

Business cycles. Evidence from import barriers in Argentina.

Ileana Raquel Jalile

*Instituto de Economía y Finanzas, Universidad Nacional de Córdoba, Av. Valparaíso s/n, Córdoba,
X5000HRV Argentina*

Abstract

This paper constitutes an improved and upgraded version of a research in progress whose main purpose is to examine the impact of macroeconomic fluctuations on the application of new import restrictive measures for Argentina over the years 1989–2019.

It uses quarterly available data for Argentina to estimate the impact of macroeconomic shocks and exchange rate movements on protectionist policies over the analyzed period.

While part of the empirical literature in this latitude is devoted to the analysis of the primary determinants of such protectionist measures, there is not any domestic effort linking the imposition of new import restrictions to macroeconomics shocks as we shall explore in this paper. I consider this analysis is important because we can better address the relationship between business cycles, exchange rates and import restriction and capture the precise timing of any trade policy changes taking place during the cycles of the businesses.

JEL Codes: F13, F14

Despite substantial research documenting the countercyclical nature of business cycles and import protection dating back to at least the Great Depression (Irwin, 2011a,b), there is not one universal theory linking the imposition of new import restrictions to macroeconomic shocks.

Bagwell and Staiger (2003), Crowley (2010) and Knetter and Prusa (2003) are the theoretical contributions that indicates that there is a somewhat complex and unstable relationship between macroeconomic shocks and trade policy, and suggests that trade barriers increase when domestic economic conditions are adverse. They have found that temporary trade barriers increase when domestic macroeconomic conditions are weak (Bagwell and Staiger, 2003) and foreign macroeconomic conditions are weak (Bagwell and Staiger, 2003; Crowley, 2010). An appreciation of the domestic currency relative to a trading partner's currency implies more import restrictions if a national authority's antidumping investigation places more weight on the criterion of injury to the domestic industry than it places on the criterion of dumping (Knetter and Prusa, 2003).

In addition, the facts seem to suggest that countries have resorted much less to protectionist trade policies in response to the negative macroeconomics shocks due to the financial crisis of 2008 than during the Great Depression of the 1930s (Bown, 2011). The combination of a deep economic crisis and a poor recovery since 2008, on the one hand, and a limited protectionist activity on a global level, on the other, leads the question whether the traditional relationship between the decline in economic growth and protectionism has been broken recently.

Bown and Crowley (2013)'s evidence paints a complex picture of the role that macroeconomic shocks play in determining trade policy for countries bound by the WTO. In particular, their results indicate that the empirical relationships between macroeconomic shocks and trade policy are changing over time and across trading partners in ways that ultimately impact the worldwide distribution of import protection beyond that which takes place through tariff liberalization negotiations and trade agreements.

The specific study proposed here is to examine the true relationship between macroeconomic fluctuations and the application of trade protection measures in Argentina and constitutes an

research in progress whose main purpose is to examine fluctuations on the application of new import restrictive measures for Argentina over the years 1989–2019.

The analysis would contribute to the economic literature in the following aspects. First, it is intended to perform the analysis for Argentina. From the review of the literature, it emerges that until now the relationship between growth and/or fluctuations, competitiveness and trade protectionism has focused mainly on advanced economies. The articles by Kneteer and Prusa (2003), Irwin (2003), Bown (2004), using different types of methodologies in econometric analysis, time horizons and countries have found that there is a countercyclical trade policy, that is, the use of restrictive trade policies has increased during recessions or losses of competitiveness in the economies.

Second, account will be taken of the change in the composition of trade policies that have emerged in many countries -especially emerging and developing countries- after joining the World Trade Organization, which have progressively used trade defense measures (Antidumpings, Countervailing duties and safeguards) to the detriment of tariff measures (Bown and Crowley, 2012). This pattern has also been modified since the beginning of the global financial crisis in 2008, when countries' trade policies were characterized by the use of "murky protectionism" (Evenett, 2009).¹ During the global financial crisis of 2008, also known as the "Great Recession", restrictions on international trade increased markedly and contributed to the contraction of world trade, caused by a fall in world demand. With respect to Latin American countries, while some applied tariff measures to protect sectors affected by the global financial crisis, other economies applied a pattern of trade policy mainly characterized by changes in non-tariff barriers mainly through the use of protectionist measures of the "murky" type (Dalle and Lavopa, 2010).

