

# Investment Discrimination and the Proliferation of Preferential Trade

## Agreements

Leonardo Baccini  
IMT Lucca  
[leonardo.baccini@imtlucca.it](mailto:leonardo.baccini@imtlucca.it)

Andreas Dür  
University of Salzburg  
[Andreas.Duer@sbg.ac.at](mailto:Andreas.Duer@sbg.ac.at)

The proliferation of bilateral and regional trade agreements has arguably been the main change to the international trading system since the end of the Uruguay Round in the mid-1990s. We argue that investment discrimination plays a major role in this development. Preferential trade agreements can lead to investment discrimination because of tariff differentials on intermediary products and as result of provisions that relax investment rules for the parties to the agreement. Excluded countries are sensitive to the costs that this investment discrimination imposes on domestic firms and react by signing a trade agreement that aims at leveling the playing field. We test our argument using a spatial econometric model and a newly compiled dataset that includes 166 countries and covers a period of 18 years (1990-2007). Our findings strongly support the argument that investment discrimination is a major driver of the proliferation of trade agreements.

Paper prepared for the 2010 conference of the International Political Economy Society,  
November 12-13, 2010

## **Introduction<sup>1</sup>**

The last two decades have seen a rapid spread of bilateral and regional trade agreements across the globe. Rather than showing signs of slowing down, this development has gathered additional speed for the last few years. In 2009, for example, 26 new preferential trade agreements (PTAs) were notified to the World Trade Organization (WTO), among them agreements between the Association of South East Asian Nations and Japan and the European Free Trade Association and Canada. Such agreements may signal a specific economic policy to domestic audiences (Mansfield et al. 2002), allow governments to gain bargaining power in multilateral trade negotiations (Mansfield and Reinhardt 2003), commit future governments to trade liberalization (Tornell and Esquivell 1997), protect relation-specific investments (Yarbrough and Yarbrough 1992), attract foreign investments (Büthe and Milner 2008), and allow companies to develop economies of scale (Milner 1997; Chase 2005).

We add to this literature by arguing that protecting against losses of foreign direct investments (FDI) is a further important reason for the pursuit of PTAs (see also Manger 2009). Trade agreements may lead to investment discrimination if they are accompanied by high tariffs on intermediary goods from third countries or contain provisions that preferentially liberalize investment policies for partners to the agreement. Governments in excluded countries are likely to react to the costs imposed by investment discrimination on their internationally active firms. An agreement with the country in which investors face discrimination helps domestic firms by reestablishing the competitive situation that existed before the conclusion of the initial agreement. The expectation thus is for trade agreements to spread, with capital exporting countries signing agreements with capital importing countries that recently concluded an agreement with another capital exporting country.

---

<sup>1</sup> We are grateful to Manfred Elsig, Tobias Hofmann and Mark Manger for comments on an earlier version of this paper.

We test our argument quantitatively for 166 countries and a period of 18 years (1990-2007). Using spatial econometric tools, we find strong support for our argument. The results are very robust to various changes in operationalization. Moreover, we show that the effect of investment discrimination is substantively important. By doing so, we not only contribute to a sizeable literature on regionalism but also to an emerging literature on the politics of FDI. Our paper, in particular, highlights the important role that the aim of protecting outflows of FDI (and not only of attracting foreign investments) plays in shaping countries' economic policies. In the following, we first briefly summarize the existing literature on the investment-PTAs nexus, before setting out our argument about PTAs as instruments to protect outward flows of FDI. After presenting our approach to testing the argument, we discuss the findings from our empirical analysis.

### **Foreign Direct Investments and Preferential Trade Agreements**

The last twenty years have seen a rapid increase in (stocks of) foreign investments (see Figure 1).<sup>2</sup> World outward stocks of FDI increased from \$1,786 billion in 1990 to \$16,227 billion in 2007, a growth by just over 800 percent. These investments take one of three forms: market-seeking, efficiency-seeking, and resource-seeking investments. Market-seeking FDI results from companies trying to get better access to a foreign market. In the manufacturing sector, such market-seeking FDI is likely if a country or trading entity has high tariffs on imports of manufactured goods or if the costs of transport of a good are very high. Market-seeking FDI is also important in the services sector, as the provision of many services depends on the geographic proximity between provider and consumer. For example, in nearly all cases the provision of telecommunication services requires investments in infrastructure in the foreign market. Differences in labor costs, production-related standards, political stability, and other

---

<sup>2</sup> We use stocks in our analysis; however, the trend for flows is very similar to the one shown in Figure 1, with the exception that values fluctuate more strongly over time, for example flows declined between 2000 and 2003.

locational advantages can drive efficiency-seeking FDI. Finally, resource-seeking FDI aims at the extraction of natural resources, including soil for agricultural production. Importantly, over this period the share of FDI going to and coming from developing countries has steadily increased. In fact, by 2009 nearly half of FDI outflows go to developing and transition countries.<sup>3</sup>

#### FIGURE 1 ABOUT HERE

In parallel, the number of PTAs has also grown very rapidly, with 243 new trade agreements being signed over the eighteen-year period from 1990 to 2007 (not counting agreements that deepen or replace existing commitments). Whereas following our data in 1990 only 245 dyads had a working preferential trade link between them, in 2007 this number stood at 2,123, a growth of about 750 percent. Initially, most of these agreements were signed among geographically-close developed countries, especially in Europe. Increasingly, however, also countries outside of Europe, and geographically-distant country pairs, have participated in this wave of preferentialism in international trade. In fact, of the thirteen new agreements that we identify for 2007, none is purely within Europe, and all involve at least one developing country. Seven of them involved both at least one developed and one developing country.

The two trends for FDI and PTAs thus share several similarities. Evidently, this correlation between the two developments does not provide evidence for a causal relationship, but there are good theoretical reasons to expect that there is indeed a causal relationship between them. In fact, PTAs may be both a reaction to an increase in FDI (with companies asking for a PTA after setting up production facilities in a country) and a stimulus for further FDI (with companies drawn to countries with PTAs). Despite the theoretical plausibility of

---

<sup>3</sup> Data from <http://stats.unctad.org/fdi>.

this relationship, only a relatively small number of studies have looked at the FDI-PTAs nexus. To the extent that countries make a conscious link between FDI and PTAs, they can either pursue PTAs to attract inflows of FDI or push for PTAs to protect their outward stocks of FDI.

With respect to the former objective, countries could use PTAs as a commitment and signaling device that serves as a guarantee to potential foreign investors that the host government will pursue efficient economic policies in the future. Indeed, it is widely agreed that to attract foreign investments, especially developing countries have “to provide certainty and credibility as to the direction of future policies and the economic environment more generally” (Fernández and Portes 1998: 217). Bütte and Milner (2008) find empirical support for the argument that international trade agreements work as a commitment device that signals to investors a country’s adherence to economically liberal policies. Witnessing a government’s commitment to liberal policies, foreign capital is more likely to flow into a country (see also Motta and Norman 1996; Raff 2004; te Velde and Bezemer 2004; Medvedev 2006). A question that this literature does not tackle is whether PTAs are signed with the intention of fostering FDI flows, or whether the influence on FDI is only a byproduct of a decision taken for other reasons. In fact, the increase of FDI in the aftermath of the signing of a PTA may simply be a consequence of the pull-effect of larger markets on market-seeking investments (Baldwin et al. 1999).

Only few studies have advanced the idea that the protection of outward investments may be a motivation behind the conclusion of PTAs (for some exceptions, see Yarbrough and Yarbrough 1992; Manger 2009). Beth and Robert Yarbrough (1992) maintain that what they call unilateral trade agreements serve as a policy commitment in the presence of relationally-specific investments, for example production facilities in other countries. Mark Manger (2009) argues that developed countries sign PTAs with developing countries for two main reasons. On the one hand, they may try to gain an edge over other developed countries by

creating discrimination against foreign investments from these countries. On the other hand, they may sign PTAs to re-establish a playing field for their own multinational companies after another developed country signed a trade agreement with an emerging economy. He illustrates this argument using case studies of the North American Free Trade Agreement (NAFTA), the European Union's (EU) agreement with Mexico, EU and United States (U.S.) agreements with Chile, and Japan's agreements with Malaysia and Thailand.

Jennifer Tobin and Marc Busch (2010) take a slightly different approach when analyzing whether countries that sign a large number of bilateral investment treaties also are more likely to become partners in PTAs. They suggest a U-shaped relationship between number of investment treaties and trade agreements signed. The attractiveness for a developed country of a developing country increases as the latter signs bilateral investment treaties, but only up to a certain level (five treaties according to the authors) and then declines again. Since bilateral investment treaties increase investment flows (see, for example, Neumayer and Spess 2005; Kerner 2009), this finding also suggests a relationship between investment flows and PTAs.

### **Investment Discrimination and the Spread of Trade Agreements**

#### *A Model of Trade Policy-Making*

Our model of trade policy-making starts with the assumption that governments want to avoid concentrated losses for any significant sector of the economy. This assumption is based on Max Corden's (1997, 74) conservative social welfare function, which reads: "any significant absolute reductions in real incomes of any significant section of the community should be avoided." Following this assumption, governments give relatively less weight to increases in income than to decreases in income. A government rejects a policy even if the cumulative benefits exceed the costs, as long as there are substantial costs for a part of the economy, unless the losers can easily be compensated. At the same time, a government becomes active and tries to help companies that incur losses from an exogenous shock. If for some reason the

government does not manage to help in a reasonable period, however, this loss becomes political irrelevant, because the losers either disappear (firms that go bankrupt) or adjust. Policies that empirically illustrate the logic of avoiding losses in the trade realm are trade adjustment assistance in the U.S., help for the textile industry in the EU, and protection for rice farmers in Japan.

