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Tariff Pass-through of the World-wide Trade: Empirical Evidence at Tariff-line Level

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Abstract*: This paper provides the first empirical evidence about the tariff pass-through in world-wide trade. Specifically, we estimate the effects of tariff reduction on import prices for our tariff line-level data in 46 importing countries in 2007-2011. The estimation results show that the average pass-through rate for tariff reduction by regional trade agreements (RTAs) is higher than that for reduction by the most favoured nation rates. Namely, most of the tariff rent goes to the importer in the case of multilateral trade liberalization and to the exporter in the case of trade liberalization by RTAs. We also find that product differentiation has an impact of a substantial magnitude on the tariff pass-through for RTAs. The difference in income level of country pairs affects much the tariff pass-through for RTAs. Bargaining over prices between the importer and exporter might explain these results because the use of RTAs requires exporters to incur some costs for certifying the products' origin.*

Keywords: Tariff pass-through; RTAs; Import prices; Tariff-line level
JEL Classification: F15; F53

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1. Introduction

The impact of tariff reduction or elimination on trading prices has long been studied by international economic literature. Such impact is called "tariff pass-through", or in plain words, "who captures the tariff rent". When negotiating trade liberalization, the exporting countries expect not only to increase the export volume but also achieve higher sales prices. The underlying idea of the tariff pass-through comes from the "terms of trade" argument, which has been argued since the early 20th century in trade literature, either in large country models (Taussig, 1927) or in imperfect competition models (Brander and Spencer, 1984). A relatively large importer country vis-à-vis its partner country (exporter) can raise its welfare level by setting a positive tariff because the importer country generally has a relatively elastic demand while the exporter country's supply curve is relatively inelastic. When the large country imposes a 10 percent tariff, the small country reduces its before-tariff (tariff-exclusive) export price or "absorbs" some part of the tariff in order to maintain demand by the importer country. In particular, tariffs that maximize the importer country's welfare are called an "optimal tariff".

The degree of tariff pass-through might be different between multilateral trade liberalization and unilateral/regional trade liberalization. Despite the terms of trade or optimal tariff argument in the 1950s-60s, the global economy is now heading for free trade through multilateral agreements in the General Agreement on Tariffs and Trade (GATT) and the World Trade Organization (WTO) and also through regional trade agreements (RTAs). Given this general trend of tariff reduction or elimination, the trade economists' attention has turned to the tariff pass-through in terms of tariff rent gain between the exporter and importer. When importing under preference schemes, i.e., unilateral/regional trade agreement schemes, the exporter needs to comply with the rules of origin (RoO). Compliance with the RoO requires the exporter to incur costs for preparing several kinds of documents including a list of inputs, production flow chart, production instructions, invoices for each input, contract documents, and so on. The exporter bears some costs for exporting under FTA schemes. To compensate such costs, the importer may allow the exporter to raise the export price. As a result, the exporter may obtain a higher share of the tariff rent.

There have been important contributions by the empirical studies. An early pioneering empirical work on the issue is Feenstra (1989), which posits a hypothesis on the symmetric of pass-through in multilateral trade liberation and exchange rates in the long-run. Cadot *et al*. (2005) analyse the tariff pass-through effects of the North American Free Trade Agreement (NAFTA) for U.S. textile exports to Mexico and Mexican apparel exports to the U.S. Tariff pass-through in unilateral trade liberalization was studied by Olarreaga and Ozden (2005), Ozden and Sharma (2006), and Cirera (2014) among others. These studies examine the tariff pass-through in the African Growth and Opportunity Act (AGOA) by the U.S., the Caribbean Basin Initiative (CBI) by the U.S., and the generalized scheme of preferences by the European Union, respectively. These studies have consistently found an incomplete tariff pass-through in multilateral, unilateral, or regional trade liberalization.

Although these existing studies focus only on a particular country, a particular product such as textiles and apparel, and particular programs such as AGOA or CBI, the effect of tariff reduction by RTAs differs by country pairs and products. As mentioned above, RoO compliance costs borne by exporters create room for price bargaining between the importer and exporter. The exporters do have the larger bargaining power when exporting differentiated products. The same is true when high income countries export to lower income countries. As a result, the degree of tariff pass-through differs according to these elements. Thus, in order to obtain the estimates of tariff pass-through in general, it is important to examine tariff pass-through for more countries and products.

