Analyzing trade policies: the case of contemporary protectionism in Mercosur

Alejandro D. Jacobo, Ileana Raquel Jalile

Artículo publicado en Anales de Economía Aplicada
Número 27, 2013 – ISSN 2174-3088

ANALYZING TRADE POLICIES: THE CASE OF CONTEMPORARY PROTECTIONISM IN MERCOSUR

ALEJANDRO D. JACOBO

Universidad Nacional de Córdoba

Av. Valparaíso s/n, Córdoba, Argentina

ILEANA R. JALILE

Universidad Nacional de Córdoba

Av. Valparaíso s/n, Córdoba, Argentina

e-mail: jacoboa@eco.unc.edu.ar

Resumen

Este trabajo explora los determinantes macro y microeconómicos de las medidas arancelarias e iniciaciones anti dumping (AD) para los cuatro países fundadores del MERCOSUR utilizando datos de comercio y protección anteriores y posteriores a la crisis de 2008. Entre otros hallazgos, el estudio revela que el comercio intra-industrial es una fuente de ingresos para los gobiernos y que la crisis no aumentó el proteccionismo en los países donde los exportadores demandan insumos importados baratos, pero sí donde este *lobby* no es suficientemente poderoso para superar con fuerza la necesidad de aumentar los ingresos públicos. En cuanto a las barreras no arancelarias, los países muestran una relación positiva entre las iniciaciones AD y el nivel arancelario. Esto indicaría que los instrumentos tarifarios y no tarifarios son complementarios. Por último, una apreciación de la moneda hace que más probable una iniciación AD en algunos países. Sin embargo, la crisis no ha reforzado la relación entre apreciación/devaluación y la probabilidad de iniciación de un procedimiento AD.

Palabras clave: Proteccionismo, Política comercial, Tarifas, Barreras no tarifarias.

Área Temática: Economía Internacional.

Abstract

This paper explores the macro and microeconomic determinants of tariff and anti dumping (AD) initiations for the four founding members of MERCOSUR using pre and post-2008 crisis trade and protection data. Among other findings, the study reveals that Intra-industry trade is a source of revenues for governments ant that crisis did not increase protectionism in countries where powerful exporters demand cheap imported inputs, but it did where this lobby is not powerful enough to overcome the need to raise public revenues. Concerning non-tariff barriers, the countries in the sample show a positive relationship between AD initiations and the tariff level. This could indicate that tariff and non-tariff instruments are both complementary. Finally, an appreciation of the currency makes an AD initiation more likely to occur in some countries of the sample. However, the crisis has not reinforced the relationship between an appreciation/depreciation on the probability of an initiation of an AD procedure.

Key Words: Protectionism, Trade policy, Tariff, Non-tariff barriers.

Thematic Area: International Economics.

1. INTRODUCTION[1]

Following the onset of the financial crisis in September 2008 and the subsequent "Great Trade Collapse" (Baldwin and Evenett, 2009), many countries actively used a different choice of trade policy instruments as part of their response to global recession.

In fact, major economies implemented a trading scheme and subsidies, cheap access to credit and other tax deductions and exemptions for exporters that helped the recovery in world trade (Evenett, 2009; Tussie, 2012). However, others economies were unable to generate these stimulus packages and they used tariff and non-tariff measures as protectionist instruments.

As to Latin America countries, while some of them used tariff measures to protect one or more sectors affected by the global crisis, other nations started to assemble a trade policy pattern characterized by movements in non-tariffs barriers as well (Dalle and Lavopa, 2010). The emergency tools used by these countries were such important in manner and magnitude that deserves a study monitoring what determines Latin America protectionism.

The purpose of this paper is to explore the macro and microeconomic determinants of tariff and non-tariff barriers for the four founding members of MERCOSUR (Argentina, Brazil, Paraguay and Uruguay) using pre and post-2008 crisis trade and protection data. Disentangling the determinants of tariff and non-tariff for these countries is justified in the fact that two of these countries (Argentina and Brazil) lead the ranking of countries implementing discriminatory measures worldwide. These countries do not provide a better treatment to MERCOSUR partners, but quite the opposite, as we shall see. The use of pre and post crisis trade and protection data will allow us to search possible variations in the determinants of trade policy responses.

The paper proceeds as follows. Section two provides a quick refresher overview on recent trade barriers involving MERCOSUR countries. Section three develops a model in which the presence of discriminatory policies in a particular sector from a specific country depends on macro and microeconomic determinants. Section four presents the estimation and the results. Section five concludes.

2. PROTECTIONIST POLICY INSTRUMENTS IN MERCOSUR: A QUICK REFRESHER OVERVIEW

This section provides a regional perspective on trade barriers involving MERCOSUR countries according to the World Integrate Trade Solution (WITS), Temporary Trade Barriers (TTB) and Global Trade Alert (GTA) databases.[2] It reviews the policy instruments and identifies those countries using more as well as those suffering most protectionist policies.[3]

About trade barriers, we present information on protectionist measures imposed by MERCOSUR countries using data available from GTA database. These countries are: Argentina (ARG), Brazil (BRA), and Paraguay (PRY). Although GTA database considers 27 Latin America economies, not all the countries have started to be monitored at the same time and/or have implemented measures, and therefore were not included in our analysis.[4] Thus, to avoid distortions by introducing countries that previously were not considered, we finally analyze only 3 MERCOSUR economies. The stock of trade restriction comprises barriers from November 2008 (when GTA database started its job and began to list measures) through 03/02/2012 (when the GTA database was downloaded for this study).

Figure 1 distinguishes green, amber or red measures implemented by different Latin American Countries (LAC). These countries are those of MERCOSUR plus Bolivia (BOL), Chile (CHL), Colombia (COL), Costa Rica (CRI), Ecuador (ECU), Mexico (MEX), Venezuela (VEN) and Peru (PER).[5] As shown in the figure, Argentina leads the ranking with the application of red and

[1] This paper is based on a large study on contemporary protectionism in Latin America by the authors.

[2] These databases are available through the following links: *http://wits.worldbank.org/wits/, http://econ.worldbank.org/ttbd/ and http://www.globaltradealert.org.* See Jacobo and Jalile (2012a; 2012b) for additional information about these databases.

