reduces potential transaction costs generated from unnecessary investment disputes. In addition, the presence of strong domestic institutions also helps host countries to send more credible signals to foreign investors when it comes to entering international institutions. The signals from those who have strong domestic institutions are much clearer than the mixed signals from the countries with weak domestic institutions. Given the presence of strong domestic institutions, foreign investors find it easy to distinguish true types of host countries – whether they will abide by international rules or not.

Thus, it is possible to expect that the effect of international investment institutions is conditioned by the strength of domestic institutions. On average, we can expect that countries with strong domestic institutions are likely to benefit more by entering international institutions.

H2. The effect of international commitment institutions on FDI inflows is conditioned on the strength of domestic institutions. International commitment institutions effectively attract more FDI when host countries have strong domestic institutions.

Research Design

I employ a time series cross sectional (TSCS) design which enables us to infer the effect of independent variables over time and across countries. However, since a TSCS design may suffer from severe heteroskedasticity, autocorrelation, and contemporaneous correlations, I use panel-corrected standard error (PCSE) which is employed by Beck and Katz (1995) with AR1 correlation structure. All independent variables are lagged by one year to prevent a potential endogeneity effect. The data covers all non OECD countries from 1970 to 2008.

The dependent variable is FDI inflows. I use amount of FDI inflows in US dollar rather than standardized FDI inflows variable (e.g. FDI/GDP; FDI inflows as a percentage of GDP). The value of FDI inflow is originally taken from World Bank's World Development Indicators (WDI 2011). While some empirical work uses FDI/GDP as their dependent variable (Jensen 2003, Alquist 2006, Büthe and Milner 2008, 2009), I choose the amount of FDI inflows for the same reasons that Li (2009) raises.⁴ First, FDI/GDP is conceptually different from FDI inflows. "Net FDI inflows in dollars and FDI/GDP measure two different concepts, i.e., they are not conceptually equivalent. The former clearly indicates the amount of FDI inflows into a country, whereas the latter reflects the relative importance of FDI inflows to a country's national economy or the country's openness to FDI inflows" (Li 2009, 174). He further argues that as we use

⁴ In order to cope with possible outlier issue I use the natural log of FDI inflows. Since FDI inflows can be both positive and negative, taking a log is problematic as the log of a negative value is undefined. One solution is to add a constant to all values so that the minimum value of the observation is not negative. This approach enables scholars not to lose observations but at the same times leaves unchanged the effect of the independent variables on the dependent variable (Li 2009, 177).

Trade as percentage of GDP (i.e. Import+Export/GDP) to measure the openness of a country, FDI/GDP is conceptually different from FDI inflows which are ‘an indicator of the amount of FDI’ (Li 2009, 174).

Second, using FDI/GDP is empirically problematic as well. Since we have two components (e.g. FDI and GDP) on the left side, we are not sure whether the coefficients of independent variables are due to denominator, numerator, or both (Li 2009, 174). Put differently, the regression equation using FDI inflows as a percentage of GDP as dependent variable is identical to the equation using FDI inflows on the left side and multiplying GDP by each independent variable on the right side to cancel out the denominator component of the left. That is, the empirical result we have using FDI/GDP is in fact the interaction effect of each independent variable with GDP, which is not our main interest.⁵

To measure the strength of domestic commitment institutions, I use Contract-Intensive Money (CIM) introduced by (Clague et al. 1999). CIM measures the ratio of non-currency money to the total money supply. The underlying logic of this measurement is that "the characteristics of third-party contract enforcement in countries are likely to explain much of the difference in firm and individual preferences governing the choice of money to use if contracts are generally unreliable, there can be no assurance that the money lent to financial institutions is safe" (Clague et al. 1999, 188). This logic

⁵ In recent FDI research, Alee and Peinhardt (2011) also address about this issue saying that “Furthermore, we feel that including some type of standardizing variables on the left-hand side of the regression equation (for example, FDI as a percentage of GDP) could create artificially large correlations with some independent variables (for example, population, GDP, GDP per capita, etc.)” (Alee and Peinhardt 2011, 420).

