

Tariff Liberalization and Increased Administrative Protection: Is There a Quid Pro Quo?

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ABSTRACT

Theoretical models and intuition suggest that the amount of non-traditional protection against imports obtained through administrative procedures such as antidumping enforcement will increase as more traditional forms such as tariffs and quotas are lowered under multilateral trade agreements. This paper is the first empirical study of the role of tariff liberalization in the spread of antidumping. Through both correlations and regression approaches we analyze the relationship between tariff concessions made during the Uruguay Round trade negotiations and the filing of antidumping petitions, with particular interest in whether multilateral trade reductions have spurred the recent growth in new users of antidumping policies. We find that tariff reductions agreed to under the Uruguay Round not only increased the likelihood of a country using antidumping protection but also the total number of antidumping petitions filed by countries.

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I. Introduction

In recent years several authors have noted the increasing global use of “administrative protection” – most commonly, antidumping rules, especially by developing economies.¹ While the number of antidumping cases filed worldwide has increased significantly over the past 20 years, a more significant increase – roughly a tripling – has occurred in the number of countries using antidumping procedures over this period, to the point that 41 WTO-member countries² initiated antidumping cases over the 1995-2003 period (and the largest user of antidumping over this period has been India). In explaining this pattern, the two most common explanations given relate to retaliation (or “tit-for-tat” behavior) by new users against antidumping actions by other countries, and the notion that the Uruguay Round tariff liberalizations were accompanied by more vigorous use of WTO-sanctioned means of administrative protection (in order to maintain some level of overall protection) and to some extent this was the price for getting agreement on reducing tariffs and quotas.

The first hypothesis – the spread of antidumping as retaliation – has received some empirical support, with work by Francois and Neils (2002), Feinberg and Olson (2004), and Prusa and Skeath (2004) finding evidence consistent with that view (though Blonigen and Bown (2003) suggest an equilibrium threat/deterrence view which, while not inconsistent with a *disequilibrium* pattern of retaliation, is less supportive). The second hypothesis, increased antidumping activity as quid pro quo for tariff/quota liberalization, has been suggested in a study by the U.S. Congressional Budget Office (1998), as well as by Lindsay and Ikenson (2001), and Miranda et al. (1998). While

Lindsay and Ikenson provide some descriptive evidence in support of this view, there has been no serious statistical study of this issue.

More recently, Anderson and Schmitt (2003) develop a theoretical model predicting a progression from tariff protection to the use of quotas when coordinated liberalization of tariffs occurs, followed by a movement to antidumping enforcement when quotas are also limited (or “tariffed”). In what follows we make a first effort at empirically investigating the role of tariff liberalization in the spread of antidumping. We first briefly discuss some evidence on this global pattern and the findings of Finger et al. (1996) on tariff concessions in the Uruguay Round. Through both correlations and regression approaches we then analyze the relationship between such concessions and the filing of antidumping petitions, at both the country and industry-category level, with particular interest in new (mostly developing country) users of antidumping procedures.

II. The Relevant Literature

While the EU and the US continue to be major users of antidumping laws, this type of “administrative protection” against imports has become very widespread, with 39 other WTO-member countries (plus some non-members) initiating antidumping cases over the 1995-2003 period. Indicative of this global spread of antidumping, US exporters were subjected to 139 antidumping cases during this period, by enforcement agencies representing 20 countries (the EU regarded for these purposes as a single country). Of the top five users of antidumping since 1995, three of them -- India, Argentina and South Africa – had no or negligible enforcement prior to 1995. The

significant increase in the number of antidumping cases brought world-wide is eclipsed by a more dramatic increase in the number of countries getting involved in bringing such cases, roughly a tripling between the late 1980s and today, with all of this growth brought about by new enforcement agencies in developing economies.

