

Preferential Trade Agreements and Anti-dumping Duties

Preliminary and Incomplete

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Abstract

Do countries that enter Preferential Trade Agreements (PTAs) increase the level of protection against non members? If so - in what way? The theoretical literature on this question is divided. Most of the empirical literature on the issue focused on tariffs, finding mixed evidence. This paper focuses on the use of Anti-Dumping (AD) duties, a very flexible and increasingly popular protection measure. I find that following the creation of NAFTA, the U.S. increased the use of AD duties against non NAFTA members in sectors that were exposed to Mexican imports much more than in sectors that were not. I interpret these results as evidence that NAFTA caused an increase in the use of AD duties against non members.

1 Introduction

Do countries that enter Preferential Trade Agreements (PTAs) increase protection against non members? If so - in what way? In particular, do countries use more “trade remedies” against non-members of their PTA than they would have if the PTA did not exist? In this paper I address that question by examining AD duties use by the U.S. following the creation

of NAFTA. To avoid the identification problems caused by the fact that NAFTA was not signed at a random point in time, nor with a random set of countries, I use two important features of NAFTA and of AD duties. First - AD duties are imposed on a narrowly defined product. Second, many American sectors are not exposed to any imports from Mexico, and are therefore not directly influenced by NAFTA. I assume that if there is an effect of NAFTA on the use of AD duties, this effect should be more pronounced in sectors that are exposed to Mexican imports than in sectors that are not. I use a difference in difference estimation, and find that following NAFTA, sectors that were exposed to Mexican imports become more likely to receive AD duties protection, relative to non exposed sectors.

In the last two decades many countries have turned to Preferential Trading Agreements (PTA), that liberalize trade within a small group of countries, as their liberalization measure of choice. As of 2010, the World Trade Organization (WTO) received notifications of a total of 371 agreements, of which 193 are currently in force. Though a precise count of these agreements is sensitive to definitions of what counts as a "new" PTA, a trend is evident: according to WTO records, during the 80's only 8 PTA's went into force. During the 90's the number was 52, and during the first decade of the new millennium, while the Doha round of multilateral negotiation made very little progress, 144 new PTA's entered into force. Around the same time, the use of anti-dumping duties, which are far and away the most commonly used trade remedy, increased substantially, in total levels as well as in prominence among other trade remedies. Prusa and Teh [Working Paper] report that in the last 15 years AD duties accounted for 89% of all trade remedies cases, that the number of countries with AD laws (enabling them to take advantage of the WTO AD clause) have increased five fold, and that the annual number of AD cases world wide has doubled. It seems reasonable to ask whether there is a connection between the two trends.

Because PTAs are by their nature discriminatory, they raise concerns about inefficient trade diversion. This concern is particularly acute if the signing of a PTA doesn't only lead to *relative* worsening of market access for non members, but also to an *absolute* increase in

the trade barriers that non members face. But is that a reasonable concern?

The theoretical literature is divided on the issue. Using the terms of trade framework for understanding trade agreements, Bagwell and Staiger [1999] give strong theoretical reasons to expect a “protection complementarity” effect, i.e. that a liberalization towards one trade partner will lead to a *lower* optimal level of protection towards other trade partners. This result suggests that PTAs may not be as discriminatory as they first appear, since following the signing of a PTA countries will lower protection towards non members as well. On the other hand, Bond and Syropoulos [1996] show that when integration takes place in costume unions (so all members set the same external tariffs), the new bloc will have greater market power than any of the members had individually, and therefore may choose to increase external tariffs, thus making PTAs even more discriminatory than they seem. When non-trade motivations for PTAs are present, Limão [2007] argues that increasing protection against non-members increases the value of concessions made towards members, which may lead countries to become more protectionists towards non-members when entering a PTA.

The empirical literature is also divided. Estevadeordal et al. [2008] look at the changes in tariffs following the signing of PTAs in Latin America, and find a positive correlation between the decrease in the intra-PTA tariff on a good, and the decrease in the external tariffs that were applied to the same good. This result is consistent with the “protection complementarity” effect. However, Limão [2007] and Limão [2006] show that the level of external liberalization may be a strategic consideration when negotiating a PTA, since external liberalization will erode the value of the concessions made as part of the PTA. In this case, PTAs can lead to an increase in the level of external tariffs, in order to make the PTA concessions more attractive. He also finds empirical evidence in support of that argument.