This paper attempts to obtain the first evidence on the average tariff pass-through for global trade. Our identification strategy on tariff pass-through in RTAs is different from that in some previous studies. While the previous studies compare the difference between import prices under RTA schemes and those under most favored nation (MFN) schemes for the same product, we compare the difference in tariff pass-through between products eligible and ineligible for RTAs. Due to the existence of RoO compliance costs, some imports are still conducted under MFN schemes even if such imported products are eligible for RTA schemes.[1] Therefore, the tariff pass-through

[1] Indeed, the share of imports under RTA schemes is less than one hundred percent in almost all cases. For example, see Keck and Lendle (2012).

for products eligible for RTAs is not exactly consistent with the tariff pass-through based on the use of RTA schemes. Nevertheless, contrary to the previous studies, we can include multiple import countries because we do not use the trade data according to the tariff schemes, which is difficult to collect for multiple countries since that data is less likely to be publicly disclosed. Specifically, we employ tariff line-level data on import prices and tariffs, which enables us to exactly identify RTA eligibility at the tariff line-level. The data set includes the tariff line-level import prices between 46 import countries and 174 export countries from 2007 to 2011. With this dataset, we estimate the tariff pass-through for MFN rates and RTA preferential rates and examine how this differs according to product characteristics and countries.

The rest of this paper is organized as follows. The next section introduces our detailed trade data and the estimation specification. Section 3 presents the estimation results. Section 4 concludes.

2. Data and Methodology

This section explains our dataset for the import data at each country's tariff-line level and the tariff data. Then, we specify the equations used for the estimation. Some countries, especially the developed countries, make their tariff-line level trade data readily available mostly on the respective government's web-site. But many countries do not. We have drawn tariff-line level import data of 46 countries from the database of the WTA (World Trade Atlas). The 46 importing countries were chosen according to data accessibility. As explained below, we also matched the tariff data with this import data. Thus, we dropped the analysis for those countries for which tariff data was not available. Although the import data covers all the partner (i.e., exporter) countries, we dropped the exporter countries for which other variables used in our estimation work were not available. As a result, 174 exporting countries remained for analysis. For the sake of maintaining HS code system consistency over the sample years to construct a panel data set, the period 2007-2011 (i.e., HS2007) was taken as the sample. Furthermore, if a country switched the HS code version in its records in the middle of the sample period, we dropped any inconsistent import country-year

pairs.[2] Therefore the number of sample years differs across importing countries (see the Appendix).

We combined the tariff data with the above-mentioned import data at the tariff-line level. The detailed tariff data is from the database by World Integrated Trade Solution (WITS). This database provides information on various kinds of tariff schemes, such as MFN, RTA, or the generalized system of preferences (GSP). In this paper, we only used the tariff rates for RTA and MFN. In fact, it is technically difficult to identify products eligible for GSP since such products differ according to the beneficiaries (i.e., product graduation). We integrated preferential rates only for RTAs that are included in the Regional Trade Agreements Information System (RTA-IS) in the website of the WTO. When combining the data on trade and tariffs, we aggregated the number of digits in the tariff data if the tariff data has a higher number of digits than the trade data. The lowest tariff rates within the category in this aggregation were taken.

Using the tariff-line level trade data, we estimated the following equations. Similar to the previous literature, especially Ozden and Sharma (2005), our first estimation equation at the tariff-line level is given by;

$$\begin{aligned}\ln Price_{ijpt} = {} & \beta_1 \ln\left(1 + MFN_{ijpt}\right) + \beta_2 \ln ExGDPcapita_{jt} + \beta_3 \ln ImGDP_{it} \\ & + \beta_4 \ln Exchange_{ijt} + u_{ijp} + u_t \\ & + \epsilon_{ijpt}. \end{aligned} \quad (1)$$