Finger et al. (1996) present evidence on both country averages and industry-specific tariff reduction impacts of the Uruguay Round trade negotiations (which of course led to the formation of the WTO). These are based on planned (not simply immediate) concessions, and vary – for the sample of antidumping users we will investigate below – from no reduction in industrial goods tariffs for Chile and 0.9 percentage point reduction for Mexico to a 13.1 percentage point reduction for Thailand and a 16.5 percentage point reduction for India. In agricultural sectors, including estimates of the tariff-equivalent of non-tariff barrier reductions, the effects are often much greater (over 30 percentage point reductions for Argentina and Thailand, roughly 50 percentage point reductions for Korea and the Philippines).

Putting the two patterns (growth in antidumping and trade concessions) together, Miranda et al (1998) suggest that if the emergence of increased antidumping enforcement by developing countries was a quid pro quo for general trade liberalization, there may be welfare gains from this proliferation of antidumping filings, at least in a second-best sense. The CBO paper (1998) acknowledges this possibility as well, though their focus is more on whether U.S. exporters have been harmed by and/or singled out for retaliation by new users of antidumping. Lindsay and Ikenson (2001) also emphasize the growing

threat to U.S. interests posed by new antidumping users, but agree with earlier authors that developing countries have likely been increasing the use of antidumping in part as an offset to lower negotiated tariffs.

In Feinberg and Olson (2004), probit analysis is applied to a WTO database on reported member-country filings over the 1995-2003 period. The focus of the study is whether antidumping filings may be motivated as retaliation against similar measures imposed on a country's exporters, though bilateral export flows involved and non-retaliatory impacts of past cases are also controlled for, with other motivations – macroeconomic, industry-specific and political considerations – dealt with through industry, country and year fixed effects. Strong evidence is found that retaliation was a significant motive in explaining the rise of antidumping filings over the past decade, though interesting differences emerge in the reactions to traditional and new users of antidumping. The country and industry fixed effects estimated can of course be interpreted as the effects of factors not explicitly captured in that empirical model – in particular, the impacts of tariff (and quota) concessions made in 1994 could be an important additional factor, and that is where we turn in what follows.

As mentioned above, Anderson and Schmitt (2003) develop a model based on the Brander and Krugman (1983) reciprocal dumping model, in which governments have three possible trade policy instruments – tariffs, quotas, antidumping enforcement. They find that firms have no incentive to use either quotas or antidumping if tariff use is unrestricted. In turn, given some arbitrary fixed tariff rate (as through multilateral

agreement), unrestricted quotas will always dominate the use of antidumping. However, restrictions on quota use may then lead countries to turn to antidumping measures. The mid-1990s Uruguay Round agreement liberalizing (i.e., limiting the use of) tariffs and quotas provides a natural experiment for us to investigate the implications for subsequent antidumping enforcement.

III. Data and Descriptive Statistics

We merge WTO data from all member countries on their antidumping filings between 1995 and 2004 with the tariff reductions promised by countries under the Uruguay Round, which were calculated in Finger et al (1996).³ We have tariff reduction data for 39 countries, of which 24 filed at least one antidumping petition during the sample period.⁴ The total number of antidumping petitions filed by countries, as well as their percentage reduction in industrial good tariffs under the Uruguay Round, is presented in Table 1. The correlation coefficient between the two is +0.17. This is positive as would be expected if those countries making greater tariff concessions were those more likely to file antidumping petitions. When we drop out the "traditional" users of antidumping (Australia, Canada, EU, New Zealand, US), the correlation increases substantially to +0.35. While still crude, this latter result is clearly consistent with developing countries engaging in increased antidumping enforcement activity as a *quid pro quo* for the Uruguay Round tariff liberalizations.

The above results are based only on country averages. The Finger et al data reports industry category level reductions (by country), for agriculture, fish, petroleum,

and 10 industry categories. We allocated these reductions across the 21 Harmonized System section headings⁵ in order to compare them to antidumping petition activity (provided by the WTO at the HS Section Heading level). The correlation coefficient between the number of petitions filed by the country in a specific industry and the promised tariff reductions in that industry is now just +0.07. But, again, if we drop the traditional importers (arguing that their AD regimes are established enough not to strongly be responding as an offset to other forms of protection), the correlation goes up a bit -- to +0.10. In addition, if we drop categories 1-4, the agricultural and food categories for which liberalization is most difficult to measure⁶ -- still only for the new users -- the correlations now becomes +0.20.

