WHICH COUNTRIES ARE THE TARGETS FOR ANTI-DUMPING FILINGS?

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ABSTRACT

This study examined the relationship between anti-dumping filings and macroeconomic indicators of a targeted country. Focus was placed on trade policy indicators using panel data drawn from 97 countries over the period 1995 to 2005. It was determined that the number of anti-dumping filings decreased with a targeted country's liberal trading regime success. For (targeted) developed countries, greater overall trade-flow expansions and applied tariff reductions for non-agricultural products had a negative impact on the number of anti-dumping charges. On the contrary, trade policies in (targeted) developing countries were found to have no significant impact on the decision to file anti-dumping lawsuits by filing countries.

JEL: F10; F13

KEYWORDS: Anti-dumping, Trade policy

INTRODUCTION

Since 1980, there has been a substantial increase in the use of administrative protections, especially in relation to anti-dumping measures. The rise in anti-dumping usage has spread from the "major four countries," Australia, Canada, the European Union (EU), and the United States (U.S.), to other countries around the world (Prusa, 2005). Anti-dumping measures have clearly emerged as an important trade policy tool among countries.

Trade policy has been commonly viewed as the major policy provoked barrier to trade (Ekanayake and Ledgerwood, 2009). For instance, one of the key explanations for the unprecedented rise in anti-dumping use in many countries is the success of the Uruguay Round tariff liberalization (Feinberg and Reynolds, 2007). Miranda *et al*. (1998) suggested that tariff liberalization has been accompanied by the widespread use of other administrative protections, including anti-dumping duties, to maintain some level of protection for the domestic industry against the surge in import competition.

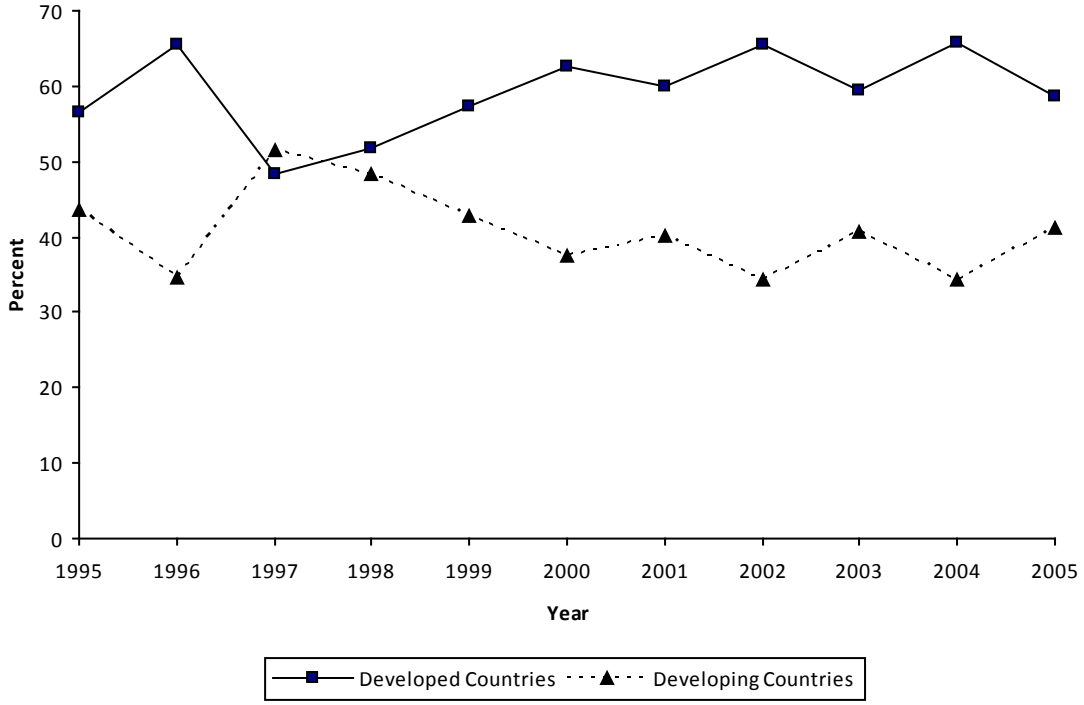
Anderson and Schmitt (2003) theoretically revealed that there is a shift from tariff protection to quotas and anti-dumping restrictions when tariff liberalization occurs. However, Sudsawasd (2012) pointed that tariff reduction may not necessarily be associated with an increase in the use of anti-dumping measures. It is uncertain whether a foreign firm will lower its export price with a lower tariff rate in an import country. If the firm raised its export price since it may possess some market power in the export market, then it is less likely for export countries to confront them with an anti-dumping charge. Conversely, the relationship may be ambiguous and is a matter of empirical evidence. For the empirical studies on this subject, Feinberg and Reynolds (2007) and Moore and Zanardi (2008) found that tariff liberalization was associated with an increase in anti-dumping petitions, at least for developing countries. In addition, Sudsawasd (2012) found that the effects of tariff liberalization on anti-dumping use varied across world regions and developed countries were likely to be more sensitive than developing countries to tariff policy change in most world regions.

