Antidumping Duties in the Agriculture Sector:

Trade Restricting or Trade Deflecting? [1]

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Antidumping Duties in the Agriculture Sector: Trade Restricting or Trade Deflecting? [2]

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Abstract: The key issues on the negotiation table in the agriculture sector are the elimination of export subsidies, a progressive reduction of tariffs and reduction in domestic support. However, it is observed that trade liberalization often involves moving from one set of distortions to another rather than a movement to free trade. More specifically, in the case of trade liberalization in manufacturing, countries have replaced lower tariffs with antidumping duties (ADD). Feinberg and Olson (2005) empirically show that countries that agreed to larger tariff reductions under the Uruguay Round are more likely to use AD statutes to protect their domestic industries. Thus if the use of ADD in agriculture are effective as a trade barrier (that is there is little trade diversion) then negotiators might need to include AD reform along-with lower tariffs in their future negotiations. In this paper we analyze whether imposition of an antidumping duty restrict imports of the named commodity or is the supply of imports deflected from countries named in the petition to countries not named in the antidumping petition? We find that AD duties have had a significant impact on the imports of agricultural commodities from countries named on the petition. However, our results also indicate that there was little trade diversion towards countries not named in the AD petition. It seems that AD is a plausible protectionist policy.

Introduction

In this paper we analyze whether U.S. Anti-Dumping (AD) petitions on agricultural commodities are effective in restricting trade. More specifically, does imposition of an antidumping duty restrict imports of the named commodity or is there a deflection in the supply of imports from countries named in the petition to countries not named in the antidumping petition?

This question is important given the significance accorded to agricultural liberalization in the recent rounds of trade negotiations conducted under the World Trade Organization (WTO). In recent rounds of negotiations, developing countries are seeking freer trade in the Agriculture sector (Anania 2005). The main issues on the table are the elimination of all forms of export subsidies, a progressive reduction of tariffs and reduction in domestic support or production subsidies. However, it is often observed that trade liberalization often involves moving from one set of distortions to another rather than a movement to free trade.[1] More specifically, it is observed that in the case of trade liberalization in manufacturing, countries have replaced lower tariffs with antidumping duties. Feinberg and Olson

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(2005) empirically show that countries that agreed to larger tariff reductions under the Uruguay Round are more likely to use antidumping statutes to protect their domestic industries. Thus if the use of antidumping duties in agriculture are effective as a trade barrier (that is there is little trade diversion) then negotiators might need to include antidumping reform along-with lower tariffs and the removal of subsidies in their future negotiations.

The argument that antidumping duties are a form of protection for domestic producers is implicitly based upon the foundation that all foreign firms are restricted access to the domestic market through the imposed duty or through other measures that impede uninhibited trade. Where all foreign firms (or countries) are named in an affirmative antidumping case, the spoils are distributed among domestic producers at a value that is higher than previously prevailed. However, one distinctive feature of antidumping legislation that is generally true is the identification of countries or specific foreign firms that are guilty of dumping and for whom the legislation should be enacted. Where a subset of countries or firms is excluded from antidumping legislation, it is quite conceivable for these excluded ("non named") foreign entities to reap these spoils in conjunction with or to the exclusion of domestic producers. In the case of the latter there is trade diversion and a fairly significant literature on the topic has begun to amass. We add to this literature by concentrating solely upon trade diversion in agricultural products and focus entirely upon the effectiveness of U.S. antidumping investigations in agricultural products.

Previous studies have sought to measure the effectiveness of antidumping legislation by aggregating over all commodities (industrial and agricultural). While the conclusions and insights have been noteworthy, concentrating upon agriculture in exclusion of industrial goods might yield different results due to the different nature of commodities in the two sectors, like (i) aspects of seasonality, (ii) perishability, (iii) identification by genetic code and (iv) an outlet for surplus product.