IV. Empirical Analysis

In order to determine the impact of the Uruguay Round tariff reductions on the likelihood of a country using antidumping protection, we estimate a probit model similar to one used in Feinberg and Olson (2004) to explain what determines a country's decision to file at least one antidumping petition against a specific exporting country in a specific industry sector in a given year. The sample includes 24 importing countries that filed antidumping petitions against 83 exporting countries in 19 separate industry categories.⁷ We limit our analysis to the years 1996 to 2003 to include lagged variables, and are left with a sample of 299,136 importing country/exporting country/industry category/year observations. At least one petition was filed in 0.49 percent of these observations.

The primary explanatory variable of interest is the importing country's Uruguay Round tariff reduction in the category (REDUCTION). We interact the tariff reduction with a log trend variable in order to capture the change in the impact of the reductions over time. For example, one would expect there to be a lag in the impact of tariff reductions on antidumping filings both because the reductions were phased in between 1996 and 1999 and because of the time it would take for industries injured by tariff reductions to file a petition. One might also expect that the impact of the tariff reduction may diminish over time as industries adjust to the new, lower tariff rates. Ideally, we would like to capture to what extent the tariff reductions agreed to under the Uruguay Round have increased the number of antidumping petitions filed by countries. Therefore, we control for the level of antidumping actions prior to the Uruguay Round using the average number of cases filed by the importing country between 1991 and 1993 (HISTORICAL).⁸

We also include a number of control variables that were found to be significant in Feinberg and Olson (2004). For example, Feinberg and Olson (2004) study whether the filing decision is motivated by the urge to retaliate against past antidumping actions by certain trading partners. The variable RETALIATION is a dummy variable that captures whether the exporting country filed an antidumping petition against the importing country in the previous year. Similarly, the variable ALL measures the exporting country's total world wide filings the previous year.

The likelihood of filing a case should clearly increase with the value of industry imports from the potential target, IMPORTS.⁹ The spread of antidumping filings may partially be explained by the trade deflection phenomenon discussed in Bown and Crowley (2004). Intuitively, when antidumping duties are imposed upon the exports of a particular country, these exports are diverted to third countries who subsequently request more import protection, including antidumping duties. To capture this possible explanation, the variable DEFLECTION equals the number of global antidumping cases filed the previous year in the particular industry category, excluding those filed against the importer being considered.

To control for unobserved macroeconomic, political and industry factors, we use year and industry category fixed effects in all specifications. We control for additional exporting country factors by using a dummy variable that equals 1 when the exporting country is a “traditional” antidumping user, including Australia, Canada, the European Union, New Zealand and the United States (TRADITIONAL).

The marginal effects from the probit estimation are included in Table 2. The first column lists results from the full sample. We find a statistically significant, albeit small, positive effect of the size of Uruguay Round tariff reductions on the probability of a country filing an antidumping petition. The results indicate that a promised one percent decrease in the industrial sector’s average tariff led to a 2.3 percent increase in the probability of a country filing an antidumping in that sector in the year following the implementation of the Uruguay Round Agreement. By 2003, the last year in our sample,

the same one percent reduction in the industrial sector's average tariff increased the probability of filing by 6.8 percent.

It should be noted that these results hold even after controlling for the level of the country's antidumping activity prior to the implementation of the Uruguay Round (HISTORICAL). Our results indicate that the likelihood of a country filing an antidumping petition against a particular industry in an exporting country increases by 3.1 percent for every one case increase in the country's average annual filings between 1991 and 1993. The positive effect of the promised tariff reductions after controlling for historical levels of a country's antidumping activity reinforces the idea that although countries agreed to lower tariffs during Uruguay Round negotiations, they subsequently replaced some of this liberalization with higher antidumping duties.