$Price_{ijpt}$ represents before-tariff (tariff exclusive) import price of country i from country j in tariff-line product p in year t. It is computed by dividing imports by import quantities. MFN_{ipt} is MFN rates of country i for tariff-line product p imported from country j in year t. $ExGDPcapita_{jt}$ is exporter j's (real) GDP per capita in year t. GDP per capita is used for a proxy of wages, i.e., production factor prices of the exporter country j. $ImGDP_{it}$ is importer i's (real) GDP in year t, which is expected to control the demand size in import country i. $Exchange_{ijt}$ is (real) the exchange rate of exporter j's currency against importer i's currency in year t. u_{ijp} and u_t are country pair-product

[2] The Philippines and Venezuela report both import and tariff data in the version of HS2002 during 2007-2011. Since we can still construct the panel data in such cases, we keep the Philippines and Venezuela in our samples.

fixed effects and annual fixed effects, respectively. ε is the disturbance term.

There are several noteworthy points. Firstly, the coefficient for the MFN rates indicates the degree of tariff pass-through in multilateral trade liberalization. Also, exchange rate pass-through is related to the coefficient for exchange rates. Secondly, in order to control the demand size at a more detailed level, we also included the total import value of the importer country *i* of product *p* in year *t* (Total Import) instead of the importer's GDP. Thirdly, since the commodity code at a tariff-line level is different across import countries, it is technically impossible to include the tariff-line product fixed effects, i.e., u_p. In order to control the product fixed effects, it is necessary at least to introduce tariff-line product-importer fixed effects, i.e., u_{ip}. Instead of that, we introduced finer fixed effects, i.e., country pair-product fixed effects. Fourthly, we dropped import transactions that existed for only one year since we are looking at the price changes over time.[3] Lastly, we employed the data on import quantities evaluated with the same unit during our sample period.[4]

Next, we take the RTA preferential rates into account for the tariff pass-through. To do that, we first introduce the lower tariff rate between the MFN and preferential tariff rate (i.e., the *applied* tariff rates), denoted as $Tariff_{ijpt}$ in the equation below (2), instead of the MFN rate. The above equation is modified as follows.

$$\begin{aligned}\ln Price_{ijpt} = {} & \beta_1 \ln\left(1 + Tariff_{ijpt}\right) + \beta_2 \ln ExGDPcapita_{jt} + \beta_3 \ln ImGDP_{it} \\ & + \beta_4 \ln Exchange_{ijt} + u_{ijp} + u_t \\ & + \epsilon_{ijpt}. \end{aligned} \quad (2)$$

As a result, the coefficient for Tariff indicates the pass-through of the applied tariff rates.

Secondly, in order to explicitly examine the difference in tariff pass-through

[3] As a result, around two million observations are dropped.

[4] Another issue may be the sample selection. Namely, since we can observe the data on import prices only when the concerned products are imported, our estimates may suffer from sample selection bias. Use of the Heckman two-step estimation technique is one candidate to address this issue. However, our dataset is global tariff line-level data and thus potentially includes approximately 360 million observations. The estimation of non-linear models including the Heckman model with a larger number of dummy variables for such a number of observations is beyond the capacity of our computers.

between the MFN and RTA rates, we generated a variable *Eligible*, which takes the value of one if the RTA rates are lower than the MFN rates, and zero otherwise. We added the interaction term of *Tariff* with *Eligible* to equation (2).

$$\begin{aligned}\ln Price_{ijpt} = {} & \beta_1 \ln\left(1 + Tariff_{ijpt}\right) + \beta_2 \ln\left(1 + Tariff_{ijpt}\right) \cdot Eligible_{ijpt} \\ & + \beta_3 \ln ExGDPcapita_{jt} + \beta_4 \ln ImGDP_{it} + \beta_5 \ln Exchange_{ijt} \\ & + u_{ijp} + u_t \\ & + \epsilon_{ijpt}. \end{aligned} \quad (3)$$

Coefficient β_1 indicates the pass-through for the MFN rates while the sum of that and coefficient β_2 shows the pass-through for the RTA preferential rates.[5] More specifically, it captures the effect of tariff reductions through the change from ineligible to eligible status or through the reduction of the RTA preferential rates (in addition, those through the change from eligible to ineligible status).