¹ Protectionist trade policy measures known as "murky" refer to measures that are not characterized as direct violations of WTO obligations, but are legitimate discretionary abuses that are used to discriminate against foreign companies, goods, workers and investors. Examples of these types of measures include: abuses of health and safety regulations and clauses in stimulus packages that target spending on domestic products ("buy domestic products" policies) (Evenett, 2009).

...es what happened in the developing economies is related
...nts of such protectionist measures, there is no analytical
effort to link the imposition of protectionist measures with the macroeconomic shocks that
the economies suffered, in this particular case, for Argentina. In this sense, the analysis of the
Argentine case takes on special relevance not only because of the exacerbated level of
protectionism applied by this country since the Great Recession - it occupies one of the first
places in the rankings of number of protectionist measures applied -(Jacobo and Jalile, 2015)
but also because of the type of restrictive trade policies imposed characterized by the use of
murky measures.

Thus, the specific approach taken in this study is to examine the impact of macroeconomic
fluctuations on the application of new import restrictive measures. It would allow to identify
the importance of bilateral channels through which new trade barriers arise and how these
channels have differed across years. To address that, I would analyze if there has been a change
in the relationship between cycles and the imposition of import protection measures pre and
post the Great Recession era.

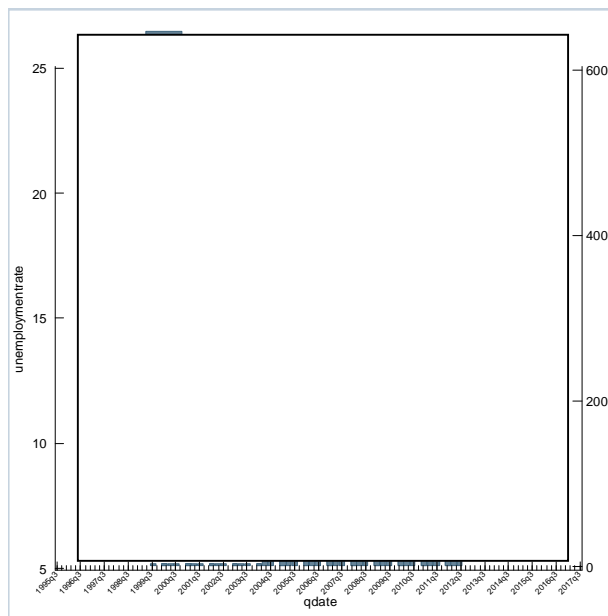
To examine this phenomenon, the study strategy would be to analyze determinants of import
related Non Tariff Measures (NTMs) because these are the predominant means through which
Argentina has implemented new import protection under the GATT and WTO since the end
of the '80s. Thus, I would consider discriminatory non-tariff measures imposed by
governments to favor domestic over foreign suppliers.

Broadly defined, NTMs include all policy related trade costs incurred from production to final
consumer, with the exclusion of tariffs. For practical purposes NTMs are categorized
depending on their scope and/or design and are broadly distinguished in technical measures
(Sanitary and Phytosanitary Standards, Technical Barriers to trade and Pre-shipment
Inspections) and non-technical measures. These are further distinguished in hard measures
(e.g. price and quantity control measures), threat measures (e.g. antidumping and safeguards),
and other measures such as trade-related finance and investment measures). In practice, NTMs
are measures that have the potential to substantially distort international trade, whether their
trade effects are protectionist or not. For example, measures such as quality standards,

protectionist intent, may be of particular concern to poor l-equipped to comply with them.