An important limitation of the empirical literature on the subject is that it focuses almost exclusively on changes in tariffs. While it is true that the main channel of discrimination, it is not the only one. Other channels include discriminatory use of so called "trade remedies", which are protection measures that are allowed under the WTO system in special circumstances. Many PTAs limit or abolish the use of these among members. Moreover, there is

a concern that the use of these measures against non members will increase following the signing of a PTA. Bhagwati and Panagariya [1996] hypothesized exactly that:

...[T]oday's trade barriers come more in the form of administered protection: for example VER (Voluntary Export Restraint) ... and anti-dumping actions... The lack of effective discipline in these matters then enables member countries to discriminate effectively against nonmembers, making it possible and even likely that trade creation... will be converted into trade diversion by resorting to such discrimination against nonmembers at the margin.

However, so far this hypothesis received very little empirical attention, with Prusa and Teh [Working Paper] being a notable exception. Since their paper is very closely related to this one, it is worth discussing it in some detail. For a large number of PTAs, they compare the use of AD duties by PTA members against other members of the same PTA, relative to their use against non members. They find that after the signing of the PTA, the number of AD duties imposed on members falls sharply, while the number of AD duties imposed on non members decreases very little if at all. They establish that this pattern is the result of the AD rules in the PTAs, and not the result of some other PTA related changes, such as increase in FDI. They coin this effect "protection diversion". This result is an important documentation of the fact that AD duties have become a substantial channel of discrimination. Yet, in itself it does not establish that PTAs lead to an absolute increase in the number of AD duties imposed on non-members. It only shows an increase in the gap between members and non members. Prusa and Teh do calculate the effect that the increase in trade volume has on the use of AD duties, and assuming that all the increase in trade volume (relative to trend) was due to the signing of PTA, they calculate the increase in AD duties that resulted from the PTA.

While I reach similar conclusions, my contribution relative to Prusa and Teh is two fold: First, my results do not depend on any assumptions about the relationship between the timing and the membership of PTAs and the use of AD duties. The Prusa and Teh results, being a difference in difference estimation, rely on the assumption that if it wasn't for the

PTA, would-be members and non members would have been on the same trend with respect to AD duties. More importantly, their results about the increase in AD incidence against non members measure the effect of the *increase in trade* on AD duties, and not the direct effect of the PTA. This paper measures the direct effect of PTAs on the incidence of AD duties against non members.

2 Anti-dumping Duties

The standard justification for AD duties is that they are used to protect domestic producers from predatory pricing by foreign competitors. If foreign competitors price their goods “below fair value”, they are assumed to be doing so in order to drive domestic producers out of the market, and later monopolize it. AD duties are allowed under the WTO, and they are regulated under article six of GATT. According to this article, if it can be shown that as a result of these “below fair value” prices, the domestic industry suffers a “material injury”, then governments may impose Anti Dumping duties at a level that will bring the price of the imported good back up to its “fair value”. When possible, “fair value” is calculated as the price the foreign producer is charging in its own market. If that is not possible (eg. if the foreign producer operates in a non-market economy, where prices are arguably not informative), various measures are used, including averaging over other markets to which the foreign producer is exporting, or a calculation of the producer’s cost.

In practice, AD duties are widely believed to be misused, and to serve as an arbitrary measure of protection. For example, A Bloomberg news report from December 2011 reports that “China announced plans to impose anti-dumping duties on some vehicles imported from the U.S. after failing to block a U.S. tariff on Chinese tires”. It is hard to see how this argument fits article six of GATT. In the U.S., “cut to length carbon steel plate” (HS code 721070300) was the subject of 94 AD investigations against exporters from 33 different countries, and duties were imposed in 35 cases against exporters from 25 countries. It is hard to justify such actions as an attempt to stop monopolization of the American market.¹.