Seasonality is an important aspect in the trade of fresh agricultural products and the effectiveness of "non named" countries to capture the benefits of trade diversion depends very much upon the marketing window. This is very much in contrast to industrial commodities that may be stocked and shipped at any time of the year without being susceptible to perishability.[2] Moreover, in order for anti dumping legislation to be effective in its protection, a necessary condition is that the accused foreign entity be restricted from shipping its product through a third country in order to circumvent the anti

dumping duty. In the case of an industrial commodity, identification of origin may, at times, prove to be difficult. Rubber tyres made in China may be indistinguishable from rubber tyres made in Pakistan particularly if the raw rubber in both countries was imported from a common source such as Malaysia. Agricultural products, however, are identifiable through genetic codes and routing through third countries may be quickly identifiable.[3] Lastly, fresh agricultural products have the advantage of an outlet in the event that an antidumping petition is allowed to proceed. Sizing conventions (metric v. standard) and voltage differences as well as other product characteristics add complications for finding alternate markets to the U.S. when an antidumping petition on industrial commodities is allowed to proceed. Fresh agricultural products, on the other hand, have the option of alternate markets (barring health or sanitary regulations) and where none exist, the processing sector may accommodate the removal of the surplus product.

We find, as expected, that antidumping duties have had a significant impact on the imports of agricultural commodities from countries named on the petition. However, our results also indicate that there was little trade diversion towards countries not named within the antidumping petition. In contrast to previous studies, we also find little change in trade flows of agricultural goods from countries named in the petition when there was a negative determination for antidumping. It seems that AD is a credible protectionist trade policy that can be relied upon as agriculture negotiation seeks lower overall tariffs. Our results imply that it might be useful to bring AD to the next round of agricultural negotiations.

Our paper is organized into four sections. Section II sketches a review of previous literature on this subject. Section III provides a brief background in the area of trade diversion. Section IV provides a characterization of US antidumping investigations. Sections V and VI formalize our econometric model and provide the results of our analysis.

Literature Review

There has been a fairly significant literature, theoretical and empirical, devoted to the effectiveness and ramifications of antidumping investigations upon trading patterns for an importing country. (Prusa (1997), Prusa (2001), Staiger and Wolack (1994),) Our paper, however, is closest in spirit to Prusa (2001), Prusa (1997) and Vandenbussche et al (1999). Prusa (1997) set forth to present evidence on the effectiveness of antidumping actions in the United States while Vandenbussche et al (1993)

attempted to measure the effects of European antidumping measures on import flows so as to contrast their results with that of Prusa (1997). Utilizing U.S. data, Prusa (1997) concluded that (i) antidumping duties substantially restrict the volume of trade from countries named on the petition and particularly for those cases where "high" duties were imposed and (ii) substantial trade diversion exists from named to non named countries with the diversion being larger the greater the duty. Accordingly, for the US data, antidumping laws have the peculiar side effect of benefiting countries and firms that were not named in the investigation through substantial price increases and volumes. In contrast, Vandenbussche et al (1999) find that little or no trade diversion exists in the European Union data. Their conjectures regarding this difference include (i) differences in concentration levels, (ii) the nature of antidumping legislation as well as the differences in the calculation of penalties and (iii) the lack of transparency and the extent of uncertainty with respect to protection offered in Europe.