Despite the large number of existing studies that have investigated the influence of various determinants on anti-dumping filings (e.g., Knetter and Prusa, 2003; Aggarwal, 2004; Sadni Jallab *et al*., 2006; Sudsawasd, 2012), studies on the relationship between macroeconomic conditions in targeted countries

and the number of anti-dumping petitions charged against them have been relatively scarce (e.g., Prusa and Skeath, 2002; Feinberg and Reynolds, 2008). Especially, there has been scarcity of empirical research focusing mainly on the relationship between trade policy in a targeted country and anti-dumping filings. Hence, a departure of this study from the others would be to focus on this relationship across countries, if one exists.

Figure 1 illustrates that developed countries have remained the major target of anti-dumping petitions (almost 60 percent of the total cases). The shares of anti-dumping initiations charged against developed and developing countries have been widening since 1997. In Figure 2, the reductions in applied tariff rates are observed in both developed and developing, but by a much higher percentage in developing countries over the same period. These stylized facts raise the question as to what extent have macroeconomic factors of targeted developed and developing countries triggered the use of anti-dumping measures by filing countries.

Figure 1: Share of Anti-dumping Initiations Charged against Developed and Developing Countries

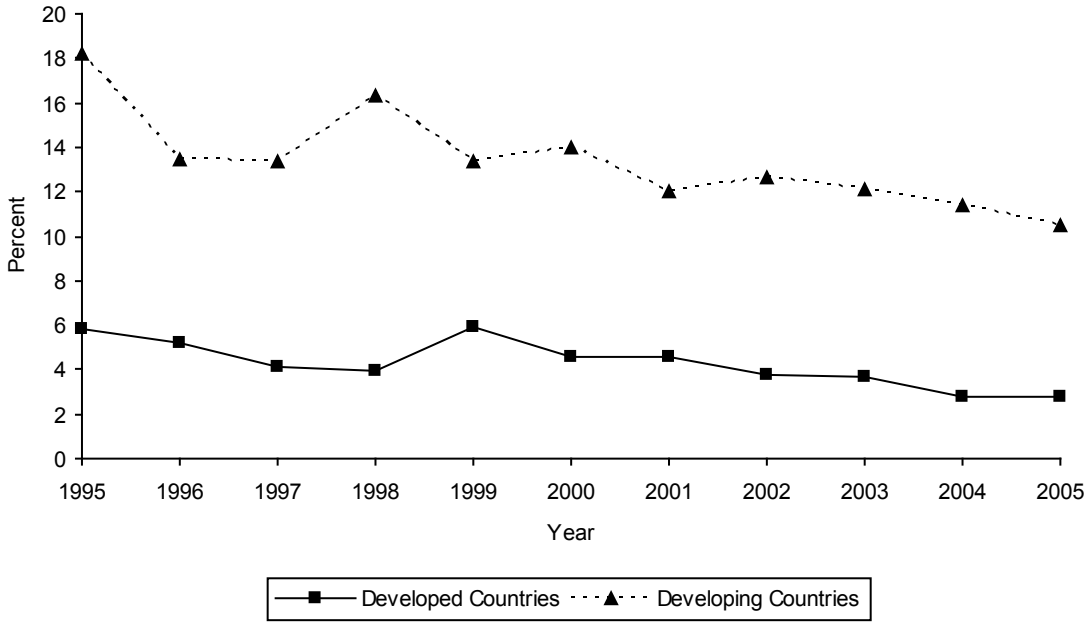


This figure shows the trends in the share of anti-dumping initiations charged against (targeted) developed and developing countries during the period 1995 to 2005. The share of developed countries has remained above the share of developing countries. The data were taken from Chad P. Bown (2007)'s the Global Antidumping Database (version 3.0) and based on the set of countries used in this empirical analysis.

