Interstate Political Relations and Bilateral FDI Flows*

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International production capital has become an important driver of the global economy, involving not just the developed economies but also the developing countries in significant ways. World foreign direct investment (FDI) inflows reached $865 billion in 1999, and they are expected to reach over $1.2 trillion in 2010, about $1.3–1.5 trillion in 2011 and probably $1.6–2 trillion in 2012 (UNCTAD 2000, xvi; UNCTAD 2010, xvii). The number of multinational corporation (MNC) parent firms reached 63,000 in 2000 and 79,000 in 2007, associated with 690,000 and 790,000 foreign affiliates, respectively (UNCTAD, 2000, xv; 2008, xvi). Foreign affiliates' share in global gross domestic product (GDP) rose to a historic high of 11% in 2009, a year of economic contraction (UNCTAD, 2010, xviii). Foreign affiliates worldwide hire more than 80 million employees (UNCTAD 2007, xvi; UNCTAD, 2010, xviii). Even for developing countries, the inward FDI stock increased from about 13% of their GDP in 1980 to about a third in 2002 (UNCTAD 2003). And for the first time ever, developing and transition economies are now accepting half of global FDI inflows in 2009 (UNCTAD 2010, xix). Behind these statistics is the fact that both policymakers and scholars have become interested in the economic and political causes of FDI flows.

Most scholars have devoted their attention to country-level factors of FDI flows. However, we argue that the quality of interstate political relations have significant impact on firm investment decisions and behaviors. Only a few studies have examined how some aspect of interstate relations influences bilateral investment flows. Yet none of these studies provides a rigorous theoretical foundation for the causal mechanisms, or they focus at best on some aspect of the political relations or a narrow set of country pairs.

In this paper, we address these weaknesses both theoretically and empirically. We first demonstrate formally how interstate relations affect FDI flows in a firm-level theoretical model

and then test the theoretical expectation regarding real bilateral FDI flows empirically. The results highlight the importance of interstate relations on international production capital. They have important implications for understanding business behaviors, the efficient allocation of resources, and the consequences of international conflict and cooperation.

Literature Review

Germane to the study of FDI are works from three fields: international business, international economics, and international political economy. All studies, with only a few exceptions, focus on country-level factors or bilateral investment treaties, largely ignoring the relevance of interstate political relations. The dependent variable tends to be FDI inflows into individual countries or US FDI flows into other countries.

In international business, scholars devote a lot of attention to studying how aggregate indicators of political stability capturing country-specific risks influence FDI investment decisions and flows. A partial list of these studies includes Schneider and Frey (1985), Loree and Guisinger (1995), Woodward and Rolfe (1993), Fatehi-Sedeh and Safizadeh (1989), Olibe and Crumbley (1997), Henisz (2000), Sethi, Guisinger, Phelan and Berg (2003), and Globerman and Shapiro (2003). In these studies, even when some aspect of interstate relations (e.g., armed conflict) is considered, it usually is absorbed into the country-specific aggregate measures.

In international economics, interstate political relations have never been considered either theoretically or empirically. Markusen's (2002) well-known Knowledge-capital model emphasizes the differences in countries' skill endowments and investment barriers. New firm-level theoretical models of FDI (e.g., Melitz 2003, Helpman 2006, Grossman and Helpman

2002, Helpman, Melitz and Yeaple 2004) focus on the role of productivity differentials, showing that firms with highest productivity choose FDI, those with medium productivity choose export, and those with lowest productivity choose domestic production only. Empirical models of bilateral FDI flows (Brainard, 1997; Grosse and Trevino, 1996; Grubert and Mutti, 1991; Blonigen and Davies, 2004) largely follow the gravity model specification, omitting interstate political relations as irrelevant.

In international political economy, scholars have focused on the impact of country-specific attributes on foreign direct investors, including democratic institutions (e.g., Li and Resnick 2003; Li 2006a, 2009; Jensen 2003, 2006, 2008; Garland and Biglaiser 2009), political violence (Frieden 1994; Li, 2006b), government partisanship (Pinto and Pinto 2008), and country memberships in preferential trade agreements (Buthe and Milner 2008). In addition, a growing body of literature (e.g., Hallward-Driemeier 2003; Neumayer and Spess 2005; Elkins, Guzman and Simmons 2006; Tobin and Rose-Ackerman 2005) studies the impact of bilateral investment treaties on FDI flows, producing mixed evidence. Again, the relevance of interstate political relations is overwhelmingly overlooked.