Antidumping Investigations in the United States
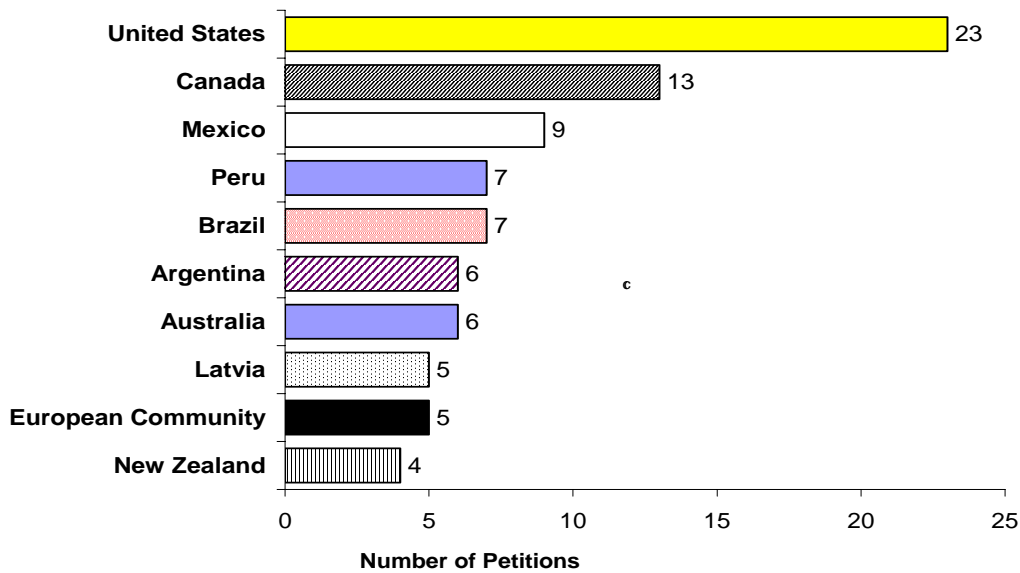
Antidumping Procedure

Under article VI of the General Agreement of Tariffs and Trade countries may impose duties on imports from a particular country or set of countries in order to protect domestic industries if it is deemed that these imports are being dumped. An interested party [4] may file an antidumping petition with the International Trade Administration (ITA) and the International Trade Commission (ITC) alleging that the domestic industry has been materially injured or threatened with material injury by dumped imports. ITA determines whether and to what extent dumping has occurred while the ITC determines whether the domestic industry has suffered material injury as a result of dumped imports. In the event that the petition is accepted by both the ITC and ITA, an antidumping investigation is initiated.

The petitioner must file on behalf of the entire industry and on this basis, ITA subsequently forwards a questionnaire to the non petitioning producers to determine the extent of support for the petition. The petitioner must also provide a significant amount of information about the domestic industry as well as the foreign firm shipping into the US. The foreign party or the foreign firm named in the dumping allegation is also required to provide a significant amount of information, and must be present at scheduled hearings. If both the IA and the ITC make affirmative findings of dumping and injury, an anti dumping duty equivalent to the dumping margin is imposed on imports of that product from the

country of the accused. The duties remain in effect until an administrative review is held and the exporter is found to have ceased dumping.

Antidumping Petitions

Figure 1: Antidumping Cases Initiated in the Agriculture Sector (1995-2003)

Country	Number of Petitions
United States	23
Canada	13
Mexico	9
Peru	7
Brazil	7
Argentina	6
Australia	6
Latvia	5
European Community	5
New Zealand	4

Number of Petitions

Source: World Trade Organisation: AD Statistics from Reporting Countries
Rest of the World: 26 cases

US is the largest user of AD legislation within the Agriculture Sector. Over the past decade there has been a substantial upsurge in the number of antidumping (AD) cases across the world. This occurs as more and more countries adopt AD legislation. By the year 1999, 34 countries were reported to have legislated AD law as compared to 9 countries in 1980. Despite an increase in the users of AD legislation the traditional users still account for a majority of these cases mainly United States and Canada (see figure 1). This is followed by Latin-American countries; Mexico, Brazil and Peru, which accounted for 21% of all the cases. NAFTA members are the key players, accounting for 40% of the total antidumping cases filed between 1995 and 2003.[5]

**Table 1: Countries named in U.S. antidumping investigations (1991-2002)**

Exporting Countries-Named	*Number of Petitions against the Country*	*Percentage of Total petitions*
NORTH AMERICA:	**7**	**25.0%**
Canada	4	14.0%
México	3	11.0%
SOUTH AMERICA:	**6**	**21.5%**
Argentina	1	3.6%
Chile	4	14.0%
Ecuador	1	3.6%
EUROPE:	**6**	**21.5%**
Denmark	1	3.6%
Germany	1	3.6%
Italy	1	3.6%
Norway	1	3.6%
Turkey	1	3.6%
Yugoslavia	1	3.6%
ASIA:	**9**	**32.0%**
India	1	3.6%
Indonesia	1	3.6%
Vietnam	1	3.6%
China	6	21.0%

Table 1 reports the exporting regions and countries that have undergone investigation. China has faced the maximum number (21%) of petitions against their exports to the US. Canada and Chile are next in line, each with 14% of the total AD cases being filed against them.