Figure 1 shows the time series of the index of multilateral real exchange rate, unemployment rate and accumulated number of imported products (8 HS-digit) subject to new import protectionist measures (specifically, Non-Automatic Licenses) in the quarterly data over 1999-2019.

Figure 1. Non Tariff Measures (NTMs), Unemployment rate and multilateral real exchange rate for Argentina. Quarterly data 1999-2019



Source: constructed by the author from quarterly data from Banco Central de Argentina (ITCRM: increases in the index of multilateral real exchange rate, Base: 2015, reflects depreciations of the Argentinian peso); IMF, Bown (2011) and Official reports from Argentinian authorities.

II. Protectionism in Argentina

In the last 25 years, the Argentine economy has been going back and forth from an open economy to a closed economy. In this way, the early 1980s witnessed a highly protectionist trade policy based on import substitution and then, in the late 1980s, experiencing a dramatically more open economic model due to the unilateral liberalization of the economy. To then, return again to a more protectionist-focused approach in the early years of the 2000s explained by government reactions to economic shocks from international and domestic

payments crisis followed by devaluation of the national currencies as a result of the consequences of the world financial crisis that began in 2008.

However, this protectionism trend changed when a new government with a pro-market mindset came to power in December 2015. This new more open economy regime proceeded to dismantle most of the trade restrictions imposed by the previous government and replaced them with a more transparent and neutral process.

Table 1 provides information on ad-valorem tariff rates as well as the fraction of tariff lines covered with import licenses. The figures show high and increasing protection until 1987-1988, and relatively fast decline thereafter. Thus, average applied ad valorem tariffs reached 39% in 1987, with about 50% of tariff lines subject to import licences. Starting in 1988, Argentina began a remarkable unilateral trade liberalization package that subsequently resulted in average applied tariffs of only 12% with no products being subject to import licenses. In addition to these unilateral policies, in 1991 Argentina, Brazil, Paraguay and Uruguay signed the Tratado de Asunción that created the Mercosur (Mercado Común del Sur).

Table 1. Tariff and Import Licenses

| Year | Tariff | | | Import Licenses (%) [*] |
|------|---------|-----------|---------|----------------------------------|
| | Maximum | Surcharge | Average | |
| 1980 | 100 | 0 | 25 | 0 |
| 1981 | 75 | 0 | 29 | 0 |
| 1982 | 55 | 0 | 30 | 4 |
| 1983 | 55 | 0 | 30 | 15 |
| 1984 | 55 | 0 | 30 | 51 |
| 1985 | 55 | 10 | 32 | 52 |
| 1986 | 55 | 10 | 39 | 47 |
| 1987 | 50 | 15 | 39 | 51 |
| 1988 | 50 | 15 | 39 | 32 |
| 1989 | 30 | 0 | 18 | 0 |
| 1990 | 24 | 0 | 17 | 0 |
| 1991 | 35 | 0 | 12 | 0 |
| 1992 | 35 | 0 | 12 | 0 |

^{*}Percent of tariff lines covered

Source: Nogués (2001)

Since 2011, the government of Argentina increased its reliance on a growth strategy that is based heavily on import substitution. To carry out this strategy, Argentina increased its use of non-automatic import licenses and imposed other nontariff barriers.

In 2012, Argentina continued the use of non-automatic licenses to restrict imports generally and to protect sectors that the Argentine government deems sensitive. Throughout 2012,

subject to non-automatic licenses, including textile steel, and metal products; automotive parts; chemical products; general and special purpose machinery; and consumer goods. In January 2013, the non-automatic import license requirements on these products were repealed.

Argentina as a member of MERCOSUR cannot modify its duty rates without the express consent of its three regional partners, Brazil, Paraguay, and Uruguay, except for a number of limited exceptions². Different views on how to deal with the crisis and, more generally, divergent defensive interests make Common External Tariff (CET) modifications a very cumbersome task (see Aragao 1993). The fact that members managed to agree only once on an increase in the CET since the onset of the crisis, clearly illustrates these difficulties.³ As a result, Argentina faced the crises deprived of perhaps the most straightforward way of cushioning its effects, i.e. unilaterally raising its customs duty rates up to the bound levels.

