Escape Tunnels for Foreign Capital: Domestic Capital Controls and BITs

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Abstract:

A country's regulations governing international capital flows and its obligations under signed bilateral investment treaties (BITs) presumably jointly influence its subsequent FDI inflows. Oddly, no scholarly study has yet focused on the joint effects of capital controls and BITs on inward FDI flows. We propose that domestic capital account regulatory policies mediate the effects of BITs on inward FDI: that is, BITs have no statistically significant effect on inward FDI flows absent interaction with capital account policies. We propose that BITs are most correlated with higher FDI inflows when the host country has more open capital inflow regulations but relatively restricted capital outflows. BITs will be negatively correlated with FDI inflows when both capital inflows and outflows are restricted, and uncorrelated when both are unrestricted. We argue that BITs make the initial investment more attractive in host countries with restrictions on capital outflows but inflow openness since BITs enhance foreign investors' ability to exit their investments by providing investor-state arbitration clauses, and repatriation and other guarantees for investor capital return or resale. Economies with fully liberal inward and outward capital movements already have full market openness and are unlikely to see additional inflows from signing BITs. In financially closed economies, BITs provide investors with exit options. We estimate models using monadic, dyadic, and firm level data on FDI inflows, and find broad support for the core hypotheses. We also offer evidence that only in the case of BIT signatory country-pairs does FDI increase, suggesting no consistent 'signaling' effect. The effects are most precisely estimated for autocratic regimes, suggesting that bilateral BITs are a partial off-set to the 'democratic advantage' enjoyed by democracies in attracting FDI.

From the beginning of the Bretton Woods systems, capital controls – that is, restrictions on the free movement of capital in and out a country or territory – were reserved as a policy choice for domestic governments rather than subject to international agreements. Article VI (3) of the International Monetary Fund's "Articles of Agreement" explicitly authorizes national governments to "exercise such controls as are necessary to regulate international capital movements..."[1]

While the international legal system did not, and largely still does not, provide a global international regulatory framework for capital flows analogous to trade flows, Bilateral Investment Treaties (BITs) have become a significant feature of the governance of international investment. The number of bilateral investments (BITs) in force was just 162 in 1980 but has jumped to 2,519 in 2014.[2]

Many countries, especially emerging markets, have been motivated to ratify BITs in order to attract inward foreign investment by promising improved investment climates.[3] The proliferation of these treaties has led scholars of international political economy (IPE) to examine whether these treaties have indeed had the desired effects on inducing increased foreign direct investment (FDI) inflows.[4]

[1] IMF 1950, p. 21. The grant of national autonomy is not unrestricted. The Fund Articles also state

> …but no member may exercise these controls in a manner which will restrict payments for current transactions or which will unduly delay transfers of funds in settlement of commitments…

[2] Numbers from Investment Policy Hub of UNCTAD.

[3] Elkin, Guzman, and Simmons 2006, Tobin and Busch 2010.

[4] Please see the literature review below.

In this project, we explore the relationship between the openness of a country's capital accounts and the presence or absence of BITs in promoting or hindering the flow of foreign direct investment. Our argument is that BITs and domestic capital account policies have an interactive effect on FDI inflows. BITs largely guarantee investors against expropriation, transfer restrictions, and denial of 'national treatment' for foreign investors on existing investments. BITs do not, however, contain generally provisions enabling investors to invest freely in all sectors of a country in the first place – freer exit but not freer entry is liberalized and adjudicated in most BIT arrangements. Hence, two facets of capital account policies will affect the utility of BITs in inducing inward FDI. Capital openness of a country can be disaggregated into capital inflow openness and capital outflow openness, each of which will interact with BITs differently under our hypothesis.[5] Countries must first liberalize capital account inward transactions for foreigners at least in part to allow inward capital flows to establish investment protected to be protected by a BIT. In turn, in national settings where capital exit is freely allowed by capital outflow liberalization, a BIT will have limited option value. It is where capital inflows are relatively free but where outflows are restricted (or where there is a threat of future restriction) that BITs are likely to induce higher FDI flows.

BITs serve, therefore, as an escape tunnel option against either current outflow restrictions or future outflow restrictions, we argue. It is not countries with open markets that benefit from a BIT, but countries that practice financial repression of capital outflows. In contrast, in economically open economies with liberal inward and outward capital movements, capital markets are likely to be relatively efficient. These economies already have extensive

[5] See Quinn and Toyoda 2008 and Pond 2018 for examples other studies that uses different effects of capital inflow openness and capital outflow openness on domestic economy.

extant investment and existing legal protections and are therefore unlikely to see additional gains from signing BITs given that exit options already exist.

We build on many prior scholarly studies, especially on the direct or indirect effect of BITs on inward FDI. No scholarly study yet, to our knowledge, has focused on how domestic capital controls - an important policy component of macroeconomic and exchange rate management - might condition the effects of BITs on FDI. This is surprising given that domestic capital account policies in the host country are also likely to affect a host country's ability to attract and retain FDI inflows.

We proceed as follows. First, we discuss past scholarship on the topic and develop our argument regarding how domestic capital controls may moderate the effect of bilateral investment treaties on FDI inflows. Next, we provide empirical evidence for our main hypotheses using both monadic and dyadic data of FDI. In the conclusion, we summarize our core findings and suggest avenues for future research.

Past Research and Theory

Scholars of IPE have identified two main channels through which bilateral investment agreements (BITs) are likely to attract more foreign direct investment (FDI) inflows. First, BITs increase FDI inflows from protected investors from treaty countries. BITs are thought to tie the hands of the host government by allowing foreign investors from the signatory countries to file claims for compensation at public arbitration venues such as ICISD, UNCITRAL, and ICC when these investors believe that the value of their assets has been negatively affected by host government actions regulated by treaty.[6] This is a 'governance' effect. Second, BITs may attract

[6] Hallward-Driemeyer 2003, Tobin and Rose-Ackerman 2005. For examples, Article 3 of the 2012 U.S. "Model" BIT

investment even from investors who are not protected by the BIT because BITs allow host countries to demonstrate their commitment to the protection of property rights.[7] Investors from other countries may accept the mere act of treaty ratification as a signal that the host country has a strong desire to protect property rights and nurture a friendly investment climate for foreign investors: a signaling effect.

The results of past research on the direct effect of investment agreements on FDI inflows have produced somewhat inconsistent results. Some studies have found that the ratification of investment treaties does help attract higher levels of inward FDI,[8] while others have found no relationship.[9] In light of the prior direct results, other scholars have suggested that the effect of BITs may be contingent upon a host of other factors. Tobin and Rose-Ackerman find that BITs increase flows only to hosts with low measures of domestic political risk.[10] Kerner and Lawrence argue that BITs influence foreign firms' decisions only over fixed-capital investment and find evidence that foreign affiliates of US firms increase investment in physical assets when they are covered by a BIT.[11] Lee and Johnston find that BITs with powerful countries help increase FDI since powerful countries are seen as more able to compel host governments to comply with the

calls for "national treatment," Article 6 outlines the conditions for expropriation and terms of compensation, and Article 7 limits government ability to affect transfer prices on remitted profits and investments. Section B outlines the arbitration rules and procedures in the event of a claimed default.

[7] Buthe and Milner 2008, Neumayer and Spess 2005, Kerner 2009, Tobin and Ackerman 2011.

[8] E.g. Buthe and Milner 2008, Neumayer and Spess 2005, Kerner 2009.

[9] E.g. Yackee 2010.

[10] Tobin and Rose-Ackerman 2011.

[11] Kerner and Lawrence 2014.

terms of the BIT.[12] Most recently, Arias, Hollyer, and Rosendorff found that the effects of BITs are contingent on regime type, with a greater improvement in the investment climate of autocracies than of democracies.[13] Another argument regarding the weak and inconsistent effects, advanced by recently by Andrew Kerner, suggests that poor quality FDI data also contributes to null or inconsistent findings.[14]

These prior studies have provided valuable insights into how BITs, in light of other conditioning variables, shape the patterns of foreign direct investment. Our contribution is to evaluate the effects of BITs on FDI in the context of the domestic economic policies of the host country, especially regarding capital openness, which is likely to shape investment decisions.[15]

[12] Lee and Johnston 2016.

[13] Arias, Hollyer, and Rosendorff 2018.

[14] Kerner 2018. Kerner argues the FDI inflow data are a bad proxy for how attractive a country's market has become because the data 1) include not just new inflows but reinvested earnings and bond and equity transfers, 2) do not account for capital raised on local financial markets, and 3) ignore the tax avoidance schemes run through international banking centers. In this study, where we allow capital outflows by residents in the form on non-reinvested earnings, as well as bond and equity repatriations, the FDI flow data are suitable. We omit banking center countries from our main analyses (in line with the recommendation in Lane and Milesi-Ferretti 2007). We acknowledge that our analyses do not capture capital raised on local financial markets.

[15] The direct relationship between FDI inflows and capital account liberalization has been found to be weakly positive to null. See Quinn, Schindler, and Toyoda (2011, 504-507) for a review and discussion. A related line of literature in international economics examines the direct effect of capital account liberalizations on total factor productivity (TFP). Kose, Prasad, and Terrones (2009) find that de jure capital account liberalization is associated with increased TFP, which they argue is enhanced by inward FDI flows. Bekaert, Harvey, and Lundblad (2011) also cite a TFP channel, especially regarding stock market and banking sector development from liberalization.

Capital account flows, unlike trade flows, are not regulated via systemic international agreements, and are generally in the regulatory purview of national governments. As noted above, we distinguish between capital inflow openness and capital outflow openness, each of which will interact with BITs differently. Liberalizing capital inflows is a necessary precondition for the efficacy of BITs to induce FDI. That is, when the host country has liberal inward capital policies, investors possess the ability to bring capital into the host country and respond to the promise of a better investment climate enabled by BITs.