To the best of our knowledge, among all three fields, only three studies (Nigh 2005; Biglaiser and DeRouen 2007; Li and Vaschilko (2010) have analyzed the effects of interstate political relations to bilateral investment flows. From international business, Nigh (1985) argues that since "many host country officials and citizens do not distinguish between the interests of the U.S. government and those of U.S. direct foreign investors," investors watch closely for the possible inter- and intra- nation cooperation or conflict. These events provide valuable information on the business environment in a host country for an investor from a particular home country. In a statistical analysis of manufacturing FDI by US firms to 24 countries over 21 years,

Nigh (1985) finds that inter-nation conflicts reduce US investment while inter-nation cooperation increases it.

Biglaiser and DeRouen (2007) argue that U.S. troops stationed in host countries signal positive relations and possibly alliances between the U.S. and host countries, indicating investment stability that are only available to U.S. firms. Their statistical analysis shows that the presence of U.S. troops encourages U.S. capital inflows into 126 developing countries between 1966 and 2002

Li and Vaschilko (2010) argue that interstate military conflict and security alliances, as two central features of interstate security relations, often change both government policies toward international business and investor expectations of political risk. From the perspectives of both states and investors, military conflict should reduce bilateral investment whereas security alliances increase it. Their empirical analysis employs a gravity model of bilateral investment flows for 1117 directed dyads among 58 countries from 1980 to 2000. Among 18 countries whose per capita real incomes remain consistently above 12,000 constant dollars, the security factors do not affect bilateral investment; in the high-low income dyads, interstate military conflict and security alliances significantly influence bilateral investment as expected.

None of these three studies, however, provides a strong micro-level theoretical foundation about how interstate political relations influence foreign firm operations. Empirically, the studies by Nigh (1985) and Biglaiser and DeRouen (2007) have limited data coverage, focusing solely on US firm investments abroad, whereas Li and Vashchilko (2010) have broader sample coverage but do not consider interstate political relations beyond military conflict and security alliances like the study by Nigh (1985).

In this paper, we fill this important gap by studying how interstate political relations influence the decisions of heterogeneous firms employing recent firm-level models of trade and FDI. Recent research in international economics has made significant progress in understanding international production by examining firm-level dynamics (e.g., Melitz 2003, Helpman 2006, Grossman and Helpman 2002, Helpman, Melitz and Yeaple 2004). The basis for the growing literature on heterogeneity in international trade and FDI is Melitz (2003), who studies the export decisions of firms and is the first to introduce heterogeneity of firms into monopolistic competition market structure. This has allowed scholars to consider the interaction between differences in firm's productivities and fixed costs of exporting. Helpman, Melitz and Yeaple (2004) generalize the Melitz (2003) model to study horizontal FDI under heterogeneity of firms, and demonstrate that heterogeneous firms choose FDI over export depending on the trade-off between fixed and variable costs. The firms with highest productivity choose FDI, the firms with not so high productivity choose export as the mode to serve foreign market, and the firms with lowest productivity choose domestic production only. We build on these type of firm-level models of FDI in our theoretical exploration below.

Model

The model builds on Melitz (2003) in line with Flam and Helpman (1987). There are three countries. The host country receives FDI from two other home countries: Country 1 and Country 2.

Each country has one sector, which produces many varieties of the same commodity. The constant elasticity of substitutions (CES) utility function describes the preferences of individual consumers over a continuum (large number) of varieties within the sector:

$$U_i = \left(\int_{j\in\Omega_i} q_i(j)^{\frac{\sigma-1}{\sigma}} dj\right)^{\frac{\sigma}{\sigma-1}}, \quad (1)$$

where $q_i(j)$ denotes the consumption of a variety j in the host country by the representative consumer, Ω is the set of all available varieties, and σ is the elasticity of substitution.

Consumer preferences generate the following demand for variety j in the host country:

$$q(j) = \frac{p(j)^{-\sigma}}{P^{1-\sigma}} I \quad (2)$$

where I is the income of a representative consumer in the host country, and P is the price index that includes additively the prices of all varieties available for consumption in the host country. Because of the large number of varieties, the change in the price of any single variety does not affect either the price index or the demand for the other varieties.

Upon entering a market, a firm decides to produce a variety that differs from those already existing in the market. To collect higher profit, the firm does not need to share the demand for a variety with any other firm. So, each firm behaves as a monopolist in setting the price for its variety domestically or abroad (Krugman 1979).