The marginal effects of the other explanatory variables are also significant and of the expected sign. For example, like Feinberg and Olson (2004) we find a positive and significant retaliation effect (RETALIATION); the likelihood of a country filing a case against an exporting country that filed a petition against it in the previous year is 200 percent higher than for those exporting countries who did not file a case. Countries are also significantly more likely to file against traditional (TRADITIONAL) and heavy (ALL) users of antidumping laws. The probability of filing against a specific country increases by approximately 3.8 percent for each case the exporting country filed in the previous year. Similarly, countries are 33.8 percent more likely to file cases against the traditional users of antidumping laws.

The volume of industry imports from the exporting country (IMPORTS) is an important determinant in the decision to file an antidumping case. The results suggest that a \$1 billion increase in the sectoral volume of imports from the targeted country results in a 10.6 percent increase in the likelihood of filing an antidumping case. Countries are also more likely to file petitions when there has been significant antidumping activity in the industry elsewhere in the world in the previous year (DEFLECT). This result is consistent with the Bown and Crowley (2004) proposition that antidumping cases deflect trade to third countries, thus increasing the likelihood that these third countries will seek some form of protection.

As noted above, the degree of liberalization under the Uruguay Round is difficult to measure for the agricultural sector, in part because the agreement replaced quotas with tariff-rate quotas. When we exclude this sector from our sample, the effect of promised tariff reductions are much stronger, as one can see from the results presented in column 2. Excluding categories I through IV, the results suggest that a promised one percent decrease in the industrial sector's average tariff led to a 3.6 percent increase in the probability of a country filing an antidumping in that sector in the year following the implementation of the Uruguay Round Agreement. By 2003, the one percent reduction in the industrial sector's average tariff increased the probability of filing by 10.6 percent. This stronger effect on antidumping protection in the non-agricultural sector may also be a result of the fact that even after the Uruguay Round the agricultural sector enjoyed

significant protection in most countries, thus reducing the need to turn to antidumping protection.

The final two columns in Table 2 present results from two sub-samples. We examine separately the filing decision by traditional users and new users. The results from these sub-samples are quite different. When we consider cases brought by non-traditional users, the effect of a promised reduction in tariff rates under the Uruguay Round has a larger positive (and still statistically significant) effect. The likelihood of filing a case is 4.8 percent higher for each 1 percent promised reduction in the industry's tariff rate in the year following implementation of the trade agreement. Surprisingly, however, when we consider only cases brought by traditional users, the effect of a promised reduction in tariff rates under the Uruguay Round has a *negative* and significant effect on the probability of filing for antidumping protection. Specifically, the likelihood of filing a case *decreases* by 2.0 percent (in the year following the agreement) for every 1 percent promised reduction in industry tariff rates for traditional users of antidumping protection. While somewhat puzzling, it is possible that traditional users, already using antidumping protection extensively in the period before the Uruguay Round, did not feel the need to increase antidumping protection further in the face of tariff reductions. The negative impact of the tariff reduction on the likelihood of filing a case may be picking up a movement to alternative mechanisms of protection (escape clause cases or phytosanitary restrictions), consistent with the suggestion in Anderson and Schmitt (2003) that a restriction on antidumping cases might lead to even less efficient forms of protection. The marginal effects of other control variables for the sub-samples are similar

to those for the full sample, although the results suggest that traditional users are not more likely to file against other traditional users.

The above analysis suggests that countries, especially developing countries, who agreed to larger tariff reductions under the Uruguay Round are more likely to use antidumping statutes to protect their domestic industries. However, the surge in antidumping protection over the past ten years is likely due both to more countries using antidumping protection and countries filing a larger number of petitions. In order to determine whether larger Uruguay Round tariff reductions led to increased use of antidumping protection by countries, we estimate a negative binomial count model to determine what factors explain the number of antidumping petitions filed by an importing country in a particular industry category each year.¹⁰ The results are presented in Table 3.