Regarding capital outflow restrictions, BITs make the initial investment in countries with restricted capital outflow policies (assuming a relatively liberal inflow regime) more attractive for protected investors (those from BIT signatory home countries) for two reasons. First, BITs enhance investors' ability to exit their investments, with provisions on repatriation and other guarantees for investor capital return or resale. Since investors can run into a variety of unexpected problems when investing in a foreign country, the ability to liquidate assets and leave the country can be a valuable option. Secondly, while host countries with domestic restrictions on outward capital flows may refuse to liberalize even in the presence of BITs, BITs allow investors to adjudicate at international venues for compensation in the case of government expropriation, lowering the cost of having limited exit options.[16] For companies that are invested in host countries with a more open capital account for outflow, filing for arbitration may be a less attractive choice relatively, since those invested in the open outflow country have the option of

[16] One such example is Venezuela. While Venezuela had more than a dozen signed BITs in 2015, it kept strong foreign currency regulations, which restricted the ability of private sector companies and individuals to convert the local currency into foreign currency and made the transfer of capital out of Venezuela difficult (available at https://www.legalmondo.com/2017/04/foreign-currency-regulations-venezuela/).

exiting the market and repatriating their profits to other destinations. In many cases, if capital can be easily taken out of the host country, divestment may be the preferred option since arbitration is costly and may turn into a prolonged legal battle.

In contrast, even when a BIT is signed, a host country with restricted foreign capital inflow policies will not see a surge in FDI inflows. For example, while Bangladesh signed 17 BITs between 1986 and 2003, the volume of inflows barely changed during this period because of the nation's heavy restrictions on capital inflows.[17]

Indeed, where BITs are unlikely to facilitate investment is a setting where a country operates with an existing BIT and with closed inward *and* outward capital accounts. In those cases where foreign investment operates under a BIT and capital accounts are closed, governments have generally reversed prior policies of welcoming foreign investment. In such a setting (e.g., Venezuela under President Madura), BITs might produce perverse effects: firms and investors will be able to withdraw investment, leading to negative FDI inflows as foreign investors liquidate investments and repatriate capital.

H1: Countries with domestic policies of liberal capital inflow but restricted capital outflow are likely to experience an increase in FDI inflows in the presence of a BIT. The inflow increase, however, is likely to be limited to protected investors from signatory countries. Figure 1 summarizes our expectations from H1.

[17] Bangladesh's capital inflows openness consistently scored 12.5 (out of 50) in the CAPIN Index throughout this period, falling in the bottom 5 percent. Its capital outflows openness ranged between 0 and 12.5. Bangladesh was essentially closed to financial flows during this period.

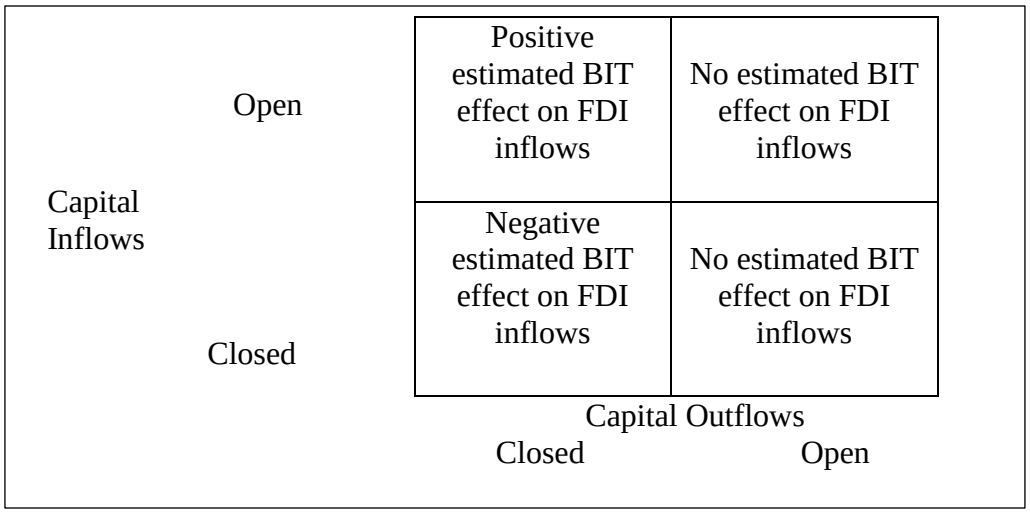

Figure 1. Expectations for the Effect of BIT on FDI Inflows based on Capital Account Policies

There are two additional potential ways capital outflows may condition the joint effects of capital inflows and BITs on FDI, leading to a different hypothesis with different empirical implications. First, higher capital outflow openness may serve as a complement for BITs, which would be consistent with findings that countries with stronger institutions or better governance gain from BITs. Liberalization of domestic policies on capital controls may work as a signal of a government's commitment to reform and may render BIT ratification more credible. Past research has found that investors look for informational short cuts in a low-information environment.[18] Because many countries still violate the terms of these investment treaties and engage in direct and indirect expropriation even with BITs in place,[19] investors may find BITs to be more credible when domestic capital account policies are consistent with the idea of economic liberalization embodied in BITs. Given the problem of time inconsistency in government

[18] See Biglaiser, Hicks, and Huggins 2008, Gray 2009, Garriga and Phillips 2014.

[19] Wellhausen 2016.

policies, investors seek both domestic policy and international agreement accord on a government's intensions. This generates the second hypothesis of the paper:

H2. Countries with domestic policies of liberal capital inflow and outflow will, ceteris paribus, experience an increase in FDI inflows upon BIT ratification [because BITs guard against subsequent changes in CAP policies and signal openness – this is about signaling]

Figure 2 shows the distribution of the capital account inflow and outflow data in our series (in five year panel averages):

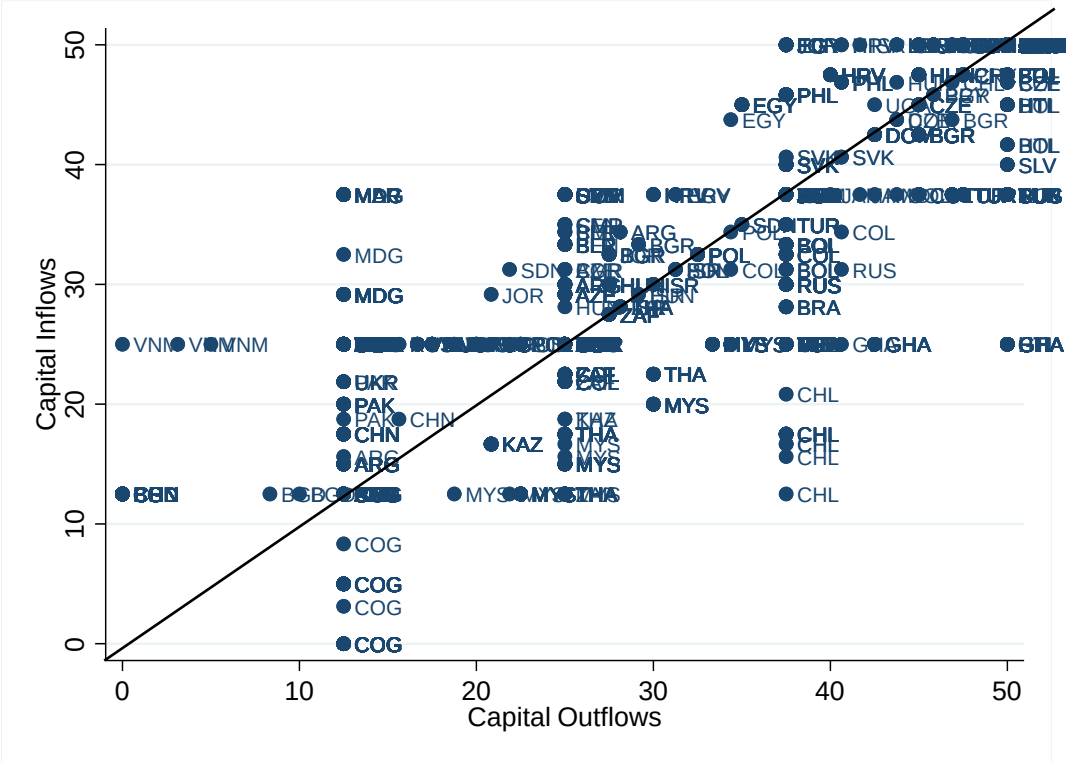

Figure 2. Plots of Capital Inflow Openness and Outflow Openness for Countries in Sample

In the next section, we test these two proposed hypotheses using monadic and dyadic FDI net inflows data. In summary, while we find support for H1, we see little evidence for H2. We find that host countries with domestic policies of liberal capital inflow but restricted capital outflow benefit most from BIT ratification. Moreover, this effect is seemingly driven by an

increase in FDI inflows from protected investors (investors from BIT signatory home countries). The estimated results for BITs with open inflow/closed outflow of capital accounts are concentrated in non-democratic settings, consistent with suppositions in Arias, Hollyer, and Rosendorff (2018). We first present results using monadic data and proceed to discuss results from dyadic data.

Aggregate Analyses: Data and Dependent Variable

In this section, we empirically test the hypotheses of this paper using foreign direct aggregate (or, monadic) inflows (from WDI, World Bank) into 100 host countries from 1980 to 2014. We start with aggregate inflows in keeping with prior literature.

While past studies of the effect of BITs on FDI have focused on only developing countries, we include both developed and developing countries in the sample. The rationale for the exclusion of developed countries has been that BITs should not have effect on FDI inflows into these countries since the advanced economies generally already have more mature rule of law institutions. However, recent developments have shown that BITs also constrain developed countries to provide a more favorable investment climate for foreign investors. For example, in a recent article, Pelc has noted that, since 1997, a majority of ISDS filings have not been in response to direct takings in countries with high political risk but actually more due to indirect expropriations in developed, democratic countries, especially through regulatory takings.[20] Indirect expropriations such as creeping expropriations or regulatory takings do not result in nationalization of properties, but instead restrict the property rights of foreign business and

[20] Pelc 2017.

diminish investment values gradually overtime.[21] However, we also present results from a sample of developing countries to show that our results are not driven by sample selection.

Following other country-level studies of foreign direct investment, the main outcome variable is the value of annual net FDI inflows as share of GDP (taken from the 2017 version of the World Development Indicator (WDI) of the World Bank), which reflects the country's ability to attract investment. This is one of the most prevalently used measures of FDI inflows in the FDI literature in political science. For example, Li, Mitchell, and Owen have found that among 279 models in FDI studies examined, 42.6% use the share of net inflows over GDP.[22] We prefer this measure to the log of FDI inflows to "eliminate the need to deflate the dependent variable and make it comparable across countries and across time."[23] By logging FDI inflow data, investigators eliminate important identifying variance in the data: negative numbers, which represent disinvestment – a core topic of interest in this study, are transformed away. The post-estimation residual properties of the log FDI inflow data are also poor. For these reason, we use the other measure. (We find substantively similar results using the log transformed FDI measure, however.)