Employing one unit of labor, a firm with productivity ϕ produces ϕ units of output. For simplicity, we assume that a firm in the host country produces only for its domestic market. The cost of labor in the labor market of the host country is w. When a firm in the host country produces quantity q^d for the domestic market, the variable cost incurred is $\frac{w}{\phi} q^d$.

FDI flows from two foreign home countries into the host country. Some of the foreign firms in Country i may find it profitable to make FDI into the host country, where $i = 1,2$. The

mass of foreign firms M_i^f from the foreign home Country i invests into the host country. The productivities of these firms are distributed according to $g_i^f(\phi)$.

When a foreign firm with productivity ϕ invests in the host state, the variable cost associated with the production of quantity q_i^f in the host country is $\alpha_i \frac{w}{\phi} q_i^f$. Most notably, the parameter α_i captures political actions the host government initiates toward some home Country i, which introduce the difference in the treatment of domestic producers and foreign producers from a particular country i. When $0 < \alpha_i < 1$, the variable cost of a firm from Country i doing business in the host country declines, and when $\alpha_i > 1$, the variable cost increases, which occurs due to corresponding cooperative ($\alpha_i < 1$) or conflictual ($\alpha_i > 1$) political actions taken by the host country toward some home Country i.

Given the demand with constant elasticity, the price set for the variety produced and sold domestically is $p^d(\phi) = \frac{w}{\rho\phi}, where\ \rho = \frac{\sigma-1}{\sigma}$. Similarly, the price set by a foreign firm (with productivity ϕ) from a Country i that is involved in FDI equals to $p_i^f(\phi) = \alpha_i \frac{w}{\rho\phi}$. The revenue of a foreign firm from a Country i, $R_i^f(\phi)$, and the revenue of a domestic firm, $R^d(\phi)$, collected on the host state market equal to:

$$R^d(\phi) = \left[\frac{\rho\phi P}{w}\right]^{\sigma-1} I;\ R_i^f(\phi) = \left[\frac{\rho\phi P}{\alpha_i w}\right]^{\sigma-1} I \qquad (3)$$

In addition to its variable costs, a firm also bears fixed production costs. A national firm in the host country pays the fixed cost wf^d. A multinational firm headquartered in Country i and investing in a production plant in the host country pays the fixed cost of production, $\beta_i w f_i^f$, which consists of cost of building a plant in another country, setting a distributional network, etc. Parameter β_i captures the size of the effect of political actions the host country initiates toward

Country i on the fixed costs of a foreign investment project in the host country. The political actions may increase or reduce the size of the fixed costs of the affiliate, depending on the cooperative or conflictual nature of the host government actions.

A national firm produces and sells on the domestic host market if the profit collected there, $\pi^d(\phi) = \frac{R^d(\phi)}{\sigma} - wf^d$, is positive. Equivalently, a firm's domestic productivity should exceed the zero productivity cut-off, ϕ^d, in order to have an incentive to produce and sell domestically: $\phi > \phi^d$. The zero productivity cutoff, ϕ^d, corresponds to zero profit collected on the domestic market: $\pi^d(\phi^d) = 0$.

A firm from some home Country i begins to invest abroad if the firm expects an increase in its profit through FDI, $\pi_i^f(\phi) = \frac{R_i^f(\phi)}{\sigma} - \beta_i wf_i^f$, beyond its domestic profit. The productivity corresponding to zero profit collected through FDI is called FDI productivity cutoff, $\pi_i^f(\phi_i^f) = 0$. Thus, to make a positive profit from FDI, the firm's productivity abroad should surpass an FDI productivity cutoff, ϕ_i^f, $\phi \geq \phi_i^f$.

The relationship between international politics and FDI has important implications for the entry and exit decisions of national and multinational firms. The assumption is that an unbounded pool of identical firms does not know its future productivity before entering the market. The only information available to potential entrants is the distribution of productivities (with distribution and density functions $G(\phi)$ and $g(\phi)$), from which each firm draws its productivity after paying fixed entry irreversible sunk cost, wf_d^e.

Once the firm's productivity is realized, it remains constant, at least in the short run. If a firm's productivity leads to negative profit per period, the firm exits the market immediately. Otherwise, after entry, the firm remains in the market and in every period, faces the possibility of

a host country-specific external shock, which occurs with probability δ each period. Since this shock is specific to the host country as a whole, it applies to all firms in the host.