We postulate that the reason for why governments act like this is to be found in domestic politics. Companies can be seen as maximizing a function of gains in the market and rents from political activity. They have a limited amount of resources that they can allocate to productive purposes and influence-seeking. The allocation is likely to depend on the returns that firms expect from either activity. Firms that make economic benefits will find that it makes sense to invest an increasing share of their effort in making money; those making losses, however, have a major incentive to use the political channel to undo their losses. If there is an exogenous change that causes losses to a firm, the firm's relative returns change: the returns from political activity increase relative to the returns from productive activity. As a result, while winners may have more resources, they are less likely than losers to invest those in attempts at influencing policy.<sup>4</sup>

Governments, in turn, respond to political activity by firms because of their objective of staying in power. Business support is important for this objective in several ways: first, supportive business actors may share information with government actors that is essential for the formulation and implementation of policies. Second, supportive business will back the government in an election campaign, whereas non-supportive business may assist the opposition. Finally, business has structural power because of its ability to shift production

---

<sup>4</sup> Our framework differs from alternative models that aim at explaining the same empirical puzzle of mobilization in response to losses (Baldwin and Robert-Nicoud 2007; Pahre 2008). Our approach allows us to avoid Pahre's (2008) assumption that firms' marginal utility of additional wealth declines and Baldwin and Robert-Nicoud's (2007) assumption that the costs of entry into all sectors is very low.

facilities abroad and delay investments. In short, business support is essential for a government, explaining why government is likely to pursue policies that keep business happy. Although we have used election terminology in this reasoning, the argument should not only apply to democracies but also to autocracies. Evidently, the selectorate size differs between the two ideal types of political system (Buono de Mesquita et al. 2003), but in both political systems governments want to stay in power and for that reason will avoid creating business opposition.

### *Investment Discrimination*

The creation of a PTA can impose costs on third countries through both trade diversion and investment discrimination. Trade diversion refers to the substitution of imports from outside the PTA with production from inside the PTA (Viner 1950). Investment discrimination takes place when (potential) investments from outside the trading zone are put at a disadvantage when compared to investments from within the zone.<sup>5</sup> While trade diversion has received much scholarly attention (and also the effects of trade diversion on the spread of trade agreements, see for example Baccini and Dür 2010; Dür 2010), investment discrimination has hardly been studied so far.<sup>6</sup> Investment discrimination can be a result of both the tariff differential between PTA insiders and outsiders and explicit investment provisions included in trade agreements.<sup>7</sup>

---

<sup>5</sup> It is not necessary for a firm to already have investments in a country to suffer from investment discrimination. It could be trying to enter a market, but be barred by barriers that are applied in a discriminatory manner.

<sup>6</sup> It should be noted that the economics literature is mainly concerned with the opposite effect that sees a trading zone attract FDI that would otherwise have gone to third countries, that is, investments moving from a more to a less efficient location.

<sup>7</sup> Rules of origin may also cause investment discrimination. Since we consider this effect less important than the other two effects, we ignore it for the purposes of this paper.



First, investment discrimination may result from tariff differentials that mainly affect market-seeking FDI. This effect can be illustrated by the example of two rivals, one from country A and the other from country B, who initially compete on a level playing field in country C. Both have production facilities in C to service that market, and both pay the same most-favored-nation tariff in importing to C intermediary goods from A and B respectively. As countries A and C conclude a trade agreement that eliminates tariffs on the intermediary imports from A to C, however, the competitor from A gets an edge over the competitor from country B. The agreement between countries A and C thus imposes costs on the firm from country B. An empirical example is provided by Nippon Steel Corp. from Japan that wants to make steel pipes in India to serve the local car and motorcycle market (*Daily Yomiuri Online*, October 27, 2010). The trade agreement between Korea and India put Nippon Steel Corp. at a disadvantage because Korean competitors could import steel plates – an intermediary good needed in the production of steel pipes – tariff free from Korea, while Nippon Steel would have to pay a 5 percent tariff on its imports of steel plates. The India-Japan agreement signed in 2010 re-established a level playing field for Nippon Steel by scratching tariffs on Indian imports from Japan. The same agreement also helped Japanese producers of automobiles in India (Suzuki and Toyota) that directly compete there with producers from Korea (in particular, Hyundai). In the absence of an agreement between India and Japan, Suzuki and Toyota would have had to pay a 12.5 percent tariff on imports of automotive parts from Japan as compared to a 1 percent tariff for Hyundai on imports from Korea (spire 2009: 3).

Second, investment discrimination may also be the result of the inclusion of explicit investment provisions in a trade agreement. In fact, an increasing number of PTAs contain investment provisions that open up certain sectors to investors from the partner country, but not necessarily from third countries (Leshner and Miroudot 2006; Kotschwar 2009). A trade agreement may provide for preferential treatment by guaranteeing national treatment to investors from the partner country, waiving restrictions on foreign ownership in strategic

sectors in a discriminatory manner, and eliminating screening and local content or other performance requirements (such as exporting a certain percentage of the production or transferring technology) for companies from the partner country. These investment provisions can be incorporated either in a separate investment chapter or in a services chapter that refers to commercial presence as a mode of supply for services. It is in the services sector that the investment provisions included in PTAs are most likely to create discrimination. Often, the right of establishment in sectors such as telecommunications, energy and water supply, and financial services is highly circumscribed in domestic legislation, whereas FDI in the manufacturing sector is generally not only allowed, but even invited.

The Australia-U.S. agreement offers an illustration of the many ways by which investment provisions in regional trade agreements can create discrimination (Westcott 2007). Foreign companies investing in Australia have to undergo government screening if the investment exceeds certain thresholds. For U.S. companies, these thresholds were either completely abolished (for greenfield investments) or increased to a level that ensures that most investments can be made without government screening (for acquisitions in non-sensitive sectors). Not having to undergo government screening provides U.S. companies with an important advantage because screening implies a costly delay in investments and because in many cases the government imposes conditions on investments that underwent screening. Relying on a very different, but still discriminatory approach, the India-Korea agreement grants Korean banks “favorable consideration” when applying for the establishment of branches in India.

Importantly, the extent to which investment and service provisions in PTAs discriminate against third country firms depends on the rules of origin included in these agreements (Mattoo and Sauv e 2007: 251-52). In a situation in which country B opens up some sectors to investments from country A, liberal rules of origin may allow firms from country C to take advantage of this liberalization in country B by establishing a holding

company in country A (assuming that FDI does not face restrictions in that country). If, by contrast, the agreement includes rules of origin that stipulate that the investment liberalization agreed upon only benefits companies owned by nationals of the member states or with a substantial part of its business activity in these member states, third country investors are effectively excluded. Across regional trade agreements, there is considerable variation in the strictness of rules of origin for investments. On the strict side, the Closer Economic Partnership Agreement between Hong Kong and mainland China (2003) includes rules of origin for services and investments that limits the agreement's benefits to suppliers that "engage in substantive business operations in Hong Kong", which among other things is measured by the percentage of local residents in the company's staff. By contrast, the Australia-Singapore agreement (2003) follows a very liberal approach to rules of origin for services and investments.

Existing research indicates that especially North-South agreements contain far-reaching investment provisions (Leshner and Miroudot 2006: 19). The U.S. agreements with Chile, Peru, Panama and other developing countries are prototypical in this regard. Even though also North-North agreements tend to commit member countries to liberal investment rules (Kotschwar 2009), they create less investment discrimination because most Northern countries are relatively open to foreign investments on a non-discriminatory basis (Kalinova et al. 2010).<sup>8</sup> Among the South-South agreements, only a minority include far-reaching provisions. Often, these are signed by emerging countries such as Mexico that earlier committed to investment liberalization with developed countries. *Ceteris paribus*, therefore, investment provisions in North-South agreements should create more investment discrimination than those in other agreements.

---

<sup>8</sup> In fact, there is very little evidence that investment provisions included in PTAs actually increase barriers for third countries.

A concrete example can illustrate this discussion of investment discrimination. In the case of NAFTA, European investors in Mexico suffered from discrimination because they had to pay tariffs when importing intermediary products into Mexico. These tariffs even increased after the entry into force of NAFTA (Dür 2010: 206), putting European companies in Mexico (for example, Volkswagen in the automobile sector) at a disadvantage as compared to American producers. NAFTA also contains detailed investment provisions. These can be found in a separate investment chapter (Chapter 11), Appendix 300-A on trade and investment in the automotive sector, and other chapters such as those on telecommunications (Chapter 13) and financial services (Chapter 14). Until the EU signed its own agreement with Mexico, several of these provisions made it easier for U.S. companies to expand their investments in Mexico. For example, NAFTA grants national treatment to investors from all parties and prohibited performance requirements. Chapter 14 gave an advantage to American investors by allowing them to establish financial institutions in Mexico, even if the impact of this provision was eased by liberal rules of origin (Mattoo and Sauvé 2007: 251-52). It is not astonishing given this discussion that in the aftermath of the entry into force of NAFTA U.S. and Canadian FDI stocks in Mexico rose much more rapidly than FDI stocks from other countries (Leshner and Miroudot 2006: 32).