Therefore, this study will empirically examine the influence of macroeconomic factors on the two groups of targeted countries, developed and developing countries, in relation to the number of anti-dumping petitions. As stated, the focus of this study will be on trade policy in a targeted country. In addition, this study will explore the comparative framework of whether macroeconomic determinants of being a target of anti-dumping actions in developed and developing countries are the same. This will be conducted by using unbalanced panel data from 97 countries over the period 1995 to 2005. Macroeconomic factors included in this analysis will include the real exchange rate, economic growth, inflation rate, and number of anti-dumping charges against a targeted country in the previous year. In addition, six alternative trade policy indicators will be introduced. The first three indicators are based on the measure of overall trade policy and include total trade share, export share, and import share in the gross domestic product (GDP).

The other three measures are based on the measure of overall trade distortion in relative prices and include import tariff rates for all products, agricultural products, and non-agricultural products. The aim of the findings is to provide a better understanding of the macroeconomic conditions that lead to an increased likelihood of being a target of anti-dumping use. This information will be useful for policymakers and have implications for future trade negotiations.

Figure 2: Average Applied Tariff Rates for All Products



This figure shows the trends in the average applied tariff rates for all products during the period 1995 to 2005. The average applied tariff rates have declined significantly in both developed and developing countries during this period. The data were taken from the World Bank's World Trade Indicators and based on the set of countries used in this empirical analysis.

The paper is organized in the following way. In the next two sections, the literature review and empirical specification are presented. Then, the data and other empirical issues, including estimation techniques, are discussed in the fourth section. In the fifth section, the econometric results are presented. Finally, concluding remarks are included in the sixth section.

LITERATURE REVIEW

There are two main strands of the economic literature on anti-dumping, as summarized by Moore and Zanardi (2008). For the first strand, the literature focuses on the determinants of anti-dumping initiations by filing countries. For instance, Knetter and Prusa (2003) used data on anti-dumping filings from Australia, Canada, the EU, and the U.S. to analyze the filing patterns within these four major countries. The link between real exchange rates and anti-dumping filings was shown. Sadni Jallab *et al*. (2006) found similar results using a smaller sample of the U.S. and the EU. However, the effect of a change in the real exchange rate on anti-dumping usage was greater in the U.S. In Aggarwar (2004), the dataset was expanded to 99 countries over the period 1980 to 2000. The use of anti-dumping measures was found to spread among developing countries not only due to greater tariff liberalization pressures but also as many countries would like to create anti-dumping ability to counter the anti-dumping use against them.

The second strand of the literature focuses on the role of foreign retaliation. Feinberg and Reynolds (2007) employed the probit analysis of all World Trade Organization (WTO) members between 1995 and 2004 and found a positive and significant retaliation effects. The probability of filing an anti-dumping

petition against a country that filed a petition against it in the previous year is 200 percent higher than those countries who did not file. In the subsequent work, Feinberg and Reynolds (2008) focused on the role of macroeconomic determinants of anti-dumping actions by the U.S. and revealed that the growing number of anti-dumping cases filed against the U.S. exporters was in part explained by retaliation for the U.S. trade policy actions. In general, the findings in both Feinberg and Reynolds (2007) and Feinberg and Reynolds (2008) are consistent with those of Prusa and Skeath (2002), in which half of all anti-dumping patterns were found to follow with strategic motives such as retaliation incentives. Not only foreign retaliation playing a major determinant of a country to be filed with anti-dumping actions, Yuefen (2007) provided a broad discussion on other major factors (both external and domestic factors) that can influence the likelihood of China being a target of anti-dumping investigation.

These existing literatures clearly suggest that, not only conditions of a filing country influence anti-dumping usage, but also conditions of a targeted country can be other important determinants of anti-dumping filing behavior. The main contribution of this study into the literature is to provide an empirical examination to identify macroeconomic conditions in targeted countries that have been found to explain anti-dumping usage by filing countries.