A convention in the political science literature is to focus on net FDI inflows as a key dependent variable. In many ways, this convention is a data convenience – the World Bank's WDI has comprehensive coverage of inward FDI.[24] In terms of the Balance of Payments conventions,

[21] Cite the Graham Kingsley Noel Johnston person to be named later paper here

[22] Li, Mitchell, and Owen 2018.

[23] Buthe and Milner 2008.

[24] The WDI data derive from the United Nations Conference on Trade and Development (UNCTAD) and International Monetary Fund (IMF) Balance of Payments reports. An alternative database is the External Wealth of Nations data base from Lane and Milesi-Ferretti 2018. The data are 'monadic,' but have the advantage of accounting for the stock

these data are by definition non-resident acquisitions of resident assets, and these data do not include FDI outflows by residents. Net FDI inflows contain both positive and negative numbers as capital repatriation constitutes, e.g., a decrease in non-resident capital asset holdings in a country. Therefore, a positive net FDI inflows value suggests that more investment by non-resident is coming in than is going out, and a negative net FDI inflows suggests that capital assets by non-residents are being repatriated. Negative numbers are an important feature of the data: 14% of the dyadic FDI inflow data are negative values, meaning that investors in 14% of cases repatriated more capital than entered.[25] An important methodological note is that FDI flows, by construction, have strong autoregressive properties because firms generally 'stage investment' over periods of time - a factory is rarely built and funded in one year. Moreover, retained earnings from existing operations constitute 'new' a FDI inflow, which by construction means that this year's FDI inflows derived from retained earnings following from prior years' investments. Because of the autoregressive properties of the data – a company's investment in period s-1 influences its investment in period s – we estimate enough lags of the dependent variable to achieve serially uncorrelated residuals as measure by Durbin's M.

Explanatory Variable of Interest

For monadic analyses, our main explanatory variable of interest is the product term of BITs in force and capital flow restriction in the host country in year *t*. BITs in force is the aggregate number of the BIT in force for host country *i* in year *t*. This variable is constructed

of FDI inflows and outflows, as well as changes in the stocks.

[25] Forty four percentage of the dyadic observations are recorded as zeros. Another (what would be) 25% of the dyadic data are reported as missing. While these maybe be safely assumed to be zero transactions, we follow the OECD data conventions and treat them as missing.

using UNCTAD's International Investment Agreements Database. Restrictions on capital flows are measured using CAP100, which measures overall capital openness. CAPIN assess the ability on non-residents to acquire resident capital assets in a host country, and CAPOUT measures the ability of residents to acquire non-resident assets abroad.[26] CAP100 ranges from 0 (closed) to 100 (completely open) and both CAPIN and CAPOUT ranges from 0 (closed) to 50 (open).[27]

While both BITs and domestic capital controls are both policy tools that countries can use to attract foreign direct investment, our data shows that the correlation between two variables is not very high. As seen in Table 1, in the monadic data, the average five year panel correlation between the aggregate number of BIT in force and each measure of capital openness -- CAP100, CAPIN, and CAPOUT – was around 0.25. In the dyadic data, which we will describe in a greater detail later, the average correlation between a dyadic BIT and each measure of capital openness was around -0.06.

Table 1. Correlations Between BIT Measures and Capital Control Measures

	Aggregate BITs	Dyadic BIT
CAP100 (Overall Openness)	0.26	-0.07
CAPIN (Inflow Openness)	0.27	-0.06
CAPOUT (Outflow Openness)	0.24	-0.07

[26] These measures were first introduced in Quinn 1997.

[27] Please see Quinn, Schindler, and Toyoda 2011 for a literature review and a discussion of capital account measures.

Control Variables

We use a battery of controls found to be correlated with FDI inflows in the literature to address the possibility of confounding variables. First, we control for basic macroeconomic variables such as population (logged), GDP per capita (logged), and GDP growth (%), current account balance as a percentage of GDP, and a country's estimated real currency valuation.[28] We also control for democracy (from Polity IV) as many previous studies have found that democracy is correlated with an increase in FDI inflows.[29] Finally, to account for the level of political risk in the country, we follow work by Li, Mitchell, and Owen and use variables Rule of Law, Bureaucratic Quality, and Corruption available from International Country Risk Guide (ICRG) by the PRS Group to create a single index.[30] Unless otherwise indicated, control variables are obtained from WDI series from the World Bank. We include a binary indicator for China to account for peculiarity in foreign direct investment patterns in China, which has been identified by other studies.[31] Finally, we include a year variable to address the upwards trend in foreign direct investment net inflows overtime. All variables are lagged by one period to lessen potential endogeneity. Table 2 provides descriptive statistics of the variables used in the analyses.

[28] The procedures used are outlined in Jensen, Quinn, and Weymouth 2015.

[29] Li and Resnick 2003, Jensen 2003, 2006.

[30] Li, Mitchell, and Owen 2018.

[31] See Lee and Johnston 2016.

Table 2. Descriptive Statistics for Monadic Analyses

	Mean	Sd	p50	min	max
FDI/GDP	2.607	3.372	1.820	-3.743	35.09
Aggregate BITs	20.92	23.67	11.20	0	119.8
CAP100	66.70	28.02	67.50	0	100
CAPIN	34.18	13.04	37.50	0	50
CAPOUT	32.52	16.03	37.50	0	50
Currency Valuation	-0.0749	0.365	-0.0539	-1.202	0.980
polity2	4.636	5.932	7.400	-9	10
Population	16.73	1.429	16.61	12.96	21.02
Political Risk	8.962	3.284	8.100	1	16
Log of GDP Capita	8.386	1.506	8.358	5.130	11.00
GDP Growth (%)	3.775	2.761	3.620	-6.663	21.23
China Dummy	0.0132	0.114	0	0	1

Evidence

Table 3 displays results from OLS specifications using data of FDI net inflows into 100 host countries from 1980-2014. We use a panel averaged over five-year periods, i.e. 1980-1985, 1985-1990, etc. to account for the effect of business as well as investment cycles.[32] In all Models, robust standard errors are clustered by country. One lag of the dependent variable is included in all models because FDI decisions is a dynamic process in that FDI net inflows in the previous period influence the level of FDI inflows in time t. Models 1, 2, and 3 present results from the full sample, which includes both developed and developing countries. Models 4, 5, and 6 present results from the developing country sample. Overall, results across these models provide support for H1 but not for H2.

In Models 1 and 4, we first test the independent effects of ratified BITs, and capital inflow and outflow openness of the host country on FDI inflows. Results show that these variables have

[32] As noted above, firms often stage investments over multiple years. Geometric averages are used for all the logged variables.

no significant independent effects on FDI inflows.[33] Models 2 and 5 examine the interaction of overall capital openness (CAP100) and ratified BITs on FDI. Results indicate that the overall level of capital openness does not have significant effects on the effects of BIT on FDI. Models 3 and 6 allow us to examine the interaction of subcomponents of capital openness – Capital Inflows and Capital Outflows with BITs.

While the overall capital openness has no statistically significant interactive effects with BITs, results from Models 3 and 6 show that two subcomponents of capital openness interact with BITs to generate significant effects on FDI inflows. If H2 is correct in that capital outflow openness works as a complement for BITs, the coefficient of Capital Inflows X BIT should be negative and significant, and the coefficient of Capital Inflows X Capital Outflows X Capital Inflows should be positive and significant. On the other hand, if H1 is correct in that capital outflow openness works as a substitute for BITs, the coefficient of Capital Inflows X BIT should be positive and significant, and the coefficient of Capital Inflows X Capital Outflows X Capital Inflows should be negative and significant.

[33] Lack of independent effect of BITs on FDI is consistent with a body of existing literature (Yackee 2010, Tobin and Rose-Ackerman 2011)

Table 3. Conditional Effect of BITs on FDI over Capital Openness (Monadic)

	Full Sample			Developing Only		
	Model1	Model2	Model3	Model4	Model5	Model6
FDIt-1	0.39818*	0.40635*	0.42010*	0.36162*	0.37119*	0.38678*
	(0.13884)	(0.13955)	(0.13911)	(0.16951)	(0.17374)	(0.16709)
BITs	-0.00002	0.00012	-0.00074	-0.00002	0.00004	-0.00092*
	(0.00010)	(0.00023)	(0.00043)	(0.00012)	(0.00024)	(0.00044)
Capital Openness X BITs		-0.00000			-0.00000	
		(0.00000)			(0.00000)	
Capital Openness		-0.00012			-0.00019	
		(0.00010)			(0.00012)	
Capital Inflows X BITs			0.00006*			0.00006*
			(0.00002)			(0.00002)
Capital Inflows X Capital Outflows			0.00001			0.00001
			(0.00001)			(0.00001)
Capital Outflows X BITs			-0.00001			-0.00000
			(0.00001)			(0.00001)
Capital Inflows X Capital Outflows X BIT			-0.00000			-0.00000*
			(0.00000)			(0.00000)
Capital Inflows	-0.00018		-0.00071	-0.00029		-0.00067
	(0.00017)		(0.00041)	(0.00019)		(0.00041)
Capital Outflows	-0.00012		-0.00010	-0.00013		-0.00010
	(0.00018)		(0.00024)	(0.00020)		(0.00026)
Currency Valuation	-0.00395	-0.00505	-0.00762	-0.00314	-0.00386	-0.00542
	(0.00670)	(0.00704)	(0.00741)	(0.00698)	(0.00710)	(0.00740)
Polity2	0.00040	0.00040	0.00043	0.00038	0.00039	0.00042
	(0.00035)	(0.00034)	(0.00035)	(0.00035)	(0.00035)	(0.00036)
Political Risk	0.00088	0.00082	0.00075	0.00073	0.00068	0.00057
	(0.00047)	(0.00046)	(0.00046)	(0.00056)	(0.00055)	(0.00056)
Population	-0.00398*	-0.00387*	-0.00389*	-0.00513*	-0.00493*	-0.00508*
	(0.00124)	(0.00121)	(0.00123)	(0.00144)	(0.00140)	(0.00140)
GDP per Capita	-0.00221	-0.00223	-0.00215	-0.00194	-0.00181	-0.00170
	(0.00207)	(0.00221)	(0.00213)	(0.00241)	(0.00255)	(0.00249)
GDP Growth	0.00152*	0.00149*	0.00150*	0.00152*	0.00150*	0.00154*
	(0.00064)	(0.00066)	(0.00065)	(0.00070)	(0.00072)	(0.00070)

Table 3. (cont.)