Investment discrimination, however, may not necessarily lead to a reduction in aggregate investments from a third country in the preferential trading zone. In fact, investment discrimination may require a company to increase investments within the trading zone, for example to comply with rules of origin or to avoid paying high tariffs on inputs. The discrimination stems from the fact that in this process the company has to incur costs. Moreover, a third country's aggregate FDI stocks in the preferential trading area may increase because of tariff jumping investments by companies that previously exported goods and services into this area or the attractions caused by a larger (and potentially more dynamic) market (Blomström et al. 2000). The argument that we set out here thus is fully compatible

with studies that suggest that at least some preferential trade areas have attracted FDI from third countries (for example, Te Velde and Bezemer 2004; Aggarwal 2008).

The rapid increase in the number of bilateral investment treaties (BITs) over the last few decades is unlikely to lower PTAs potential for investment discrimination.<sup>9</sup> For one, BITs do not cover tariff reductions that are one of the causes for investment discrimination. Moreover, the investment provisions included in BITs tend to be less far-reaching than those contained in PTAs.<sup>10</sup> BITs mainly contain provisions that protect investments, for example by guaranteeing compensation in cases of expropriation and the repatriation of profits. Few BITs, by contrast, include provisions that liberalize foreign investors' access to a market (UNCTAD 2009a: 20).<sup>11</sup> It also seems plausible that the provisions incorporated in BITs are less credible than those contained in PTAs, since dispute settlement provisions in the latter are likely to have more bite than international arbitration in the former. Retaliation is easier in PTAs than in BITs because of the possibility to impose trade sanctions.

#### *Foreign Countries' Reaction to Investment Discrimination*

The creation of a PTA thus is likely to impose costs on third-country companies with investments inside the new trading zone. Returning to the model of trade policy-making outlined above, these costs should make third-country governments eager to protect their outward investors from discrimination abroad by re-establishing a "level playing field".

---

<sup>9</sup> According to UNCTAD (2009b: 32), 2,676 BITs were in place at the end of 2008.

<sup>10</sup> Kotschwar (2009: 375), for example, writes that "many RTA [regional trade agreement] provisions have been used to expand and to correct perceived deficiencies in BITs [bilateral investment treaties], often aiming for greater liberalization." The findings reported in Leshner and Miroudot (2006) also support this statement.

<sup>11</sup> Only the United States, Canada, and recently Japan have signed "liberalizing BITs", according to UNCTAD (2009a: 20). One reason for the fact that most BITs are not liberalizing is that such agreements (to the extent that they are discriminatory) would be in violation of the WTO's most-favored-nation clause. For example, in 2005 Thailand and the U.S. decided to have their liberalizing BIT expire because of WTO incompatibility.

Several examples from different regions of the world are evidence of the plausibility of this argument. The proposal by the European Commission for the EU's 2020 strategy, for example, stresses that re-establishing or maintaining a "level playing field vis-à-vis our external competitors should be a key goal" in international trade negotiations (European Commission 2010: 23). Canada's Ministry for Foreign Affairs and International Trade explicitly stated that free trade agreements are designed to "help level the playing field for Canada vis-à-vis competitors that have agreements with markets of interest and also help to secure Canadian investments" (Foreign Affairs and International Trade 2009). The same report argued that Canada's negotiations for PTAs with the Central American countries, the Dominican Republic, Jordan, Korea, Morocco, and Panama were motivated by fear of discrimination, as existing PTAs put "Canadian businesses at a disadvantage." Finally, Taiwan showed itself extremely concerned about the spread of PTAs especially in East Asia and the resulting threat of "marginalization" for Taiwanese business (Taiwan Bureau of Foreign Trade 2009).

Our argument is that governments' policy of choice to respond to investment discrimination often is to sign a trade agreement with the member country of a PTA where domestic firms face discrimination. While, as discussed above, a BIT is unlikely to reduce the investment discrimination that a third country may face, a PTA may help domestic companies offset the investment discrimination from the initial agreement by eliminating tariffs on intermediary goods. Moreover, a new agreement that includes explicit investment provisions can re-establish a level playing field with respect to the admission, operation, and protection of foreign investments. Obviously, signing such an agreement is not costless, as it may impose costs on domestic import-competing firms. Taking into account this constraint, our expectation is that (*ceteris paribus*) the probability of a government pursuing a PTA in response to a foreign PTA increases the larger the investment discrimination that the PTA causes.

Summarizing this reasoning, our expectation is that the desire of a country to sign a trade agreement with another country increases, the larger the investment discrimination that it faces in the other country's market. While one country alone cannot bring about a PTA, the larger the desire of one country, the larger also the probability of an agreement being signed, because the country in need of an agreement will be willing to make concessions that facilitate the conclusion of an agreement. The resulting hypothesis is that the likelihood of two countries signing an agreement increases, the larger the investment discrimination that one faces in the market of the other. The discussion also allows for some more specific predictions: for one, the effect of investment discrimination should be most pronounced for agreements that contain explicit investment provisions. In other words, agreements with investment chapter should create more pressure than other agreements for other countries to follow suit. Second, we expect FDI discrimination to matter more for North-South than other dyads, as tariffs are higher in Southern than Northern countries (thus creating more investment discrimination by way of tariffs on intermediary goods) and because investment flows are relatively small for South-South dyads.

### **A Spatial Econometric Test of the Argument**

We test our argument quantitatively on a database including 166 countries for a time period of 18 years (1990-2007). The database includes all major countries for which data is available for the period under analysis. The only major trading countries that we had to exclude because of missing data for key variables are Hong Kong and Taiwan. The eighteen year period covered fully encompasses the most recent wave of regionalism. Very few agreements were signed in the 1970s and 1980s. Among the few notable developments in the 1980s were the Australia-New Zealand agreement (1983), the U.S. free trade agreements with Canada and Israel (1988 and 1985 respectively), and the deepening and widening of the European Community with the Single European Act (1986) and the Southern enlargement (the accession agreements with Portugal and Spain were signed in 1985). By contrast, in the 1990s

and 2000s each year an average of more than 100 dyads signed a trade agreement. Since our analysis starts in 1990, we drop country pairs from our analysis that already had a working trade agreement between them as of 1989. This concerns 245 country pairs that are mainly made up by the pre-1990 members of the EU, European Free Trade Area, Caribbean Common Market and South African Customs Union, but also encompasses Canada-US and Israel-US.

For each dyad, we coded whether or not it signed a trade agreement in a specific year. Opting for the year of signature rather than the year of entry into force of an agreement makes sense as it is in this moment that we expect firms in third countries to start worrying about the expected negative consequences for them.<sup>12</sup> We invested substantial effort in establishing a comprehensive and up-to-date list of trade agreements signed between 1990 and 2007. Largely (but not solely) relying on three different databases, namely the list of regional trade agreements notified with the WTO, the Tuck Trade Agreements Database, and the McGill Faculty of Law Preferential Trade Agreements Database, but excluding agreements that do not include concrete steps towards the establishment of a preferential trading area, we identified 243 agreements, of which 157 are bilateral ones.<sup>13</sup> The year with the largest number of new agreements is 2004 (22), the year with the lowest number of new agreements 1990 (2).

---

<sup>12</sup> In fact, the difference between the date of signature and the date of entry into force is small: using 215 agreements listed on the webpage of the World Trade Organization (as of May 2010), we calculated a mean difference of 453 days between the date of signature and the date of entry into force.

<sup>13</sup> These databases are available at [http://www.wto.org/english/tratop\\_e/region\\_e/summary\\_e.xls](http://www.wto.org/english/tratop_e/region_e/summary_e.xls); <http://www.dartmouth.edu/~tradedb/>; and <http://ptas.mcgill.ca/>. We also relied on other sources, such as [www.bilaterals.org](http://www.bilaterals.org), to get a full list of agreements signed more recently [all pages last accessed on 12 February 2010]. It should be noted that we coded countries joining the EU as signing up to all trade agreements that the EU forms part of at the time of accession. This is legally correct and appropriate in the context of our study; however, it biases results *against* our argument as a country such as Hungary that joined the EU in 2004 may have had little interest in an agreement with Mexico or Chile.



The 243 agreements translate into the number of 1,878 dyads (out of 13,451 dyads considered) that formed a PTA between 1990 and 2007.

Importantly, we do not consider agreements that either deepen or replace an existing agreement between two countries. This restriction mainly applies to the EU, which has seen periodic treaty changes that have deepened integration, such as the Single European Act (1985) that enabled the Single Market Program and the Treaty of Maastricht (1991) that introduced European Economic and Monetary Union. Moreover, the countries that became independent after the Soviet Union dissolved have repeatedly signed trade agreements with each other (from the Commonwealth of Independent States to the Common Economic Zone). Including these second and third agreements would be problematic for two reasons. First, it is difficult to establish a reliable list of agreements that deepened integration between two countries. Many of the 243 agreements that we consider in our analysis have been revised at least once. For example, the agreement between Chile and Mercosur, signed in 1996, has been revised 53 times (as of early 2010). Which of these revisions should be considered far-reaching enough to be included in the database? Second, it seems plausible that both revisions of an existing agreement and a new agreement replacing an existing one may follow a logic that is different from the logic of signing a first agreement.