Trade Restriction and Trade Diversion

Figure 2 depicts the trends in trade for four different groups. The y-axis in Figure 2 represents the value of the log of imports averaged over the 4 groups. Our first group represents countries who were named in the petition but whose imports were not restricted. More specifically, there were negative preliminary or final determinations made in the case of dumping. For this particular group US imports stabilized around the time of the petition but began a steady increase two years after the petition.

Figure 2: Import Patterns prior to and subsequent to the filing of an antidumping petition
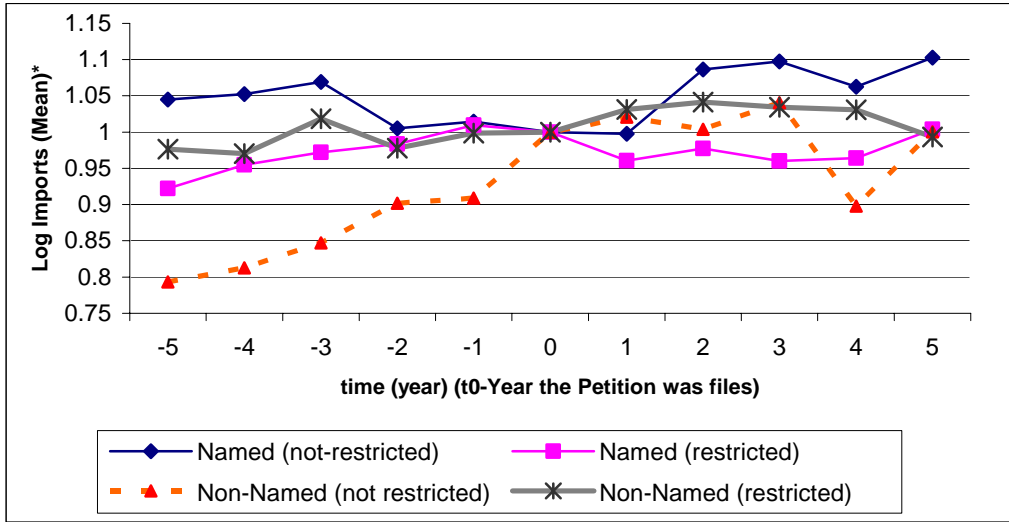
The second group belongs to the same product industry as the first but consists of countries that were not named in the petition. For our third group, which consists of countries named in the petition and for whom an affirmative decision was given, there is a fall in imports. Lastly, in the case of an affirmative decision, countries that were not named in the petition witnessed an increase their imports.

Estimation and Results

Empirical Model

Our main objective is to test whether anti dumping duties restrict imports from countries specifically named in a petition and if so, whether imports are diverted to countries that are not named. Employing ordinary least squares estimation, we estimate the following reduced form equation,

$$\ln m_{i,t_j} = \beta_0 + \beta_1 \ln m_{i,t-1} + \beta_2 affirmative_i + \beta_3 negative_i + \delta_j t_j + \alpha_j(affirmative_i * t_j)$$
$$+ \psi_j(negative_i * t_j) + \phi_t year_t$$

Whe

re j= -3, 0, 4

The variable $m_{i,t-j}$ represents imports for case i at time t_j, where t_0 denotes the year that the petition was filed, t_1 the period of investigation as well as outcome and t_2 to t_5 representing the years following the final decision. The variable $m_{i,t-1}$ is included to control for the initial import size of imports for the countries. Variables 'affirmative' and 'negative' are decision dummies for affirmative and negative cases. The variable 'affirmative' takes the value of 1 for a case if the decision was affirmative and if duties were subsequently imposed. The variable 'negative' takes the value 1 if the decision was

negative and no duties were imposed.[6] We also interact 'affirmative' and 'negative' dummies with the 'year' dummy in order to capture the time trend of imports for affirmative and negative cases; and we do this for both named and non-named countries. In estimating the above equation we control for macroeconomic influences such as exchange rate changes and business cycles by including calendar year dummies.