	Full Sample			Developing Only		
	Model1	Model2	Model3	Model4	Model5	Model6
Constant	-1.98218*	-1.90974*	-1.91684*	-2.54148*	-2.51159*	-2.48328*
	(0.48866)	(0.51935)	(0.50044)	(0.54073)	(0.58641)	(0.56394)
Observations	420	416	420	331	327	331

Note: Controls included in the models but not shown in the table: China dummy and Trend variable. Observations are in five year increments (e.g., 1980-1985, 1985-1990). Country-clustered standard errors in parentheses. Star denotes a coefficient at least two standard errors removed from zero.

Results are consistent with H1 but not H2. In both Models 3 and 6, Capital Inflows X BIT is positive and significant, which suggest that the positive effect of having capital inflow openness and BITs on FDI will be amplified for countries with severe restrictions on outward capital flows. The standard errors in interactive models need to be adjusted for the covariances of the coefficients, and the density of the observed data needs to be plotted.[34]

Therefore, in order to ease the interpretation of results in Models 3 and 6 in Table 3, Figures 3 (Full sample) and 4 (Developing country sample) plot the substantive effects of BIT on FDI inflows at different values of overall capital inflow openness for host countries with low (left subfigures) and high capital outflow openness (right subfigures). We set the level of capital openness at below or equal to 12.5 (bottom 25 percent of observations) to create left subfigures and at 50 (top 25 percent of observations) for right subfigures. We plot the distribution of capital inflow openness for both samples to avoid making inferences for graphical regions without observations. The Y axis is the average marginal effect of a BIT on FDI inflows and X axis is the level of capital inflow openness in the host country. Both Figures 3 and 4 confirm H1. While in the sample with low outflow openness (left subfigures), the marginal effect of a BIT on FDI increases with the increase in the level of capital inflow openness, this is not true in the sample

[34] Hainmueller et al 2018

with high outflow openness (right subfigures). For the samples with high outflow openness (right subfigures), the marginal effect of BIT on FDI is indistinguishable from 0 across different levels of capital inflow openness. We also note that the components of capital account openness (separately and interacted) in the absence of a BIT have no statistically significant estimated effect on FDI inflows.

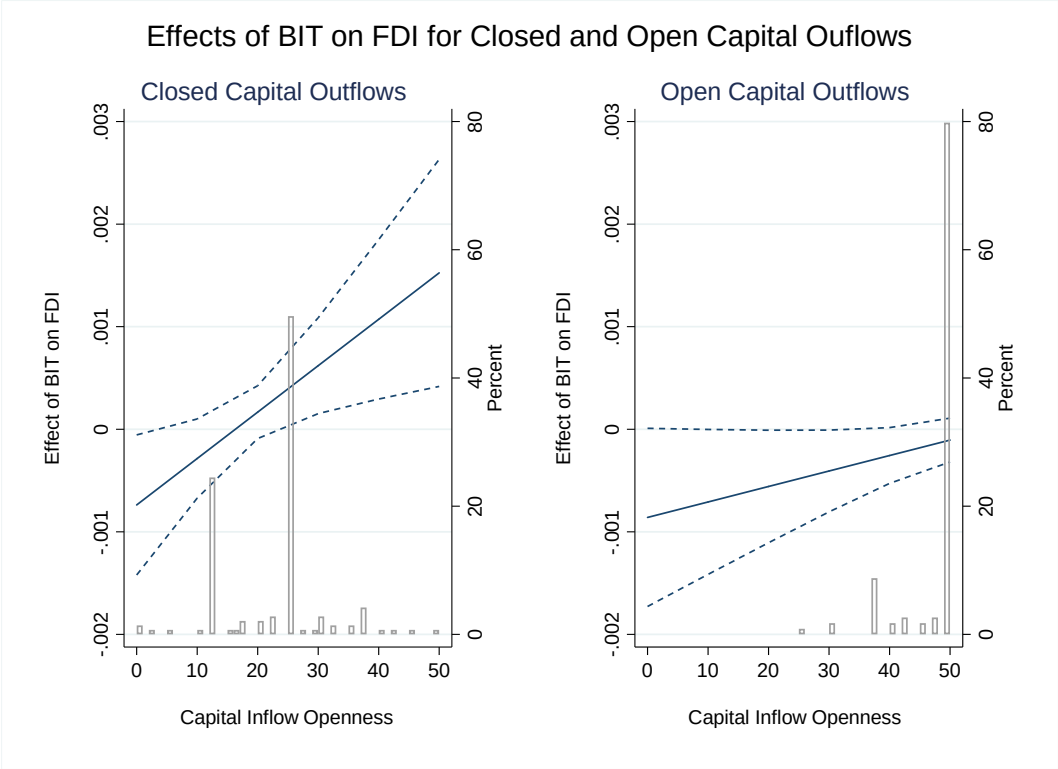

Figure 3. Conditional Effects of BITs on FDI for Closed and Open Capital Outflows (Full Sample)

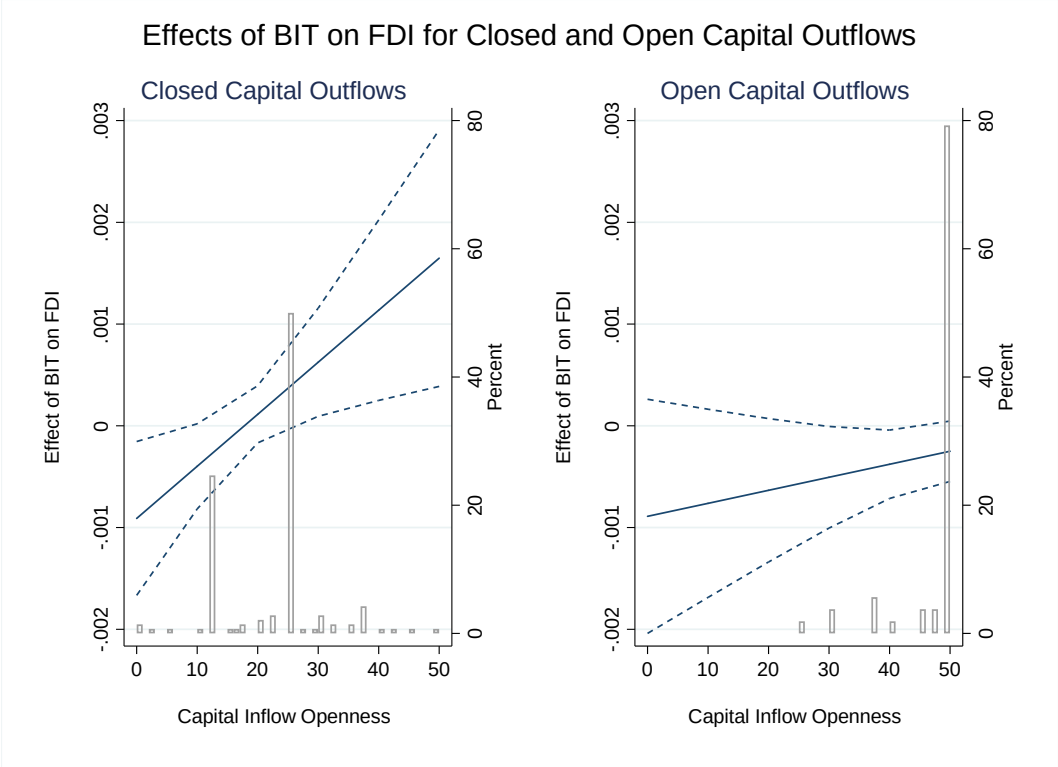

Figure 4. Conditional Effects of BITs on FDI for Closed and Open Capital Outflows (Developing Sample)

Dyadic Analyses: Data and Dependent Variables

In this section, we perform additional tests of the main hypotheses using bilateral FDI data from OECD. While the results from monadic specifications suggest that H1 rather than H2 better describes the relationship between capital inflow openness, capital outflow openness, and BITs, we complement these findings with a set of more direct tests using dyadic FDI data. Since, theoretically, only the protected foreign investors from BIT signatory home countries have access to repatriation privileges and investor-state arbitration mechanism embedded in these treaties, analyses using monadic FDI data that also includes inward FDI investment by investors from non-BIT signatory countries may be biased.

For dyadic analyses, we have FDI net inflows (from OECD bilateral FDI data) for 35 OECD senders of investment and 206 country recipients of investment from 1990 to 2014, although the availability of the capital account data reduces the sample to 126 countries. Recipient countries in the full sample include both developed and developing countries but we also present results from the developing country sample to show that our findings are not driven by sampling.[35] The dependent variable is again FDI net inflows over GDP of the FDI recipient country.[36]

Explanatory Variable of Interest

For dyadic analyses, our explanatory variable of interest is the product term of home-host BIT in force and the level of capital openness in the host country *i* in year *t*. BITs in force is a binary indicator which takes the value of 1 if there is a BIT in force between the given home and host country dyad at time *t* and 0 otherwise. This variable is again constructed using UNCTAD's International Investment Agreements Database. Restrictions on capital flows are measured using CAP100 (the measure for overall capital openness), CAPIN (the measure for openness for capital inflows), and CAPOUT (the measure for openness for capital outflows). CAP100 ranges from 0

[35] The definition of non-high-income countries used in this paper includes countries that were not OECD members in 1987. However, while Turkey was an OECD member in 1987, we include Turkey in the analyses as the country was categorized as a lower middle income country in 1987 by the World Bank country classifications (available at https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups).

[36] An alternative dependent variable used in the literature is log of constant dollar FDI inflows adjusted from the presence on negative values, which is discussed below. See Li, Mitchell, and Owen forthcoming for a discussion of the different dependent variables. The log of FDI inflow measures has poor autoregressive properties in a panel regression setting. As noted earlier, the log transformation eliminates negative numbers, which are important identifying variance in the analysis.

(closed) to 100 (completely open) and both CAPIN and CAPOUT ranges from 0 (closed) to 50 (open).