incorporates the practical characteristic of contract enforceability exercised by economic actors. Because it incorporates contract enforceability which is a function of effective judiciary, judicial scholars use CIM as a *de facto* measure of judicial independence, assuming that on average states which possess judicial institutions that protect property rights are likely to have judicial institutions that protect rights generally (Powell and Staton 2009, Ríos-Figueroa and Staton 2009).⁶ CIM has advantages over existing property rights measure. First, it is not a subjective measure which is based on arbitral scoring or personal surveys but an objective measure which is applicable cross time and countries.⁷ Second, the data is available for the most of countries and the time domain covers up to the present. Formally, CIM is calculated by $(M2-C)/M2$ where M2 means money supply and C is currency held outside banks. In principle the measurement varies from zero, which indicates that no money is held in banks to one, indicating that no money is held outside of banks. The original measures of M2 and C come from IMF.

At the international level, I use a cumulative number of BITs as the independent variable. The original variable comes from UNCTAD. Following existing research I use the cumulative numbers of BITs which countries sign (Büthe and Milner 2009, Newmayer and Specss 2005, and Allee and Peinhardt 2010). As a robustness check, I also use the number of PTAs signed.

I include control variables *Market Size*, *Growth Rate*, and *Development Level*. Market size is measured by the (logged) size of population. It is expected that large

⁶ Ahlquist & Prakash (2008, 327) shows that CIM is positively correlated with governance measures than indicators of banking services. This implies that CIM is more than simple banking service but is close to the overall government market policy.

markets are more likely to attract more FDI because it may increase the expectation of future returns (Li and Resnick 2003). The population variable comes from Penn World Table (Heston, Summers and Aten 2011). Growth rate is another factor which may affect FDI inflows. It is reasonable to expect that foreign investors may be more interested in fast growing countries. The annual percentage growth rate of GDP, taken from the World Bank is used. Development level is expected to be positively associated with FDI inflows. It is argued that more developed countries may experience more FDI inflows because they have more extensive infrastructure and contain higher consumer power. The variable *Development Level* measures the size of GDP per capita based on PPP from the World Bank.

I also control for domestic political stability. I use the Conflict Index variable from Banks (2011). Conflict Index is a composite index of various violent political events including General Strikes, Guerrilla Warfare, Government Crises, Purges, Riots, Revolutions, and Anti-Government Demonstrations. The variable Political Instability is expected to affect FDI inflows negatively as political instability increases domestic uncertainty (Brunetti, Kisunko and Weder 1997, Jun and Singh 1996, and Schneider and Frey 1985). In addition, following Jensen (2003), I also include the variable Government Consumption. While economists usually argue that the intervention of the government has a negative impact on economic growth, some underscore the positive role of the government in providing public goods such as infrastructure (Lucas et al. 1988, Romer 1990, Barro 1996). The last control variable I include captures the host country's dependency on natural resources. I control for the contribution of oil to the national economy (percentage of GDP). The oil data comes from the World Bank.

In the next section I propose two competing explanations regarding the possible interactions between domestic and international commitment institutions. Precisely, I test those competing arguments using following model.

$$\ln(\text{FDI inflows})_i = \beta_1 \text{Property Rights}_{t-1} + \beta_2 \text{BITs Signed}_{t-1} + \beta_3 (\text{Property Rights} \times \text{BITs Signed})_{t-1} + \text{Controls}_{t-1} + e$$

If the cumulative number of BITs substitutes for domestic property rights (H1), then the coefficient of the interaction term (β_3) should be negative and significant. This implies that the marginal effect of BITs on FDI inflows ($\beta_2 + \beta_3 \text{Property Rights}$) decreases as the size of the strength of property rights increases. On the contrary, as the complementary proposition predicts, if entering international commitment institutions has greater effects among those who have strong domestic institutions, then the coefficient of the interaction term (β_3) should be positive and significant. Now the marginal effect of BITs on FDI inflows ($\beta_2 + \beta_3 \text{Property Rights}$) increases as property rights protection increases.