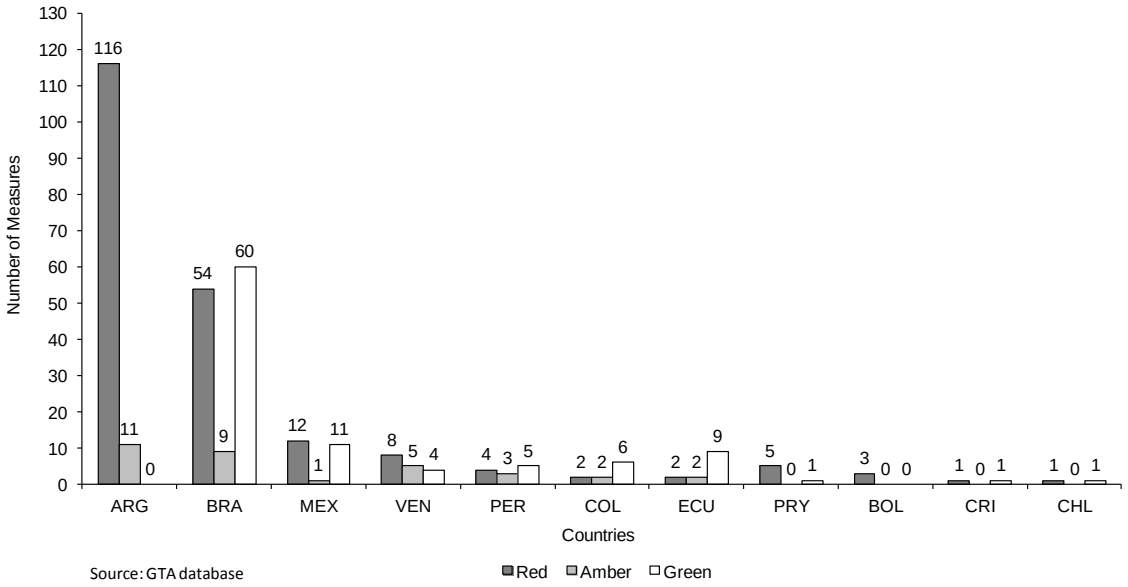
[3] We partially follow Rozemberg and Gayá (2010) for comparison purposes.

[4] This situation could generate a bias against those first monitored. For example, Uruguay applied measures before the *GTA-7* was published. However, these measures were not considered in this report which means that Uruguay was not monitored.

[5] Hereinafter in this section, other LAC are included for comparison purposes.

amber measures (127) and it is followed by Brazil (63). Argentina also exhibits the highest ratio in the relationship between protectionist (red and amber) to green measures (12.7).

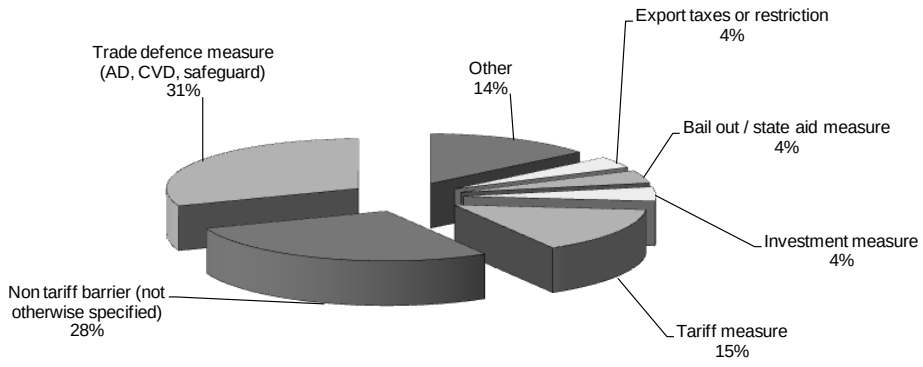
Figure 1
Number of Measures Imposed by Latin American Countries



Source: GTA database

Figure 2 shows the stock of red and amber measures implemented in LAC countries by type of measure. Trade defense measures (AD, countervailing duties (CVD) and safeguard) represent 31% of all red and amber measures, followed by non-tariff measures (28%) and tariff measures (15%). This situation exhibits some differences from the previous *GTA-7*: Non-tariff measures notably increased from 8.9 to 28% while tariff measures augmented from 12.9% to 15%.[6]

Figure 2
Red and Amber Measures Implemented in Latin American Coutries, by Type of Measure



Source: Authors's own estimatin based on GTA database

Each measure individually imposed by one of the MERCOSUR countries generally affects various jurisdictions and sectors. Table 1 presents the ranking of jurisdictions affected by Red measures imposed by the MERCOSUR countries.

[6] "Other Measures" includes, *inter alia*, the following ones: Consumption subsidy, Import subsidy, Competitive devaluation, Sanitary and Phytosantiary Measure, State-controlled company, Technical Barrier to Trade, Local content requirement, Trade finance and Export subsidy.

Table 1

Red Measures Imposed by Mercosur, by Affected Country

Affected Jurisdictions	Measures Implemented
China	128
India	78
Indonesia	76
Republic of Korea	75
Malaysia	73
Thailand	72
Hong Kong	69
Singapore	69
Viet Nam	67
Philippines	62
Pakistan	60
United States of America	59
Germany	57
Others	1779
Total	**2724**

Source: Authors' own estimates based on GTA database.

As shown, China is more affected by these measures than the other countries (4.7% of total), followed by India, Indonesia and Korea (approximately 2.9% of total in each case).[7]

All countries in MERCOSUR imposed red measures to other MERCOSUR members. In Table 2 we can observe the number of red measures implemented among the countries under analysis. Thus, MERCOSUR does not provide a better treatment to regional partners, but quite the opposite. Argentina is, by far, the most active user of measures that discriminate against commercial interest of other MERCOSUR countries.

Table 2

Number of Red Measures Imposed among Selected LAC

		Implementing Jurisdiction										
		ARG	BOL	BRA	CHL	COL	ECU	MEX	PRY	PER	URY	VEN
Affected Jurisdiction	ARG		2	9	1	1	1	2	4			2
	BOL	14		2					4			1
	BRA	43	2			1	2	1	5			2
	CHL	35		5		1	1		2			2
	COL	30		1			1	2	2			3
	ECU	27		1		1		1				2
	MEX	21	2	8		1	1			1		4
	PRY	30		4			1					1
	PER	20	1	4		1	1					2
	URY	35		2			1		4			1
	VEN	17	1	1		1	1					

Source: Authors' own estimates based on GTA database.

With respect to jurisdictions that implement protectionist measures, the Russian Federation and Argentina leads the world ranking with 130 and 116 initiatives respectively, followed by the UK, Germany, China, India and Brazil, as shown in Table 3.

[7] It is worth to mention that Table 1 assumes that when a measure referenced in GTA database contains more than a type of measure affecting different countries, then each of these measures will simultaneously affect these countries.

Table 3
Red Measures Imposed, by jurisdiction

Implementing Jurisdictions	Red Measures Implemented
Russian Federation	130
Argentina	116
UK	64
Germany	60
China	59
India	57
Brazil	54
France	54
Spain	50
Italy	49
Austria	47
Hungary	47
Greece	46
Ireland	45
Netherlands	45
Others	1206
Total	**2129**

Source: Authors' own estimates based on GTA database.