Control Variables

We use home, host, and dyadic controls found to affect dyadic FDI inflows in previous studies to address the possibility of confounding variables. First, we include all host country variables that were used for our monadic analyses. We also control for a battery of home country characteristics. We include basic home country macroeconomic variables such as GDP(logged), GDP per Capita(logged), and GDP Growth (%) and control for regime type (Polity2) to account for the possibility that home country regime type may affect investment decisions. Finally, we include bilateral trade volume weighted by the GDP of home and host countries to account for the fact that countries with strong trade relations are also likely to have higher volume of bilateral FDI flows. The number of aggregate BITs minus the dyadic BIT is included to address the finding in the literature that host countries with a large number of aggregate BITs are better able to attract FDI through signaling of its commitment to the protection of property rights. Finally, we include a year trend variable. All variables are lagged by 1 period to address potential endogeneity. Table 4 provides descriptive statistics of the variables used in the analyses.

Table 4. Descriptive Statistics for Dyadic Analyses

	mean	Sd	p50	min	max
Dyadic BIT	0.174778	0.379812	0	0	1
CAP100	75.49554	26.77333	87.5	12.5	100
Non-dyadic BIT	34.66648	25.44028	31	0	119
Log of Host GDP Capita	8.838862	1.433195	9.008097	5.266351	10.9992
Log of Host GDP	25.76896	1.967812	25.87659	20.10856	30.36377
Currency Valuation	-0.09309	0.3555	-0.09121	-1.18958	0.90171
Host Growth (%)	3.811614	2.947832	3.582525	-11.4013	28.64967
Host Risk	9.348936	3.158979	8.766666	2.5	16
Host Polity	6.035999	5.349466	8	-8	10
Log of Home GDP	27.03425	1.427659	26.87958	23.75615	30.35462
Log of Home GDP Capita	10.40429	0.570475	10.57062	8.785679	11.5501
Home Growth	2.024685	1.947321	1.836899	-7.30401	6.951857
Home Polity	9.685863	0.682234	10	6.5	10
Bilateral Trade/Host+Home GDP	2.35E-06	5.42E-06	6.46E-07	1.47E-11	0.000105
China Dummy	.0064346	.0799592	1	0	1

Evidence

In all Models, we use 5-year panel OLS regressions with one lag of the dependent variable and standard errors clustered by home-host dyad.[37] Results, displayed in Table 5, are consistent with H1. Models 1, 2 and 3 present results from the full sample, which includes both developed and developing countries and Models 4, 5, and 6 report results from the developing country sample.

In Models 1 (Full sample) and 4 (Developing country sample), we test the independent effects of a dyadic BIT in force (BIT) and capital inflow (CAPIN) and outflow (CAPOUT) openness on FDI inflows. None of these three variables has a statistically significant effect on FDI inflows. In Models 2 and 5, we examine the effect of the interaction between a dyadic BIT and the overall capital openness on FDI inflows. In both Models, the interaction of BIT and Capital Openness is not statistically significant.

[37] Again, Because of the autoregressive properties of the data – a company's investment in period s-1 influences its investment in period s – we estimate enough lags of the dependent variable to achieve serially uncorrelated residuals as measure by Durbin's M.

Models 3 and 6 evaluate the interaction of subcomponents of capital openness – Capital Inflows and Capital Outflows with BITs. The estimated results are not in line with H1, which expects higher capital outflow openness to induce a stronger positive effect of a BIT on FDI inflows. Results support H2 instead, which predicts that the combination of an open inflow policy and a BIT may have a stronger positive effect on FDI inflows for host countries with restricted capital outflow openness. The interaction term, Capital inflows X BITs X Capital Outflows, is negative and significant for both the full sample (Model 3) and the developing country sample (Model 6).

Table 5. Conditional Effect of Dyadic BITs on FDI over Capital Openness (Dyadic)

	Full Sample			Developing Countries		
	Model1	Model2	Model3	Model4	Model5	Model6
FDIt-1	0.26584*	0.26578*	0.26500*	0.19565	0.19562	0.19473
	(0.10813)	(0.10810)	(0.10831)	(0.11083)	(0.11078)	(0.11094)
Dyadic BIT	0.00022	0.00028	-0.00236*	0.00025	0.00024	-0.00234*
	(0.00013)	(0.00032)	(0.00077)	(0.00014)	(0.00033)	(0.00080)
Capital Openness X BITs		-0.00000			0.00000	
		(0.00000)			(0.00000)	
Capital Openness		-0.00000			-0.00000	
		(0.00000)			(0.00000)	
Capital Inflows X BITs			0.00011*			0.00011*
			(0.00003)			(0.00004)
Capital Inflows X Capital Outflows			0.00000			-0.00000
			(0.00000)			(0.00000)
Capital Outflows X BITs			0.00006*			0.00005*
			(0.00003)			(0.00003)
Capital Inflows X Capital Outflows X BIT			-0.00000*			-0.00000*
			(0.00000)			(0.00000)
Capital Inflows	-0.00000		-0.00001	-0.00000		-0.00001
	(0.00001)		(0.00001)	(0.00001)		(0.00002)
Capital Outflows	-0.00000		-0.00000	-0.00000		0.00000
	(0.00001)		(0.00001)	(0.00001)		(0.00001)
Non-dyadic BITs	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	(0.00000)	(0.00000)	(0.00000)	(0.00000)	(0.00000)	(0.00000)
Host Currency Valuation	0.00007	0.00009	0.00005	-0.00004	-0.00003	-0.00005
	(0.00017)	(0.00017)	(0.00017)	(0.00019)	(0.00020)	(0.00020)
Host Polity2	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001
	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)
Host Political Risk	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001
	(0.00002)	(0.00001)	(0.00001)	(0.00003)	(0.00002)	(0.00002)
Host GDP	-0.00008*	-0.00008*	-0.00008*	-0.00010*	-0.00009	-0.00011*
	(0.00003)	(0.00004)	(0.00003)	(0.00005)	(0.00005)	(0.00005)
Host GDP per Capita	0.00009	0.00008	0.00008	0.00010	0.00010	0.00009
	(0.00006)	(0.00006)	(0.00006)	(0.00006)	(0.00006)	(0.00006)

Table 5. (cont.)

	Full Sample			Developing Countries		
	Model1	Model2	Model3	Model4	Model5	Model6
Host GDP Growth	0.00006*	0.00006*	0.00006*	0.00005*	0.00005*	0.00006*
	(0.00002)	(0.00002)	(0.00002)	(0.00002)	(0.00002)	(0.00002)
Home GDP	0.00024*	0.00024*	0.00024*	0.00023*	0.00023*	0.00024*
	(0.00004)	(0.00004)	(0.00004)	(0.00005)	(0.00005)	(0.00005)
Home GDP per Capita	0.00001	0.00001	0.00001	0.00002	0.00002	0.00002
	(0.00009)	(0.00009)	(0.00009)	(0.00011)	(0.00011)	(0.00011)
Home GDP Growth	0.00004	0.00004	0.00004	0.00002	0.00002	0.00002
	(0.00003)	(0.00003)	(0.00003)	(0.00003)	(0.00003)	(0.00003)
Home Polity2	0.00010	0.00010	0.00009	0.00007	0.00007	0.00007
	(0.00005)	(0.00005)	(0.00005)	(0.00006)	(0.00006)	(0.00006)
Dyadic Trade	80.44500*	80.37182*	80.59954*	69.00211*	68.91795*	69.54376*
	(24.45917)	(24.48761)	(24.42871)	(28.10176)	(28.18691)	(27.81820)
Constant	0.03028	0.03259*	0.02877*	0.02924	0.03110*	0.02653
	(0.01569)	(0.01203)	(0.01268)	(0.01885)	(0.01427)	(0.01543)
Observations	5527	5527	5527	4085	4085	4085

Note: Controls included in the models but not shown in the table: China dummy and Trend variable. Annual observations used. Country-clustered standard errors in parentheses. Star denotes a coefficient at least two standard errors removed from zero.

In both Models, the interaction term Capital Inflows X BIT is positive and significant, which suggests that at the low level of capital outflow openness, a dyadic BIT and high capital inflow openness should lead to a stronger effect of a BIT on FDI inflows.[38] Crucially, and somewhat surprisingly, the components of capital account openness (separately and interacted) in the absence of a BIT have no statistically significant estimated effect on FDI inflows in the dyadic analyses, as with the monadic analyses.

In order to facilitate the substantive interpretation of results in Models 3 and 6 of Table 5, Figures 5 (full sample) and 6 (developing sample) display the average marginal effects of a dyadic BIT in force on bilateral FDI inflows at different levels of host capital inflow openness for countries with closed and open capital outflows. The Y axis here is the average marginal effect of

[38] These results are robust to the use of logged FDI values as an alternative DV.

a dyadic BIT on FDI inflows and the X axis is the capital inflow openness in the host country. Zero represents an economy with the lowest level of capital inflow openness and 50 represents an economy with completely open capital inflows. We set the level of capital openness at below or equal to 25 (bottom 25 percent) to create left subfigures and at 50 (top 25 percent) for right subfigures. We plot the observed distribution of capital inflow openness at the given levels of capital account openness for both samples.