Empirical Results

Tables 1 and 2 present the empirical results of a test using the primary independent variable BITs (cumulative number of signs) and an alternative measure of international commitment institutions, PTAs (cumulative number of signs), respectively. On the whole, the findings support the second hypothesis that the effects of international commitment on FDI inflows are positively conditioned by domestic commitment institutions. Regardless of using different measures, the effects of international

commitment institutions on FDI inflows are stronger among countries which have strong domestic institutions. That is, host countries receive a boost in FDI inflows as they sign BITs. However, the effects are not even across the countries. If countries have strong domestic property rights institutions, they are likely to benefit more from entering BITs.

Now I discuss the results of Table 1 first. Model 1 presents the results of only the control variables. The findings are generally consistent with past research. Development level is positive associated with FDI inflows and market size is also statistically significant and positive. Growth rate is positive as expected but not significantly related to FDI inflows. As some emphasize the role of government in providing public goods, government consumption is positive and significant. Political instability is negatively associated with FDI inflows, which is consistent with general expectation, but it is not statistically significant enough. The next column shows a basic interaction model in which the control variables are not included. We can grasp a general idea of how the two variables jointly affect the likelihood of FDI inflows. The result supports complementary hypothesis. The coefficient of the interaction term β_3 is positive and statistically significant; therefore the effects of BITs on FDI inflows are positively modified by an increase in property rights protection. The same result holds in model 3, which presents the main findings. The effects of control variables remain the same as model 1 and, more importantly, the coefficient of the interaction term is the same as model 2, positive and significant. The marginal effect of BITs ($\beta_2 + \text{Property Rights}$) increases as the coefficient of interaction term β_3 is positive and significant. Substantively, this means that host countries experience more FDI inflows as they sign more BITs, however the effects are conditioned by the strength of domestic institutions.

[Table 1]

The result (model 3) can be examined more precisely in Figure 1, where I present the the marginal effects of BITs on FDI inflows under the different qualities of property rights institutions. We can clearly see that BITs have significantly positive effects on FDI inflows when property rights are greater than .6 (the mean of property rights is around .77), where both 95% confidence intervals are higher than zero. It is also obvious that the magnitude of the effect increases as property rights become stronger. Two points are worth mentioning. First, while the effects of BITs are conditioned by domestic institutions, it is also interesting to see that BITs begin to have positive effects where the value of the property rights institution is almost equal to .6. In fact, considering the distributions of the property rights variable this is quite an impressive performance; more than 89% of total observations are greater than .6. This implies that BITs can provide commitment coverage for the most of the country years. Second, it may be puzzling that BITs reduce FDI inflows of host countries when property rights are extremely weak (e.g. property rights less than .1). However, again, very few of the observations are less than .5; precisely more than 95% of property rights variables have a value of greater than .5. This makes the results of the left side skeptical as since there are so few observations in the range. Put simply, the left side of the graph can be ignored.

[Figure 1]

Table 2 presents the results using a different measure of international commitment institutions.⁸ As an alternative measure of BITs, I use PTAs (cumulative number of signed).⁹ Buthe and Milner (2008) argue that entering PTAs can be a credible commitment to foreign investors since PTAs establish legal dispute settlement mechanisms through which they can provide the compliance record of membership countries.

The results are shown in models 4 and 5. The findings are the same as Table 1. The coefficient of interaction term remains positive and significant. Both in model 4 and 5 we can find evidence that the effects of international commitment institutions are conditioned by the quality of domestic institutions. Host countries can boost FDI inflows by entering PTAs as argued, however the size of effects seems to be stronger among those who have strong domestic property rights.