EMPIRICAL SPECIFICATION

To examine the macroeconomic determinants of being a target of anti-dumping actions, the number of anti-dumping filings charged against a country, this study's dependent variable, must be clarified. This number is assumed to have a positive relationship with the likelihood of being a target of anti-dumping measures. As stated previously, four variables were identified as the explanatory variables to always be included in the model. These variables are the real effective exchange rate, annual real GDP growth, inflation, and the previous year's number of anti-dumping petitions, as a foreign country under anti-dumping investigation. These variables have previously been identified as the important explanatory variables determining anti-dumping initiations in a filing country (e.g., Aggarwal, 2004).

There are two criterions for a country to be entitled to file anti-dumping lawsuits. First, there is the evidence of "less than fair value (LTFV)," which is when foreign firms export and set the price below the normal price charged in other markets, or below the cost of production plus a normal profit. Second, there is the evidence of "material injury," in which domestic firms must provide information of dumping practices, such as the reduction in import price and increase in import quantity, as well as, the proof of consequent damage suffered to the domestic industry from the dumped import products. The likelihood of being a target of anti-dumping use is presumed to have a positive correlation with the probability of confronting "LTFV" or "material injury" charges.

Based on the two criterions, Knetter and Prusa (2003) showed that the relationship between the real exchange rate and the number of anti-dumping initiations in filing countries was ambiguous. An appreciation in the domestic currency will increase the chance of the material injury. Since foreign firm's costs (in the domestic currency) fall, the firm may lower its export price. This is expected to lower the profits of the domestic firms. However, if foreign firms set the relative export price (in the foreign currency) higher than other export destinations, then there is a less likely chance of being found guilty of less than fair value pricing.

By using a similar principle, the impact of a change in an export country's real effective exchange rate on the probability of being charged with anti-dumping petitions is unclear. An appreciation of an export country's currency is likely associated with an increase in the export price. In this case, the likelihood of facing anti-dumping charges with a material injury determination would decrease. On the contrary, a foreign firm may lower its export price to maintain its status in the export market. Under such a

circumstance, less than the fair value determination is more likely. Thus, the overall impact is hypothesized to be ambiguous.

For the impact of an export country's GDP on the number of anti-dumping charges, a country in a recession may cut its export price in order to stabilize its excess domestic supply. In this case, the likelihood of the export country facing anti-dumping charge with a less than fair value determination is generally increased. Hence, the effects of GDP growth are hypothesized to be negative.

Inflation in export countries is expected to have a negative impact on the likelihood of being a target of anti-dumping filings. This is because foreign firms likely bear a higher cost of production with the rise in inflation, leading to an increased export price. Hence, the likelihood of material injury and less than fair value pricing determinations would decrease. Finally, the number of anti-dumping initiations charged to a country in a year may be influenced by the number in the previous year, in which the relationship was hypothesized to be positive. Thus, the base model is the following functional form:

$$AD_{it} = f(\overset{(?)}{REER}_{it}, \overset{(-)}{GDPG}_{it}, \overset{(-)}{INFL}_{it}, \overset{(+)}{AD}_{it-1}) \quad (1)$$

where:

AD_{it} = number of anti-dumping initiations against export country i in year t,

$REER_{it}$ = real effective exchange rate in export country i in year t,

$GDPG_i$ = growth rate of real GDP in export country i in year t,

$INFL_{it}$ = inflation rate in export country i in year t,

AD_{it-1} = number of anti-dumping charges against export country i in year t-1.

The base model is augmented by introducing a set of trade policy related indicators, as the variables of interest. The relationship between liberalizing trade policy in an export country and the number of anti-dumping petitions charged was hypothesized to be ambiguous. When an export country opens up to an increase in trade, such as its export penetration, the probability of being charged with the affirmative material injury determination would likely increase. However, retaliation can be one of the factors influencing anti-dumping behavior in a filing country. With a more liberal trading regime (including the decreased use of administrative protections), the likelihood of a country to be retaliated against with an anti-dumping accusation would decrease.