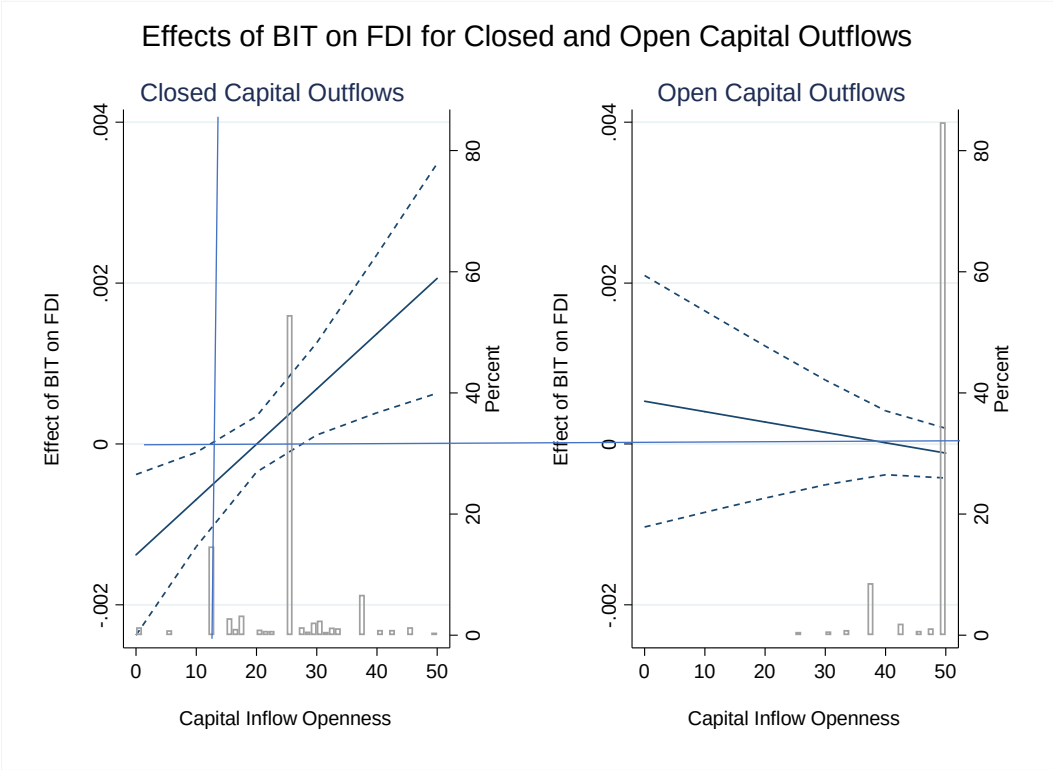

Figure 5. Dyadic: Conditional Effects of Dyadic BIT on FDI for Closed and Open Capital Outflows (Full Sample)

Both Figures 5 and 6 provide support for H1. The left figures of Figures 5 and 6 display the average marginal effect of a dyadic BIT on FDI inflows across different levels of host capital inflow openness for host countries with low capital outflow openness. In contrast, the right subfigures display the average marginal effect of a dyadic BIT on FDI across different levels of

capital inflow openness for host countries with a completely open capital outflows. In a manner consistent with H2, the positive effect of a dyadic BIT on inward FDI flows increases with an increase in the level of capital inflow openness for host countries with low capital outflow openness (left subfigures) but not for host countries with high capital outflow openness (right subfigure).

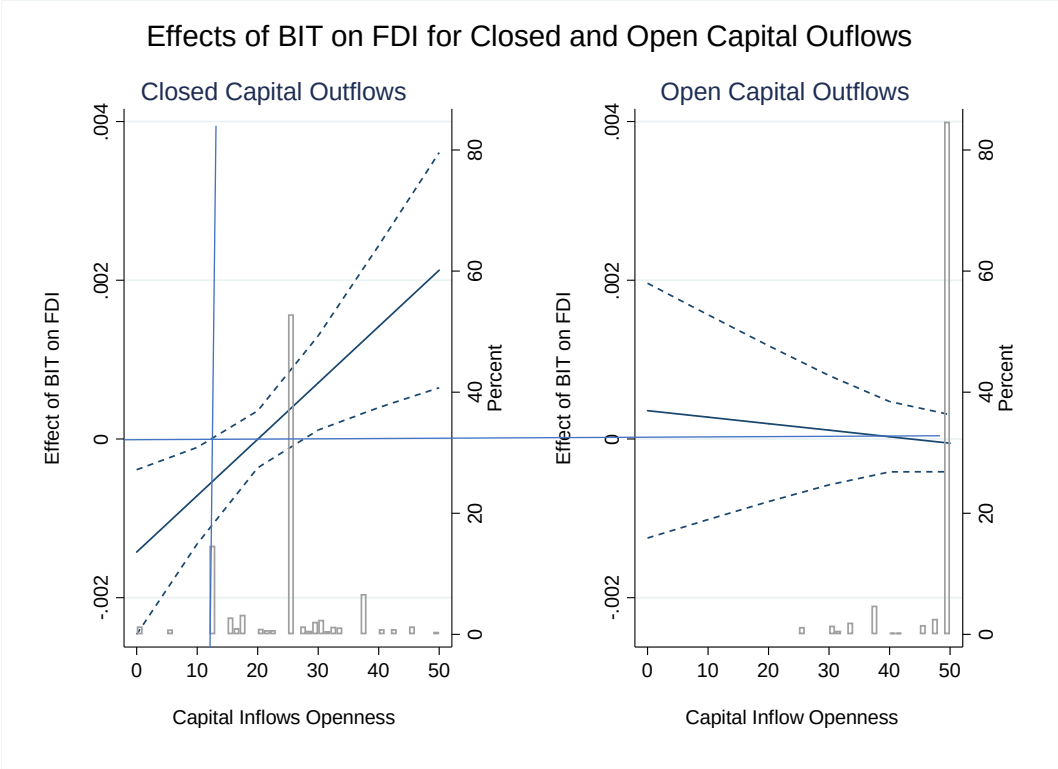

Figure 6. Dyadic: Conditional Effects of Dyadic BIT on FDI for Closed and Open Capital Outflows (Developing Sample)

In the left subfigures of both Figures 5 and 6, the average marginal effect of BIT on FDI inflows takes a negative value when capital inflow openness is less than 12.5. However, there is not much support for the computed average marginal effect for when capital inflow openness is below 12.5. Histograms of the underlying observations in both subfigures show that this effect is largely out of sample.

The results from both monadic and dyadic analyses confirm H1 that capital outflow openness is a substitute for BIT. As described in the theory section, we expect this effect to be driven by protected investors, who are likely to bring more investment in when a BIT makes investing in the host country more attractive by liberalizing repatriation of profits and providing access to investor-state arbitration at designated international public arbitration venues. However, an alternative explanation is that unprotected investors may be reacting to the signal of economic reforms that a ratification of a dyadic BIT may suggest.

To address this concern, in Table 6, we interact measures of capital openness with non-dyadic aggregate BITs in the host country using the dyadic data. If investors are responding to the signal in a BIT signing, the observed increase in FDI inflows in host countries with closed outflow openness might also be influence by unprotected investors (not covered by a BIT) who are responding to the signal of a BIT signing. If instead the increase in FDI is led by protected investors, the product terms of non-dyadic aggregate BITs and measures of capital openness should be statistically insignificant across all Models. Results from Table 6 confirm our hypothesis that the conditional effect of BITs on FDI inflows over capital openness cannot be attributed to unprotected investors. Models 1 and 2 present results from the full sample and Models 3 and 4 present results from the developing country sample. Models 1 and 3 interact the number of non-dyadic aggregate BITs with overall capital openness and Models 2 and 4 with subcomponents of capital openness – capital inflow openness and capital outflow openness. The interaction terms are insignificant across all Models which suggest that capital openness does not condition the effect of BIT on FDI for unprotected investors.

Table 6. Test of Mechanism: Effect of Non-dyadic BITs on FDI Inflows (Dyadic)

	Full Sample		Developing Countries	
	Model1	Model2	Model3	Model4
FDIt-1	0.26602*	0.26522*	0.19590	0.19553
	(0.10809)	(0.10813)	(0.11081)	(0.11084)
Non-dyadic BIT	0.00001	-0.00001	0.00001	-0.00001
	(0.00001)	(0.00001)	(0.00001)	(0.00001)
Capital Openness X BITs	-0.00000		-0.00000	
	(0.00000)		(0.00000)	
Capital Openness	-0.00000		-0.00000	
	(0.00000)		(0.00000)	
Capital Inflows X BITs		0.00000		0.00000
		(0.00000)		(0.00000)
Capital Inflows X Capital Outflows		-0.00000		-0.00000
		(0.00000)		(0.00000)
Capital Outflows X BITs		-0.00000		-0.00000
		(0.00000)		(0.00000)
Capital Inflows X Capital Outflows X BIT		-0.00000		-0.00000
		(0.00000)		(0.00000)
Capital Inflows		-0.00001		-0.00000
		(0.00002)		(0.00002)
Capital Outflows		0.00001		0.00001
		(0.00001)		(0.00001)
Dyadic BITs	0.00021	0.00019	0.00025	0.00023
	(0.00013)	(0.00013)	(0.00014)	(0.00014)
Host Currency Valuation	0.00003	0.00001	-0.00005	-0.00005
	(0.00017)	(0.00018)	(0.00019)	(0.00019)
Host Polity2	0.00001	0.00001	0.00001	0.00001
	(0.00001)	(0.00001)	(0.00001)	(0.00001)
Host Political Risk	0.00001	0.00001	0.00001	0.00001
	(0.00002)	(0.00002)	(0.00003)	(0.00003)
Host GDP	-0.00008*	-0.00009*	-0.00009	-0.00011*
	(0.00004)	(0.00003)	(0.00005)	(0.00005)
Host GDP per Capita	0.00008	0.00008	0.00010	0.00010
	(0.00006)	(0.00006)	(0.00006)	(0.00007)
Host GDP Growth	0.00006*	0.00006*	0.00005*	0.00005*
	(0.00002)	(0.00002)	(0.00002)	(0.00002)

Table 6. (cont.)

	Full Sample		Developing Countries	
	Model1	Model2	Model3	Model4
Home GDP	0.00024*	0.00024*	0.00023*	0.00023*
	(0.00004)	(0.00004)	(0.00005)	(0.00005)
Home GDP per Capita	0.00001	0.00001	0.00002	0.00002
	(0.00009)	(0.00009)	(0.00011)	(0.00011)
Home GDP Growth	0.00004	0.00004	0.00002	0.00002
	(0.00003)	(0.00003)	(0.00003)	(0.00003)
Home Polity2	0.00010	0.00010	0.00007	0.00007
	(0.00005)	(0.00005)	(0.00006)	(0.00006)
Dyadic Trade	81.26384*	81.89091*	69.69358*	69.66902*
	(24.51579)	(24.53976)	(28.27498)	(28.27734)
Constant	0.03187*	0.02468	0.02985	0.02338
	(0.01580)	(0.01600)	(0.01925)	(0.01917)
Observations	5527	5527	4085	4085