Thus, since the embracement of Argentina to Mercosur to date, the country has implemented basically NTMs when applying protectionist trade policies and three of them stand up from the rest, both in terms of frequency and coverage (Dalle and Lavopa, 2010):

- **Reference Prices (“valores criterio”)**: Under this regime, reference prices are fixed by the the Federal Public Revenue Agency (the acronym in Spanish is AFIP) for products and origins in which fraudulent practices have been found to be frequent. Any importer attempting to clear customs of a good covered by the regime is required to post a guarantee amounting to the difference between the “reference price” set by the AFIP and the declared import value.
- **Initiation of Antidumping Investigations**: Dumping occurs if a company sells at a lower price in an export market than in its domestic market. If such dumping injures the

² Argentina was authorised by MERCOSUR to maintain exceptions to the Common External Tariff on certain capital goods, computing and telecommunications goods, chemicals and a limited number of other products. It should be noted that most of these exceptions to the CET are biased to greater levels of openness.

³ In December 2009, the bloc approved tariff increases for several tariff positions, including dairy products, textiles, luggage goods (MERCOSUR Decisions CMC N°26/09 and 27/09 - for a detailed analysis of these measures, see GTA Measure #1619 and Measure #1618, available at <http://www.globaltradealert.org>). Argentina also adopted a decision in October 2008 to increase the CET to either 26% or 35% (from a prior ceiling of 20%) on several tariff lines in textiles, footwear, automobiles, and auto parts. However, this decision was in fact implementing legislation of a MERCOSUR decision adopted prior to the crisis, in September 2007 (MERCOSUR Resolution GMC N° 17/07).

country, under certain circumstances the importing
dumping duties to offset the effects of the dumping

- **Non-Automatic Licenses (NALs)**: In 2005 Argentina began to require non-automatic licenses for the importation of certain goods, particularly footwear and toys. These licensing regimes require the submission of an application or supporting documentation (other than the one required for customs purposes) as a prior condition for importation. According to the government, the measures were merely required for informational purposes. With the onset of the global crisis in November 2008, the list of products subject to this requirement expanded significantly

Altogether, these three instruments constitute the core of Argentina's border emergency-kit as named by Dalle and Lavopa,2010 .

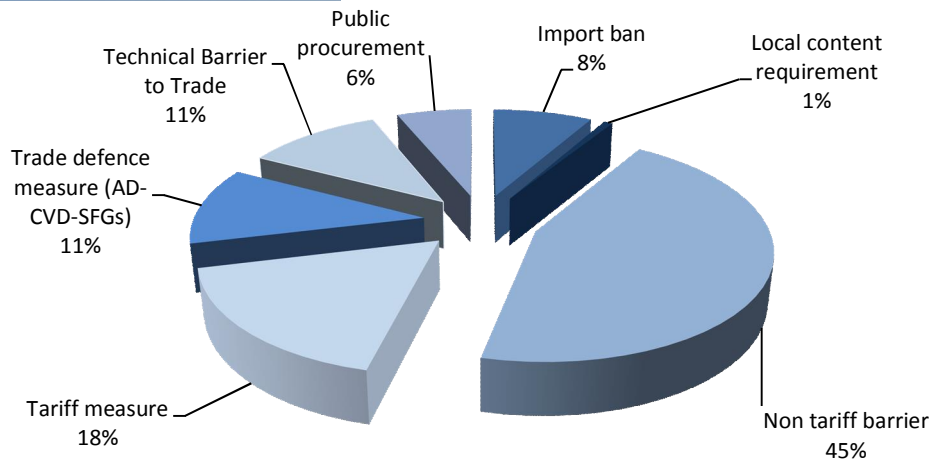
For example, according to the WTO database, between the establishment of the WTO in 1995 and the end of 2011, Argentina applied 180 anti-dumping measures. Argentina ranks fourth among WTO Members with respect to the use of these measures.⁴ It also accepted 38 price undertakings. Between 2007 and 2011, Argentina applied 52 anti-dumping measures and accepted ten price undertakings. At the same time, the use of countervailing duties has been very limited; since the creation of the WTO, it has only applied four measures, all before 2000.