To empirically capture our argument about the external impact of PTAs, we calculate a vector of spatial weights. These spatial weights are a measure of the strength of the effect of a policy change in one dyad on all other dyads. According to our argument, the extent of investment discrimination created by a PTA should be the main determinant of the size of these effects. Investment discrimination, in turn, is mainly an effect of the presence or absence of a PTA and the strength of FDI links between countries. Consequently, we operationalize the argument by reasoning that country A should feel threatened by an agreement between B and C (D, E,...) if a.) country B is a major host of foreign investments, b.) for country A outward stocks of investments are important, and c.) country C is a large exporter of FDI. We

divide the FDI inward and outward stocks of A and B by GDP of A/B to get a grasp of whether the country is capital importing or exporting.<sup>14</sup> By contrast, we take the absolute value for the outward FDI stocks of C, as it clearly makes a difference for A if C is a large economy such as the U.S. or a smaller one such as Australia. In 2008, Australia and the U.S. had outward FDI stocks amounting to 19 percent and 22 percent of GDP, respectively. While these two values are very similar, in absolute terms the outward stocks of the U.S. were 16 times higher than those of Australia (\$3,162 billion as compared to \$195 billion).<sup>15</sup>

Our approach gives us two values for each dyad, namely one for each of the two directed dyads AB and BA. In line with our theory, we take the larger of the two values as the value for the undirected dyad. By also estimating a model in which we use the sum of the values for the two directed dyads, we cross-check the robustness of this operationalization. After five years, we assume the weight to return to zero. The idea behind this cutoff point is that after some time, if companies are not successful in getting a political solution, they will adapt to the new competitive situation. With their lobbying effort declining, governments “forget” about the issue. We check the robustness of our 5-year hunch in the empirical analysis below by running models with 3-year and 7-year cutoff points. In each case the spatial weights are lagged by one year. Appendix I provides more detail on our operationalization.

Ideally, we would be using bilateral FDI data rather than data aggregated at the country level. Alas, the available bilateral data for outward and inward stocks of FDI are not

---

<sup>14</sup> The data are from UNCTAD 2010. The data only capture long-term foreign investments where the investor has the intention of exercising influence over the management of a company. Short-term investments in stock or money markets thus do not distort the data. We use FDI stocks rather than flows because the latter are subject to exogenous short-term fluctuations and because endogeneity (that is, the signing of a PTA having an effect on FDI) is a more severe problem when using flows than stocks.

<sup>15</sup> Data from <http://stats.unctad.org/fdi>.

very reliable for the number of countries and years that we are interested in. Even for the member countries of the Organization for Economic Co-operation and Development (OECD) data are sketchy (OECD 2010). For example, for the dyad Australia-Germany (two relatively large economies), outward stocks are missing for seven years for the period 1990-2007. The data are even worse for stocks in developing countries, explaining why the OECD classifies about 20 percent of Australia's outward FDI as unallocated. The country reports produced by UNCTAD thus are the best source for bilateral FDI data beyond the OECD.<sup>16</sup> Of the 166 countries in our list, however, country reports are available for only 128 (among the missing countries are major economies such as Saudi Arabia, South Korea, and Turkey) and only 87 of them have any data on bilateral outward stocks of FDI. What is more, for several of these countries data are available for only a few years or are aggregated at the level of regions or continents. For others, large parts of outward FDI remain unallocated by geographic destination. We still managed to establish a dataset that distinguishes FDI going to developing and to developed countries for 62 countries and the period 1990-2002. Below, we show that our results do not change when using this dataset.

In the models below, we also include a series of control variables that capture important characteristics of the dyad under analysis and the context in which a dyad considers concluding an agreement. We do so to avoid overestimating policy interdependence, as correlated unit-level factors or exogenous shocks that are common to various dyads may also explain parallel policy choices (Franzese and Hays 2008). Most of the control variables are lagged by one year to avoid endogeneity problems.<sup>17</sup> The variables that capture the economic condition are the degree to which the two countries are involved in international capital flows (*FDI*, calculated as the smaller of the two countries' outgoing stocks of FDI), the amount of

---

<sup>16</sup> The UNCTAD country reports are available at <http://www.unctad.org/Templates/Page.asp?intItemID=3198&lang=1>

<sup>17</sup> Univariate summary statistics and data sources for all of these variables are available in Appendix II.

trade between them (*Trade*), and the size of the two economies (*GDP*, where we take the smaller of the two values for the dyad). We expect greater international capital flows and trade, and larger economies, to be associated with a higher probability of a dyad signing an agreement. Furthermore, we include a dichotomous variable that is coded one for dyads that had a bilateral investment treaty between them in the year prior to the one under analysis in the model (*BIT*). The effect of this variable could go in both ways: it could reduce the threat of investment discrimination and thus lower the probability of two countries signing a trade agreement (but see above) or signal large outward stocks of FDI and thus large potential for investment discrimination.

With respect to domestic and international political conditions, we include a dummy variable for military allies (*Alliance*) and a democracy score (*Democracy*, data from Freedom House 2007).<sup>18</sup> The expectation is for military allies and democratic pairs of countries to show a higher propensity to sign trade agreements. The control variables to capture the geographic position of the two countries are distance (*Distance*, we use the natural logarithm of this variable), contiguity (*Contiguity*, scoring one if two countries share a common border), and island country (*Island*, scoring one if at least one country is an island). Larger distance and geographic position as an island should decrease the likelihood of a trade agreement, whereas contiguity should increase it. Four control variables account for the position of the countries in, and the general state of, the international trading system: WTO membership (*WTO*), an ongoing WTO-sponsored multilateral trade negotiation (*WTO Round*, scoring one from 1990 through 1993 and from 2001 onwards), trade dispute between the two countries (*Trade Dispute*), and trade dispute with a third party (*Trade Dispute Third Party*). Our expectations

---

<sup>18</sup> The results reported below do not change when using other data sources, such as the Polity IV score (Marshall and Jaggers 2008).

are for WTO membership, WTO negotiations, and trade disputes with third parties to augment and trade disputes between the two countries to reduce the chances of an agreement.

## Findings

We use survival analysis, and more concretely a Cox proportional hazards model to examine our argument.<sup>19</sup> When compared to other survival models, the Cox model has the advantage that it does not require us to make assumptions about the shape of the underlying survival distribution.<sup>20</sup> As described above, our model includes a spatial lag to capture the external competitive effect of the decision by two countries to sign an agreement and control variables for both the dyad under consideration and potential external shocks.<sup>21</sup> We thus estimate the following equation:

$$h_{ij,t} = h_0(ij,t)\exp[\beta_1 * w_{ij,t} + \beta_2 * x_{ij,t-1} + \varepsilon_{ij,t}] \quad (4)$$

where  $h_{ijt}$  is the hazard rate for two countries  $i$  and  $j$  at time  $t$ ,  $h_0$  is the baseline hazard,  $\beta_1$  and  $\beta_2$  are the coefficients,  $w_{ij,t}$  is a spatial lag term that is temporally lagged as described above (indicated by the asterisk), and  $x_{ij,t-1}$  are the values for the dyad  $ij$  of a set of control variables that are lagged by a year. As is common practice in recent research on the statistical analysis

---

<sup>19</sup> Survival analysis is the appropriate approach because our data is right-censored. See also Beck (2008). The study by Elkins *et al.* (2006) on the diffusion of bilateral investment agreements is also based on the Cox model. David Darmofal (2009) provides an extensive analysis of the use of survival models with spatial effects.

<sup>20</sup> See, for example, Golub (2008) for a discussion of the advantages of the Cox model as compared to parametric models such as Weibull and Gompertz. Note that because we include time-varying covariates, our model by definition violates the proportionality assumption (that is, that the hazard rate does not change over the survival time) underlying the Cox model (Golub 2008: 538; see also Box-Steffensmeier and Zorn 2001). Most parametric models, however, also require the proportionality assumption to hold and are worse at dealing with violations of this assumption.

<sup>21</sup> We calculated the Moran index, using the total number of agreements signed by each country, to check whether the inclusion of a spatial lag is appropriate (Ward and Gleditsch 2008). The result confirms that there is statistically significant spatial correlation among countries.

of panel data with a binary dependent variable, we base significance tests on Huber-White standard errors (Beck 2008). These standard errors can take account of possible heteroskedasticity or *intra-group* correlation of the data. Moreover, we adjust standard errors for clustering on dyads.

The findings are very supportive of our argument (see Model 1 in Table 1). The variable capturing the effect of investment discrimination is strongly statistically significant and has the right sign. It also has a sizeable substantive effect as can be seen from Figure 2, which shows time on the x-axis and the survival rate on the y-axis. The figure shows that varying the value of the investment discrimination variable from the min to the max value more than doubles the probability of a dyad signing a trade agreement over the eighteen year period (with the probability increasing from 0.06 to 0.13). In fact, the predicted number of dyads signing a PTA each year increases from 55 when assuming a low value on the spatial weight term to 158 when assuming a high value.<sup>22</sup> Most other variables behave as expected. Country pairs with strong trade links are more likely to sign a trade agreement. The same applies to countries that form part of the same security alliance and democratic pairs of countries. Among the geographical variables, only the strongly significant negative coefficient for contiguity is counter-intuitive, but may be explained by the fact that many neighboring countries already signed trade agreements before 1990. The various variables capturing the effect of the international trading system also have the expected sign, with the exception of the effect of trade disputes with third parties that in our model reduces the likelihood of a PTA being signed. This latter finding, which runs counter to results reported in Mansfield and Reinhardt (2003), may be an indication that countries no longer see an advantage in formal coalitions under the WTO's legalized dispute settlement mechanism.