The value of entry for a firm equals the stream of per period profits discounted by the probability of staying in the market. Given the uncertainty about future productivity, the expected value of entering the market for a potential domestic entrant in the host country is $\frac{[1-G^d(\phi^d)]}{\delta}\bar{\pi}^d$. That is, the potential entrant should consider both the probability of making a positive per period profit, $[1-G^d(\phi^d)]$, as well as the average profit in the domestic market, $\bar{\pi}^d$. Since there is an unbounded pool of potential entrants, the value of entering a sector should be equal to the entry cost in a sector of the host country, wf_d^e, which is called a free entry condition:

$$\frac{[1-G^d(\phi^d)]}{\delta}\bar{\pi}^d = wf_d^e \quad (4)$$

The firms will continue to enter the market until the expected value from entry equals to the entry cost.

Proposition: An increase in either α_i or β_i leads to a rise in the FDI productivity cutoff for the investor from some home Country i, results in a decrease in the real FDI inflow from some home Country i, and causes a decline in the mass of firms in Country i involved in FDI.

Proof: Firms producing and selling domestically and firms making FDI into the host country face the same conditions in terms of P and w. As a result, the ratio of the productivity cut-offs of foreign and domestic firms in the host state, derived from (3) and identities $\frac{R^d(\phi^d)}{\sigma} = wf^d$

and $\frac{R_i^f(\phi_i^f)}{\sigma} = \beta_i w f_i^f$, is:

$$\frac{\phi_i^f}{\phi^d} = \alpha_i \left[\beta_i \frac{f_i^f}{f^d}\right]^{\frac{1}{\sigma-1}} \quad (5)$$

The larger the value of α_i or β_i, the higher the variable costs or fixed costs associated with FDI, the higher the productivity the foreign firm should have to just make zero profits on FDI in the host country. Because the associated political actions are targeted toward some home Country i, he changes in α_i and β_i have no effect on ϕ^d. Then given the value of ϕ^d from the expression (4) and according to the expression (5), ϕ_i^f increases in α_i and β_i.

To better illustrate some of these implications, Figure 1 demonstrates the relationship between the productivity cutoffs of foreign and domestic firms in the host state (x-axis) and their profitability in the host country's market (y-axis). Suppose the host state initiates more cooperative actions toward Country 1 than toward Country 2. This generates the following effects on the operating costs of the firms from these two countries: ($\beta_1 < \beta_2$) and ($\alpha_1 < \alpha_2$). Hence, due to the higher fixed costs for firms from Country 2, the profit function of the firm from Country 2 is below than that of the firm from Country 1. And because of the higher variable costs for firms from Country 2, the slope of the profit function of the firm from Country 2 is flatter than that for the firm from Country 1. Figure 1 clearly shows that the FDI productivity cut-off is larger for the firm from Country 2 than that from Country 1. Therefore, relative to that from Country 1, the firm from Country 2 would need to have higher levels of productivity to begin earning positive profits in the host state.

[Insert Figure 1 here]

Now, the alternative expressions for the revenues can be derived. By combining the expressions for revenues from (3) with the zero productivity cut-offs, $\pi^d(\phi^d) = 0$ and

$\pi_i^f(\phi_i^f) = 0$, one can produce the following:

$$R^d(\phi) = \left[\frac{\phi}{\phi^d}\right]^{\sigma-1} \sigma w f^d;\ R_i^f(\phi) = \left[\frac{\phi}{\phi_i^f}\right]^{\sigma-1} \sigma \beta_i w {f_i}^f \qquad (6)$$

Then one can combine (6) with the free entry conditions to produce the following:

$$f^d \int_{\phi^d}^{\infty} \left[\left[\frac{\phi}{\phi^d}\right]^{\sigma-1} - 1\right] g^d(\phi) d\phi = \delta f_d^e \qquad (7)$$

This condition pins down the zero profit productivity cutoff.

The mass of foreign firms in the country's market is determined by $(1 - G_i^f(\phi_i^f))M_i^f$. With the increase in ϕ_f, the mass of firms declines. Now, the real FDI inflow for a particular foreign firm is defined as f_f and associated with the usage of foreign equipment in the country. So, the larger the mass of foreign firms involved into FDI, the larger the real FDI inflows from a Country i. Since the mass of foreign firms involved into FDI declines with the increase in α_i and β_i, so is the corresponding real FDI inflows from a Country i.