Thirdly, in order to shed more light on the magnitude of the preference margin (i.e., the difference between the RTA and MFN rates), we introduced this magnitude (*Margin*) to equation (1).

$$\begin{aligned}\ln Price_{ijpt} = {} & \beta_1 \ln\left(1 + MFN_{ijpt}\right) + \beta_2 Margin_{ijpt} + \beta_3 \ln ExGDPcapita_{jt} \\ & + \beta_4 \ln ImGDP_{it} + \beta_5 \ln Exchange_{ijt} + u_{ijp} + u_t \\ & + \epsilon_{ijpt}. \end{aligned} \quad (4)$$

In this variable, the value of one indicates the preference margin of one hundred percent. Again, coefficient β_1 indicates the pass-through for the MFN rates. On the other hand, coefficient β_2 divided by 100 shows by how many percentage point the import prices change when the preference margin rises by one percent. Such a rise is caused by the change from ineligible to eligible status or by the reduction of RTA preferential rates.[6]

[5] As mentioned in the introductory section, all exporters do not necessarily use RTA preferential schemes even when exporting eligible products to RTA partner countries. Thus, precisely, the sum of two coefficients includes changes in the import prices of products eligible for RTA but imported under MFN schemes.

[6] Of course, the margin may be also lowered through the change from eligible to ineligible status

The data sources are as follows. As mentioned in the previous section, those on imports and import quantities are from the database of the WTA, and we obtained the information on RTA preferential rates and Eligible dummy variables from the databases of WITS and RTA-IS. The data on MFN rates was also from the database of WITS. The data on GDP, GDP deflator, GDP per capita, and the bilateral exchange rates was taken from the World Development Indicator. The GDP deflator is used for deflating GDP and exchange rates.

3. Estimation Results

This section reports the estimation results of the above equations. The basic statistics for these analyses are provided in Table 1. In our 16,555,308 observations of country pair-product imports in the period 2007-2011, the mean of ln (1+MFN) is 0.059, namely, the simple average of MFN tariffs is 6.08 percent (exp(0.059) - 1), although the standard deviation is large (0.080). The mean of the preference margin, i.e., Margin, is 0.028 (2.8 percent), and its standard deviation is 0.098.

Table 1: Basic Statistics

	Obs	Mean	Std. Dev.	Min	Max
ln Prices	16,555,308	5.917	3.701	-12.9906	23.2276
ln (1+MFN)	16,555,308	0.059	0.080	0	4.6030
ln (1+Tariff)	16,555,308	0.033	0.065	0	4.6030
* Eligible	16,555,308	0.001	0.014	0	3.2256
* Eligible * Differentiated	16,555,308	0.001	0.011	0	1.2413
* Eligible * High Exporter-High Importer	16,555,308	0.0001	0.006	0	3.2256
* Eligible * High Exporter-Low Importer	16,555,308	0.0006	0.009	0	0.8671
* Eligible * Low Exporter- High Importer	16,555,308	0.0001	0.004	0	3.2256
Margin	16,555,308	0.028	0.098	0	98.7868
ln Ex GDP per capita	16,555,308	13.319	1.201	8.1186	15.1284
ln Im GDP	16,555,308	30.649	1.390	27.2501	33.8467
ln Total Imports	16,555,308	15.847	2.300	-2.8134	26.0258
ln Exchange	16,555,308	0.043	3.029	-10.4934	23.2376

Source: Authors' computation.

or the reduction of MFN rates.

Table 2 shows our benchmark results. Those for equations (1) and (2) are provided in columns (I)-(III) and columns (IV)-(VI), respectively. In columns (III) and (VI), we include the total imports instead of the importers' GDP. The variables of our interest in this estimation, the MFN rates and applied rates, show negative coefficient estimates. Namely, the reduction of the MFN/applied tariff rates significantly raises the before-tariff import price. The larger coefficient in the applied tariff rates, in terms of absolute magnitude, implies that such negative effects are larger in the case of the applied rates. Specifically, a 10 percent-reduction of (one plus) applied tariff rate raises import prices by 2-3 percent.

All the other covariates show coefficient estimates with the expected signs and with high statistical significance. The coefficients for an exporter's GDP per capita are positively significant, indicating that the rise of factor prices raises import prices. As implied in the coefficients for an importer's GDP and total imports, the larger sizes of demand also lead to higher import prices. The coefficients for exchange rates are estimated to be negatively significant, indicating that a 10 percent depreciation of an exporter's currency against an importer's currency lowers import prices (evaluated in US dollars) by 0.05-0.11 percent. This magnitude looks very small. From the quantitative viewpoint, the changes of an exporter's currency against the importer's currency do not have much effect on US dollar-denominated import prices.