---

<sup>22</sup> The example is calculated using the mean for the 500 dyads with the lowest/highest value on the spatial weight term.

TABLE 1 ABOUT HERE

FIGURE 2 ABOUT HERE

*Investment chapters*

As argued above, we expect investment discrimination, and thus the reaction by third countries, to be particularly strong for trade agreements including an investment chapter. To carry out this test, we manually coded the full texts of the agreements included in the analysis. In the coding, we distinguished three types of agreements, those without any mention of investment, those that mention investment liberalization as an objective (for example, in the preamble) or a topic to be dealt with in future negotiations, and those with substantive provisions with respect to investments. The latter may be investment provisions in the services chapter or a separate, NAFTA-type investment chapter. Among the agreements that we coded as having substantive provisions are NAFTA, the U.S. agreements with Korea and Panama, the EU agreements with Chile and Mexico, several agreements negotiated by EFTA, most of the Japanese agreements, and the agreements by New Zealand with Singapore and Thailand. Of the 1,878 dyads that sign an agreement in the period under analysis, 204 committed themselves to substantive investment provisions, 1,281 mentioned investment liberalization as an objective, and 394 dyads did not make any reference to investments. Based on this data, we calculated a spatial term as shown in Appendix I in which we replace the variable  $PTA_{B,C,D,\dots}$  with a dummy that is coded one for dyads with substantive investment provisions.

The results are very supportive of our argument (see Model 2 in Table 1). The spatial term is positive and statistically significant. All control variables have similar coefficients as in Model 1. Pushing this idea further, our argument suggests that the most efficient response

to investment discrimination emanating from an agreement with investment provisions is to sign an agreement that also includes investment provisions. To illustrate, we expect countries that suffered from investment discrimination owing to the North American Free Trade Agreement (which contained substantive FDI provisions) with PTAs that include investment chapters, as did Costa Rica (1994) and Chile (1998). We thus run a model in which the dependent variable is coded one only for agreements with substantive investment provisions.<sup>23</sup> The results are very strong (see Model 3 in Table 1): contrary to many coefficients for the control variables that are no longer statistically significant in this model (for example, FDI, WTO, multilateral trade round, and the three proxies for cultural proximity), the spatial weight term remains highly statistically significant. Its substantive effect is much stronger in this model than in Model 1 (see Figure 3): the survival probability falls to as low as 0.70 for a dyad with the maximum value on the spatial weight term. By contrast, for the dyad with the minimum value the survival probability over the 18 year period is 0.996.

FIGURE 3 ABOUT HERE

#### *North-South agreements*

A further implication of our argument is that the spatial effect should be strongest for North-South dyads, because Southern countries tend to have higher trade barriers and more restrictive investment policies than Northern countries and because these dyads bring together capital exporters and importers. We test this implication by running separate models for

---

<sup>23</sup> The variable *trade dispute* is not included in this model as none of the dyads with substantive investment provisions had a trade dispute between them.



North-South and South-South dyads (Models 4-6 in Table 1).<sup>24</sup> Alas, since only 13 North-North dyads sign an agreement in the 18 years under investigation (because many North-North dyads already had agreements between them at the start of the period under analysis), the North-North model is not meaningful. Our distinction between North and South builds on the World Bank classification, where North refers to the World Bank category of high-income economies.

The two models confirm our expectation, with the coefficients for the variable capturing the effect of investment discrimination positive and highly statistically significant. While some of the control variables are not statistically significant in these models, overall the results are intuitive. In Figures 3a and 3b we compare the substantive effect of the investment discrimination variable for the North-South and South-South models. Again looking at the effect of a move from the min to the max value, in the North-South model the failure probability increases from 3 to 22 percent, while in the South-South model the increase is from 8 to 16 percent (see Figures 4a and 4b). As we expected, therefore, the substantive effect that we estimate is largest for North-South dyads, and even for South-South dyads it is larger than in the overall model.

FIGURES 4a AND 4b ABOUT HERE

### **Robustness checks**

We carry out several checks to gauge the robustness of our findings. First, we re-run our analysis for a subset of countries and years with data on whether countries' FDI outward stocks are located in developed or developing countries. Our spatial weights then are

---

<sup>24</sup> In these models, we again had to exclude the variable *trade dispute* because of perfect prediction as a two-way tabulation shows.

calculated as follows: if a developing country A signed a PTA with a developed country B, and we are interested in the pressure on developed country C to sign an agreement with A, we multiply A's inward FDI stocks (divided by  $GDP_A$ ) with B's outward stocks in developing countries (divided by  $GDP_B$ ) and C's outward stocks in developing countries. The reverse pressure for A in C as a result of an agreement between B and C is calculated as A's outward stocks in developed countries times C's inward FDI stocks times C's outward stocks in developed countries. We again take the larger of the two values as the value for the undirected dyad.

Although for the reasons outlined above we can only include 62 countries for a period of 13 years (1990-2002) in this analysis, the findings of the model provide clear-cut support for our argument (see Model 6 in Table 2).<sup>25</sup> The effect of the spatial weight term remains positive and statistically significant. By contrast, most control variables are no longer statistically significant in this model, with the exception of *GDP*, *BIT*, and *distance*. Importantly, the substantive effect of the spatial term is very similar in this model to the one reported for the model without directed FDI data. In this model, at the end of the period under analysis (in this case 13 years) the failure probability of a dyad is 0.05 at the minimum and 0.13 at the maximum value of the spatial term. The close correspondence of the results of this model to those reported in Model 1 highlights the robustness of our findings.

#### TABLE 2 ABOUT HERE

Second, we analyze whether our decision to have a five-year cut-off point for the effect of investment discrimination influences our results (see Models 7a and 7b in Table 2).

---

<sup>25</sup> For this model, we had to exclude several of the variables capturing the state of the international trading system because of perfect prediction and multicollinearity problems.

This is not the case: independent of whether we use a three-year or a seven-year cut-off point, the investment discrimination variable remains strongly statistically significant. Most of the other coefficients and standard errors are similar to those reported for Model 1. Third, we control for endogeneity in our model, that is, PTAs stimulating an increase in FDI stocks (Model 8). We do so by taking FDI stocks with a lag of ten years (that is, FDI stocks from 1980 are used for 1990, from 1997 for 2007) as instrumental variable. These FDI stocks are highly correlated with FDI stocks from the 1990s and 2000s, but logically exogenous to the causal link we are interested in, as they precede the new regionalism by several years. The findings from the resulting model again support our argument. The coefficient on the instrumental variable is statistically significant, while – with the exception of the variable capturing outward FDI stocks – all other coefficients are similar to those reported for the other models.

Fourth, we tested whether PTAs are actually signed to attract FDI inflows rather than protect FDI outflows. The idea is that (developing) countries may use PTAs as a commitment device that allows them to increase FDI inflows. Again, one would expect competition between countries, where an importer of FDI signs a PTA with an exporter of FDI, if another FDI importer did so before. The spatial term that we use to implement this idea is calculated by multiplying country A's FDI inflows (divided by GDP) by the FDI outflows of B (divided by GDP) and the FDI inflows of C (D, E,...) and a binary variable capturing whether C (D, E,...) signed an agreement with A. The initial result supports the attracting FDI argument (see Model 9 in Table 2). However, this result disappears when checking for potential endogeneity by using an instrumented variable as described above. In this model (see Model 7), the coefficient on the spatial term is no longer statistically significant. The finding of strong endogeneity in this model is interesting: it suggests that with respect to FDI inflows, the causality runs from PTAs to FDI rather than vice versa. With respect to FDI outflows, by

contrast, the evidence supported our claim about PTAs being signed to protect existing FDI outflows.

Fifth, we include a new term in the equation that captures the (logged) number of PTAs that both sides signed in the last five years (Model 10 in Table 2). The inclusion of this variable has the purpose of dealing with concerns about endogeneity. Doing so does not change the results and the new variable is not statistically significant. Sixth, we took the sum rather than the larger of the two directed values without this changing the substantive findings of the paper (results not shown). Finally, we estimated a model including year controls to take account of possible serial correlation (results not shown). Again, doing so has no impact on the results. In short, the model that we present is very robust to a variety of changes in operationalization and design.

## **Conclusion**

We have argued that investment discrimination is a major stimulus of the new regionalism. Countries react to the PTAs signed by other countries to protect the outward investments of domestic companies. This reaction contributes to the spread of bilateral and regional trade agreements. A quantitative test of this argument has provided robust support for our argument. Not only could we show that PTAs that have the potential to cause investment discrimination motivate the signing of new PTAs, but also that PTAs with investment provisions are more likely to do so. In fact, PTAs with investment provisions are very likely to stimulate the signing of new agreements that also include investment provisions. The evidence also supported our argument's implication that the protection against investment discrimination effect should be strongest for North-South dyads.

The paper thus provides ample evidence that modern PTAs are about more than only trade. PTAs clearly also are a tool used by governments to influence FDI flows. Moreover, the breadth of PTAs matters for the economic effects of the agreements. The design of PTAs, in turn, can again at least partly be explained as a result of competitive dynamics. If a similar

competitive effect also influences other features of these agreements, we should expect an increasing convergence on a relatively comprehensive model for new trade agreements. That is, we should see always fewer agreements that are limited to trade in goods and an increasing share of new agreements that contain provisions relating to investments, trade in services, competition and other policy fields.