¹For a rather entertaining list of examples from the U.S., including a ruling by the U.S. authorities that

The legal process of imposing AD duties in the U.S. is defined by the 1930 Tariff Act. Facing competing imports, a firm (or industry organization) may petition the U.S. government to impose AD duties. For that purpose, it has to show that the foreign firm is “dumping”, i.e. selling at prices below “fair value”, and that this dumping causes “material injury”. Two separate agencies then evaluate the claims. The International Trade Administration (ITA) evaluate the injury claim, and the U.S. International Trade Commission (USITC) evaluate the dumping claim. If both the final dumping decision and the final injury decision are positive, AD duties are imposed. The size of the duties is determined by the “dumping margin”, which is the difference between the price charged by the exporter, and the “fair value” as determined by the USITC.

The importance of AD duties as a measure of protection is further emphasized by the findings of Vandebussche and Zanardi [2010] and Staiger and Wolak [1994], who have shown that the effect of AD duties goes well beyond the direct effect of the duties (“a chilling effect”), and therefore even what may seem like a modest protectionist activity may have larger consequences than it first appears. As Bhagwati pointed out, and facing this increase in their popularity, the use of AD duties must be considered when the discriminatory effects of a PTA are considered.

3 Identification Strategy

The main identification problem when trying to measure the effect of a PTA on other trade policies is that PTAs are not signed randomly (one should hope...), neither with respect to time nor with respect to the identity of members. If a trade agreement is more likely to be signed by a “trade friendly” government, or if some unobserved conditions are favorable to trade liberalization, than a simple time series analysis will suffer from omitted variable bias. Moreover, if the signing of the PTA is the peak of an ongoing process of integration, comparing members and non members may overstate the effect of the PTA. Another en-

Chinese shrimp exporters sell their goods in the U.S. at roughly a third of the cost, see Irwin [2002]

Table 1: AD Investigation in the U.S., 1990-2000

| | Full Sample | Max (year) | Min (year) |
|--|--------------------|-------------------|-------------------|
| # of AD investigations initiated | 5,716 | 1,874 (in 1992) | 40 (in 1995) |
| # of successful AD investigations | 2,851 | 707 (in 1998) | 19 (in 1995) |
| % of success | 49.88% | 93% (in 2000) | 15% (in 1991) |

dogeneity problem is more specific to estimating AD activity: a PTA is likely to influence macro economic conditions in many ways, and as Knetter and Prusa [2003] have shown, these in turn influence the use of AD duties. Though some of these factors are potentially observable, others may not be, introducing even more potential bias to the estimation. As can be seen from table 1 in the U.S., AD duties exhibit very substantial volatility from year to year, making a simple time series analysis very problematic.

Ideally, we would like to observe a set of countries which are identical in all aspects that are relevant to trade policy, and only differ in that one of them joins a PTA, while the other does not. Obviously, there's little hope to observe that. However, in the same country at the same point in time, some sectors are exposed to imports from PTA members, and some are not. The core of my identification strategy is to think of sectors that are not exposed to imports from PTA members as a "control group". In the U.S. and NAFTA case, the U.S imports a positive amount in about 100,000 HS 8 digit categories, and in any given year, only in about a third of them is Mexico a source of any imports. However, in goods in which Mexico is a source of imports, it is a significant one, averaging around 16% of total import value. Table 2 presents some summary statistics about U.S. imports from Mexico.

It is a key assumption throughout this paper that sectors with zero imports from Mexico are not affected by NAFTA in ways that are relevant to AD duties. If we are also willing to assume that there is no important difference between sectors that are exposed to imports from Mexico and sectors that are not, the following regression can identify the effect of NAFTA on AD duties:

Table 2: U.S. Imports from Mexico, 1990-2000

| | Full Sample | Before NAFTA | After NAFTA |
|--|--------------------|---------------------|--------------------|
| % of HS (8 dig.) goods exposed to Mexican imports | 35.9% | 31.8% | 41.8% |
| % of total imports from Mexico (if>0) | 16.6% | 15.8% | 17.4% |
| Value of Mexican imports per Month* (if>0) | 1,800,000 | 1,500,000 | 2,160,000 |

*Current US\$

$$AD_{i,t} = \sum_T \alpha_T + \beta EXPOSURE_{i,t} + \delta Z_{i,t} + \epsilon_{i,t} \quad (1)$$

Where $AD_{i,t}$ is a measure of AD duties activity against non NAFTA members in sector i in month t , and $EXPOSURE_{i,t}$ is a dummy variable that takes the value 1 if there was any positive level of imports from Mexico in the 12 months before month t . $Z_{i,t}$ is a vector of controls (e.g. total import volume), and α_T are year fixed effects. If the coefficient β is positive, it can be interpreted as evidence that NAFTA lead to an increase in the incidence of AD duties on non members, and a confirmation of Bhagwati’s hypothesis.