Additionally, we run an alternate set of regressions for both the named and the non-named countries where we also include product level fixed effects so as to control for any product level (cross-sectional) variations that can not be captured by the year dummies. This would take into account any technological change or seasonal impacts on a particular product. The antidumping data that we employ consists of all US antidumping petitions initiated between 1990 and 2002 within the agricultural sector.[7] We subsequently combed through US ITC reports for these specific cases in order to obtain the identity of these products at the 8 digit HS level. The import data for each investigated product, at the 8 digit HS level as well as at the country level was provided by the US department of Agriculture.[8] Import values were deflated by an import price index obtained from the US Bureau of labor statistics.

Results

Our results are presented in Table 2. The first column lists the regressor with the results for the named country found in the second and third columns by type of regression. Columns 4 and 5 report the results for countries not named in any petition. We find that the fixed effect model in our set of regressions to be more reliable given that it controls for product level differences. The coefficient for lagged import value is found to be positive and significant for all regression estimates depicting an overall upward trend in imports.

For cases where no duties were imposed (negative cases), there is no statistically significant change in imports from the named countries. These results are in contrast to Prusa (2001) who finds that trade is restricted from the named countries even when there is a negative decision. Prusa (2001) further concluded that even in the case where no antidumping duty was imposed, the value of imports declined by roughly 30 % in the first year.

Table 2: Results – Antidumping action and value of imports

Dependent variable: Log value of imports	Named		Non-Named	
	OLS	Fixed-Effects	OLS	Fixed-Effects
log value of imports in t-1	0.899	0.802	0.882	0.880
	(24.55)**	(14.55)**	(83.87)**	(82.17)**
dummy - affirmative decision	-0.310		0.611	
	(0.76)		(0.52)	
dummy - negative decision	-0.188		0.173	
	(0.43)		(0.15)	
Negative*t1	-0.080	0.037	0.454	0.403
	(0.26)	(0.10)	(2.05)*	(1.38)
Negative*t2	0.031	0.203	0.093	0.131
	(0.10)	(0.50)	(0.42)	(0.43)
Negative*t3	-0.137	0.072	0.269	0.336
	(0.44)	(0.17)	(1.20)	(1.04)
Negative*t4	-0.066	0.067	0.525	0.818
	(0.17)	(0.12)	(1.41)	(1.92)
Affirmative*t1	-0.921	-0.802	0.074	0.207
	(4.62)**	(2.98)**	(0.75)	(1.53)
Affirmative*t2	0.077	0.155	-0.114	0.088
	(0.37)	(0.48)	(1.16)	(0.54)
Affirmative*t3	-0.415	-0.247	-0.075	0.191
	(1.85)	(0.66)	(0.69)	(0.96)
Affirmative*t4	-0.152	-0.005	-0.117	0.175
	(0.63)	(0.01)	(1.05)	(0.76)
Year Dummies	Yes	Yes	Yes	yes
Constant	2.561	2.950	-0.187	-0.393
	(3.01)**	(2.72)**	(0.15)	(0.33)
Observations	163	163	1973	1973
R-squared	0.88	0.68	0.79	0.78

Absolute value of t statistics in parentheses; * significant at 5%   ** significant at 1%
{t=-3...0...5} with t_1 representing the year after the petition was filed
Excludes the cases for Honey and Tomato both of which were suspended.

We do, as expected, find an extremely significant impact of antidumping duties on imports from countries named in a petition. The trade restricting effect is also quite high in magnitude. In the first year, imports from the named countries decreased by 60 percent[9], subsequent to an affirmative decision being given and antidumping duties imposed. Our result is significant at the 1% confidence interval level. For the years after the duty, particularly at t_2, t_3 and t_4, there is no significant change in the level of imports. A similar trend was also depicted in figure 2.