Our contribution to the growing literature on foreign direct investment policy (Büthe and Milner 2008; Haftel 2010; Tobin and Busch 2010) is to show that international cooperation in this field is not only driven by developing countries' desire to attract FDI, but also by developed countries' attempts at avoiding investment discrimination. An important implication of this reasoning is that we should not expect agreements that contain investment provisions (even those liberalizing FDI policies) to actually *increase* FDI flows. If PTAs are mainly concluded to avoid adverse effects on existing FDI, an empirical analysis could actually come to the erroneous conclusion that they have a zero effect on FDI flows.

On the broadest level, our paper speaks to a literature that sees international outcomes – even systemic ones, such as the new regionalism – as a result of domestic preference formation and strategic interaction in international negotiations (Moravcsik 1997; Lake and Powell 1999). Governments clearly take domestic preferences into account when considering the pursuit of PTAs. And while we do not directly study the international negotiations that produce PTAs, our results suggest that capital exporting countries (mainly developed ones) manage to see their preferences reflected in the agreements reached. Pursuing the line of investigation started here by paying attention to the non-trade aspects of PTAs could thus make a major contribution to the literature on international cooperation.

### **Bibliography**

Aggarwal, Aradhna (2008) 'Regional Economic Integration and FDI in South Asia: Prospects and Problems', Indian Council for Research on International Economic Relations, Working Paper No. 218.

- Baccini, Leonardo and Andreas Dür (2010) 'The New Regionalism and Policy Interdependence', *unpublished manuscript*.
- Baier, Scott L. and Jeffrey H Bergstrand (2004) 'Economic Determinants of Free Trade Agreements', *Journal of International Economics* 64 (1): 29-63.
- Baldwin, Richard E. and Frédéric Robert-Nicoud (2007) 'Entry and Asymmetric Lobbying: Why Governments Pick Losers', *Journal of the European Economic Association* 5 (5): 1064-93.
- Baldwin, Richard, Rikard Forslid and Jan I. Haaland (1999) 'Investment Creation and Investment Diversion: Simulation Analysis of the Single Market Programme', in Richard Baldwin and Joseph F. Francois (eds.) *Dynamic Issues in Commercial Policy Analysis* (Cambridge: Cambridge University Press), pp. 228-65.
- Beck, Nathaniel (2008) 'Time-Series—Cross-Section Methods', in Janet M. Box-Steffensmeier, Henry E. Brady, and David Collier (eds.) *Oxford Handbook of Political Methodology* (Oxford: Oxford University Press), pp. 475-93.
- Bhagwati, Jagdish N. (1993) 'Regionalism and Multilateralism: An Overview', in Jaime de Melo and Arvind Panagariya (eds.) *New Dimensions in Regional Integration* (Cambridge: Cambridge University Press), pp. 22-51.
- Blomström, Magnus, Steven Globerman and Ari Kokko (2000) 'Regional Integration and Foreign Direct Investment', in John H. Dunning (ed.) *Regions, Globalization, and the Knowledge-Based Economy* (Oxford: Oxford University Press), pp. 109-31.
- Box-Steffensmeier, Janet M. and Christopher J. W. Zorn (2001) 'Duration Models and Proportional Hazards in Political Science', *American Journal of Political Science* 45 (4): 972-988.
- Bueno de Mesquita, Bruce, Alastair Smith, Randolph M. Siverson and James D. Morrow (2003) *The Logic of Political Survival* (Cambridge: MIT Press).

- 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): 741-762.
- CEPII (2006) Dataset. <<http://www.cepii.fr/anglaisgraph/bdd/bdd.htm>>
- Chase, Kerry A. (2005) *Trading Blocs: States, Firms, and Regions in the World Economy* (Ann Arbor: University of Michigan Press).
- Corden, W. Max (1997) *Trade Policy and Economic Welfare*, 2<sup>nd</sup> ed. (Oxford: Oxford University Press).
- Darmofal, David (2009) 'Bayesian Spatial Survival Models for Political Event Processes', *American Journal of Political Science* 53 (1): 241-257.
- Dür, Andreas (2010) *Protection for Exporters: Discrimination and Liberalization in Transatlantic Trade Relations, 1930-2010* (Ithaca: Cornell University Press).
- Elkins, Zachary, Andrew T. Guzman and Beth A. Simmons (2006) 'Competing for Capital: The Diffusion of Bilateral Investment Treaties, 1960-2000', *International Organization* 60 (4): 811-46.
- Encyclopedia Britannica (2001) *Encyclopedia Britannica Book of the Year* (Chicago: Encyclopaedia Britannica).
- European Commission (2010) 'EUROPE 2020: A European Strategy for Smart, Sustainable and Inclusive Growth', Available at: [http://ec.europa.eu/growthandjobs/pdf/complet\\_en.pdf](http://ec.europa.eu/growthandjobs/pdf/complet_en.pdf).
- Fernández, Raquel and Jonathan Portes (1998) 'Returns to Regionalism: An Analysis of Nontraditional Gains from Regional Trade Agreements', *World Bank Economic Review* 12 (2): 197-220.
- Foreign Affairs and International Trade (2009) *Canada's International Market Access Report - 2009* (Ottawa: Foreign Affairs and International Trade).

- Franzese, Robert J. and Jude C. Hays (2008) 'Spatial Analysis', in Janet M. Box-Steffensmeier, Henry E. Brady, and David Collier (eds.) *Oxford Handbook of Political Methodology* (Oxford: Oxford University Press), pp. 570-604.
- Freedom House (2007) *Freedom in the World* (Washington, D.C.: Freedom House).
- Golub, Jonathan (2008) 'Survival Analysis', in Janet M. Box-Steffensmeier, Henry E. Brady, and David Collier (eds.) *Oxford Handbook of Political Methodology* (Oxford: Oxford University Press), pp. 530-46.
- Haftel, Yoram Z. (2010) 'Ratification Counts: U.S. Investment Treaties and FDI flows into Developing Countries', *Review of International Political Economy* 17 (2): 348-77.
- Horn, Henrik and Petros C. Mavroidis (2006) WTO Dispute Settlement Database. <<http://go.worldbank.org/X5EZPHXJY0>>.
- IMF (2008) *The World Economic Outlook* (IMF Data and Statistics).
- Kalinova, Blanka, Angel Palerm and Stephen Thomsen (2010) 'OECD's FDI Restrictiveness Index: 2010 Update', OECD Working Papers on International Investment, No. 2010/3.
- Kerner, Andrew (2009) 'Why Should I Believe You? The Costs and Consequences of Bilateral Investment Treaties', *International Studies Quarterly* 53 (1): 73-102.
- Kotschwar, Barbara (2009) 'Mapping Investment Provisions in Regional Trade Agreements: Towards an International Investment Regime?', in Antoni Estevadeordal, Kati Suominen, and Robert Teh (eds.) *Regional Rules in the Global Trading System* (Cambridge University Press).
- Krugman, Paul R. (1991) *Geography and Trade* (Cambridge: MIT Press).
- Lake, David A. and Robert Powell (eds.) (1999) *Strategic Choice and International Relations* (Princeton: Princeton University Press).
- Leshner, Molly and Sébastien Miroudot (2006) 'Analysis of the Economic Impact of Investment Provisions in Regional Trade Agreements', *OECD Trade Policy Working Papers No. 36*.



- Manger, Mark (2009) *Investing in Protection: The Politics of Preferential Trade Agreements Between North and South* (Cambridge: Cambridge University Press).
- Mansfield, Edward D., Helen V. Milner and B. Peter Rosendorff (2002) 'Why Democracies Cooperate More: Electoral Control and International Trade Agreements', *International Organization* 56 (3): 477-513.
- Mansfield, Edward D. and Eric Reinhardt (2003) 'Multilateral Determinants of Regionalism: The Effects of GATT/WTO on the Formation of Preferential Trading Arrangements', *International Organization* 57 (4): 829-62.
- Marshall, Monty G. and Keith Jagers (2008) *Polity IV Project: Political Regime Characteristics and Transitions, 1800-2008*.
- Mattoo, Aaditya and Pierre Sauvé (2007) 'Regionalism in Services Trade', in Aaditya Mattoo, Robert M. Stern, and Gianni Zanini (eds.) *A Handbook of International Trade in Services* (Oxford: Oxford University Press), pp. 221-86.
- Medvedev, Denis (2006) 'Beyond Trade: The Impact of Preferential Trade Agreements on Foreign Direct Investment Inflows', *World Bank Policy Research Working Paper* 4065.
- Milner, Helen V. (1997) 'Industries, Governments, and Regional Trade Blocs', in Edward D. Mansfield and Helen V. Milner (eds.) *The Political Economy of Regionalism* (New York: Columbia University Press), pp. 77-106.
- Moravcsik, Andrew (1997) 'Taking Preferences Seriously: A Liberal Theory of International Politics', *International Organization* 51 (4): 513-53.
- Motta, Massimo and George Norman (1996) 'Does Economic Integration Cause Foreign Direct Investment?', *International Economic Review* 37 (4): 757-783.
- Neumayer, Eric and Laura Spess (2005) 'Do Bilateral Investment Treaties Increase Foreign Direct Investment to Developing Countries?', *World Development* 33 (10): 1567-1585.