As suggested by Dean *et al*. (1994), two approaches can be used to assess the overall effects of trade policy. One is to measure the overall trade policy from trade flows. The other is to measure the overall trade distortion in relative prices. Thus, six alternative trade policy related indicators are proposed. Based on the measure of trade flows, the first three indicators include: 1) *Total Trade Share* (*TRADE*), 2) *Export Share* (*EXSHARE*), and 3) *Import Share* (*IMSHARE*). These indicators are calculated as the share in GDP. Higher indicator values indicate a higher degree of trade liberalization.

The other three indicators are based on the second approach, the measure of distortion in trade prices. All three indicators are export country applied tariff rates, namely, 4) *Applied Tariff rate for all products* (*TARIFF*-1), including agricultural and non-agricultural products, 5) *Applied Tariff rate for agricultural products* (*TARIFF*-2), and 6) *Applied Tariff rate for non-agricultural products* (*TARIFF*-3). Since an export country applies the tariff rates for all products, agricultural products, and non-agricultural products may have different effects on the probability of being a target of anti-dumping lawsuits. Hence, the

impact of each applied tariff rate is evaluated separately. Note that higher values of applied tariff rates denote a lower degree of trade liberalization.

DATA AND EMPIRICAL ISSUES

Anti-dumping initiation data were collected from Bown (2007)'s the *Global Antidumping Database* (version 3.0). This dataset includes detailed information from the WTO data source. As pointed by Moore and Zanardi (2008), WTO anti-dumping data by reporting country may confront important deficiencies of coverage and accuracy. In Bown's dataset, anti-dumping data for each country was based on primary government sources, in which researchers can trace back to the original source. All applied tariff data included simple average tariff rates provided by the World Bank's *World Trade Indicators*. Data on other macroeconomic variables were obtained from the IMF's *International Financial Statistics 2008* and the World Bank's *World Development Indicators 2008 CD-ROMs*.

The set of countries in this study includes all countries with at least one anti-dumping initiation filed against them during the 1980 to 2005 period determined from the *Global Antidumping Database* (version 3.0) dataset. By choosing the set of countries in this manner, this study can avoid the structural zero problem, which could occur with countries that do not have many exports or have no chance of being a target of anti-dumping.

Unbalanced panel data was available for 97 countries during the 1995 to 2005 period. The list of 97 countries is presented in Appendix A. Since developed and developing countries may have difference experiences with being a target of anti-dumping actions, the sample was divided into developed and developing countries following the World Bank classification. In total, there were 36 developed and 61 developing countries. Note that data prior to 1995 were not included in this study due to the unavailability of anti-dumping data during those periods. The number of anti-dumping initiations was non-negative count data. The Poisson model and the negative binomial model are commonly used for the count model. In principle, the Poisson model, assuming the equivalence of the expected mean and variance of a count variable, takes the form:

$$\ln \lambda_{it} = x_{it}\beta \tag{2}$$

and

$$E[y_{it} \mid x_{it}] = Var[y_{it} \mid x_{it}] = \lambda_{it} = \exp(x_{it}\beta) \tag{3}$$

Where: λ is the incidence rate or number of events per time period in which anti-dumping initiation occurs.

The Poisson model has been criticized on the assumption of the equivalence of the variance and expected mean of a count variable. Alternatively, the negative binomial model relaxes the Poisson assumption and allows for an overdispersion structure, in which the variance of the count variable exceeds its mean. The negative binomial model is obtained by generalizing the Poisson model with a conditional mean and variance (see, Greene, 2003, and Cameron and Trivedi, 1998). The overdispersion test, based on the Wald test, was performed. The findings indicated the overdispersion structure. Hence, the negative binomial model was suggested. In addition, the Hausman (1978) specification test was used to test whether the fixed effect or random effect error component model specification was suitable. The Hausman test failed to reject the null hypothesis, in which the estimated coefficients between the two estimators were statistically indifferent at a one percent level of significance. For this reason, the negative binomial model with random effects is used throughout this study.

ECONOMETRIC RESULTS

Estimation results based on the negative binomial model with random effects for all, developed, and developing countries are presented in Tables 1 to 3, respectively, in which the incidence rate ratios (IRR) associated with the estimated coefficients are reported. Note that the IRR is the log of the incidence rate ratio predicted by the model when one unit of an explanatory variable increases, given that the other variables are held constant.