However, the assumption that sectors that are exposed to imports from Mexico are similar to sectors that are not is hard to defend. Moreover, even if they were, it may be that because of some historical reasons that is independent of the imports from Mexico, some industries are more likely to petition for AD duties protection, or are more likely to receive it, and these happen to be industries that are exposed to Mexican imports. Equation 1 is therefore inadequate.

To address the difficulties with equation 1, I use a difference in difference estimation, comparing the difference in AD incidence between sectors that are exposed to imports from Mexico and sectors that are not, before and after NAFTA went into force. In a sense, I use the non exposed sectors as a “control group”, which did not receive the “treatment” that is NAFTA. The identification assumption that is needed for the difference in difference estimation to be valid is only that if it wasn’t for NAFTA, the exposed and the non exposed sectors were on the same AD duties trend. This assumption suggests the following estimation

equation:

$$AD_{i,t} = \sum_T \alpha_T + \beta_1 EXPOSURE_{i,t} + \beta_2 NAFTA_t + \beta_3 EXPOSURE_{i,t} \times NAFTA_t + \gamma Z_{i,t} + \epsilon_{i,t} \quad (2)$$

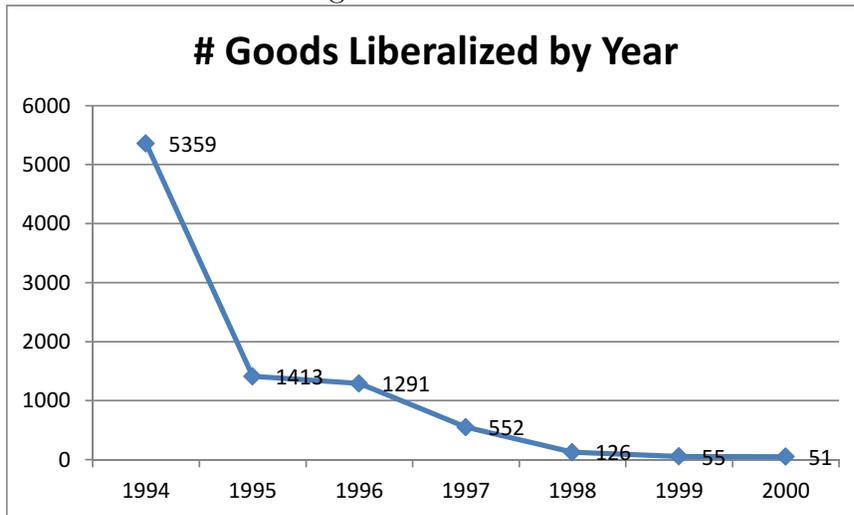
Where all variables are as before, and $NAFTA_t$ is a dummy variable that takes the value of 1 for all time periods after January 1994, which is when NAFTA went into force. In this specification, a positive β_3 means that after NAFTA went into force, sectors that were exposed to Mexican imports saw a larger increase (or a smaller decrease) in the incidence of AD duties than the non-exposed ones. This can be interpreted as a positive effect of NAFTA on AD duties against non members.