Next, the estimation results for equation (3) are reported in columns (I)-(III) in Table 3. The coefficients for both the applied tariff rates and their interaction with Eligible are estimated as negatively significant. The latter result indicates that tariff reduction by RTAs increases the before-tariff import price more than the reduction of the MFN rates. Specifically, while a one percent reduction of (one plus) the MFN rates raises import prices by 0.282 percent, the rise of import prices through a one percent (one plus) tariff reduction by RTAs is 0.727 percent (= 0.282 + 0.445). Thus, multilateral trade liberalization and trade liberalization by RTAs have roughly 28 percent and 73 percent of tariff pass-through, respectively. In other words, most of the tariff rents go to importers in the case of multilateral trade liberalization and to the exporters in the case of trade liberalization by RTAs. This result is consistent with the RoO compliance cost argument, which is mentioned in the introductory section.

Table 2: Baseline Results

	(I)	(II)	(III)	(IV)	(V)	(VI)
ln (1+MFN)	-0.066***	-0.035***	-0.042***			
	[0.011]	[0.011]	[0.011]			
ln (1+Tariff)				-0.326***	-0.208***	-0.249***
				[0.016]	[0.015]	[0.016]
ln Ex GDP per capita		0.216***	0.228***		0.215***	0.227***
		[0.003]	[0.003]		[0.003]	[0.003]
ln Im GDP		0.162***			0.160***	
		[0.003]			[0.003]	
ln Total Imports			0.035***			0.034***
			[0.001]			[0.001]
ln Exchange		-0.011***	-0.005***		-0.011***	-0.005***
		[0.001]	[0.001]		[0.001]	[0.001]
Number of observations	16,555,308	16,555,308	16,555,308	16,555,308	16,555,308	16,555,308
Adj. R-squared	0.9531	0.9531	0.9532	0.9531	0.9532	0.9532

Notes: The dependent variable is a log of import prices.***, **, and * indicate 1%, 5%, and 10% significance, respectively. In the parenthesis is the robust standard error. In all specifications, we include country pair-tariff line and year dummy variables.

Table 3: MFN Rates versus RTA Preferential Rates

	(I)	(II)	(III)	(IV)	(V)	(VI)
ln (1+Tariff)	-0.282***	-0.174***	-0.210***			
	[0.016]	[0.016]	[0.016]			
* Eligible	-0.445***	-0.346***	-0.386***			
	[0.051]	[0.046]	[0.048]			
ln (1+MFN)				-0.097***	-0.057***	-0.067***
				[0.014]	[0.013]	[0.013]
Margin				0.029***	0.019***	0.023***
				[0.009]	[0.006]	[0.007]
ln Ex GDP per capita		0.215***	0.226***		0.216***	0.228***
		[0.003]	[0.003]		[0.003]	[0.003]
ln Im GDP		0.160***			0.162***	
		[0.003]			[0.003]	
ln Total Imports			0.034***			0.035***
			[0.001]			[0.001]
ln Exchange		-0.011***	-0.005***		-0.011***	-0.005***
		[0.001]	[0.001]		[0.001]	[0.001]
Number of observations	16,555,308	16,555,308	16,555,308	16,555,308	16,555,308	16,555,308
Adj. R-squared	0.9531	0.9532	0.9532	0.9531	0.9531	0.9532

Notes: The dependent variable is a log of import prices.***, **, and * indicate 1%, 5%, and 10% significance, respectively. In the parenthesis is the robust standard error. In all specifications, we include country pair-tariff line and year dummy variables.