[Table 2]

Figure 2 presents the marginal effects of PTAs on FDI inflows (model 5). Again, the complementary effects are confirmed. The cumulative number PTAs countries signed

⁸ I also tested the using a fixed effect model. The results are essentially the same.

⁹ I use a replication data of Buthe and Milner (2008).

has a positive effect on FDI inflows only when host countries have relatively strong domestic institutions (i.e. property rights greater than .8). Compared with the effects of BITs in Figure 1, PTAs seems to affect foreign investments under more limited conditions. While BITs have a positive impact on FDI inflows of host countries when the property rights variable reaches the level of .6, PTAs only begin to increase FDI after .8 which is higher than the mean value of the property rights variables. What explains this difference? One possible explanation is the difference of institutional design. PTAs are not the same. They differ in terms of institutional design. Some PTAs formally include investment provisions such as the agreement on the treatment of foreign investment and others do not mention investment at all. Thus it is possible that this diversity of design may affect FDI inflows differently (e.g. see Buthe and Milner 2011) and it is also possible PTAs with investment provisions may have similar effects as BITs do. Since this study does not differentiate the types of PTAs, the average effects of PTAs could be reduced due to the inclusion of PTAs which are not investment specific.

[Figure 2]

Conclusion

As the global economy has been rapidly integrated, the importance of FDI in the national economy has been underscored. Not only do FDI inflows provide a means of accessing abundant foreign capital, but they also help the economy of host countries

directly by transferring new technologies, by creating new jobs, and so on. Thus, it is not surprising that uncovering the conditions inducing FDI inflows has been an important research question among scholars. While existing research is correct in attempting to address this issue by relying on the role of commitment institutions to reduce the time-inconsistency issue, they are incomplete in failing to account for the joint effects of multiple commitment institutions which countries possess. Considering the importance of FDI and scholars' interests in FDI inflows, it is surprising that none of previous researches seriously address this question.

In this study, I examine how international and domestic commitment institutions affect FDI inflows jointly. Regarding the interactions between the two commitment mechanisms, two competing explanations are possible. On the one hand, given the lack of a strong domestic commitment device, foreign investors may find the role of international commitment institutions more useful. That is, the value of credible commitment institutions can be strengthened when there is no alternative. This leads us to expect that the effects of international commitment device will be stronger among those who have weak domestic institutions. On the other hand, it is also possible to expect that the effects of international investment institutions are strengthened under strong domestic commitment institutions. Foreign investors may prefer hassle free partners. Even if two potential host countries have signed the same number of BITs, given the relative higher possibility of noncompliance that the country with weak domestic institutions entails, foreign investors may want to minimize potential transaction costs by making investments in countries with strong domestic institutions.

The empirical results clearly support the complementary proposition. Previous research examines the effects of domestic and international institutions separately. They usually find evidence that both institutions have positive effects on FDI. However, they understate the potential benefits of having strength in both areas. This study finds that strong property rights and participation in international investment treaties together effectively induces more foreign investments.

Table 1. The interaction effect between Property Rights and BITs on FDI inflows

| Explanatory variables | Model 1 | Model 2 | Model 3 |
|------------------------|-----------------------|-----------------------|-----------------------|
| Property Rights | | -0.0111 (0.0095) | -0.0189* (0.0105) |
| BITs Signed | | -0.0010 (0.0012) | -0.0023** (0.0010) |
| Property Rights*BITs | | 0.0041*** (0.0015) | 0.0054*** (0.0014) |
| Development | 0.0000*** (0.0000) | | 0.0000** (0.0000) |
| Market Size | 0.0184*** (0.0040) | | 0.0112*** (0.0039) |
| Growth Rate | 0.0001 (0.0001) | | 0.0000 (0.0001) |
| Government Consumption | 0.0004*** (0.0002) | | 0.0003* (0.0002) |
| Political Instability | -0.0000 (0.0000) | | -0.0000 (0.0000) |
| Oil | 0.0000 (0.0001) | | 0.0000 (0.0001) |
| Constant | 5.8889*** (0.0326) | 6.0490*** (0.0062) | 5.9522*** (0.0355) |
| N | 3,949 | 4,184 | 3,687 |