We find a positive and significant effect of the promised industry tariff reduction on the number of petitions filed by countries. In the full sample, the results suggest that the predicted number of petitions filed by a country in a particular industry increased by 1.2 percent for each 1 percent promised reduction in tariffs in the year following the implementation of the Uruguay Round. By the final year of our sample, a 1 percent promised reduction increased the predicted number of petitions filed by a country in a particular industry sector by 3.5 percent. When we exclude the agriculture categories, the marginal effect of tariff reductions are nearly twice as high. Results suggest that the number of petitions filed by a country in a particular industry increased by 2.2 percent for

each 1 percent promised reduction in tariffs in the year following the implementation of the Uruguay Round. Once again, the marginal effect of the tariff reductions are positive and significant even after controlling for the historical level of antidumping protection in a country, suggesting that the Uruguay Round reductions increased the amount of worldwide antidumping protection.

V. Conclusion

Theoretical models and intuition suggest that the amount of non-traditional protection such as antidumping protection will increase as more traditional forms such as tariffs are lowered under multilateral trade agreements. The empirical results in this paper confirm that tariff reductions agreed to under the Uruguay Round not only increased the likelihood of a country using antidumping protection, but also the total number of antidumping petitions filed by countries. This is not to say that Uruguay Round liberalizations went for naught. Anderson and Schmitt (2003) discuss how welfare gains and a narrowing of the industry scope of protection may accompany the movement to antidumping from tariffs and then quotas. While we do not address the welfare issue in this paper, it seems plausible that there may be indeed have been welfare gains from the increased use of antidumping protection over the last decade when considered as *quid pro quo* for general trade liberalization.

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Table 1
Tariff Reductions and Propensity to File

Country	Reduction ¹	Number of Petitions Filed 1995-2003
Argentina	4.9	180
Australia	8.2	163
Brazil	2.9	110
Canada	4.8	122
Chile	0.0	14
Colombia	3.6	23
Czech Republic	1.3	3
El Salvador	3.8	0
European Union	2.9	275
Hong Kong	0.0	0
Hungary	2.8	0
Iceland	14.8	0
India	16.5	379
Indonesia	11.0	55
Jamaica	12.5	3
Japan	2.6	2
Korea	8.7	75
Macau	0.0	0
Malaysia	7.2	28
Mexico	0.9	73
New Zealand	8.2	42
Norway	3.5	0
Peru	10.8	48
Philippines	8.6	17
Poland	4.2	12
Romania	3.6	0
Senegal	0.0	0
Singapore	9.3	0
Sri Lanka	14.8	0
Switzerland	1.1	0
Thailand	13.1	31
Tunisia	0.0	0
Turkey	6.3	61
United States	2.9	329
Uruguay	9.2	6
Venezuela	2.5	31
Zimbabwe	6.0	0

¹ Weighted average applied tariff reduction percentage under the Uruguay Round Agreement for industrial goods. From Finger, Ingco, and Reincke (1996).

Table 2
Marginal Effects on the Probability of Filing a Petition

	(1)	(2)	(3)	(4)
Sample	Full	Non-Food Products	Traditional Users ¹	New Users ¹
REDUCTION* LN(T)	0.000042* (0.000004)	0.000082* (0.000007)	-0.000099* (0.000038)	0.000124* (0.000009)
RETALIATION	0.002660* (0.000429)	0.003138* (0.000541)	0.003968* (0.001278)	0.003630* (0.000757)
ALL	0.000048* (0.000005)	0.000061* (0.000006)	0.000166* (0.000022)	0.000059* (0.000008)
IMPORTS (in billions)	0.000136* (0.000015)	0.000168* (0.000019)	0.000348* (0.000047)	0.000264* (0.000052)
DEFLECT	0.000010* (0.000003)	0.000013* (0.000004)	0.000035* (0.000013)	0.000015* (0.000005)
HISTORICAL	0.000040* (0.000003)	0.000049* (0.000004)	0.000070* (0.000011)	0.000177* (0.000015)
TRADITIONAL	0.000433* (0.000199)	0.000194 (0.000225)	-0.001139 (0.000571)	0.000644* (0.000358)
Year Effects	Yes	Yes	Yes	Yes
Category Effects	Yes	Yes	Yes	Yes
Predicted Probability	0.00128	0.00160	0.00340	0.00178
Observations	299,136	236,160	49,200	162,032
Pseudo R-Squared	0.1997	0.1934	0.2308	0.1565

Standard errors are in parentheses. * denotes those marginal effects significant at the 1 percent level.