The estimation results for equation (4) are shown in columns (IV)-(VI) in Table 3. The coefficients for the MFN rates are negatively significant, indicating that a reduction in (one plus) MFN rates by one percent raises import prices by 0.06-0.10 percent. The significantly positive coefficient for Margin indicates that the larger preference margin leads to higher import prices. However, its magnitude looks too small. Remember that the rise of this variable by one indicates a preference margin by 100 percent point. Therefore, our estimates show that the rise of preference margin by 100 percent point raises import prices by 0.02-0.03 percent. These small estimates may indicate that the relationship between (a log of) import prices and preference margin is not simple linear.[7]

Lastly, we estimated two additional models to make use of our data coverage in terms of countries and products. We interacted some variables with the cross-term between the applied tariffs and Eligible dummy in equation (3). Firstly, in order to investigate the difference in the impact of tariff reduction by RTAs between differentiated and non-differentiated products, we interacted an indicator variable for differentiated products. The indicator variable, named "Differentiated", takes the value of one for differentiated products in the "liberal" classification of products by Rauch (1999). The results are shown in columns (I)-(III) in Table 4. The interaction term of the applied tariffs with Eligible dummy has negative coefficients at a 10 percent significance level in columns (II) and (III). Its interaction with Differentiated has significantly negative coefficients, which indicate that the impact of tariff reduction by RTAs is larger when trading differentiated products. As mentioned in the introductory section, this larger effect in differentiated products implies a greater bargaining power for the exporters of differentiated products.

[7] Indeed, if we include the square and cube terms of the preference margin, their coefficients are significantly estimated. The results are available upon request.

Table 4: Differentiated Products and Income Level

	(I)	(II)	(III)	(IV)	(V)	(VI)
ln (1+Tariff)	-0.285***	-0.177***	-0.213***	-0.281***	-0.174***	-0.210***
	[0.016]	[0.016]	[0.016]	[0.016]	[0.016]	[0.016]
* Eligible	-0.102	-0.096*	-0.098*	-0.573***	-0.381***	-0.437***
	[0.065]	[0.057]	[0.059]	[0.063]	[0.063]	[0.063]
* Eligible * Differentiated	-0.587***	-0.428***	-0.494***			
	[0.087]	[0.081]	[0.083]			
* Eligible * High Exporter-High Importer				0.717***	0.445***	0.519***
				[0.094]	[0.090]	[0.092]
* Eligible * High Exporter-Low Importer				-0.478***	-0.499***	-0.539***
				[0.120]	[0.119]	[0.119]
* Eligible * Low Exporter- High Importer				0.839***	0.534***	0.629***
				[0.081]	[0.080]	[0.080]
ln Ex GDP per capita		0.215***	0.226***		0.214***	0.226***
		[0.003]	[0.003]		[0.003]	[0.003]
ln Im GDP		0.159***			0.159***	
		[0.003]			[0.003]	
ln Total Imports			0.034***			0.034***
			[0.001]			[0.001]
ln Exchange		-0.011***	-0.005***		-0.011***	-0.005***
		[0.001]	[0.001]		[0.001]	[0.001]
Number of observations	16,555,308	16,555,308	16,555,308	16,555,308	16,555,308	16,555,308
Adj. R-squared	0.9531	0.9532	0.9532	0.9531	0.9532	0.9532

Notes: The dependent variable is a log of import prices. ***, **, and * indicate 1%, 5%, and 10% significance, respectively. In the parenthesis is the robust standard error. In all specifications, we include country pair-tariff line and year dummy variables.

Secondly, in order to examine the difference in the effect of tariff reduction by RTAs according to income levels of exporter and importer, we interact pair dummies of the combinations of high/low income exporter/importer. We divide our sample countries into high and low-income countries following the World Bank classification of income as of 2010.[8] The results are reported in columns (IV)-(VI) and show that for the pairs of high income export country – low income import country, the tariff reduction is fully passed on to the exporter country (−0.210−0.437−0.539), while there is no pass through for the case of the low income exporter country – high income importer country pairs (−0.210−0.437+0.629). As mentioned in the introductory section, these results reflect the balance of bargaining power between exporters and importers. Namely, high income exporters obtain a higher share of tariff rents while low income exporters do not.