Following the GTA database⁵ we could build Figure 1 and Table 1 where we can observe only the data concerning to Import Protection Measures (IPMs) applied. Specifically, following the GTA database notation, they refer to "red and implemented measures" which mean trade policies that have restrictive or contractive effect on international trade.

⁴ WTO online information, "Anti-dumping measures: Anti-dumping measures, by reporting Member 01/01/1995-31/12/2011". Viewed at: http://www.wto.org/english/tratop_e/adp_e/adp_e.htm.

⁵ GTA database includes trade barriers (e. gr. tariffs and AD measures) as well as others measures related to trade policy (e. gr. foreign investment related measures). this database contains information collected since 2008. This database is available through the following links: <http://www.globaltradealert.org>.

Stock of Restrictive trade measures. Period: 2008-2014



Source: GTA database

Thus at 4-digit level we can observe the number of products affected by IPMs, which include: “import ban”, “Local content requirements”, “Non Tariff barriers (not otherwise specified)”, “Tariff measures”, “Technical barriers to Trade”, “Public procurements” and “Trade defence measures (Antidumping, Countervailing duties, Safeguards)”. Almost 50% of the products affected by any IPMs were subjected to Non-tariff barriers (mainly, Non-automatic licenses and Price reference measures), followed by Tariff measures and Trade defence measures.

Table 1. Stock of Restrictive trade measures. Period: 2008-2014

| Type of Measure | 4-digits products affected | % |
|-------------------------------------|----------------------------|------------|
| Import ban | 45 | 8.20 |
| Local content requirement | 4 | 0.73 |
| Non tariff barrier | 246 | 44.81 |
| Tariff measure | 96 | 17.49 |
| Trade defence measure (AD-CVD-SFGs) | 63 | 11.48 |
| Technical Barrier to Trade | 61 | 11.11 |
| Public procurement | 34 | 6.19 |
| Total | 549 | 100 |

Source: GTA database

The rest of the paper proceeds as follows. Section II presents an empirical model of the determinants of the number of imported products from a particular trading partner that Argentina subjects to Import Protection Measures (IPMs). Section III will present the founded results regarding the relationship between trade restrictions and macroeconomic fluctuation based on the data. Section IV concludes.

II. Empirical Model, data construction and results

II.a. Empirical Model

This section presents an empirical model of the determinants of the number of imported products from a particular trading partner that Argentina subjects to new import protection measures.

The sample I consider in the empirical analysis spans the time period from Q1 1989 to Q4 2014 and includes observations on import protection measures (IPMs) implemented by Argentina vis-a-vis their trading partners: *i) Initiation of Antidumping Investigations; ii) Reference Prices and iii) Non-Automatic Licences*. The set of trading partners comprises all countries for which (i) data on growth and competitiveness are available, and for which (ii) there is at least one trade-related measure that has been implemented over the period under review (see Annex A for the list of the trading partners included in the regression sample).

The model relates the number of products under an import protection trade measure in a given quarter to the first lag (quarter $t-1$) of the percent change in the bilateral real exchange rate, the change in the domestic unemployment rate, and foreign real GDP growth.

The dependent variable is the number of products that Argentina imported from trading partner i in quarter t that is subjected to a new IPM.