Table 4 presents information on the evolution of tariff barriers in MERCOSUR in recent years. As shown, the countries have not passively used this kind of trade policy measure. In most of the countries we observe an upward tendency in the level of the Applied Tariff (*t*) after the global financial crisis. As we also observe, there is a great policy space for the countries to further increase their tariff and remain within the bounds of GATT-WTO commitments indicated by the Bound Tariff (*tbnd*).[8]

Table 5
Evolution of Tariff Barriers in LAC

Countries	Tariff Measures	Years								
		2002	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Argentina	Applied Tariff (t)	14.78	14.73	11.85	10.60	10.74	10.80	9.83	9.76	11.41
	MFN Tariff (t_{MFN})	14.78	14.73	13.40	12.35	12.37	12.40	11.48	11.59	13.43
	Bound Tariff (t_{BND})	31.64	31.72	31.86	31.95	31.93	31.96	31.97	31.96	31.85
Brazil	Applied Tariff (t)	14.56	14.37	13.28	12.39	12.20	12.23	13.10	13.34	13.37
	MFN Tariff (t_{MFN})	14.56	14.37	14.28	13.28	13.24	13.25	14.38	14.62	14.67
	Bound Tariff (t_{BND})	30.67	30.75	30.71	30.80	30.87	30.90	30.96	30.94	30.94
Paraguay	Applied Tariff (t)	13.41	13.42	9.20	8.38	7.19	8.01	8.33	7.98	7.97
	MFN Tariff (t_{MFN})	13.41	13.42	12.50	11.50	10.28	11.06	11.04	11.04	11.07
	Bound Tariff (t_{BND})	32.67	32.69	32.45	32.67	32.70	32.75	32.63	32.61	32.61
Uruguay	Applied Tariff (t)	14.33		11.15	9.86	9.64	9.52	9.50	9.61	9.59
	MFN Tariff (t_{MFN})	14.33	n.a.	14.33	12.53	12.33	12.32	12.35	12.32	12.32
	Bound Tariff (t_{BND})	31.25		31.29	31.52	31.52	31.54	31.58	31.58	31.58

Source: Authors' own estimates based on data from WITS database.

According to GTA database, trade defense measures are the most used non-tariff trade policy instruments in MERCOSUR countries. Within these instruments, TTB database ranks AD at the top of the list. Table 5 presents information on 6-digit HS products with AD initiations per year for some MERCOSUR countries.[9]

[8] Bound Tariffs *(tbnd)* are specific commitments made by individual WTO member governments and represent the maximum Most-Favored Nation tariff level that a country may levy for a commodity. The Most-Favored Nation tariffs (*tmfn*) are what countries promise to impose on imports from other members of the WTO, unless the country is part of a preferential trade agreement. WITS database uses the concept of Effectively Applied Tariff which is defined as the lowest available tariff and will be used as the Applied Tariff *(t)* if a preferential tariff exists. Otherwise, the MFN applied tariff will be used.

[9] Due to availability of the data, the number of countries selected in Table 5 is reduced to two MERCOSUR countries.

Table 5
Antidumping Initiations
in Selected MERCOSUR Countries

Years	**Argentina**	**Brazil**
2002	57	12
2003	1	4
2004	30	8
2005	16	6
2006	15	15
2007	11	19
2008	42	53
2009	89	17
2010	41	46

Source: Authors' own estimates based on TTB database using information on 6 Digit HS products

3. DISENTANGLING THE DETERMINANTS TRADE POLICY[10]

There is a vast theoretical and empirical literature analyzing the determinants of trade protection in the economy. In recent decades, however, this literature has moved towards the "endogenous" trade policy determination and constitutes the core of the literature on the political economy of trade policy (Gawande and Krishna, 2006).[11] In line with this literature, the aim of this section is to analyze the determinants of trade policy in MERCOSUR countries and to verify if they have changed their behaviour as a consequence of the crisis. Considering the evidence related to trade measures used by MERCOSUR countries we have already summarized in Section 2, we analyze two different policy instruments: Tariff Barriers and AD. We explore the determinants of both protectionist measures.

For this purpose, we use 6-digit HS tariff, non-tariff and trade data provided by WITS and TTB databases to make inferences on the influence of micro and macroeconomic variables in determining the source of protectionism. The level of disaggregated data will allow us to take into account sectoral and partner countries differences that influence on trade protectionism. This strategy is not a novel one. Among other authors Olarreaga and Vaillant (2011), Gawande *et al*. (2011) and Bown and Tobar (2011) have already analyzed the determinants of trade policies using disaggregated data as we do.

However, in comparison with the existing literature, we will focus specifically on MERCOSUR and we will try to see if there is a change in the behaviour of its four founding members after the crisis with newly available data. In other words, our empirical approach has analyzed the Argentina (ARG), Brazil (BRA), Paraguay (PRY) and Uruguay (URY) over the period: 2002-2010.[12]

3.1. DATA AND METHODOLOGY

As in Gawande *et al*. (2011), we explore the determinants of trade policy responses by estimating two equations. First, the *Tariff Barrier Equation* where the dependent variable is the **effectively applied bilateral tariff**. Second, the *AD Equation* where the dependent variable is AD initiation. In both equations we explain the presence and level of trade barriers in a 6-digit HS product imported from a particular country in a given year. This disaggregation is required because tariff and non-tariff barriers are determined at the product level.

With regard to the *Tariff Barrier Equation,* the determinants of tariff barriers have been extensively discussed in the literature.[13] As in Gawande *et al*. (2011) and Olarreaga and Vaillant (2011), we include in our analysis macro and microeconomic determinants of the level of tariff

[10] We strictly follow Jacobo and Jalile (2012a).
[11] See Gawande and Krishna (2006) for a summary of the empirical literature on the determinants of trade protection.
[12] The last available year on data on trade and tariff and not tariff barriers provided by the WITS and TTB databases is 2010. Since these databases provide information on Uruguay, this country is now formally introduced in the analysis.
[13] See Gawande and Krishna (2008) for a review of this literature.

barriers. As we mentioned above, as dependent variable in this equation we will use the *Effectively Applied Tariff*, which is defined as the lowest available tariff. If a preferential tariff exists, it will be used as the effectively applied tariff. Otherwise, the MFN applied tariff will be used. Our proposed specification for this equation is as follows:

$$t_{g,p,t} = \alpha_1(tbndprf_{g,p,t}) + \alpha_2(iit_{g,p,t-1}) + \alpha_3(VS_g) + \alpha_4(VS1_g) + +\alpha_g + \alpha_p + \alpha_t + \varepsilon_{g,p,t} \quad (1)$$

where $t_{g,p,t}$ represents the level of the *Effectively Applied Tariff* on good *g*, imported from partner *p* at time *t; tbndpr*$_{g,p,t}$ is a composite measure of *tbnd* and *tprf* (*tbnd* is the bound rate commitment at the WTO and *tprf* is the preferential tariff rate) and represents the value of this variable on good *g*, imported from partner *p* at time *t; iit*$_{g,p,t-1}$ is a measure of intra-industry trade on good *g*, imported from partner *p* at time *t-1; VS*$_g$ *and VS1*$_g$ are measures of vertical specialization on product *g;* α_g is an HS six-digit fixed effect; α_p is a partner fixed effect and α_t is a time fixed effect.