4. Concluding Remarks

This paper provides the first empirical evidence on tariff pass-through for global trade. To achieve this aim, we collected trade data and tariff data at tariff-line levels for 46 importing countries. The estimation results show that the tariff reduction through RTAs induces a higher tariff pass-through in the sense of a higher price for exporters than through the MFN tariff reduction. Specifically, it found that the average pass-through rate is 0.727 for RTAs and 0.282 for MFN rates. We also found that product differentiation has an impact of a substantial magnitude on the tariff pass-through for RTAs and the difference in income level of country pairs significantly affects the tariff pass-through for RTAs. These differences according to the product characteristics and countries explain

[8] The following countries are classified as high income countries: ABW, ADO, ANT, ARE, AUS, AUT, BEL, BHR, BHS, BMU, BRB, BRN, CAN, CHE, CHI, CYM, CYP, CZE, DEU, DNK, ESP, EST, FIN, FRA, FRO, GBR, GIB, GNQ, GRC, GRL, GUM, HKG, HRV, HUN, IMY, IRL, ISL, ISR, ITA, JPN, KOR, KWT, LIE, LUX, LVA, MAC, MCO, MLT, MNP, NCL, NLD, NOR, NZL, OMN, POL, PRI, PRT, PYF, QAT, SAU, SGP, SMR, SVK, SVN, SWE, TCA, TTO, USA, VIR.

the difference in the estimates for tariff pass-through in the previous studies.

References

Brander, J.A. and B.J. Spencer (1984), 'Trade Warfare: Tariffs and Cartels', *Journal of International Economics*, 16(3-4), pp.227-242.

Cadot, O., C. Carrere, J. de Melo, A. Portugal-Perez (2005), 'Market Access and Welfare under Free Trade Agreements: Textiles under NAFTA', *World Bank Economic Review*, 19(3), pp.379-405.

Chang, W. and L. Winters (2002), 'How Regional Blocs Affect Excluded Countries: The Price Effects of MERCOSUR', *American Economic Review*, 92(4), pp.889-904.

Cirera, X. (2014), 'Who Captures the Price Rent? The Impact of European Union Trade Preferences on Export Prices', *Review of World Economics*, 150(3), pp.507-527.

Feenstra, R. (1989), 'Symmetric Pass-through of Tariffs and Exchange Rates under Imperfect Competition: An Empirical Test', *Journal of International Economics*, 27(1-2), pp.25-45.

Keck, A. and A. Lendle (2012), 'New Evidence on Preference Utilization', World Trade Organization, Staff Working Paper ERSD-2012-12.

Olarreaga, M. and C. Ozden (2005), 'AGOA and Apparel: Who Captures the Tariff Rent in the Presence of Preferential Market Access?', *The World Economy*, 28(1), pp.63-77.

Ozden, C. and G. Sharma (2006), 'Price Effects of Preferential Market Access: Caribbean Basin Initiative and the Apparel Sector', *World Bank Economic Review*, 20(2), pp.241-259.

Rauch, J.E. (1999), 'Networks Versus Markets in International Trade', *Journal of International Economics*, 48(1), pp.7-35.

Taussing, F. (1927), *International Trade*, New York: Macmillan.