Empirical Analysis

We test the effects of interstate conflict and cooperation on bilateral investment flows using the model specification and estimation technique as Li and Vashchilko (2010) since they have the largest data coverage so far in the literature. Compared with that study, our sample is smaller because we do not have events data for the 1980s. Our sample covers 1013 directed dyads between 54 countries from 1990 to 2000. The list of countries in the sample is in appendix. The dependent variable is the FDI flow either from one OECD country (origin) to any of the other countries (destination), or from one of the non-OECD countries (origin) to an OECD member (destination). Since the data do not cover the flows between non-OECD countries, one should interpret the findings with caution. The variable, measured in millions of constant US

dollars, is log transformed both to correct its skewed distribution and to be compatible with the gravity model specification. Since the variable has negative and zero values, we follow the practice of Li and Vashchilko (2010) and the suggestion of applied researchers in other fields (e.g., Osborne, 2002; McDonald, 2008) by adding add some constant value that is just large enough to turn zero and negative values into positive ones before log transforming the variable. Data are collected from the OECD "*International Direct Investment Statistics Yearbook*".

As Li and Vashchilko (2010), we employ the following dynamic panel data model:

$$y_{ijt+1} = \alpha y_{ijt} + \rho \sum_{km \neq ij} \omega_{pqt} y_{kmt} + \beta_1 X_{i,j,ij,t} + \beta_2 z_{i,j,ij,t} + \nu_{ij} + \varepsilon_{ijt},\ ij = 1,...N,\ t = 1,...T, \qquad (1)$$

where y_{ijt+1} indicates FDI flows from the origin country *i* to the destination country *j* at year *t+1*,

y_{ijt} denotes FDI flows from *i* to *j* in year *t* to model temporal dependence in FDI,

$\sum_{km \neq ij} \omega_{pqt} y_{kmt}$ models spatial dependence in FDI flows,

$X_{i,j,ij,t}$ denotes exogenous variables in the model, including geographic distance between *i* and *j* in year *t*, populations of *i* and *j* in year *t*,

$z_{i,j,ij,t}$ denotes endogenous variables in the model, including the conflict and cooperation variable between *i* and *j* in year *t*, trade flows between *i* and *j* in year *t*, the ratification of bilateral investment treaty (BIT) between *i* and *j* since year *t*, per capita incomes of *i* and *j* in year *t*,

$\alpha, \rho, \beta_1, \beta_2$ represent parameters to be estimated,

ν_{ij} indicates dyad-level fixed effects that may correlate with the covariates,

ε_{ijt} is the error term, assumed to be independently and identically distributed with variance σ_{ε}^{2}.

We follow the gravity model specification many scholars use to explain bilateral FDI flows (Brainard, 1997; Grosse and Trevino, 1996; Grubert and Mutti, 1991; Blonigen and Davies, 2004). Distance is the logged distance between the capitals of two states in a dyad, which we expect to increase transaction costs and reduce FDI flows. GDP per capita for the home or host country represents the level of development. Economic development of the origin country leads to more available resources for investments abroad whereas development of the destination country creates higher demand and more qualified labor. Population for the home or host country indicates the market size. The home country's market size could increase FDI outflows (e.g., Grosse and Trevino, 1996) by increasing production and greater demand. Data on GDP per capita and population are from the World Bank Development Indicators.

The key independent variable of interest is the measure of international conflict and cooperation. We use data on actual events initiated by the FDI recipient country toward the FDI origin country to construct a measure of the net international cooperation. The data are from King and Lowe (2003). The source of the data are all news reports from Reuters in 1990-2004, the Reuters Business Briefings (RBB) (1990-May 2003), the Reuters Factiva's World News (June 22, 2003 - September 9, 2003), and Reuters (World) news (September 10, 2003 – 2004). Each event is assigned a weight according to the Goldstein scale, ranging from -10, intense international conflict, to 8.3, intense international cooepration (Goldstein 1992). All cooperation events, such as aid, visit, apology, praise, endorsement, etc., are summed together into an annual cooperation indicator, whereas all conflict events, such as military attack, expelling, rejection,

criticism, etc., are summed together into an annual conflict measure in absolute value. Since the investor cares about the net cooperation status of the policy attitude of the recipient country toward his home country, we compute (150+cooperation-conflict) to generate an indicator with positive values only, and then log transform it to conform to the gravity model specification. Higher values indicate greater net cooperation the FDI recipient country initiates toward the FDI origin country.