The influence of **Institutions** is measured by the coefficient associated to the bound rate *tbndprf* (α_1*.).* While applied rates are determined by each country, they are bounded above by their bound rate commitment at the WTO. The latter rates are determined in multilateral negotiations and they are exogenous in our model. Countries do not make commitments in terms of "applied protection" but instead in terms of the "ceiling" above which they commit not to raise their applied duty. However, if a country decide to sign a PTA the new effective bound on its tariff rate would be the preferential tariff rate (*tprf*). Following Gawande *et al*. (2010), we define a composite measure where *tbndprf* = *tprf* whenever *tprf* is applicable, or *tbndprf* = *tbnd* otherwise. The coefficient is expected to be positive and small if the structure of GATT/WTO incentives keep applied tariff in check.

The coefficient α_2 captures the impact of **Intra-Industry Trade** (ITT) on the tariff barrier level. The construction of an intra-industry trade index at product level would allow us to measure the trade in similar but differentiated products. Currently, an important share of trade is ITT. WITS database allow us to construct the following ITT measure at the 6-digit HS level: IIT = 1 − |Imports - Exports| / (Imports + Exports). Krugman (1981) demonstrate the gains from trade in the presence of product varieties. According to this we would expect that higher IIT would imply less protectionist pressures. However, more sophisticated models indicate that the presence of IIT does not necessarily imply a negative correlation between IIT and tariff. For example, in models featuring domestic and foreign duopolies, Brander and Spencer (1984) show that rents could be shifted from foreign to home firms through a strategic tariff policy. Then, even though the optimal action for both countries is to reduce tariffs, the unilateral incentive is for governments to use tariffs to play zero-sum games. If tariffs are strategic, then, a positive correlation between IIT and rents implies that tariffs should be positively associated with ITT. Another example could be Jørgensen and Schröder (2006) who show that an optimal tariff exists, below which welfare is reduced because there are too few domestic varieties and beyond which there are too many inefficiently-produced, costly domestic varieties. On the other hand, if tariffs in the countries are strategic as a source of government revenue one may expect a positive correlation between ITT and the dependent variable.[14]

The literature also points out that vertical specialization could have an impact on the tariff level. Vertical Specialization could be defined as production arrangements in which firms make final goods via multiple stages located in multiple countries, as an important aspect of overall input trade. We introduce **two measures of vertical specialization: VS and VS1**.[15] VS is the share of imports in a sector that is used directly and indirectly in the country's own exports (i.e. embedded as intermediate inputs). VS1 is the proportion of a sector's exports used as intermediates by exporters in other countries.[16] These two variables have been constructed in

[14] Gawande *et al*., 2011.

[15] Theories offer several explanations for vertical production networks, including cross-country and/or cross-industry differences in trade costs, factor prices, and the technological separability of production. While there is some evidence to support these theories, little work goes beyond documenting broad facts to provide a theoretically and micro-level empirical analysis of the importance of these explanations (Hanson *et al*., 2003).

[16] VS1 measures the intensity of two sources of anti-protectionist pressure. High tariffs on imports in a sector undermine the competitiveness of the sector's exports that intensively use those imports. Input-output tables indicate that the same sector is the larger user of imports by that sector. As consequence, the first source of anti-protectionism is exporters of that sector who will lobby against tariffs that raise their input costs and make them uncompetitive. The second source of anti-protectionism is foreign lobbying by exporters in other countries who depended on the source country for supplying

Daudin *et al*. (2010) using trade and input-output data from the Global Trade Analysis Project (GTAP) database. To construct the variables VS and VS1, Daudin *et al*. (2010) computes value-added trade for 66 regions and 55 sectors in 1997, 2001 and 2004.[17] The construction of VS and VS1 for different years depends on the input-output matrices for each reporting country. Since MERCOSUR countries do not systematically update input- output data, VS and VS1 were generated using the last available input-output matrices. It implies that VS and VS1 at each 6-digit HS code will be constant along the period. Input-output tables indicate that the same sector is the larger user of imports by that sector. While a positive coefficient in VS may indicate that the exporters are not powerful enough to overcome the need to raise revenues, a negative coefficient on VS1 can be interpreted as a global supply chain against protectionism.

Among other macroeconomic determinants of policy trade responses that may vary across years are the level of activity, unemployment and institutional variables. These determinants have been taken into account in Olarrega and Vaillant (2011) using year fixed effects. We follow the same strategy. Besides, any particular determinant of protection towards a partner that is time-invariant (as for example distance, institutional similarity, or similarities in the comparative advantage) is controlled using partner fixed effects.

The literature has also points out other microeconomic determinants of trade policy instruments such as the concentration of the sectors, output or the extent to which workers are unionised. Unfortunately, we do not have data about these variables at the disaggregated 6-digit HS, so we assume that these variables remain constant during the period and we control them using product fixed effects.

With regard to the *AD Equation*, we should note that the determinants of Non-Tariff Barriers have also been extensively studied in the literature.[18] Our proposed equation specification is as follows:

$$\boldsymbol{AD_{g,p,t}} = \alpha_1(uv_{g,p,t-1}) + \alpha_2(m_{g,p,t-1}) + \alpha_3(t_{g,p,t}) + \alpha_4(VS_g) + \alpha_5(VS1_g) + \alpha_6(RBER_{p,t}) + \alpha_g + \alpha_p + \alpha_t + \varepsilon_{g,,p,t} \quad (2)$$

where $\boldsymbol{ADg,p,t}$ is a dummy variable indicating the presence of an *AD* on good *g*, imported from partner *p* at time *t*; $uv_{g,p,t}$ is the unit value of good *g*, imported from partner *p* at time *t;* $m_{g,p,t}$ is the value of imports of good *g*, imported from partner *p* at time *t;* $t_{g,p,t}$ is the *Effectively Applied Tariff* on good *g* at time *t;* VS_g *and* $VS1_g$ are measures of vertical specialization on product *g;* $RBER_{p,t}$ is the real exchange rate with respect to partner's *p* currency at time *t;* α_g is an HS six-digit fixed effect; α_p is a partner fixed effect, and α_t is a time fixed effect.