Empirically, the dependent variable is a non-negative count which exhibits over-dispersion in that the variance of the number of investigations per time period exceeds the mean. Thus, in our model specification we would account for the integer nature of the dependent variable and consider a non-linear regression model. Specifically, we would use a Negative Binomial regression model, which can be derived by introducing random variation into the conditional mean of the standard Poisson model (Hausman et al., 1984).⁶

The negative binomial model is employed as a functional form that relaxes the equidispersion restriction of the Poisson model. A useful way to motivate the model is through the

⁶ As our dependent variable displays over-dispersion, assuming a standard Poisson distribution is inappropriate. The null hypotheses that the variance is equal to one—implying a Poisson distribution for the dependent variable—can be rejected at the 1% significance level based on a likelihood ratio test..

the conditional mean of the Poisson model. Thus, we

$$f(h_i) = [y_i | x_i, \varepsilon_i] = \exp(\alpha + x_i' \beta + \varepsilon_i) = h_i \lambda_i$$

where $h_i = \exp(\varepsilon_i)$ is assumed to have a one parameter gamma distribution, $G(\theta, \theta)$ with mean 1 and variance $1/\theta = \kappa$;

$$f(h_i) = \frac{\theta^\theta \exp(-\theta h_i) h_i^{\theta-1}}{\Gamma(\theta)}, h_i \geq 0, \theta > 0.$$

After integrating h_i out of the joint distribution, we obtain the marginal negative binomial (NB) distribution,

$$\text{Pr ob}[Y = y | x_i] = \frac{\Gamma(\theta + y_i) r_i^\theta (1 - r_i)^{y_i}}{\Gamma(1 + y_i) \Gamma(\theta)}$$

$$y_i = 0, 1, \dots, \theta > 0, r = \theta / (\theta + \lambda_i)$$

The latent heterogeneity induces overdispersion while preserving the conditional mean;

$$E[y_i | x_i] = \lambda_i$$

$$\text{Var}[y_i | x_i] = \lambda_i [1 + (1/\theta)\lambda_i] = \lambda_i [1 + \kappa \lambda_i]$$

$$\text{where } \kappa \lambda_i = \text{Var}[\lambda_i]$$

Maximum likelihood estimation of the parameters of the NB model (α, β, θ) is straightforward, as documented in, e.g., Greene (2007). Inference proceeds along familiar lines. Inference about the specification, specifically the presence of overdispersion, is the subject of a lengthy literature, as documented, e.g., in CT (1990, 1998, 2005) and Hilbe (2007).

We include country-pair and time fixed effects in x_{it} in order to control for unobserved, country-pair specific, time-invariant heterogeneity and unobserved common factors, respectively. For example, the country-pair fixed effects pick up systematic variation in the number of newly implemented trade-restrictive measures stemming from differences in

cts, in turn, capture the bias in the time-series variation in
s.

The model is identified off both inter-temporal and cross-sectional variation in domestic unemployment rates, bilateral real exchange rates, and foreign trading partner GDP growth rates.

Because many of the trade policy measures we consider in this paper are implemented against individual trading partners, we expect sharper results from using bilateral rather than aggregate data and regressions (Knetter and Prusa, 2003).

II.b. Data construction

Although I follow the novel literature on this topic (e.g., see Bown and Crowley, 2013; Knetter and Prusa, 2003; Georgiadis and Grab, 2013) in order to construct the variables and modeling the econometric specification, there are a number of innovations in the construction of the dataset relative to previous literature.

First, I have constructed quarterly series of bilateral trade policy actions at product level from 1989:Q1 to 2019:Q4. Specifically, the dependent variable is the count of 8HS digit imported products on which the government of Argentina apply a new import protection measure against trading partner j in quarter t and against which there is not already an existing IPM in place. As it has been mentioned above, I have included the most usual forms of temporary import restrictions that Argentina has imposed to their trading partners which include non-automatic licenses, antidumping duties, and reference prices. Thus, I have constructed a new database on IPM using information obtained from official documents and resolutions (Boletín Oficial de la República Argentina). This new database has systematized historical records on import protection policies since 1989 and constitute one of the main innovations related to previous analysis made on Argentina.