In reference to the pooled data for all targeted countries, the incidence rate ratios derived from the base regression were found to indicate that a change in a targeted country's real effective exchange rate has an insignificant impact on the number of anti-dumping charges. This finding was different from the general finding in some earlier studies on the determinants of anti-dumping use in filing countries. As an example, Knetter and Prusa (2003) found a significant positive relationship between the real exchange rate and number of anti-dumping filings in the "major four countries." More recently, Moore and Zanardi (2008) found that an appreciation of the filing country's exchange rate resulted in an increased probability of observing anti-dumping petitions, but only for developed countries.

As expected, a targeted country's GDP growth and inflation had negative and significant coefficients. These findings suggest that as target economy growth increases by a one percentage point, charges of anti-dumping cases will decrease by 3.3 percentage points (100*(0.9670-1) = -3.3%). Likewise, a one percentage point increase in the export country's inflation rate reduces the expected number of anti-dumping cases being filed by 0.33 percentage points, when the other variables are held constant. The previous year's number of anti-dumping initiations was found to have a significant and positive effect. Note that similar estimated coefficients for the base variables were observed for all model specifications presented in Table 1.

Table 1: Negative Binomial Model with Random Effects for the Sample of All Countries
(Dependent Variable is the Number of Anti-dumping Initiations against a Targeted Country, AD_{it})

Regression	1	2	3	4	5	6	7
$REER_{it}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	(-0.31)	(-0.07)	(-0.12)	(-0.06)	(-0.14)	(-0.24)	(-0.14)
$GDPG_{it}$	0.9670***	0.9693***	0.9703***	0.9683***	0.9450***	0.9461***	0.9449***
	(-3.45)	(-3.17)	(-3.07)	(-3.27)	(-3.84)	(-3.72)	(-3.85)
$INFL_{it}$	0.9977**	0.9976**	0.9976**	0.9976**	0.9953*	0.9956*	0.9952*
	(-1.88)	(-1.96)	(-1.96)	(-1.96)	(-1.80)	(-1.72)	(-1.8)
AD_{it-1}	1.0192***	1.0175***	1.0169***	1.0181***	1.0182***	1.0192***	1.0184***
	(3.76)	(3.44)	(3.31)	(3.56)	(3.28)	(3.46)	(3.30)
$TRADE_{it}$		0.9957***					
		(-2.73)					
$IMSHARE_{it}$			0.9905***				
			(-2.93)				
$EXSHARE_{it}$				0.9927**			
				(-2.43)			
$TARIFF\text{-}1_{it}$					1.0208		
					(1.57)		
$TARIFF\text{-}2_{it}$						1.0066	
						(1.46)	
$TARIFF\text{-}3_{it}$							1.0176
							(1.35)
No. of obs.	984	977	977	977	624	624	624
No. of group	97	97	97	97	96	96	96
Wald chi2	22.77***	30.79***	32.07***	29.12***	27.74***	26.67***	26.96***

*Table 1 shows the empirical results of the model of being a target of anti-dumping filings for the set of all countries. Estimated coefficients are reported as "incidence rate ratios." Figures in parentheses are t-statistics values. ***, **, and * indicate 1%, 5%, 10% significant levels, respectively.*

For the relationship between trade policy and the probability that a country would be accused of anti-dumping behavior, the estimation results were found to be quite remarkable. First, the estimated coefficients of all trade policy indicators based on the measure of overall trade flows (*TRADE*, *EXSHARE*, and *IMSHARE*) were significant and negative. This finding suggests that trade liberalization policy (including less anti-dumping use) of an export country resulting in higher values of trade flows can reduce the likelihood of being charged with anti-dumping petitions. This reinforces the viewpoint that retaliation may be one of the motives contributing to the higher use of anti-dumping petitions over the last decade.

In analyzing trade policy indicators in relation to tariff policy (*TARIFF*-1, *TARIFF*-2, and *TARIFF*-3), it was interesting to observe that tariff policy was not found to be a key determinant of being anti-dumping use targets. Hence, tariff liberalization in all export countries in the sample had no influence on the decision to file anti-dumping lawsuits.

Regarding to the pooled data for developed countries, the estimated coefficients for inflation and the previous year's number of anti-dumping charges were found to be similar to those from the sample of all countries. With few exceptions, the coefficient on the export country's GDP growth turned insignificant; whereas, the coefficient on the export country real exchange rate was now significant and had a positive sign in the base specification. This finding indicates that developed countries with stronger currencies are more likely to cut export prices to save their export markets. This finding is consistently associated with the higher incidence of the country in facing anti-dumping charges.