Among the most important macroeconomic determinants that vary among partners, we include **Real Bilateral Exchange Rates** (RBER) and **MFN** (or effectively applied tariff) rates. The first measures the impact of bilateral competitiveness of each country *vis-à-vis* each of its trading partners. On the other hand, the coefficient associated to tariff rate indicates the extent to which AD and tariff rates act as complementary or substitute trade policy. We have special interest in the RBER coefficient. Following Olarreaga and Vaillant (2011) the sign of this coefficient is ambiguous. Feinberg (1989) suggests that it should be positive as the depreciation of the local currency increase the probability of finding dumping, while Knetter and Prusa (2003) suggest that the coefficient should be negative because a depreciation of the local currency difficults injury on the economy.

As microeconomic determinants that affect trade policy responses we consider the **Price** and the **Value of Imports** which vary across partners, years and sectors. The coefficient associated to these variables would indicate the casual effect from the price and size of imports on the determination of the presence of an AD. To sum up, we postulate that the propensity to initiate an AD procedure would increase with larger imports ($\alpha_2 > 0$), and that higher unit prices are less likely to lead to finding dumping or injury from subsidies ($\alpha_1 < 0$).

We have also included in our econometric specification the vertical specialization (VS and VS1) measures. As we previously mentioned, we expect that an increase in vertical specialization

---

them with intermediate inputs. Low or zero tariffs in the source country are desirable for keeping their input costs down (Gawande *et al*., 2011).

[17] We thank Guillaume Daudin for generously providing us the data. We use concordance tables for matching 55 sectors from the GTAP to the 6-digit HS codification used in our empirical approach.

[18] Se Aggarwal (2004) for brief review of the literature. See also Knetter and Prusa (2003), Prusa and Skeath (2002), and Sabry (2000).

reduce the protectionism in the reporting country whether local governments favour global supply chains. This means that AD initiations should be inversely related with vertical specialization measures. On the other hand, a positive coefficient on VS could be associated with the fact that exporters in the reporting countries are not powerful enough for fight against protectionism, while a positive coefficient on VS1 could indicate that exporters of partner countries are not lobbying against protectionism on local governments.

We follow the same approach presented in the tariff equation and we use year fixed effects to control for domestic macroeconomic determinants of policy trade responses that vary across years (such as the level of activity, unemployment and institutional variables). Any particular determinant of protection towards a partner that is time-invariant (as for example distance, institutional similarity, or similarities in the comparative advantage) is controlled using partner fixed effects. Again, in order to control for microeconomic determinants of trade policy instruments (such as the concentration of the sector, output or the extent to which workers are unionised), we assume these variables keep constant in the period and consequently we control for them using product fixed effects.

4. ESTIMATION AND RESULTS

Estimates from a baseline partner and year fixed effects model of applied bilateral tariffs that represents the influence of the variables considered are presented in Table 6 (Appendix).

In the model, the year fixed effect controls for any domestic macroeconomic change such as the level of economic activity or unemployment in the reporter countries. The partner fixed effect controls for any particular determinant of protection towards that partner that is time-invariant, as for example distance, institutional similarity, or similarities in the comparative advantage. The model performs well.

The coefficient of 0.25 on *tbndprf* for Argentina indicates that if bound rate (adjusted for PTA agreements) increases 1 point, Argentina's bilateral applied tariff increases 0.25 points. Despite the availability of tariff policy space, one reason for the small coefficients in Argentina is that since the majority of trade is carried on with MERCOSUR partners the competition with others is not probably an issue. Another reason is that the agreement has accelerated the decline of inefficient industries in Argentina, so the country does not face protectionist demands from those sectors. However, the small coefficients in the line of the table are the rule and they do not necessarily reveals the feature of belonging to a PTA or the existence of completely efficient industries in all the cases. Rather, the low coefficients may indicate that WTO incentives kept applied tariffs in check.[19]

The coefficient of 1.64 on IIT for Argentina indicates that a higher intra-industry trade is associated with an increase in Argentinean tariffs. This is quite the opposite of the prediction from intra trade models that emphasize the additional welfare gains from expanding the varieties.[20] Besides, the positive sign on IIT could indicate the dependence of Argentina on tariffs as a source of revenue. Since much of the Argentinean trade is with PTA's partners more revenues means higher tariffs on non PTA partners, even if trade with them is two-way trade in similar goods.[21]

While measures of VS does not dissuade the use of tariff in Argentina, Brazil and Paraguay, it does deter their use in Uruguay. Recall that the VS measure of vertical specialization is the share of imports in a sector that is used directly and indirectly in the country's own exports (i.e. embedded as intermediate inputs). So, while the exporters of countries included in the first club of nations are not powerful enough to overcome the need to raise revenues, the importance of exporters in the other club of countries results obvious.

The second vertical specialization measure (VS1) shows a negative coefficient across the table (with the exception of Uruguay). This could be interpreted as a global supply chain against protectionism. Recall that this measure is the proportion of a sector's exports used as intermediates by exporters in other countries. Thus, the coefficients suggest that the governments are enthusiastic to advance their exporters' interests by reducing tariffs on the inputs used by (upstream) home exporters in order to enhance their competitive position with foreign users. The negative coefficients may also be taken as evidence for the idea that

[19] Gawande *et al*. (2011).
[20] The results presented in Jørgensen and Schröder (2006) and Brander and Spencer (1984) could also explain the positive correlation we have found.
[21] As in Gawande *et al*. (2011), we are unable to discriminate among different theories.

exporters in foreign countries may (politically) influence home tariffs since their competiveness depends on the supply of cheap inputs from home producers.

Following Gawande *et al*. (2011), each variable is interacted with a post-crisis dummy to find out whether the relationships observed in Table 6 remained unaltered through the crisis or were fundamentally changed by it. The results are presented in Table 7 (Appendix).

Consider the coefficient on the interaction term *tbndprfxI2009*. The positive and statistically significant coefficient in most of the cases (with the exception Uruguay) indicate that the majority of the countries did not lower their tariffs and feel the pressure in the post-crisis period to raise them. In the case of Argentina, for example, the coefficient on *tbndprf* increased by 0.026 in 2009 over a pre-crisis coefficient of 0.24, signaling a readiness to increase tariffs up to the bound levels. For other countries, the change on coefficients is still small, considering the magnitude of the crisis.

The coefficient on *IITxI2009* for Argentina is negative. However, taken into account the overall impact of IIT post- crisis on the level of the tariff (1.8771-1.2729), we may conclude that its public finances depend on tariff revenues. The same conclusion may be applied for Brazil, Paraguay and Uruguay.

Consider the vertical specialization measures: VSxI2009 and VS1xI2009. The latter term shows large negative coefficient for Brazil (-15.87). In the post-crisis period, the export sectors in Brazil's partner countries seem to have a strong influence on lowering their tariffs, specifically on products that the partners import from those countries for intermediate use.[22] This source of anti-protectionism is also evident in Paraguay, and, to a lesser extent in Argentina. In the case of Uruguay, VS is the main source of anti-protectionism after the crisis where domestic exporters are the prime movers in demanding lower protection on imported goods they intensively use.