In addition, we also control for bilateral trade and bilateral investment treaties (BIT). The bilateral trade variable is the logged total trade flows in millions of constant dollars between two countries in a year. Data on trade are from the OECD Bilateral Trade Database. The effect of trade on FDI is ambiguous (e.g., Brainard, 1997; Grosse and Trevino, 1996). Trade may complement and encourage FDI, especially for intra-firm trade within an MNC. On the other hand, FDI sometimes occurs to leapfrog high trade barriers or substitute trade in serving the local market. BIT ratification is dichotomous, coded one since the year when a BIT is ratified between two countries and zero otherwise. The data on BITs are from UNCTAD. As noted earlier in the paper, the empirical evidence on the effect of BIT is mixed.

Next, we also employ the dyad-fixed effects and the lagged dependent variable to control for many variables not included in the model, including the cultural distance between countries and colonial ties, capital controls, and tax rates. Because FDI flows tend to persist over time due to reinvestment and other income transfers between parents and affiliates, we control for temporal dependence with the the lagged dependent variable and the dyad fixed effects. Since FDI flows also correlate across countries (see, e.g., Blonigen, Davies, Waddell and Naughton, 2007), we use the spatial autoregressive term $\sum_{km \neq ij} \omega_{pqt} y_{kmt}$ to capture the time varying spatial

dependence in FDI using a procedure developed by Neumayer and Plümper (2010). $\sum_{km \neq ij} \omega_{pqt}$ represents the spatial connectivity from destination *j* to other destinations *m* and the spatial connectivity from origin *i* to other origins *k*.

For estimation, we use the Arellano-Bover/Blundell-Bond system GMM estimator, which uses the moment conditions of lagged levels as instruments for the differenced equation together with the moment conditions of lagged differences as instruments for the level equation. The Arellano-Bover/Blundell-Bond estimator allows the possibility of also identifying time invariant variables (e.g., distance), provides a larger set of moment conditions both to overcome some weak instruments biases of first differenced estimators and to reduce the finite sample bias in panels with short T and persistent regressors, and enables us to address the endogeneity of several variables with appropriate instruments (see, e.g., Baltagi, 2005; Roodman, 2006). The estimator is particularly suitable for our design, in which the number of time periods is far below the number of panels, the dependent variable persists and depends on its past realization, certain independent variables are endogenous, and fixed effects are present. And we estimate the robust standard errors to control for possible heteroskedastic error variance

We lag all right hand side variables one period behind the dependent variable to control for possible reverse causality. As a result, we treat the one period lagged geographic distance and populations of both countries as exogenous. For theoretical reasons offered in various previous studies[1], we treat interstate conflict and cooperation, bilateral trade, BIT ratification, and national incomes as endogenous variables despite the one period lag.

[1] For the effects of FDI on conflict, GDP per capita, BIT, and trade, see, e.g., Li (2008), Gartzke, Li and Boehmer (2001), Henisz (2008), Elkins, Guzman and Simmons (2006), and Amiti and Wakelin (2003), respectively.

Table 1 presents the statistical results from two models, one with the net cooperation variable and the other with the separate conflict and cooperation variables. Across both models, the results for the serial correlation tests are as expected. The null hypothesis of no serial correlation at order one is rejected and fails to be rejected at order 2, which collectively indicate that the moment conditions are valid.[2]

[Insert Table 1 here]

Model 1 shows that net international cooperation initiated by the FDI recipient country toward the FDI origin has a statistically significant positive effect. The result supports the expectation that as the capital recipient government initiates more cooperative actions than conflictual ones toward the government of the capital origin, these actions are likely to reduce the costs for the investors from the origin, create more profitable investment opportunities, and result in more real FDI inflows. On the other hand, if the capital recipient government initiates more hostile than benign actions toward the government of the capital origin, the result is less real FDI inflows.