Table 2: Negative Binomial Model with Random Effects for the Sample of Developed Countries
(Dependent Variable Is the Number of Anti-Dumping Initiations against a Targeted Country, AD_{it})

Regression	**8**	**9**	**10**	**11**	**12**	**13**	**14**
$REER_{it}$	1.0012*	1.0018**	1.0018**	1.0018**	1.0003	1.0005	1.0006
	(1.68)	(2.45)	(2.45)	(2.40)	(0.46)	(0.56)	(0.87)
$GDPG_{it}$	0.9791	1.0031	1.0052	1.0002	0.9782	0.9798	0.9766
	(-0.92)	(0.14)	(0.24)	(0.01)	(-0.61)	(-0.57)	(-0.7)
$INFL_{it}$	0.9605**	0.9564**	0.9552**	0.9576**	0.9179***	0.9239**	0.9115***
	(-2.16)	(-2.45)	(-2.51)	(-2.39)	(-2.62)	(-2.39)	(-2.84)
AD_{it-1}	1.0310**	1.0192*	1.0190*	1.0199*	1.0544***	1.0563***	1.0521***
	(2.53)	(1.71)	(1.69)	(1.76)	(3.45)	(3.55)	(3.25)
$TRADE_{it}$		0.9936***					
		(-3.28)					
$IMSHARE_{it}$			0.9868***				
			(-3.29)				
$EXSHARE_{it}$				0.9882***			
				(-3.18)			
$TARIFF\text{-}1_{it}$					1.0698		
					(1.63)		
$TARIFF\text{-}2_{it}$						1.0062	
						(0.60)	
$TARIFF\text{-}3_{it}$							1.1005**
							(1.98)
No. of obs.	370	367	367	367	273	273	273
No. of group	36	36	36	36	35	35	35
Wald chi2	33.87***	43.89***	44.37***	42.98***	37.77***	35.51***	41.20***

*Table 2 shows the empirical results of the model of being a target of anti-dumping filings for the set of developed countries. Estimated coefficients are reported as "incidence rate ratios." Figures in parentheses are t-statistics. ***, **, and * indicate 1%, 5%, 10% significant levels, respectively.*

The estimated coefficients for export share, import share, and total trade share were consistent with those from the sample of all countries, in which they were negative and significant. It is interesting to note that only a change in the applied tariff rate for non-agricultural products (*TARIFF*-3) had a significant impact on the likelihood of being anti-dumping use targets at the 5% level of significance. For targeted countries in the developed world, a one percentage point lower in applied tariff rate for non-agricultural products was found to be associated with 10 percentage points reduction in the expected number of anti-dumping lawsuits that the country would be facing. In contrast, the coefficients for applied tariff rates for all products (*TARIFF*-1) and for agricultural products (*TARIFF*-2) remained insignificant.

Table 3: Negative Binomial Model with Random Effects for the Sample of Developing Countries (Dependent Variable Is the Number of Anti-Dumping Initiations against a Targeted Country, Ad_{it})

Regression	**15**	**16**	**17**	**18**	**19**	**20**	**21**
$REER_{it}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	(-0.34)	(-0.23)	(-0.20)	(-0.30)	(0.11)	(-0.14)	(0.12)
$GDPG_{it}$	0.9692***	0.9692***	0.9697***	0.9690***	0.9432***	0.9431***	0.9432**
	(-2.88)	(-2.86)	(-2.81)	(-2.88)	(-3.61)	(-3.6)	(-3.62)
$INFL_{it}$	0.9980*	0.9979*	0.9979*	0.9980*	0.9957*	0.9955*	0.9956*
	(-1.69)	(-1.72)	(-1.74)	(-1.69)	(-1.75)	(-1.78)	(-1.76)
AD_{it-1}	1.0117*	1.0117*	1.0112*	1.0118*	1.0102	1.0101	1.0100
	(1.81)	(1.81)	(1.74)	(1.83)	(1.50)	(1.43)	(1.47)
$TRADE_{it}$		0.9981					
		(-0.61)					
$IMSHARE_{it}$			0.9935				
			(-0.99)				
$EXSHARE_{it}$				0.9988			
				(-0.21)			
$TARIFF\text{-}1_{it}$					1.0201		
					(1.28)		
$TARIFF\text{-}2_{it}$						1.0000	
						(-0.00)	
$TARIFF\text{-}3_{it}$							1.0205
							(1.38)
No. of obs.	614	610	610	610	351	351	351
No. of group	61	61	61	61	61	61	61
Wald chi2	10.67**	11.04*	11.71**	10.73*	17.07***	15.09**	17.34***