Still, using 1994 as a break point is too crude to establish causality with regard to NAFTA. For once, the successful conclusion of the Uruguay round, and the introduction of the so called “sunset clause” that mandated a review of all AD duties within 5 years of their imposition might have had an effect on AD duties patterns. However, the historical setting allows an even more precise estimation of the effect of NAFTA. A key feature of the NAFTA liberalization vis-a-vis Mexico is that it was gradual. That is, not all tariffs towards imports from Mexico went to zero on January 1, 1994. Many goods took years to even begin the liberalization process, let alone complete it. Thus, the dummy variable that defines the post NAFTA period in the estimation should not only be time specific, but also good specific, suggesting the following model:

$$AD_{i,t} = \sum_T \alpha_T + \beta_1 EXPOSURE_{i,t} + \beta_2 NAFTA_{i,t} + \beta_3 EXPOSURE_{i,t} \times NAFTA_{i,t} + \gamma Z_{i,t} + \epsilon_{i,t} \quad (3)$$

Note that now the NAFTA dummy is indexed both for time and for sector. This extra variation in the data narrows the identification further, mitigating the risk that some other change around 1994 is driving the pattern we see in the data. I define the time of liberalization as the first time period in which at least one of the following is true:

Figure 1: Number of Goods Liberalized by Year



1. The ad valorem tariff difference between those faced by Mexican imports and the MFN tariff is at least 2 percentage points (Following Estevadeordal et al. (2008)).
2. The tariff on Mexican imports is zero, while the MFN tariff is not.

Figure 1 presents the number of goods liberalized each year after 1994 according to this definition. There is a substantial variation in the year of liberalization between goods. About 60% of the goods that were liberalized at any time before the year 2000, were liberalized in 1994 (note that by definition no goods were liberalized before 1994), and another 15% met the liberalization criteria in each of the next 2 years. By 1999, essentially all of the goods that were liberalized at any point already met the liberalization criteria. It is important to note that this is *not* to say that the process of liberalization vis-a-vis Mexico was essentially completed by 1998. This figure only presents when a good met the liberalization criteria for the first time, and not when it completed its liberalization process.

There are two more concerns that need to be addressed. First, a product that is imported from Mexico is likely to experience an increase in the overall level of imports after its liberalization. It is therefore possible that the increase in *total import volume* is driving the observed increase in AD duties, and not the liberalization per se. To control for that possibility, I include as a regressor the overall value of imports in the industry in the 12

months before the AD investigation has began. Interestingly, and consistent with the finding of Hillberry and McCalman [2011] the total level of imports is not an important determinant of AD activity.

The other concern is that it is possible that industries in which imports are more concentrated, are more likely to petition for AD duties. The reason for that is that AD duties are country specific as well as good specific, making them a more cost effective measure when a a small number of countries are responsible for a large share of total imports. If, following NAFTA liberalization, Mexican exporters drove some countries out of the market, industries that face Mexican imports may have become more concentrated. In that case, each of the survivors in that market becomes a more attractive target for AD duties. and we may observe more AD duties in industries that were liberalized and that face Mexican imports, because they became more concentrated, and not as a direct result of liberalization. To control for that possibility, I use various measures of import concentration, such as the share of the top n exporters (for various n values), and a Herfindahl–Hirschman Index for import concentration at the country level.

Finally, I include an industry fixed effect to control for industry specific factors, and a year fixed effect.

4 Data

Trade data are taken from the census U.S. Merchandise Import data set, which includes a 10 digit (HS) level data at a monthly frequency on all U.S. imports. Anti-dumping data is taken from Bown [2010], and is also at the 10 digit (HS), which includes the dates and the results for each stage of each AD investigation in the U.S. in the years 1980-2005, as well as details about the involved parties. U.S. tariff data is taken from the United States International Trade Commission website and from Romalis et al. data base (described in detail in Feenstra et al. [Working Paper]). Since my definition of liberalization is based on an ad valorem definition of the tariffs, whenever the tariff is specified as a specific tariff, I use the Romalis et. al calculation of an “ad valorem equivalent”, which is based on the unit

price and specific tariff of the good in question. For most of the specifications I aggregate up the trade and AD data to the 8 digit level.