- OECD (2010) 'International Direct Investment Statistics' (Paris: OECD).
- Pahre, Robert (2008) *Politics and Trade Cooperation in the Nineteenth Century: The "Agreeable Customs" of 1815-1914* (Cambridge: Cambridge University Press).
- Raff, Horst (2004) 'Preferential Trade Agreements and Tax Competition for Foreign Direct Investment', *Journal of Public Economics* 88 (12): 2745-2763.
- spire (2009) 'Good news from India and South Korea: How the historic free trade agreement between India and Korea is a sign of the times'.
- Taiwan Bureau of Foreign Trade (2009) 'Political and Economic Analyses of Free Trade in the Asia Pacific'.
- Tobin, Jennifer L. and Marc L. Busch (2010) 'A BIT Is Better Than a Lot: Bilateral Investment Treaties and Preferential Trade Agreements', *World Politics* 52 (1): 1-42.
- Tornell, Aaron and Gerardo Esquivel (1997) 'The Political Economy of Mexico's Entry to NAFTA', in Takatoshi Ito and Anne O. Krueger (eds.) *Regionalism versus Multilateral Trade Arrangements* (Chicago: University of Chicago Press), pp. 25-56.
- te Velde, Dirk Willem and Dirk Bezemer (2004) 'Regional Integration and Foreign Direct Investment in Developing Countries', *unpublished paper* .
- UNCTAD (2009a) *The Role of International Investment Agreements in Attracting Foreign Direct Investment to Developing Countries* (New York: UNCTAD).
- UNCTAD (2009b) *World Investment Report 2009: Transnational Corporations, Agricultural Production and Development* (New York: UNCTAD).
- UNCTAD (2010a) Bilateral Investment Treaties, available at:  
[http://www.unctadxi.org/templates/docsearch\\_\\_\\_779.aspx](http://www.unctadxi.org/templates/docsearch___779.aspx).
- UNCTAD (2010b) FDI Data.
- Viner, Jacob (1950) *The Customs Union Issue* (New York: Carnegie Endowment for International Peace).

Ward, Michael D. and Kristian Skrede Gleditsch (2008) *Spatial Regression Models* (London: SAGE).

Westcott, Thomas (2005) 'Foreign Investment Issues in the Australia-United States Free Trade Agreement', in *Economic Roundup: Summer 2004-05* (Canberra: Treasury), pp. 69-84.

World Trade Organization (2008) Members and Observers.  
[http://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/org6\\_e.htm](http://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm).

Yarbrough, Beth V. and Robert M. Yarbrough (1992) *Cooperation and Governance in International Trade: The Strategic Organizational Approach* (Princeton: Princeton University Press).

*Table 1: Investment Discrimination and the Spread of Trade Agreements*

	<i>Model 1</i>	<i>Model 2</i> <i>(inv. prov.)</i>	<i>Model 3</i> <i>(inv. prov.</i> <i>dependent)</i>	<i>Model 4</i> <i>(North-South)</i>	<i>Model 5</i> <i>(South-South)</i>
<i>Covariates</i>					
<i>FDI DISCRIMINATION</i>	0.04** (0.01)	0.04** (0.01)	0.27** (0.03)	0.12** (0.02)	0.04** (0.01)
<i>FDI</i>	0.03* (0.01)	0.05** (0.01)	-0.02 (0.04)	-0.01 (0.02)	0.05** (0.02)
<i>TRADE</i>	0.04** (0.01)	0.04** (0.01)	0.06 (0.03)	0.00 (0.02)	0.05** (0.01)
<i>GDP</i>	0.08** (0.03)	0.07* (0.03)	0.20** (0.08)	0.35** (0.05)	-0.10** (0.04)
<i>BIT</i>	0.59** (0.08)	0.61** (0.08)	0.15 (0.18)	0.11 (0.10)	0.80** (0.11)
<i>ALLIANCE</i>	0.49** (0.06)	0.48** (0.06)	0.47** (0.17)	0.59** (0.10)	0.42** (0.08)
<i>DEMOCRACY</i>	0.06** (0.02)	0.07** (0.02)	0.23** (0.05)	0.19** (0.03)	0.00 (0.02)
<i>CONTIGUITY</i>	-0.72** (0.17)	-0.74** (0.17)	-0.97 (0.58)	-2.30** (0.44)	-0.40** (0.15)
<i>DISTANCE</i>	-1.10** (0.08)	-1.11** (0.08)	-0.30** (0.09)	-1.53** (0.06)	-1.02** (0.09)
<i>ISLAND</i>	-0.29** (0.09)	-0.31** (0.09)	-0.34 (0.25)	-0.07 (0.14)	-0.24 (0.13)
<i>WTO</i>	0.33** (0.08)	0.33** (0.08)	0.32 (0.26)	0.88** (0.12)	0.19* (0.09)
<i>MULTI- ROUND</i>	1.16** (0.11)	1.12** (0.1)	0.28 (0.22)	0.68** (0.18)	1.37** (0.13)
<i>TRADE DISPUTE</i>	-2.78** (1.01)	-2.84** (1.02)			
<i>TRADE DISPUTE THIRD PARTY</i>	-0.31** (0.06)	-0.30** (0.06)	0.48* (0.19)	-0.01 (0.12)	-0.34** (0.1)
<i>COLONY</i>	0.35* (0.14)	0.35* (0.14)	0.25 (0.21)	-1.06** (0.31)	0.51** (0.13)
<i>LANGUAGE</i>	0.08 (0.15)	0.04 (0.15)	-0.06 (0.24)	-0.43 (0.33)	0.21 (0.13)
<i>RELIGION</i>	0.22** (0.07)	0.23** (0.07)	0.02 (0.16)	0.18 (0.13)	0.15 (0.08)
<i>Observations</i>	217,935	217,935	233,404	57,398	158,520
<i>Number of dyads</i>	13,451	13,451	13,451	3,510	9,819
<i>PTAs signed</i>	1,878	1,878	204	524	1,341
<i>Log likelihood</i>	-15,780.23	-15,784.97	-1,675.35	-3,509.24	-10,862.98

*Notes:* the reported values are coefficients. Standard errors are in parentheses.

\*\* Statistically significant at 1%, \* statistically significant at 5%.

Table 2: Robustness Checks

	<i>Model 6</i> <i>(directed</i> <i>FDI)</i>	<i>Model 7a</i> <i>(3 years)</i>	<i>Model 7b</i> <i>(7 years)</i>	<i>Model 8</i> <i>(instrument</i> <i>ed)</i>	<i>Model 9</i> <i>(attracting</i> <i>FDI)</i>	<i>Model 10</i> <i>(temporal</i> <i>lag)</i>
<i>Covariates</i>						
<i>FDI</i>	0.08*	0.07**	0.04**	0.10**	0.02*	0.04**
<i>DISCRIMINATION</i> <i>FDI</i>	(0.04)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
		0.02	0.04**	0.03*	-0.05**	0.04*
		(0.01)	(0.01)	(0.01)	(0.02)	(0.01)
<i>TRADE</i>	0.01	0.04**	0.04**	0.04**	0.05**	0.04**
	(0.04)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
<i>GDP</i>	0.27**	0.09**	0.08**	0.07*	0.19**	0.08**
	(0.07)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
<i>BIT</i>	1.01**	0.58**	0.59**	0.62**	0.59**	0.59**
	(0.18)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
<i>ALLIANCE</i>	-0.32	0.50**	0.49**	0.51**	0.50**	0.50**
	(0.17)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
<i>DEMOCRACY</i>	0.05	0.05**	0.06**	0.07**	0.08**	0.06**
	(0.05)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
<i>CONTIGUITY</i>	-0.28	-0.72**	-0.73**	-0.78**	-0.70**	-0.72**
	(0.32)	(0.17)	(0.17)	(0.17)	(0.16)	(0.17)
<i>DISTANCE</i>	-1.60**	-1.10**	-1.10**	-0.30**	-1.10**	-1.10**
	(0.10)	(0.08)	(0.08)	(0.09)	(0.08)	(0.08)
<i>ISLAND</i>	-0.63	-0.29**	-0.29**	-1.12**	-0.28**	-0.29**
	(0.37)	(0.09)	(0.09)	(0.08)	(0.09)	(0.09)
<i>WTO</i>	-0.03	0.33**	0.33**	0.30**	0.37**	0.33**
	(0.23)	(0.08)	(0.08)	(0.08)	(0.07)	(0.08)
<i>MULTI- ROUND</i>		1.17**	1.15**	1.14**	1.16**	1.16**
		(0.10)	(0.10)	(0.11)	(0.10)	(0.11)
<i>TRADE DISPUTE</i>		-2.77**	-2.78**	-2.90**	-2.77**	-2.78**
		(1.01)	(1.01)	(1.01)	(1.01)	(1.01)
<i>TRADE DISPUTE</i> <i>THIRD PARTY</i>		-0.31**	-0.30**	-0.32**	-0.35**	-0.31**
		(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
<i>COLONY</i>	0.49	0.35*	0.35*	0.32*	0.37**	0.35*
	(0.40)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)
<i>LANGUAGE</i>	0.13	0.10	0.08	0.03	0.08	0.09
	(0.40)	(0.15)	(0.15)	(0.15)	(0.14)	(0.15)
<i>RELIGION</i>	0.08	0.22**	0.23**	0.22**	0.22**	0.22**
	(0.19)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
<i>TEMPORAL LAG</i>						0.01
						(0.03)
<i>Observations</i>	20,226	217,935	217,935	217,935	217,935	217,935
<i>Number of dyads</i>	1,702	13,451	13,451	13,451	13,451	13,451
<i>PTAs signed</i>	208	1,878	1,878	1,878	1,878	1,878
<i>Log likelihood</i>	-1,233.89	-15,763.99	-15,783.37	-15,759.14	-15,799.98	-15,780.18

Notes: the reported values are coefficients. Standard errors are in parentheses.