Other studies include in the analysis other regressors in their empirical estimation that are not introduced in our analysis. For example, some of them include variables that measure the influence of intermediate use as well as other political economy variables that intent to determine the propensity of protectionism. However, if we assume that these variables are surely time invariant across products during the period analyzed, we can control for their effect on the level of the tariff using product fixed effects. The good fixed effect would also controls for any other time invariant 6-digit HS determinant of protection, as the political strength of producers. When we control for these fixed effect some of the variables that we have considered in our econometric estimation are dropped because they were constructed using data that remain constant across the period (e. gr. VS and VS1).

Table 8 (Appendix) presents the result of the estimation including good fixed effects. As we can observe, the coefficients associated with the institutional variable *tbndprf* do not generally present considerable changes compared with the previous specification. On the other hand, we can observe some changes on the overall impact of intra industry trade on protectionism after the crisis. While a positive impact of ITT in the level of the tariff was the rule in the previous specification (indicating that weak tax system in these countries relies almost at all on revenue tariff), when considering product fixed effect this relation has changed for some countries. On this new specification there is evidence that in Argentina, Paraguay and Uruguay the gains from trade in similar but differentiated products appear to overwhelm the need to use tariff for revenues motives.

We look at the incidence of AD initiations using conditional logit models with partner, product and year fixed effects. Previous studies of trade defense measures have restricted their samples only to sectors in which these kinds of measures have taken place. In our study, we compare 6-digit HS commodities on which AD investigations occurred with the overwhelming number of cases in which these investigations do not exist. Due to the lack of data, we only have results for Argentina and Brazil.

We look at the incidence of AD initiations using conditional logit models with partner, product and year fixed effects. Previous studies of trade defense measures have restricted their samples only to sectors in which these kinds of measures have taken place. In our study, we compare 6-digit HS commodities on which AD investigations occurred with the overwhelming number of cases in which these investigations do not exist. Due to the lack of data, we only have results for Argentina and Brazil.

[22] A lower cost makes partners more competitive and, in turn, this situation increase the purchases from Brazilian suppliers and expand their exports.

Table 9 presents the results of estimating the *AD equation*. We observed that all the countries in our sample show a positive relationship between AD initiations and the tariff level. This could indicate that, as a protectionist measures, tariff and non-tariff measures are both complementary. This relationship is reinforced after the crisis only in Argentina. This situation may indicate that this country may have stepped up AD investigations after the crisis as a complement to tariff barriers.

The coefficient on BRER is negative and statistically significant for Argentina and Brazil. This indicates that an appreciation of their currency against the currency of their trading partners makes an AD initiation more likely to occur. When this variable is evaluated in the post crisis period, we find that the coefficient has reduced in Argentina and remains the same in Brazil. Consequently, the crisis has not reinforced the relationship between an appreciation/devaluation on the probability of an initiation of an AD procedure.

The coefficients on VS are positive for all countries. For the post crisis years, Argentina is the only country where we can observe a change in the relationship between VS and AD. Specifically, it could indicate that Argentinean exporters are now more powerful in fighting against AD initiations over their imports.

The coefficient on VS1 is positive for Brazil. A negative sign on this variable indicates that government favors global supply chains while a positive one could indicate that foreign exporters do not have political influence on the local economic policy (Brazil).

While in Table 9 (Appendix) we observe that the propensity to initiate an AD is positively related with the level of the tariff effectively applied on a particular product, it is important to take into account that some problems of endogeneity may emerge.[23] Our strategy in this paper is to control for 6-digit HS product fixed effect. We suppose that the endogeneity problem could arise due to a non-observed variable that determines both AD initiations and the level of the tariff. Such non-observed variable could be the political strength of domestic producers of each 6-digit HS product. Therefore, controlling for product, year and partner fixed effects is our last estimation and we present the results of this specification in Table 10 (Appendix).

For Argentina we observe that the most important determinant of the probability of an AD initiations is the *RBER*. It means that the propensity to initiate a trade defense measure in Argentina strongly depends on the level of appreciation of its currency against its partner's countries and that for years after 2008 this relationship has been reinforced. While prior to 2008 the relationship between the level of the tariff and the probability of initiate an AD procedure was not statistically different for zero, after crisis we can observe a complementarity between both measures of protectionism. With regard to Brazil, the Table 10 indicates that the propensity to initiate an AD depends on the level of the tariff and the *RBER*. It indicates that tariff and non tariff barriers are complementary and that the propensity to initiate an AD in Brazil depends on the level of appreciation of its currency against its partner's countries. Besides, the impact of these variables on the probability of initiating an AD remains the same after the crisis.

5. CONCLUDING COMMENTS

The paper explores the macro and microeconomic determinants of protectionist measures imposed by the four founding members of MERCOSUR using pre and post-2008 crisis trade and protection data.

Two MERCOSUR countries (Argentina and Brazil) lead the ranking of countries implementing discriminatory measures worldwide and some of these measures mutually affect them as well as other MERCOSUR's members.

With regard to the determinants of the measures imposed by MERCOSUR countries, we have found that WTO and PTA (Preferential Trade Agreements) incentives appear to have kept applied tariff in control. In spite of all MERCOSUR countries has plenty of space to raise tariff, they did not strongly use this policy space for greater protectionism. On the other hand, following the 2008 financial crisis most of the countries feel the pressure to raise their tariff up to the bound levels.

The study also finds that ITT is associated with an increase in tariffs in most of MERCOSUR countries. This is quite the opposite of the prediction from IIT models that highlight the additional

[23] Aggarwal (2004) introduces a lagged tariff as independent variable, while others, such as Trefler (1993) uses a simultaneous equation model.

welfare gains from expanding the varieties. It could indicate that these countries strongly depend on tariff as a source of government revenue. After the crisis the overall impact of IIT on tariff level is positive and reinforces the dependence on tariff revenues in almost all MERCOSUR countries.

We have found a positive coefficient for the VS measure for Argentina, indicating that exporters of these countries are not powerful enough to overcome the need to raise revenues. Our regressions show that the crisis did not change the relationship between the level of VS and the tariff. Thus, we observe some heterogeneity across MERCOSUR since exporters in Uruguay did were successful in demanding protectionism.

The negative coefficient associated with the VS1 measure of vertical specialization (the proportion of a sector's exports used as intermediates by exporters in other countries) for almost all countries analyzed, in general, suggest that governments are enthusiastic to favor their exporters by reducing tariffs on the inputs used by (upstream) home exporters in order to enhance their competitive position with foreign users. The negative coefficient could also support the idea that foreign exporters have influence in determining liberalizing trade policy in MERCOSUR countries.

As to AD determinants, tariff and non-tariff protectionist measures are complementary. The evidence for Argentina indicates that this country may have further increased AD investigations after the crisis as a complement to tariff.