Appendix. Sample Countries

A1. Importers

	Tariff-line Digit	Sample Years	Tariff-line Number
Argentina	8	2007 - 2011	Approximately 11,000
Australia	8	2007 - 2011	Approximately 6,000
Austria	8	2007 - 2011	Approximately 10,000
Belgium	8	2007 - 2011	Approximately 10,000
Brazil	8	2007 - 2011	Approximately 10,000
Canada	8	2007 - 2010	Approximately 8,000
Chile	8	2007 - 2011	Approximately 9,000
China	8	2007 - 2011	Approximately 8,000
Colombia	10	2007 - 2011	Approximately 8,000
Costa Rica	10	2008 - 2010	Approximately 10,000
Czech Republic	8	2007 - 2011	Approximately 10,000
Denmark	8	2007 - 2011	Approximately 10,000
Finland	8	2007 - 2011	Approximately 10,000
France	8	2007 - 2011	Approximately 10,000
Germany	8	2007 - 2011	Approximately 10,000
Greece	8	2007 - 2011	Approximately 10,000
Hong Kong	8	2007 - 2011	Approximately 7,000
Hungary	8	2007 - 2011	Approximately 10,000
Indonesia	8	2007 - 2011	Approximately 8,000
Ireland	8	2007 - 2011	Approximately 10,000
Italy	8	2007 - 2011	Approximately 10,000
Japan	9	2007 - 2011	Approximately 9,000
Lithuania	8	2007 - 2011	Approximately 10,000
Luxembourg	8	2007 - 2011	Approximately 10,000
Mexico	8	2008 - 2010	Approximately 12,000
Netherlands	8	2007 - 2011	Approximately 10,000
New Zealand	8	2007 - 2010	Approximately 7,000
Norway	8	2007 - 2011	Approximately 7,000
Panama	8	2007 - 2008	Approximately 9,000
Peru	10	2007 - 2011	Approximately 8,000
Philippines	8	2007 - 2010	Approximately 12,000
Poland	8	2007 - 2011	Approximately 10,000
Portugal	8	2007 - 2011	Approximately 10,000
Romania	8	2007 - 2011	Approximately 10,000
Russian Federation	8	2007 - 2011	Approximately 10,000
Singapore	8	2007 - 2010	Approximately 12,000
Slovakia	8	2007 - 2011	Approximately 10,000
Slovenia	8	2007 - 2011	Approximately 10,000
South Africa	8	2007 - 2011	Approximately 7,000
Spain	8	2007 - 2011	Approximately 10,000
Sweden	8	2007 - 2011	Approximately 10,000
Thailand	8	2007 - 2011	Approximately 8,000
Turkey	8	2007 - 2011	Approximately 10,000
United Kingdom	8	2007 - 2011	Approximately 10,000
USA	8	2007 - 2011	Approximately 10,000
Venezuela	10	2007 - 2011	Approximately 7,000

A2. Exporters (174)

Afghanistan; Albania; Algeria; Angola; Antigua and Barbuda; Argentina; Armenia; Aruba; Australia; Austria; Azerbaijan; Bahamas; Bahrain; Bangladesh; Barbados; Belarus; Belgium; Belize; Benin; Bermuda; Bhutan; Bolivia; Bosnia and Herzegovina; Botswana; Brazil; Brunei Darussalam; Bulgaria; Burkina Faso; Burundi; Cambodia; Cameroon; Canada; Central African Republic; Chad; Chile; China; Colombia; Comoros; Congo; Congo (Democratic Republic of the); Costa Rica; Croatia; Cuba; Cyprus; Czech Republic; Cote d'Ivoire; Denmark; Djibouti; Dominica; Dominican Republic; East Timor; Ecuador; Egypt; El Salvador; Eritrea; Estonia; Ethiopia; Fiji; Finland; France; Gabon; Gambia; Georgia; Germany; Ghana; Greece; Greenland; Guatemala; Guinea; Guinea-Bissau; Guyana; Haiti; Honduras; Hong Kong; Hungary; Iceland; India; Indonesia; Iran; Iraq; Ireland; Israel; Italy; Jamaica; Japan; Jordan; Kazakhstan; Kenya; Kiribati; Korea; Kuwait; Kyrgyzstan; Lao People's Democratic Republic; Latvia; Lebanon; Lesotho; Liberia; Libyan Arab Jamahiriya; Lithuania; Luxembourg; Macau; Macedonia (the former Yugoslav Rep. of); Madagascar; Malawi; Malaysia; Maldives; Mali; Malta; Mauritania; Mauritius; Mexico; Moldova, Rep. of; Mongolia; Morocco; Mozambique; Namibia; Nepal; Netherlands; New Zealand; Nicaragua; Niger; Nigeria; Norway; Oman; Pakistan; Panama; Papua New Guinea; Paraguay; Peru; Philippines; Poland; Portugal; Qatar; Romania; Russian Federation; Rwanda; Sao Tome and Principe; Saudi Arabia; Senegal; Singapore; Slovakia; Slovenia; South Africa; Spain; Sri Lanka; Sudan; Suriname; Swaziland; Sweden; Switzerland; Syrian Arab Republic; Taiwan; Tajikistan; Tanzania, United Rep. of; Thailand; Togo; Tonga; Trinidad and Tobago; Tunisia; Turkey; Turkmenistan; Tuvalu; Uganda; Ukraine; United Arab Emirates; United Kingdom; USA; Uruguay; Vanuatu; Venezuela; Viet Nam; Yemen; Zambia; Zimbabwe.

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