5 Results

the results of the estimation of equation 3, with the explained variable being dumping investigations that were initiated are presented in table 3. In column 1 the explained variable is the number of AD investigations that were initiated in an 8 digit sector in a month. The coefficient on the interaction term *EXPOSURE * NAFTA*, which is the coefficient of interest, is highly significant (P-value<0.001), and at 0.006 is also economically substantial. Over the whole sample period, the average number of investigation in a sector in a month is 0.005 (in the vast majority of sectors the number is zero). This result suggests that after being liberalized to imports from Mexico, in exposed sectors the number of AD investigations more than doubled relative to non exposed sectors. In column 2, instead of a single variable for the post liberalization period, the year of liberalization and each of the following three years, interacted with the *EXPOSURE* variable, entered the regression separately. The results reinforce those in column 1, with each of the years following liberalization being highly significant. An interesting pattern emerges: the effect of liberalization is relatively small in the year of liberalization, it then spikes in the following year, and shrinks again in each of the following 2 years, both in size and in significance. This pattern repeats itself in all other specifications.

The number of investigations initiated can be a measure of the intensity of the AD activity, for example, when it relates to the number of different exporters that are being targeted. However, a high number of investigations may also reflect a legal strategy more than the actual intensity of perusing AD duties protection. To dress that concern, columns 3 and 4 report the results of a linear probability model² regression, with the explained

²Using a LPM for estimating probabilities that are very close to zero may be problematic. However, for a standard interpretation of a DID estimation linearity is a key assumption. In appendix ** I report the results of using different models (Logit and Probit) using the Norton et al. [2004] correction. The results are

Table 3: Dumping Investigation Initiated

| | (1) | (2) | (3) | (4) |
|-------------------------------|----------------------|---------------------|---------------------|---------------------|
| | # of Investigation | # of Investigation | LPM | LPM |
| EXPOSURE | -0.004*** (0.001) | -0.002 | -0.03*** (0.005) | -0.0002* (0.09) |
| EXPOSURE*NAFTA | 0.0056*** (0.000) | | 0.032*** (0.000) | |
| T*EXPOSURE | | 0.004*** (0.001) | | 0.048*** (0.000) |
| T+1*EXPOSURE | | 0.008*** (0.000) | | 0.054*** (0.000) |
| T+2*EXPOSURE | | 0.005*** (0.000) | | 0.041*** (0.000) |
| T+3*EXPOSURE | | 0.003*** (0.000) | | 0.023*** (0.005) |
| Top Country Share | -0.003 (0.14) | -0.002 (0.19) | 2.80E-07 (0.87) | 7.00E-05 (0.65) |
| Total value of imports | -7.46E-11 (0.40) | -1.64E-11 (0.46) | -2.02E-12 (0.55) | -1.56E-12 (0.33) |
| Year FE | Yes | Yes | Yes | Yes |
| Industry FE | Yes | Yes | Yes | Yes |
| YEARS | 1990-1997 | 1990-2000 | 1990-1997 | 1990-2000 |
| N | 764,258 | 1,090,249 | 764,258 | 1,090,249 |

P-value in parenthesis. SE are clustered at the industry level. *** p<0.01, ** p<0.05, * p<0.1. SE are robust and are clustered at the sector level.

variable being a dummy that takes the value of 1 if there were any dumping investigations. The results are very similar to the results in the previously reported regression. Following liberalization, a sector is 0.02 percentage points more likely to petition for an initiation of at least one dumping investigation. From a baseline of 0.06%, this is an increase of 33%. In column 4, the post period is broken down into years, and the same pattern emerges - a low increase in the year of liberalization, an increase in the next year, and a tapering off of the effect later.

Table 4 reports the results of the same estimation as table 3, with the only difference being that the explained variable is now AD duties that were actually imposed, as opposed to all investigations that were initiated. The pattern in investigation that concluded with the imposition of AD duties is very similar to the pattern in all investigations. In columns 1 and 3, the post liberalization years are lumped together. Following liberalization, the qualitatively unchanged.