Second,-as in Bown and Crowley (2013) -I examine data at the quarterly frequency; this is potentially important because macroeconomic shocks may cross calendar years. The key macroeconomic determinants of import protection in the empirical model are bilateral real exchange rates, domestic unemployment rates, and the foreign trading partner's real GDP growth, with each of the variables reflecting percentual changes at the quarterly frequency.

relationships between Argentina and their key trading partners j in Argentina since its trade policy has been characterized by imposing import restrictions through non tariff barriers bilaterally. Furthermore, we wish to examine whether import protection is applied against trading partners that are experiencing negative economic shocks at home. Thus a modeling approach that considered only the use of import protection aggregated over trading partners may not accurately capture the importance of bilateral shocks.

Table 3 presents the summary statistics for the quarterly data used in the empirical analysis.

| Variables | Obs | Mean | Std.Dev. | Min | Max |
|---|------|-------|----------|--------|--------|
| Dependent variables | | | | | |
| AD initiations (products per quarter per trading partner) | 8400 | 0.14 | 1.27 | 0.00 | 51.00 |
| NAL (products per quarter per trading partner) | 8400 | 5.27 | 21.92 | 0.00 | 180.00 |
| Reference prices initiations (products per quarter per trading partner) | 8400 | 1.63 | 11.96 | 0.00 | 235.00 |
| Explanatory variables | | | | | |
| Real GDP growth of trading partners | 4829 | 1.16 | 7.68 | -37.21 | 56.44 |
| Domestic unemployment rate change | 8100 | -0.03 | 0.97 | -2.60 | 3.20 |
| Bilateral Real Exchange Rate | 6756 | 0.94 | 1.24 | 0.00 | 7.53 |

II.c. Empirical Assesment

This section present the evidence on the effect of business cycles on the number of products at 6_HS –digit affected by IPMs using a discrete count model (Negative Binomial Model) for a panel data of 53 trade partners of Argentina over the period 1989:Q1-2019:Q4. Thus, the dependent variable is defined as the count of 8_HS-digit imported product against which the government of Argentina has newly initiated an IPMs against trading partner j in quarter t .

Estimates from a baseline partner and quarter fixed effects model of applied new bilateral IPMs that represent the influence of the variables considered are presented in Table 4.

The baseline model also includes a time trend as well as Argentina and partners combined (pair-wise) fixed effects to control for time-invariant, bilateral relationship-specific heterogeneity in policy treatment which could be the way that the Argentina treats China's exporters relative to another economy's exporters, for example.

The results show the incidence rate ratios (IRRs) for the control variables included in the model specification. It is a common practice for models with discrete dependent variables to report the IRRs, that is the ratio of counts predicted by the model when the first lag of an

unit above its mean value (and all other variables are at their means) when all variables are at their means.

If an estimated IRR is statistically significant and greater than one it would present evidence of a positive effect of the determinant of interest; i.e., the explanatory variable is associated with an increase in the number of imported products from trading partner i in quarter t that economy j subjects to a new IPM. On the other hand, if the estimated IRR associated to a explanatory variables is statistically significant and less than 1 there is evidence that an increase in the explanatory variable is associated with a reduction in the count of imported products subject to new import protection.

Table 4. Negative Binomial model estimates

| Explanatory variables | Dependent variable: bilateral count of products affected by IPMs in quarter t | | | |
|--|---|--------------------------|--------------------------|--------------------------|
| | (i) | (ii) | (iii) | (iv) |
| | Estimated coefficients | Estimated coefficients | Estimated IRRs | Estimated IRRs |
| <i>Percent change in bilateral real exchange rate ARG_{jt}-1</i> | -0.0316*** (0.00273) | -0.0314*** (0.00273) | 0.969*** (0.00265) | 0.969*** (0.00265) |
| <i>ur_ARG_ch_lag</i> | 0.516 (0.429) | 0.516 (0.429) | 1.675 (0.719) | 1.675 (0.719) |
| <i>gdp_real_growth_pp_partners_lag</i> | 0.00127 (0.00171) | 0.00121 (0.00171) | 1.001 (0.00171) | 1.001 (0.00171) |
| <i>TCRB_v_growth_lagxI_2009</i> | 0.0339*** (0.00307) | 0.0337*** (0.00307) | 1.034*** (0.00318) | 1.034*** (0.00318) |
| <i>ur_ARG_ch_lagxI_2009</i> | -9.182** (3.797) | -9.181** (3.797) | 0.000103** (0.000390) | 0.000103** (0.000391) |
| <i>gdp_real_g_pp_part_lagxI_2009</i> | -0.00654*** (0.00197) | -0.00657*** (0.00197) | 0.993*** (0.00195) | 0.993*** (0.00196) |
| Observations | 4,324 | 4,309 | 4,324 | 4,309 |
| Number of aff_codel | 53 | 52 | 53 | 52 |
| Country FE | NO | YES | NO | YES |
| Quarter FE | YES | YES | YES | YES |