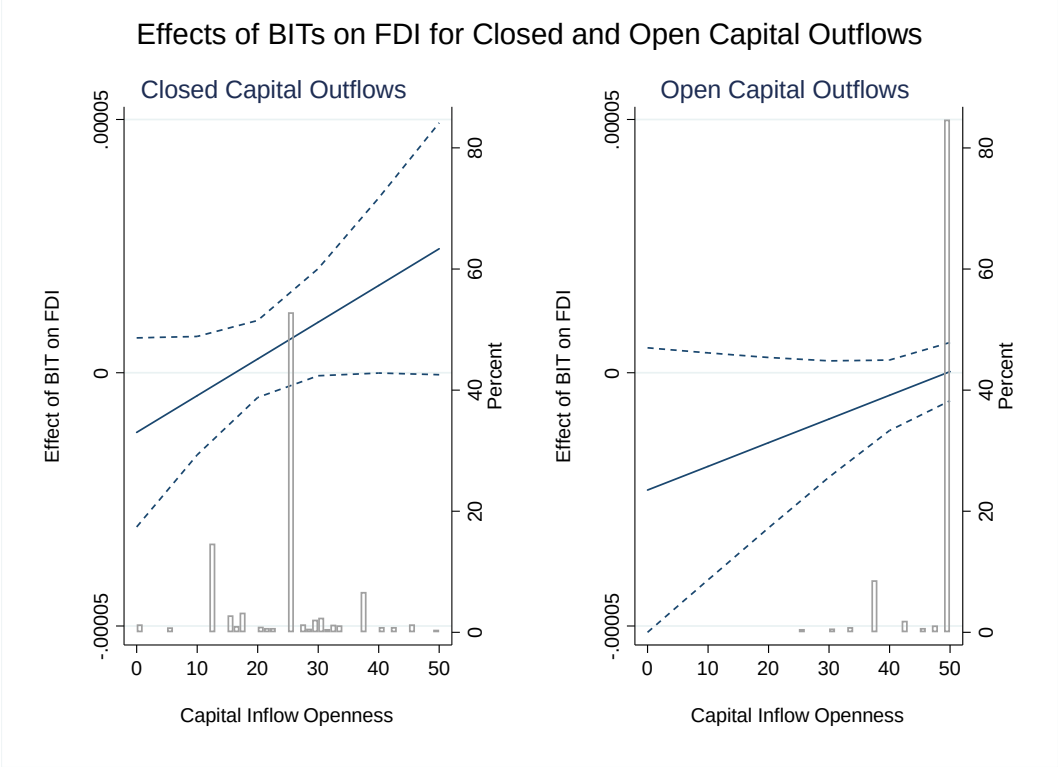

Figure 7. Dyadic: Conditional Effects of Non-dyadic BIT on FDI for Closed and Open Capital Outflows (Full Sample)

To facilitate substantive interpretation of Table 6, Figures 7 (full sample) and 8 (developing sample) provide the average marginal effects of non-dyadic BITs in force on bilateral FDI inflows at different levels of host capital inflow openness for countries with closed and open capital outflows. The Y axis here is the average marginal effect of a non-dyadic BIT on FDI inflows and the X axis is the capital inflow openness in the host country. Zero represents an economy with the lowest level of capital inflow openness and 50 represents an economy with completely open capital inflows. We set the level of capital openness at below or equal to 25 (bottom 25 percent) to create left subfigures and at 50 (top 25 percent) for right subfigures. We plot the observed distribution of capital inflow openness at the given levels of capital account openness for both samples.

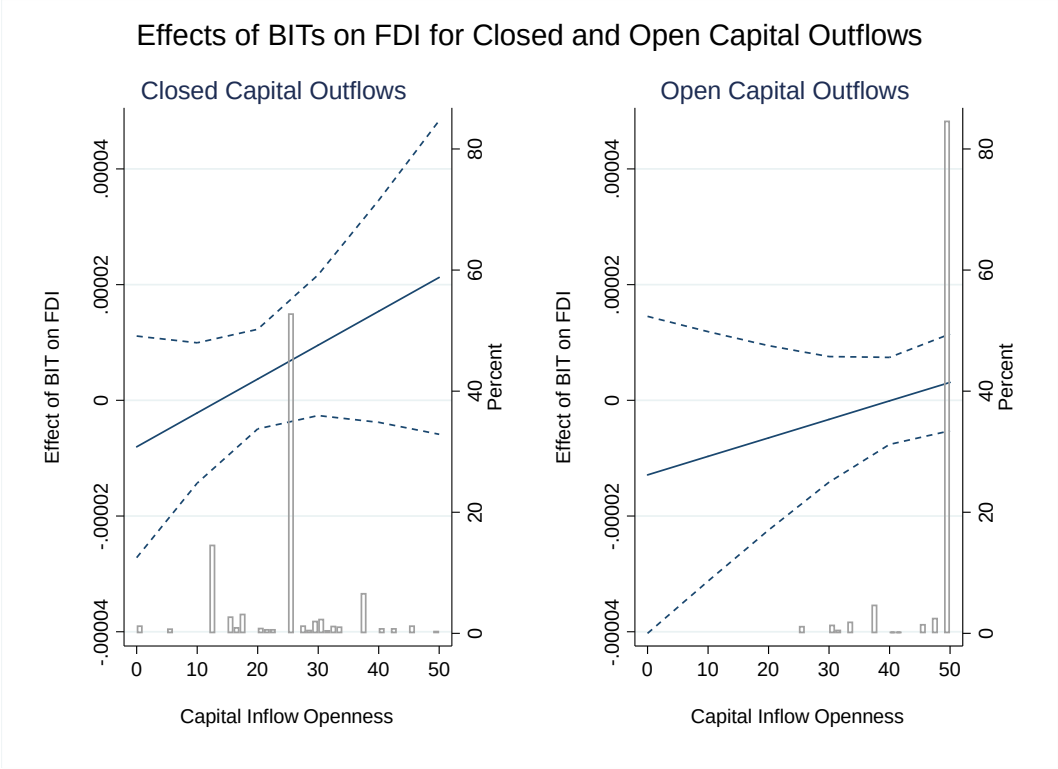

Figure 8. Dyadic: Conditional Effects of Non-dyadic BIT on FDI for Closed and Open Capital Outflows (Developing Sample)

Both Figures 7 and 8 are consistent with H1. There seems to be no joint effect of capital openness and non-dyadic BITs on FDI inflows. The average marginal effect of a non-dyadic BIT on FDI remains indistinguishable from zero across different values of capital inflow openness and for low (left subfigures) and high (right subfigures) capital outflow openness. This finding suggests that capital openness influences FDI inflows not through its effect on unprotected investors but on protected investors.

In Figures 9 and 10, we explore a supposition derived from Arias, Hollyer, and Rosendorff about the efficacy of BITS in helping autocratic regimes maintain power. We estimate a model from Table 5, model 6 (similar to Figure 6). An implication of their argument for ours would be that autocratic regimes would benefit more than democratic regimes from the processes described here: a dyadic BIT should induce more investment in autocratic regimes, given relative capital inward capital account openness and relative capital account closure. Figure 9 shows the democratic case in emerging economies (defined as countries with 10 consecutive years with a Polity2 score 7 or above), and Figure 10 shows the autocratic case (defined as 10 consecutive years with a Polity2 score below 7).

In both cases, the broad outlines of the evidence found in Figure 6 (a positive effect on FDI flows from a BIT with closed outflows and open inflows) are found. The estimates are more precisely estimated in the autocratic case, which is consistent with Arias, Hollyer, and Rosendorff, but the differences are not statistically significant. This is an area for future research.

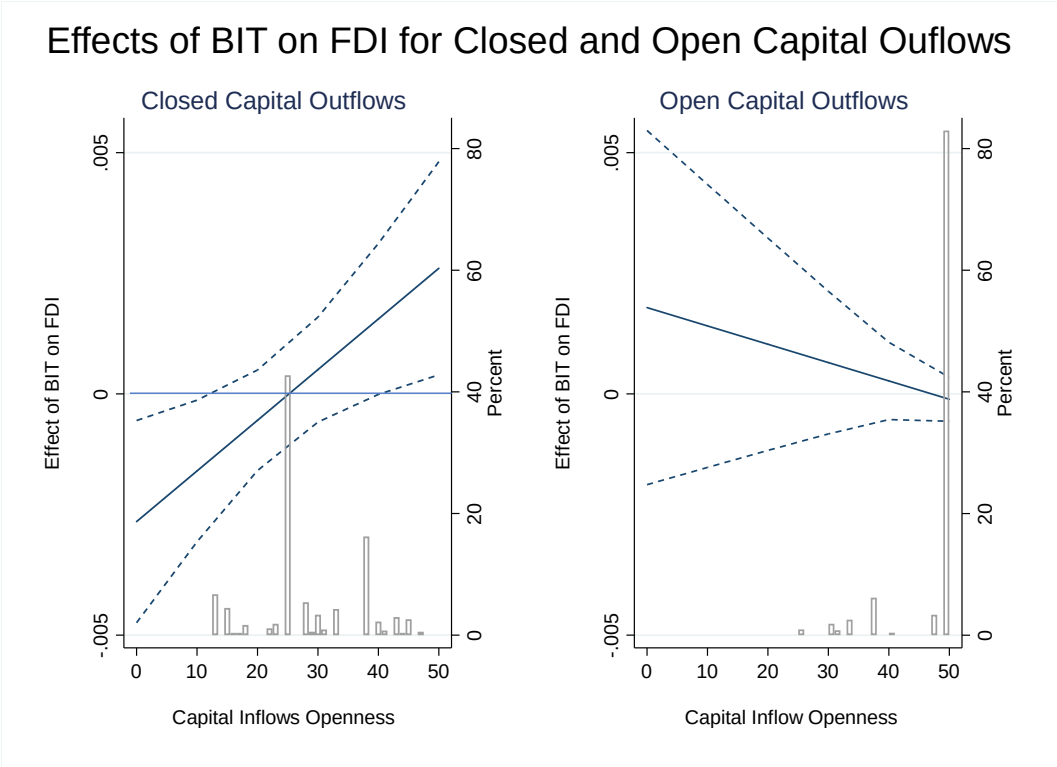

Figure 9. Dyadic: Conditional Effects of Non-dyadic BIT on FDI for Closed and Open Capital Outflows (Developing Sample: Stable Democracies Only)