Interestingly, Model 2 shows that the cooperation event variable has a statistically significant positive effect while the conflict event variable has the expected negative sign but its effect is statistically insignificant at the usual significance level. One interpretation of the finding

[2] With first differencing, in order for the moment conditions to be valid, we should find the errors to be serially correlated at order one, but not at any higher order. First differencing introduces regressor-error correlation (e.g., $\Delta y_{it-1} = (y_{it-1} - y_{it-2})$ is a function of ε_{it-1}, an element in the first differenced error term). The GMM estimator addresses this by applying y_{it-2} or Δy_{it-2} as an instrument that correlates with Δy_{it-1}, but not $(\varepsilon_{it} - \varepsilon_{it-1})$.

is that affiliate operations are affected more by the cooperation events than the conflict events. While there are no strong theoretical priors for why this occurs, two explanations might be relevant. First, the two variables are highly correlated within the sample at 0.64. In the presence of such collinearity, the cooperation variable, which has a much larger variance (2.17) than that of the conflict variable (1.27), has more variations to account for the variations in the dependent variable. Second, foreign direct investors often tend to be more risk averse because of the relatively illiquid nature of FDI and hence, are more concerned about the negative impact of the conflict events than the benign effect of the cooperation events. Forward-looking investors, therefore, form rational expectations to anticipate the risk of conflict, which results in a deduction of investment before the actual occurrence of the conflict event predicted (see, e.g., Li 2006b). Since the conflict variable is first lagged one period behind the dependent variable and then endogeneized and instrumented by its lagged level in the differenced equation and its lagged difference in the level equation, the ex ante rational expectation effect is simply not captured by the conflict event variable in the model. The two explanations are plausibly both at work in generating the insignificant negative effect of conflict.

The control variables in Table 1 produce results that are consistent with those of Li and Vashchilko (2010). The lagged FDI variable shows strong path dependence in real FDI flows. The spatially weighted FDI variable indicates strong positive spatial contagion among neighboring host countries as well as neighboring home countries. The BIT ratification does not influence bilateral investment flows. Bilateral trade flows appear to have a substitution effect with bilateral FDI flows.

The populations and per capita real incomes of both home and host countries all have statistically significant, positive effects for all dyads and the high-low income dyads. Market size

and economic development both encourage FDI flows, except for the population variable of the origin in model 1. Distance reduces bilateral investment flows. The results of these typical gravity model variables are consistent with those in previous studies.

Conclusion

Studies of foreign direct investment have gained much attention in recent years, as FDI has become an important dimension of economic globalization and countries, both developing and developed, have started to compete for foreign capital. Most existing political economy studies of foreign investment have been at the country level, focusing on country-level macroeconomic and political determinants. Two weaknesses plague these studies. First, since FDI flows across national borders and involve at least two political jurisdictions, bilateral political relations ought to matter for the entry, exit and operation of foreign investment. Country level studies categorically ignore this issue. Second, new developments in international economics has offered some microeconomic foundation for modeling investment flows, which so far has not been incorporated into the political economy research of FDI.

In this paper, we address both issues. We employ a firm level theoretical model to study how interstate political relations influence firm operations and bilateral investment flows. The model identifies specific mechanisms through which interstate political relations affect investment flows, and leads to several major findings. Empirical analysis based on bilateral investment flows produces evidence that is consistent with one expectation of the theoretical model, that is, when the FDI recipient country's government initiates more cooperation events

than conflict ones toward the FDI origin government, real bilateral FDI flows increase, and vice versa.

As a caveat, our model does not explain when a host government opens or closes access to an industry by some foreign investors, but it does offer insights about the externalities the political actions by the host government toward the home country have on its foreign direct investors. While our model can be further extended by introducing multiple industries, our analysis offers an opportunity to integrate insights from international economics and international politics and shed light on an important problem in international political economy.

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Figure 1 Productivity Cut-Offs for the Host Firm and Multinationals from Two Home Countries