\*\* Statistically significant at 1%, \* statistically significant at 5%.

Figure 1: FDI Inflows and the cumulative number of dyads with a preferential trade link, 1990-2007

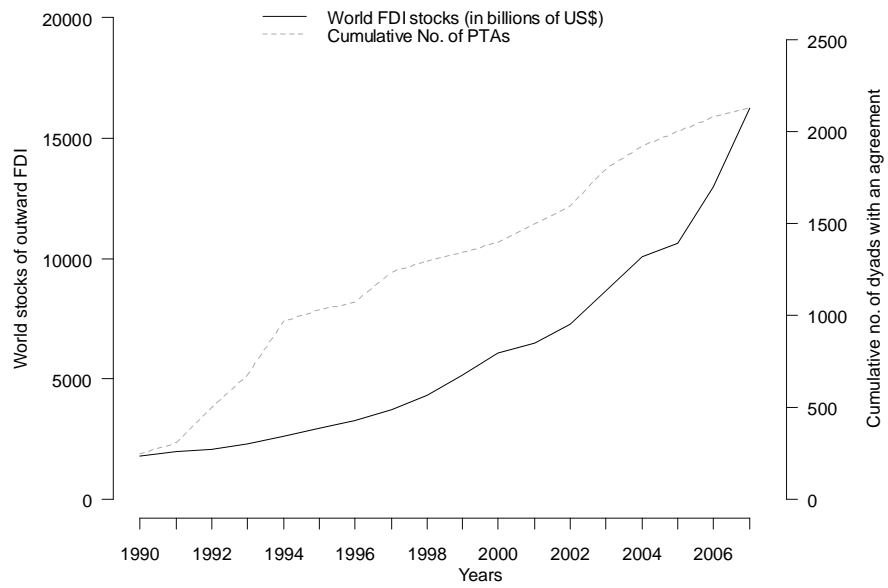


Figure 2: The substantive effect (Model 1)

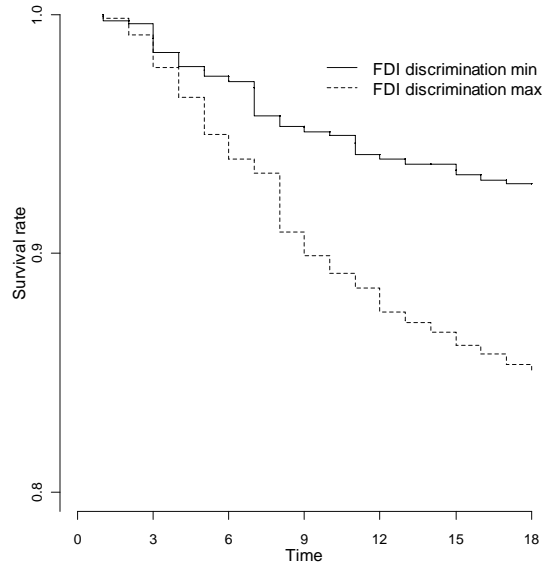
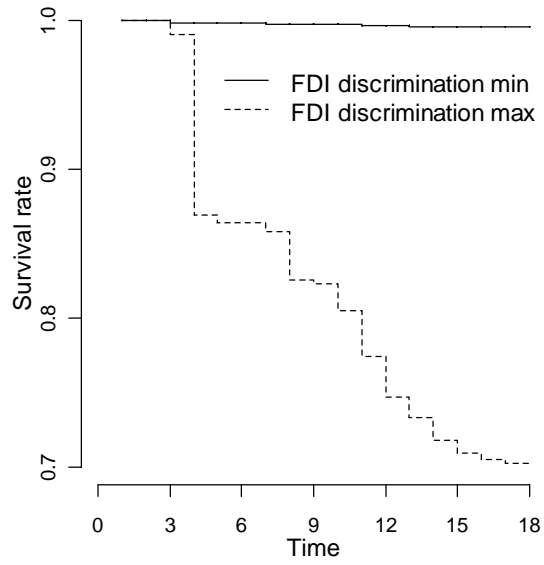
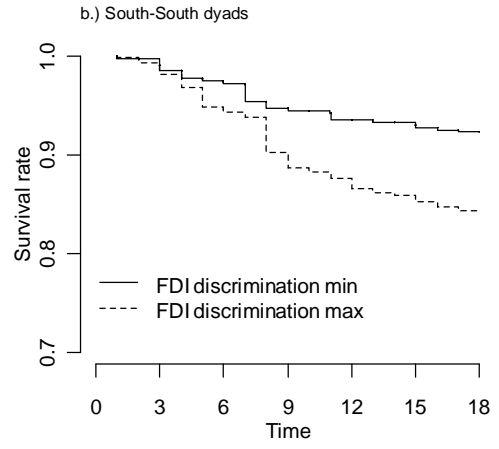
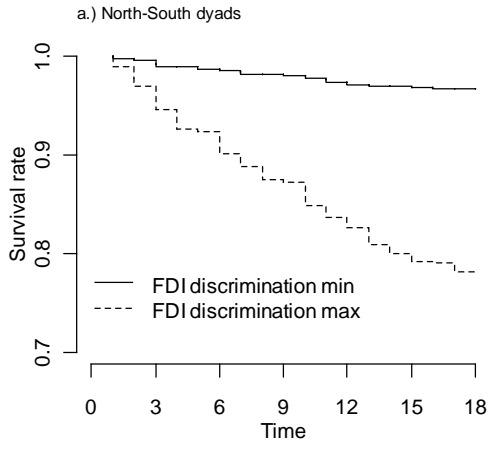


Figure 3: Explaining agreements with investment provisions (Model 3)



Figures 4a and 4b: Analyzing North-South and South-South dyads





## Appendix I: Operationalization

Our spatial weight is calculated as follows:

$$w_{AB} = \sum_{C,D,\dots} \left[ \frac{\text{FDI}_{\text{in}_B}}{\text{GDP}_B} * \frac{\text{FDI}_{\text{out}_A}}{\text{GDP}_A} * \text{FDI}_{\text{out}_{C,D,\dots}} * \text{PTA}_{B\_C,D,\dots} \right] \quad (1)$$

$$w_{BA} = \sum_{C,D,\dots} \left[ \frac{\text{FDI}_{\text{in}_A}}{\text{GDP}_A} * \frac{\text{FDI}_{\text{out}_B}}{\text{GDP}_B} * \text{FDI}_{\text{out}_{C,D,\dots}} * \text{PTA}_{A\_C,D,\dots} \right] \quad (2)$$

$$w_{AB} = \max(w_{AB}, w_{BA}) \quad (3)$$

where  $w_{AB}$  and  $w_{BA}$  are the weights for the directed dyads and  $w_{AB}$  is the weight for the undirected dyad. The terms  $\text{PTA}_{A\_C,D,\dots}$  and  $\text{PTA}_{B\_C,D,\dots}$  capture whether country A (B) signed a trade agreement with country C (D,...) in the last five years.

### Appendix III: Descriptive statistics (Model 1)

Variables	Mean	Std. Deviation	Minimum	Maximum	Data sources
<i>FDI DISCRIMINATION (LOGGED)</i>	3.06	3.49	0	16.37	(1) (2)
<i>FDI (LOGGED)</i>	2.34	2.78	0	14.19	(2)
<i>TRADE (LOGGED)</i>	1.96	2.36	0	12.46	(3)
<i>GDP (LOGGED)</i>	1.79	1.26	0.10	8.57	(3)
<i>BIT</i>	0.11	0.31	0	1	(4)
<i>ALLIANCE</i>	0.15	0.37	0	1	(5)
<i>DEMOCRACY</i>	-4.97	1.87	-7	-1	(6)
<i>DISTANCE (LOGGED)</i>	8.71	0.75	2.44	9.89	(7)
<i>CONTIGUITY</i>	0.02	0.13	0	1	(7)
<i>ISLAND</i>	0.13	0.33	0	1	(7)
<i>WTO</i>	0.54	0.50	0	1	(8)
<i>MULTI-ROUND</i>	0.66	0.47	0	1	(8)
<i>TRADE DISPUTE</i>	0.01	0.07	0	1	(9)
<i>TRADE DISPUTE THIRD PARTY</i>	0.29	0.46	0	1	(9)
<i>LANGUAGE</i>	0.09	0.29	0	1	(7)
<i>RELIGION</i>	0.16	0.37	0	1	(10)
<i>COLONY</i>	0.16	0.37	0	1	(7)

Sources: (1) see Note 12; (2) UNCTAD 2010b; (3) IMF 2008; (4) UNCTAD 2010a; (5) Correlates of War dataset; (6) Freedom House 2007; (7) CEPII 2006; (8) World Trade Organization 2008; (9) Horn and Mavroidis 2006; (10) Encyclopedia Britannica (2001).