Panel corrected standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Figure 1. The conditional effect of Domestic Property Rights on BITs

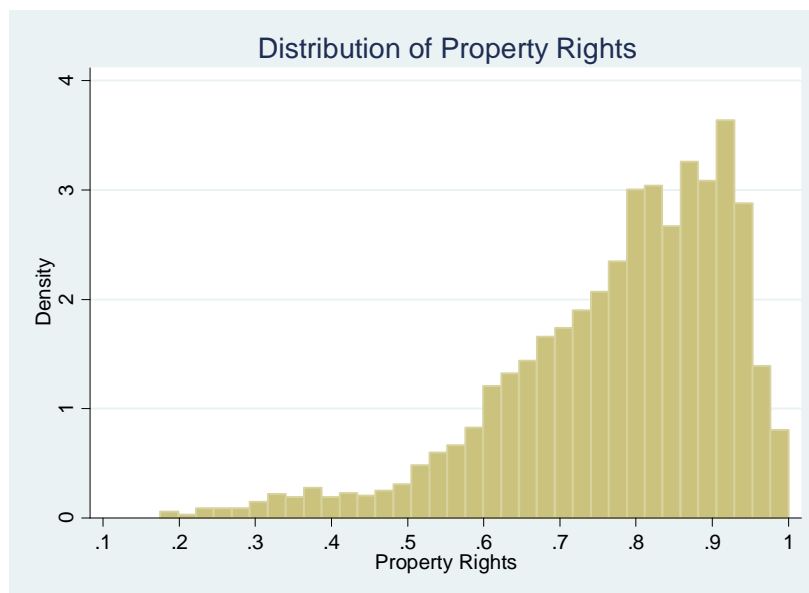
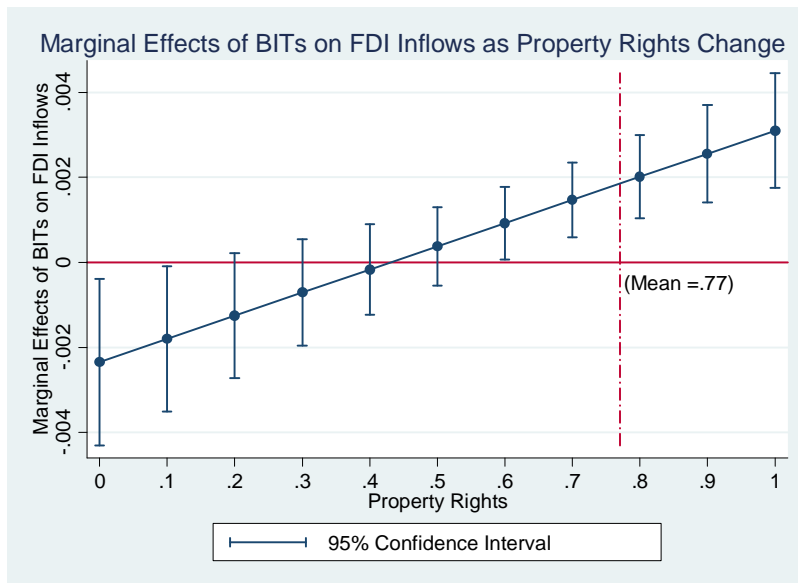