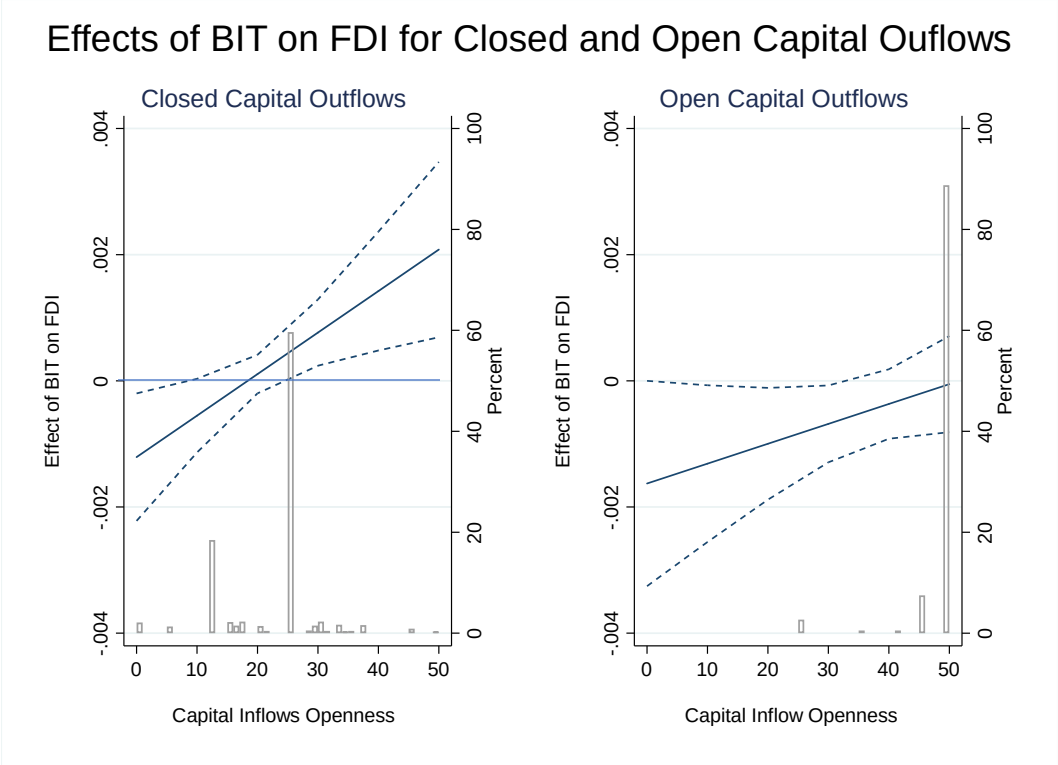

Figure 10. Dyadic: Conditional Effects of Non-dyadic BIT on FDI for Closed and Open Capital Outflows (Developing Sample: Stable Autocracies Only)

	Aggregate BITs	Dyadic BIT
CAP100 (Overall Openness)	0.26	-0.07
CAPIN (Inflow Openness)	0.27	-0.06

Conclusion

In this paper, we have shown that domestic economic policies in the form of capital controls condition the effect of BITs on FDI inflows. More specifically, the capital inflows account and capital outflows account each interact with BITs differently in how they affect FDI. Capital inflows openness works as a complement for BITs in that the host country will experience an increase in FDI inflows following BIT ratification only when that host country's policy is one of open capital inflows. This effect, however, is conditional upon the capital outflow openness in the

host country. The effect of having an open capital inflow account on FDI is positive for countries with a moderately closed capital outflows account and non-existent for countries with a highly open capital outflows account because openness in capital outflows serves as a substitute for investor-state dispute settlement mechanisms embedded in these treaties.

While many developing countries have rushed to sign BITs hoping to attract more FDI, the findings from this paper suggest that BITs may have the desired effect only for a subset of countries. These findings potentially have policy implications for developing countries trying to attract foreign direct investment through BITs. BITs will be most useful policy tools for countries that have open capital inflows and moderately closed capital outflows accounts. In contrast, countries that have both open capital inflows and outflows account are unlikely to see a gain in inward FDI flows post-BIT.

While this paper has studied the effect of host country capital inflows and outflows openness in dyadic contexts, this effect is likely to be conditioned by capital controls in partner home countries, senders of investment. While our bilateral data with OECD home countries for the period of 1990-2014 does not provide the most fruitful venue for testing this relationship given the limited variation in capital inflow and outflow openness across OECD countries during this period, future research should explore how the relative openness in capital inflows and outflow openness between the home and host countries determine the effects of BITs on FDI.

References

Arias, Eric, James R. Hollyer, and B. Peter Rosendorff. "Cooperative Autocracies: Leader Survival, Creditworthiness, and Bilateral Investment Treaties." *American Journal of Political Science* 62, no. 4 (2018): 905-921.

Betz, Timm., Amy Pond, Weiwen Yin. 2021. Investment agreements and the fragmentation of firms across countries. *Rev Int Organ* **16**, 755–791. https://doi.org/10.1007/s11558-020-09402-0

Bhagwat, Vineet, Jonathan Brogaard, Brandon Julio. 2021. A BIT goes a long way: Bilateral investment treaties and cross-border mergers. *Journal of Financial Economics* Volume 140, Issue 2, 2021,Pages 514-538,

Biglaiser, Glen, Brian Hicks, and Caitlin Huggins. 2008. Sovereign Bond Ratings and the Democratic Advantage: Portfolio Investment in the Developing World. *Comparative Political Studies* 41 (8): 1092-116.

Büthe, Tim, and Helen V. Milner. 2008. The Politics of Foreign Direct Investment into Developing Countries: Increasing FDI through International Trade Agreements? *American Journal of Political Science* 52 (4): 741-62.

Egger, Peter and Michael Pfaffermayr, 2004. The impact of bilateral investment treaties on foreign direct investment, *Journal of Comparative Economics*, 32(4): 788-804,

Elkins, Zachary, Andrew T. Guzman, and Beth A. Simmons. 2006. Competing for Capital: The Diffusion of Bilateral Investment Treaties, 1960–2000. *International Organization* 60 (4): 811-46.

Frenkel, M, Walter, B. 2019. Do bilateral investment treaties attract foreign direct investment? The role of international dispute settlement provisions. *World Econ*. 2019; 42: 1316–1342. https://doi.org/10.1111/twec.12743

Garriga, Ana Carolina, and Brian J. Phillips. 2014. Foreign Aid as a Signal to Investors: Predicting FDI in Post-conflict Countries. *Journal of Conflict Resolution* 58 (2): 280-306.

Gray, Julia. 2009. International Organization as a Seal of Approval: European Union Accession and Investor Risk. *American Journal of Political Science* 53 (4): 931-49.

Hallward-Driemeier, Mary. 2003. Do Bilateral Investment Treaties Attract Foreign Direct Investment? Only a Bit and They Could Bite.

Jensen, J. Bradford, Dennis P. Quinn, and Stephen Weymouth. 2015. The Influence of Firm Global Supply Chains and Foreign Currency Undervaluations on US Trade Disputes. *International Organization* 69 (4): 913-47.

Johns, Leslie., and Rachel L. Welhhausen. 2016. Under One Roof: Supply Chains and the Protection of Foreign Investment. *American Political Science Review 110*(1): 31-51. doi:10.1017/S000305541500057X

Kerner, Andrew. 2009. Why Should I Believe You? The Costs and Consequences of Bilateral Investment Treaties. *International Studies Quarterly* 53 (1): 73-102.

Kerner, Andrew, and Jane Lawrence. 2014. What's the Risk? Bilateral Investment Treaties, Political Risk and Fixed Capital Accumulation. *British Journal of Political Science* 44 (1): 107-21.

Kerner, Andrew, and Krzysztof Pelc. 2022. Do Investor–State Disputes (Still) Harm FDI? *British Journal of Political Science 52*(2), 781-804. doi:10.1017/S0007123420000721

Kerner, Andrew. "What Can We Really Know about BITs and FDI?." *ICSID Review-Foreign Investment Law Journal* 33, no. 1 (2018): 1-13.

Kim, S. Protecting home: how firms' investment plans affect the formation of bilateral investment treaties. *Rev Int Organ* (2023). https://doi.org/10.1007/s11558-023-09486-4

Lane, Philip R., and Gian Maria Milesi-Ferretti. 2011. Cross-Border Investment in Small International Financial Centres. *International Finance* 14 (2): 301-30.

Lee, Chia-yi, and Noel P. Johnston. 2016. Improving Reputation BIT by BIT: Bilateral Investment Treaties and Foreign Accountability. *International Interactions* 42 (3): 429-51.

Li, Quan, Erica Owen, and Austin Mitchell. 2016. Do Democracies Attract More Foreign Direct Investment? A Meta-analysis. Paper presented at annual meeting of International Political Economy Society, Princeton, NJ.

Neumayer, Eric, and Laura Spess. 2005. Do Bilateral Investment Treaties Increase Foreign Direct Investment to Developing Countries? *World Development* 33 (10): 1567-85.

Pelc, Krzysztof J. 2017. What Explains the Low Success Rate of Investor-state Disputes? *International Organization* 71 (3): 559-83.

Pond, Amy. 2018. Worker Influence on Capital Account Policy: Inflow Liberalization and Outflow Restrictions. *International Interactions* 44 (2): 244-67.

Poulsen , Lauge N Skovgaard, 2020. Beyond Credible Commitments: (Investment) Treaties as Focal Points, *International Studies Quarterly*, 64(1):26–34, https://doi.org/10.1093/isq/sqz079

Quinn, Dennis. 1997. The Correlates of Change in International Financial Regulation. *American Political Science Review* 91 (3): 531-51.

Quinn, Dennis, Martin Schindler, and A. Maria Toyoda. 2011. Assessing Measures of Financial Openness and Integration. *IMF Economic Review* 59 (3): 488-522.

Rose-Ackerman, Susan and Tobin, Jennifer, Foreign Direct Investment and the Business Environment in Developing Countries: The Impact of Bilateral Investment Treaties (May 2, 2005). Yale Law & Economics Research Paper No. 293, Available at SSRN: https://ssrn.com/abstract=557121 or http://dx.doi.org/10.2139/ssrn.557121

Rose-Ackerman, Susan, and Jennifer Tobin. 2005. Foreign Direct Investment and the Business Environment in Developing Countries: The Impact of Bilateral Investment Treaties.

Tobin, Jennifer L., and Marc L. Busch. 2010. A BIT is Better than a Lot: Bilateral Investment Treaties and Preferential Trade Agreements. *World Politics* 62 (1): 1-42.

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

Wellhausen, Rachel L. 2016. Recent Trends in Investor–state Dispute Settlement. *Journal of International Dispute Settlement* 7 (1): 117-35.

Yackee, Jason Webb. 2010. Do Bilateral Investment Treaties Promote Foreign Direct Investment-some Hints from Alternative Evidence. *Va.J.Int'l L.* 51 : 397.