These results are also consistent with the results for our fixed effects model. Once we control for product level variations, the fixed effect model (reported in the third column) shows that imports from named countries decreased by 55 percent.[10] Our orders of magnitude for trade restriction are in line with Prusa (2001) who estimated that named country imports declined by approximately 54% after the imposition of antidumping duties.

This is in contrast to the results driven by the manufacturing industries (Prusa (1997) and Prusa (2001)), which find statistically significant trade diversion towards the non-named countries.[11] Prusa (1997) and Prusa (2001), carry out the analysis for all the products but since roughly 80% of the cases in the US (source: WTO; years: 95-03) are filed in the manufacturing sector, the results are driven by the manufacturing sector. We do not find this to be true for our analysis which has concentrated solely upon the agricultural sector. For cases with affirmative decisions, there is no significant increase in imports form countries not named in a petition against an agricultural commodity.

Conclusions:

Utilizing data on all US antidumping petitions imposed upon agricultural commodities between the period 1990 and 2002, our analysis indicates that antidumping duties resulted in the anticipated benefit of restricting imports from countries named on the petition with the added benefit that little trade was diverted to countries not named on the petition. In contrast to previous studies that have amalgamated over all commodities, industrial and agricultural, our study finds that in the case of a negative decision, there was little change in the trade flows from both countries that were named in the petition and those that were excluded from the petition. In contrast to previous studies we also find that the threat of an investigation alone does not seem to be an effective deterrent to agricultural exporters.

Our results suggest that antidumping measures are effective in protecting US agricultural producers so long as the petition is granted and duties are imposed. Knowledge on the impacts and ramifications of trade remedy laws in the agricultural sector may help to provide a step towards a better understanding of the trade talks and to decide what other issues need to be addressed. It has become clear that much of the delay in completing trade talks has centered upon the inability to agree upon issues related to agriculture McCalla(1993). The stories purporting hardship at the farm level and a large (cohesive) agricultural lobby are more likely to receive an audience from governments, in the midst of trade negotiations, than are accolades from a fragmented and diverse beneficiary. It is generally accepted, at least by most academics that trade remedy laws are an easy vehicle by which governments may appease these cohesive lobbies while still adhering to the international commitments. Whether these trade remedy laws, particularly antidumping legislation, are an effective vehicle for this purpose is debatable. The analysis in this paper is one way to inform such a debate.

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[1] Consider a recent example from agriculture. The move from quota system to bound tariffs in the 1990's was, to say the least, ineffective in liberalizing trade, (Josling, 1998).

[2] An obvious exception is electronic and computer components which are upgraded and enhanced frequently.

[3] A 1998 analysis of a seized Mexican garlic shipment at a California port was tested by a Customs Research Laboratory with a conclusion that 23% of the shipment was of Chinese origin.
(http://nfapp.east.asu.edu/policy/2000/04/Pb00-4.htm)

[4] Interested parties include: (i)a manufacturer, producer, or wholesaler in the US of the product; (ii) a certified union or group of workers that is representative of the industry; (iii) a coalition of firms, unions, or trade associations that represent the industry

[5] Source: World Trade Organisation " ANTIDUMPING statistics from reporting countries"

[6] We have not included the two cases that resulted in suspension, namely honey and tomatoes. Each of these suspended cases resulted in both price and quantity restrictions.

[7] Information on these cases was collected from the US International trade commission's (ITC) website, www.usitc.gov.

[8] These data can be downloaded from the FATUS database at http://www.ers.usda.gov/Data/FATUS/

[9] This is calculated as [exp (-0.921) -1]

[10] This is calculated as [exp (-0.802) -1]

[11] {Prusa (2001) further finds that imports from non-named countries increase by 36percent, 28 percent and 47 percent respectively in the first(t1), second (t2) and third (t3) year of filing the case, this being significant at 1 percent confidence interval level. For the negative cases we see an increase in imports from non-named countries but once we control for product level difference, FE, the effect is no longer significant.

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