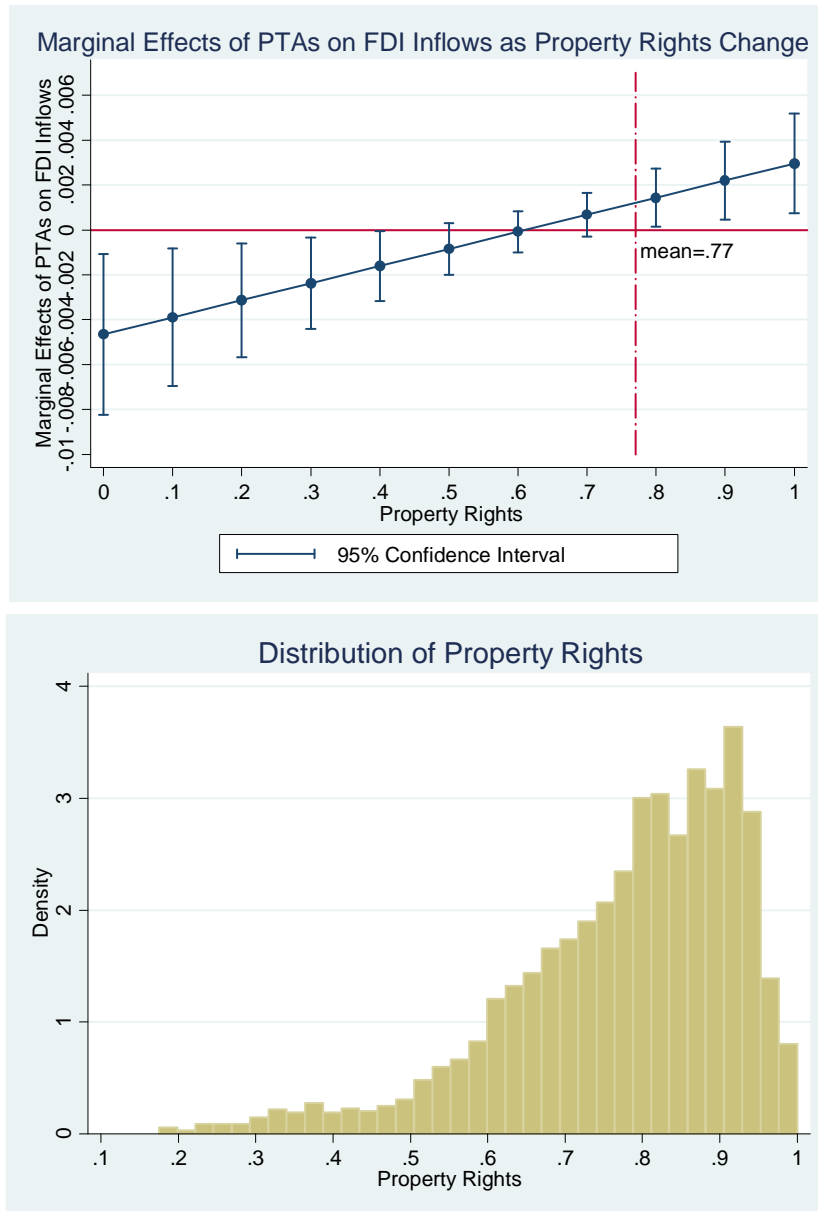
Table 2. The interaction effect between Property Rights and PTAs on FDI inflows

| Explanatory variables | Model 4 | Model 5 |
|------------------------|-----------------------|-----------------------|
| Property Rights | 0.0019 (0.0135) | -0.0154 (0.0120) |
| PTAs Signed | -0.0040** (0.0019) | -0.0047** (0.0018) |
| Property Rights*PTAs | 0.0074** (0.0030) | 0.0076*** (0.0028) |
| Development | | 0.0000*** (0.0000) |
| Market Size | | 0.0161*** (0.0033) |
| Growth Rate | | 0.0000 (0.0001) |
| Government Consumption | | 0.0003* (0.0002) |
| Political Instability | | -0.0000 (0.0000) |
| Oil | | -0.0002 (0.0001) |
| Constant | 6.0498*** (0.0090) | 5.9031*** (0.0335) |
| <i>N</i> | 2,322 | 2,189 |

Panel corrected standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Figure 2. The conditional effect of Domestic Property Rights on PTAs



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