The coefficient on BRER is negative and significant for Argentina and Brazil. This indicates that an appreciation of their currency against the currency of their trading partners makes an AD initiation more likely to occur. When this variable is evaluated in the post-crisis period, we find that the coefficient has been reduced in Argentina and it remains the same in Brazil. Consequently, the crisis has not reinforced the relationship between an appreciation/devaluation on the probability of an initiation of an AD procedure.

The coefficient on VS1 is positive for Brazil. A negative sign on this variable indicates that government favors global supply chains while a positive one could indicate that foreign exporters do not have political influence on the local economic policy.

REFERENCIAS

Aggarwal, A. (2004): "Macro Economic Determinants of Antidumping: A Comparative Analysis of Developed and Developing Countries, *World Development*, vol. 32 (6): 1043- 1057.

Baldwin, R.; Evenett, S. (2009): *The Collapse of Global Trade, Murky Protectionism, and the Crisis: Recommendations for the G20*, A VoxEU.org Publication, Center for Economic Policy Research, London.

Bchir, M.; Jean; s.; Laborde, D. (2005): "Binding Overhang and Tariff-Cutting Formulas", CEPII Working Paper 18, October.

Bown, C. P. (2011): 'Introduction', in C.P. Bown (Ed.) *The Great Recession and Import Protection: The Role of Temporary Trade Barriers*, London, CEPR and the World Bank.

Bown, C. P. (2010a): "Taking Stock of Antidumping, Safeguards, and Countervailing Duties, 1990-2009", *World Bank Policy Research Working Paper* 5436.

Bown, C. P. (2010b): "Temporary Trade Barriers Database", *http://econ.worldbank.org/ttbd/.*

Brander, J.; Spencer, B. (1984): *Tariff protection and imperfect competition. In Monopolistic Competition and International Trade*, H. Kierzkowski (Ed.), Oxford: Oxford University Press.

Daudin, G., Rifflart, C.; Schweisguth, D. (2011): "Who Produces for Whom in the World Economy", *Canadian Journal of Economics*, 44 (4): 1403-1437.

Eichengreen, B.; O'Rourke, K. (2009): "A Tale of Two Depressions", *http://www.voxeu.org/index.php?q=node/3421*.

Eichengreen, B.; Irwin, D. (2009): "The Slide to Protectionism in The Great Depression: Who Succumbed and Why?", NBER *Working Paper* No. 15142.

Evenett, S.; Wermelinger, M. (2010): "A Snapshot of contemporary protectionism: How important are the murkier forms of trade discrimination?", Asia-Pacific Research and Training Network on Trade *Working Paper Series*, No. 83, September.

Evenet, S. (2009): "What can be learned from crisis era protectionism? An initial assessment", CEPR *Discussion Paper Series*, No. 7494.

Feinberg, R. (1989): "Exchange Rates and 'Unfair Trade", *Review of Economics and Statistics*, 71 (4): 704-707.

Gawande, K., Hoekman, B.; Cui, Y. (2011): “Determinants of Trade Policy Responses to the 2008 Financial Crisis”, *World Bank Policy Research Working Paper* number 5862.

Gawande, K.; Krishna, P. (2008): “The Political Economy of Trade Policy: Empirical Approaches”, in E. Choi and J. Harrigan *Handbook of International Trade*, Basil Blackwell: 213-250.

Grossman, G.; Helpman, E. (1994): “Protection for Sale”, *American Economic Review*, 84(4): 833-850.

Jacobo, A.; Jalile, I. (2012a): “On the Macro and Micro Determinants of Protectionist Policy Instruments in Latin America: An Exploratory Note”, paper presented at the GTA-CEPR-LATN joint conference on the *Analyses of Contemporary Protectionism and its Implication for Latin America*, Lima, Perú.

Jacobo, A.; JALiLE, I. (2012b): “Analyzing Contemporary Protectionism: What is Going on with Latin American Countries?”, paper presented at the *XLVII Annual Meeting of the Asociación Argentina de Economía Polític*a, Trelew, Argentina.

Jørgensen, J.; Schröder, P. (2006): “Tariffs and Firm-Level Heterogeneous Fixed Export Costs,” *Contributions to Economic Analysis & Policy*, 5 (1): Article 18.

Kee, H.; Neagu, I.; Nicita, A. (2010): “Is Protectionism on the Rise? Assessing National Trade Policies During the Crisis of 2008”, *World Bank Working Paper* No. 5274.

Kee, H.; Nicita, A.; Olarreaga, M. (2008): “Import Demand Elasticities and Trade Distortions”, *Review of Economics and Statistics*, 90 (4): 666-682.

Knetter, M.; Prusa, T. (2003): ‘Macroeconomic Factors and Antidumping Filings: Evidence from Four Countries’, *Journal of International Economics*, 61 (1): 1-17.

Krugman, P. (1981): “Intra-industry Specialization and the Gains from Trade”, *Journal of Political Economy*, 89 (5): 959- 973.

Hanson, G.; Mataloni R.; Slaughter, M. (2003): “Vertical Production Networks in Multinational Firms”, *NBER Working Paper* No. 9723.

Hummels, D.; Ishii, J.; Yi, K. (2001): “The Nature and Growth of Vertical Specialization”, *Journal of International Economics*, 54 (1): 75-96.

Olarreaga, M.; Vaillant, M. (2011): “Micro and Macro Determinants of Trade Temporary Barriers: The Brazilian Case Over the Last Two Decades”, Departamento de Economía, Universidad de la República, *Documento* number 07/11.

Prusa, T.; Skeath, S. (2002): “The Economic and Strategic motives for Antidumping Filings”, *Weltwirstchaliftches Archives*, 138 (3): 389- 413.

Rozemberg, R.; Gayá, R. (2010): “Global Crisis and Trade Barriers in Latin America”, in S. Evenett (Editor) *Managed Exports and the Recovery of World Trade: The 7th GTA Report. A Focus on Latin America*, Center for Economic Policy Research.

Sabry, F. (2000): “An Analysis of the Decision to File, the Dumping Estimates, and the Outcome of Antidumping Petition”, *International Trade Journal*, 14 (2): 109-145.

Takacs, W. (1981): ‘Pressures for Protectionism: An Empirical Analysis’, *Economic Inquiry*, 19 (4): pp. 687-93.

WTO (2009): *Overview of Developments in the International Trading Environment,* WT/TPR/OV/12.