Table 4: Investigations that Ended with the Impositions of Duties

| | (1) | (2) | (3) | (4) |
|-------------------------------|--|--|---------------------|---------------------|
| | # of Investigation Concluded with Duties | # of Investigation Concluded with Duties | LPM | LPM |
| EXPOSURE | -0.0007 (0.16) | | 0.01 (0.13) | |
| EXPOSURE*NAFTA | 0.002*** (0.000) | | 0.02*** (0.003) | |
| T*EXPOSURE | | 0.0008 (0.31) | | 0.020** (0.02) |
| T+1*EXPOSURE | | 0.003*** (0.000) | | 0.033*** (0.000) |
| T+2*EXPOSURE | | 0.002*** (0.000) | | 0.026*** (0.000) |
| T+3*EXPOSURE | | 0.0008* (0.09) | | 0.013** (0.04) |
| Top Country Share | -0.002 (0.11) | -0.002 (0.12) | -1.00E-04 (0.45) | 4.00E-03 (0.727) |
| Total value of imports | 3.70E-11 (0.40) | -4.98E-12 (0.45) | 2.71E-10 (0.43) | 1.26E-10 |
| Year FE | Yes | Yes | Yes | Yes |
| Industry FE | Yes | Yes | Yes | Yes |
| YEARS | 1990-1997 | 1990-2000 | 1990-1997 | 1990-2000 |
| N | 764,258 | 1,090,249 | 764,258 | 1,090,249 |

P-value in parentensis. SE are clustered at the industry level. *** p<0.01, ** p<0.05, * p<0.1. SE are robust, and are clustered at the sector level.

number of AD duties imposed in a sector in a month is 0.002 higher for sectors that were exposed to imports from Mexico than for sectors that were not. This is a substantial increase, considering that over the whole sample period, the average number of duties imposed (per sector per month) was 0.0016. The probability of a positive number of duties imposed is 0.02 percentage points higher. In columns 2 and 4, each of the years following liberalization is interacted separately with the EXPOSURE variable. In both the number of duties imposed and the probability of observing at least one case of duties imposed, the size of the effect follows an inverse U shape.

As a whole, these results support Bhagwati's Hypothesis that the signing of a PTA may lead to an increase in the absolute level of non tariff trade barriers, AD duties in this case, that non members face.

6 Robustness Checks

To avoid the possible effect of the rise of China as a major source of imports to the U.S., I repeat all the tests excluding all AD investigations against China - the results are qualitatively the same. Modifying the time frame for the exposure dummy between three months and 12 months did not qualitatively change the results. Nor are the results sensitive to the precise threshold of the liberalization variable: varying the gap between the Mexico specific and the MFN tariff that was considered “liberalized” between 1.5% and 3% made no qualitative difference to the results. Increasing the cutoff to be considered exposed to Mexican imports, to have above 5% of total imports over the last 12 months originating from Mexico does not qualitatively change the results.

An important issue is choosing the most informative level of aggregation. While this paper does not discuss the mechanism that is driving the results, it is clear that the mechanism has something to do with competitive pressures. There is no clear cut way to map HS product groups into effective competition groups. The level of disaggregation I used in the results presented in this paper, 8 digits, is very high. Consider the two following examples of AD investigations: On February 1994, a dumping investigation was initiated against imports of “Roses, fresh cut”, otherwise known as HS 60310600. It is possible that there are no roses imported from Mexico, but that the domestic Roses industry is hurt by massive imports of tulips from Mexico. Thus, this process may tag some exposed sectors (roses) as non-exposed, even though it effectively is exposed to Mexican competition in the form of tulips. Note that the converse is not possible - if an 8 digit sector is classified as exposed to imports from Mexico, it is also effectively exposed. However, at worst, this may lead to an attenuation bias in my results, and the results presented here should be considered a lower bound.

7 Concluding Remarks

This paper used the accession of Mexico to the free trade area that included the U.S. and Canada as a natural experiment to measure the causal effect of a free trade area on the use of

AD duties against non members. Using sectors that are not exposed to Mexican imports as a control group, I find that in the years following liberalization, in sectors that were exposed to Mexican imports the number of dumping investigation as well as the number of duties that were eventually imposed grow substantially relative to sectors that were not exposed to Mexican imports. I interpret these results as support for what Teh and Prusa coined “protection diversion”, i.e. that following the signing of a PTA, the use of AD duties against non members increases.

The patterns in the data suggest that the effect is weakening over time, so it is possible that the use of AD duties, who are defaulted to expire after 5 years helps ease the transition out of sectors that were hit by NAFTA. In that case, it is not necessarily the case that PTAs are a permanent “stumbling bloc” for general liberalization, and possibly even a building bloc that can help overcome political pressures. A more detailed theoretical and empirical analysis is needed to make value judgments in this type of “protection diversion”.

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