*Table 3 shows the empirical results of the model of being a target of anti-dumping filings for the set of developing countries. Estimated coefficients are reported as "incidence rate ratios." Figures in parentheses are t-statistics. ***, **, and * indicate 1%, 5%, 10% significant levels, respectively.*

The findings for developing countries suggested that, as an economy in export countries growth, it had a significant and negative impact on the likelihood of being a target of anti-dumping petitions. For all specifications, the coefficient of the export country's real effective exchange rate was insignificant. An increase in the export country's inflation rate reduced the probability of being filed for anti-dumping lawsuits; whereas, the coefficient for the previous year's number of anti-dumping cases in countries that had been victimized had positive impact. However, the impact was barely significant at the 10 percent level and turned to insignificance when the applied tariff rates were added into the base regression. Finally, turning to the coefficients of the six trade policy indicators, all of them were found to be

insignificant. Hence, this finding suggests that trade policy changes for export countries do not motivate an anti-dumping use by filing countries.

CONCLUSION

The aim of this study was to empirically examine the relationship between anti-dumping filings and the macroeconomic factors of a targeted country with the focus on trade policy. The analysis was based on the econometric model of anti-dumping filings using unbalanced panel data from 97 countries over the period 1995 to 2005. For the target in developed countries, the number of anti-dumping petitions was found to decrease with an increase in success in a country's liberal trading regime. All trade policy indicators closely related with trade-flow expansion had a significant negative impact on the number of anti-dumping charges; whereas, for tariff policy indicators, only a reduction in applied tariffs for non-agricultural products was found to have a positive impact on anti-dumping filings. On the contrary, for the target in developing countries, all trade policy indicators turned out to have no influence on the decision to file anti-dumping lawsuits by a filing country. Only growth in GDP and the inflation rate appeared to have a robust and significant negative impact on the number of anti-dumping filings.

The evidence presented in this study reinforces the viewpoint that policymakers, at least for those targets in developed countries, should emphasize and place more focus on liberalizing trade policy that leads to real trade-flow expansion. In this case, import sectors and domestic consumers will enjoy cheaper prices of import goods and services, while export sectors will gain from trade expansion that arises from a decreased use of trade protection measures against them. As a result, a country, as a whole, will benefit from trade liberalization and, perhaps, be willing to integrate into the world trading system.

This study serves as one of the first attempts to provide empirical evidence for macroeconomic determinants of being a targeted country of anti-dumping petitions. There remains work to be done. In particular, further studies on more industry-specific analysis will provide better insight on what conditions determine the likelihood of a targeted industry to be filed with anti-dumping charges.

APPENDIX

Appendix A: List of 97 countries included in the analysis

Albania, Algeria, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahrain, Bangladesh, Belarus, Belgium, Bolivia, Brazil, Bulgaria, Canada, Chile, China, Colombia, Costa Rica, Côte d'Ivoire, Croatia, Cyprus, Czech Republic, Denmark, Ecuador, Egypt, El Salvador, Estonia, Finland, France, Georgia, Germany, Greece, Guatemala, Hong Kong, Hungary, India, Indonesia, Iran, Ireland, Israel, Italy, Japan, Kazakhstan, Kenya, Kuwait, Kyrgyzstan, Latvia, Libya, Lithuania, Luxembourg, Macao, Macedonia, Malawi, Malaysia, Mexico, Moldova, Mozambique, Nepal, Netherlands, New Zealand, Nigeria, Norway, Oman, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Romania, Russia, Saudi Arabia, Serbia , Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sri Lanka, Sweden, Switzerland, Tajikistan, Thailand, Trinidad and Tobago, Tunisia, Turkey, Ukraine, United Kingdom, Uruguay, USA, Venezuela, Vietnam, Zimbabwe

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