Notes: Standard errors in parentheses; *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$. Model includes a constant term whose estimate is suppressed.

Columns 1 and 2 present the estimated coefficients whereas columns 3 and 4 present the Incidence Rate Ratios (IRR) estimates. Our main findings regarding the relationship between growth, real exchange rates and trade protectionism are the following. First, before the Great Recession the number of trade-restrictive measures implemented against trading partner j was exclusively explain by movements in the real exchange rate. There is no evidence of relationship between domestic and partners' economic activity performance and protectionism. Specifically, we have found that an increase of one percentage point in the real bilateral exchange rate implies a decrease in the number of products affected by trade restrictive measures by 3%; it means that Argentina has implemented more trade-restrictive measures when its competitiveness deteriorated.

We have found that declines in foreign GDP growth are by trade restrictive measures. Thus, the IRR of 0.993 on foreign real GDP growth is evidence that additional import protection is used against trading partners that are going through their own periods of weak economic growth. Regarding the relationship between competitiveness and protectionism the sign has change after the crisis and the results indicate that post crisis Argentina has implemented even more trade-restrictive measures when its competitiveness increased.

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List of considered partners countries

| Partner Code | Partner Name | Partner Code | Partner Name |
|--------------|-----------------------|--------------|---------------------|
| ARE | United Arab Emirates | LAO | Laos |
| AUS | Australia | LKA | Sri Lanka |
| AUT | Austria | LUX | Luxemburg |
| BEL | Belgium | MAC | Macedonia |
| BGD | Bangladesh | MEX | Mexico |
| BGR | Bulgaria | MMR | Myanmar |
| BOL | Bolivia | MNT | Montenegro |
| BRA | Brazil | MUS | Mauritius |
| BRN | Brunei | MYS | Malaysia |
| CAN | Canada | NLD | Netherlands |
| CHE | Switzerland | NOR | Norway |
| CHL | Chile | NZL | New Zealand |
| CHN | China, P.R.: Mainland | PAK | Pakistan |
| COL | Colombia | PER | Peru |
| CSV | Czechoslovakia | PHL | Philippines |
| CZE | Czech Republic | POL | Poland |
| DEU | Germany | PRK | North Korea |
| DNK | Denmark | PRT | Portugal |
| ECU | Ecuador | PRY | Paraguay |
| EGY | Egypt | ROM | Romania |
| ESP | Spain | ROU | Romania |
| EUN | Euro Area | RUS | Russian Federation |
| FIN | Finland | SCG | Serbia & Montenegro |
| FRA | France | SGP | Singapur |
| GBR | United Kingdom | SRB | Serbia |
| GRC | Greece | SVK | Slovak Republic |
| HKG | China, P.R.: Hong Kon | SVN | Slovenia |
| HTI | Haiti | SWE | Sweden |
| HUN | Hungary | THA | Thailand |
| IDN | Indonesia | TUR | Turkey |
| IND | India | TWN | Taiwan |
| ISR | Israel | UKR | Ukraine |
| ITA | Italy | URY | Uruguay |
| JPN | Japan | USA | United States |
| KAZ | Kazakhstan | VEN | Venezuela, Rep Bol |
| KHM | Cambodia | VNM | Vietnam |
| KOR | Korea, Republic of | YUG | Yugoslavia |
| | | ZAF | South Africa |