¹ Marginal effects on the probability of traditional users and new users, respectively, of filing at least one antidumping petition in one of the *non-food categories* in a given year.

Table 3
Marginal Effects on the Number of Petitions Filed by Countries

	(1)	(2)
		Non-Food
Sample	Full	Products
REDUCTION*	0.00164*	0.00357*
LN(T)	(0.00032)	(0.00052)
LN(IMPORTS)	0.01641*	0.02179*
HISTORICAL	(0.00316)	(0.00399)
	0.00164*	0.00154*
	(0.00024)	(0.00029)
Year Effects	Yes	Yes
Category Effects	Yes	Yes
Predicted Number of		
Petitions	0.0972	0.1104
Observations	4,104	3,240
Pseudo R-Squared	0.1769	0.1780

Standard errors are in parentheses. * denotes those marginal effects significant at the 1 percent level.

Endnotes

¹ These include, among others, Miranda (1998), U.S. CBO (1998), Lindsay and Ikensen (2001), Prusa (2001), and Zanardi (2004).

² The EU is here considered as a single country.

³ Tariff reductions are the percentage reduction in the applied tariff rate countries agreed to implement by 1999 during the Uruguay Round Agreement (Finger et al, 1996).

⁴ The tariff reduction data used in this paper is limited to countries that participated in the WTO's Integrated Data Base (IDB) in 1996. Therefore a number of leading antidumping users, particularly China, Egypt, Israel, and South Africa, are excluded from the analysis.

⁵ These are: (1) animals and animal products; (2) vegetable products; (3) animal/vegetable fats, oils, waxes; (4) food, beverages, tobacco; (5) mineral products; (6) chemicals; (7) plastics and rubber; (8) hides, leather, fur, and articles thereof; (9) wood, cork, straw, and articles thereof; (10) pulp and paper; (11) textiles and clothing; (12) footwear, hats, umbrellas; (13) stone, glass, ceramics; (14) jewelry, precious stones and metals; (15) metals; (16) machinery, electrical and non-electrical, including audio-visual equipment; (17) transportation equipment; (18) precision and musical instruments; (19) arms and ammunition; (20) misc. manufactures; (21) art and antiques.

⁶ Finger et al. present two alternative figures for these categories: (1) tariff reductions, which are often not very important relative to non-tariff measures; and (2) combined effects of tariff and non-tariff barrier liberalization, which are always difficult to reliably measure.

⁷ The empirical estimates presented below may be biased because due to data limitations we exclude from analysis the 13 countries that filed zero antidumping petitions between 1995 and 2003. When these countries were excluded from the country-level correlation

analysis of the previous section, the correlation between average tariff reductions and antidumping cases filed decreased to +0.13 (from +0.17) for all users but increased to +0.41 (from +0.35) for new users.

⁸ Our results were quantitatively smaller, but qualitatively the same when we estimated the model using importing-country fixed effects in place of the HISTORICAL variable.

⁹ These data are obtained from the United Nation's Commodity Trade Statistics Database. We use a single mid-sample observation, 1999, because consistent data were not available for all years in our sample.

¹⁰ Some industries such as the steel industry tend to file petitions against multiple countries for multiple products at the same time. However, the level of antidumping protection from these multiple petitions may be equivalent to the level of antidumping protection from a single petition depending on the structure of the industry. To prevent multiple petitions from dominating the results, we count all antidumping petitions filed on the same day in the same industry category as a single antidumping petition.