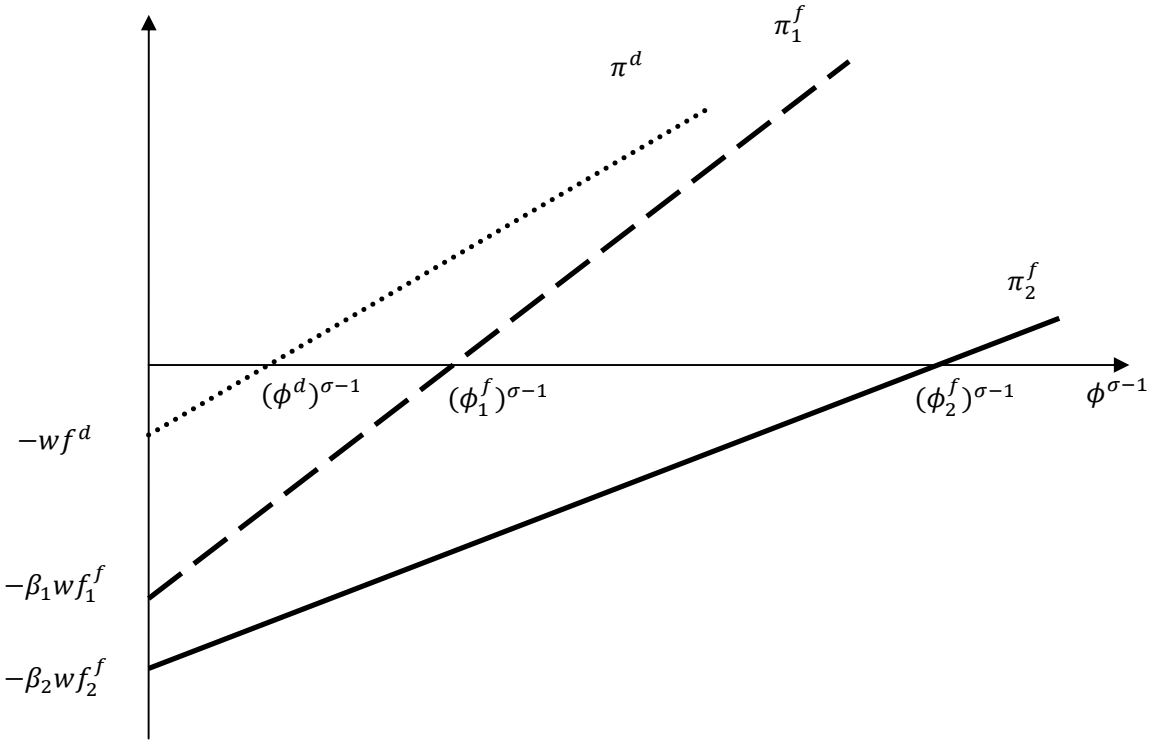

Table 1 Effect of Interstate Cooperation and Conflict on Bilateral FDI Flows, 1990-2000

	(1)	(2)
Net cooperation (log)	0.194	
	(2.12)**	
Cooperation from destination to origin (log)		0.009
		(1.98)**
Conflict from destination to origin (log)		-0.008
		(1.18)
Lagged real FDI flows (log)	0.483	0.526
	(4.36)***	(5.03)***
Bilateral trade (log)	-0.010	-0.011
	(2.07)**	(3.14)***
Ratification of BIT	0.007	0.005
	(0.88)	(0.56)
GDP per capita of origin (log)	0.025	0.031
	(2.54)**	(4.58)***
GDP per capita of destination (log)	0.025	0.026
	(2.41)**	(2.98)***
Spatially weighted FDI (log)	0.011	0.010
	(2.58)***	(2.21)**
Distance (log)	-0.015	-0.008
	(2.27)**	(2.05)**
Population of origin (log)	0.011	0.015
	(1.14)	(2.00)**
Population of destination (log)	0.020	0.022
	(1.95)*	(3.19)***
Constant	2.901	3.265
	(3.56)***	(3.71)***
Observations	6679	6679
Number of Dyads	1013	1013

Robust z statistics in parentheses

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

Appendix List of Countries in Estimation Sample

ID	Country	Frequency	ID	Country	Frequency
1	Algeria	10	26	Japan	230
2	Australia	137	27	Kuwait	7
3	Austria	193	28	Malaysia	130
4	Belgium	166	29	Mexico	104
5	Brazil	111	30	Morocco	67
6	Bulgaria	71	31	Netherlands	215
7	Canada	213	32	New Zealand	124
8	Chile	91	33	Norway	176
9	China	133	34	Panama	28
10	Colombia	77	35	Philippines	94
11	Costa Rica	15	36	Poland	77
12	Czech Republic	80	37	Portugal	126
13	Denmark	209	38	Romania	79
14	Egypt	75	39	Russia	106
15	Finland	183	40	Saudi Arabia	28
16	France	224	41	Singapore	153
17	Greece	126	42	Slovak Republic	41
18	Hungary	102	43	Slovenia	60
19	Iceland	89	44	South Africa	100
20	India	108	45	South Korea	122
21	Indonesia	101	46	Spain	169
22	Iran	85	47	Sweden	213
23	Ireland	189	48	Switzerland	234
24	Israel	129	49	Thailand	113
25	Italy	205	50	Turkey	127
			51	Ukraine	65
			52	United Kingdom	245
			53	United States	244
			54	Venezuela	80
				Total	6679