APPENDIX

Table 6

	ARG		BRA		PRY		URY	
t_{BNDPRF}	**0,2502**	***	**0,2867**	***	**0,1838**	***	**0,2019**	***
	0,0013		*0,0011*		*0,0017*		*0,0017*	
ITT	**1,6420**	***	**1,2547**	***	**1,5567**	***	**0,5585**	***
	0,0519		*0,0353*		*0,1634*		*0,1110*	
VS	**10,7300**	***	**17,6481**	***	**11,0866**	***	**-12,3440**	***
	0,1151		*0,1689*		*0,2684*		*0,1344*	
VS1	**-10,4062**	***	**-23,5130**	***	**-21,3775**	***	**1,0467**	***
	0,1182		*0,1001*		*0,2249*		*0,1792*	
N	**405806**		**520806**		**147476**		**192591**	
Partner FE	**Yes**		**Yes**		**Yes**		**Yes**	
Year FE	**Yes**		**Yes**		**Yes**		**Yes**	
R^2	**0.3577**		**0.4189**		**0.4527**		**0.4767**	

Notes: (1) Dependent variable is applied tariff; (2) t_{BNDPRF} is the bound rate augmented by preferential rate when applicable; (3) Standard errors in italics; (4) *** p<0.01; (5) Data pooled across 2002-2010.

Table 7

	ARG		BRA		PRY		URY	
t_{BNDPRF}	**0,2436**	***	**0,2707**	***	**0,1829**	***	**0,2027**	***
	0,0014		*0,0011*		*0,0018*		*0,0017*	
ITT	**1,8771**	***	**1,3880**	***	**2,0249**	***	**0,7137**	***
	0,0573		*0,0392*		*0,1923*		*0,1202*	
VS	**11,0759**	***	**12,5779**	***	**9,8869**	***	**-11,9119**	***
	0,1273		*0,1890*		*0,3115*		*0,1473*	
VS1	**-10,9265**	***	**-20,0695**	***	**-21,1225**	***	**0,9201**	***
	0,1309		*0,1121*		*0,2629*		*0,1969*	
$t_{BNDPRFxI2009}$	**0,0255**	***	**0,0655**	***	**0,0030**		**-0,0040**	*
	0,0021		*0,0018*		*0,0022*		*0,0026*	
ITTxI2009	**-1,2729**	***	**-0,4936**	***	**-1,7024**	***	**-1,0154**	***
	0,1294		*0,0840*		*0,3619*		*0,3072*	
VSxI2009	**-1,7366**	***	**23,2473**	***	**4,6313**	***	**-2,4302**	***
	0,2933		*0,4024*		*0,6060*		*0,3408*	
VS1xI2009	**2,4124**	***	**-15,8650**	***	**-1,0052**	***	**0,7554**	**
	0,2865		*0,2316*		*0,5015*		*0,4645*	
N	**405806**		**520806**		**147476**		**192591**	
Partner FE	**Yes**		**Yes**		**Yes**		**Yes**	
Year FE	**Yes**		**Yes**		**Yes**		**Yes**	
R-squared	**0,3586**		**0,4270**		**0,4530**		**0,4769**	

Notes: (1) Dependent variable is applied tariff; (2) t_{BNDPRF} is the bound rate augmented by preferential rate when applicable; (3) Standard errors in italics; (4) *** p<0.01; (5) Data pooled across 2002-2010.

Table 8

	ARG		BRA		PRY		URY	
t_{BNDPRF}	**0,3738**	***	**0,3587**	***	**0,3013**	***	**0,3601**	***
	0,0008		*0,0009*		*0,0012*		*0,0012*	
$t_{BNDPRFxI2009}$	**0,0399**	***	**0,0758**	***	**0,0155**	***	**0,0058**	***
	0,0009		*0,0008*		*0,0012*		*0,0009*	
ITT	**-0,0366**		**0,0068**		**-0,5004**	***	**-0,3888**	***
	0,0275		*0,0196*		*0,1046*		*0,0604*	
ITTxI2009	**-0,4264**	***	**-0,0038**		**-0,8320**	***	**0,0697**	
	0,0548		*0,0381*		*0,1882*		*0,1065*	
N	**403587**		**520806**		**147469**		**192592**	
Partner FE	**Yes**		**Yes**		**Yes**		**Yes**	
Year FE	**Yes**		**Yes**		**Yes**		**Yes**	
Product	**Yes**		**Yes**		**Yes**		**Yes**	
R-squared	**0,3115**		**0,3337**		**0,3959**		**0,4215**	

Notes: (1) Dependent variable is applied tariff; (2) t_{BNDPRF} is the bound rate augmented by preferential rate when applicable; (3) Standard errors in italics; (4) *** p<0.01; (5) Data pooled across 2002-2010.

Table 10

	ARG		BRA	
t	**-0,0008**		**0,1708**	***
	0,0303		*0,0456*	
TCRB1	**-1,5824**	***	**-2,6676**	***
	0,5957		*0,9227*	
Imports	**0,0000**		**0,0001**	***
	0,0000		*0,0000*	
Unit Values	**-0,0052**		**-1,8700**	
	0,0067		*4,4753*	
txI2009	**0,0563**	***	**-0,0409**	
	0,0274		*63,9757*	
ImportsxI2009	**0,0000**		**0,0000**	
	0,0000		*0,0127*	
UnitValuesxI2009	**-0,0025**		**1,7309**	
	0,0349		*11457,69*	
TCRBxI2009	**1,3088**	***	**0,2594**	
	0,5224		*2865,8620*	
N	**11831**		**5644**	
Partner FE	**Yes**		**Yes**	
Year FE	**Yes**		**Yes**	
Product FE	**Yes**		**Yes**	

indicating the presence of an AD initiations in a particualr HS 6 digit sector; (2) Standard errors between brackets; (3) *** p<0.01;

Table 9

	ARG		BRA	
t	**0,0444**	***	**0,1059**	***
	0,0186		*0,0178*	
VS	**3,5078**	***	**6,6032**	***
	1,1251		*2,8009*	
VS1	**-0,1454**		**3,5772**	***
	1,2038		*1,6331*	
TCRB1	**-1,5047**	***	**-2,2312**	**
	0,5875		*0,8672*	
Imports	**0,0000**		**0,0000**	***
	0,0000		*0,0000*	
Unit Values	**-0,0134**		**-14,0099**	***
	0,0240		*7,2951*	
txl2009	**0,0523**	***	**-0,0089**	
	0,0238		*79,4899*	
VSxl2009	**-5,4049**	***	**0,8666**	
	1,8031		*17274,2700*	
VS1xl2009	**0,2014**		**-1,5298**	
	1,9595		*10344,7600*	
Importsxl2009	**0,0000**		**0,0000**	
	0,0000		*0,0070*	
UnitValuesxl2009	**-0,0146**		**-13,9624**	
	0,0559		*49282,1500*	
TCRBxl2009	**1,2404**	***	**-0,1363**	
	0,4894		*3340,1530*	
N	**148284**		**125851**	
Partner FE	**Yes**		**Yes**	
Year FE	**Yes**		**Yes**	

Notes: (1) Dependent variable is a binary variable indicating the presence of an AD initiations in a particualr HS 6 digit sector; (2) Standard errors betw een brackets; (3) *** p<0.01;