WPS8446

Policy Research Working Paper 8446

How Preferential Is Preferential Trade?

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WORLD BANK GROUP
Development Economics
Development Research Group
&
Macroeconomics, Trade and Investment Global Practice
May 2018

Abstract

World trade is increasingly ruled by preferential trade agreements (PTAs), but their precise nature remains relatively opaque. This paper assesses a central dimension of these agreements, the significance of tariff preferences, using a new data set on preferential and non-preferential or Most Favored Nation (MFN) applied tariffs, constructed by the International Trade Center and the World Bank. The data set covers 5,203 products, 199 reporters, and 239 partners, representing approximately 97 percent of world imports in 2016. There are three main findings. First, PTAs have significantly widened the scope of tariff-free trade. Whereas 42 percent of the total value of trade traded free under MFN rates in 2016, PTAs have fully liberalized an additional 28 percent of global trade. Second, the extent of preferential liberalization varies significantly across countries and sectors. Around 70 percent of countries have reduced trade-weighted average preferential tariffs to less than 5 percent, but PTAs have not been able to eliminate the high levels of protection in some low-income countries and in agricultural products, textiles, and footwear. Third, while the average preferential margin for trade covered by PTAs is low because one-fifth of world trade under preferential agreements is already duty free, more than a quarter of world trade is subject to an average preference margin of 7.4 percent. Considering competition from preferential and non-preferential sources, however, only 5.2 percent of global exports benefited from a preferential advantage of over 5 percent and only 3.3 percent of global exports suffered from a preferential disadvantage higher than 5 percent. Furthermore, data for a subsample of importers reveal that not all eligible imports take advantage of preferences, because of impediments such as restrictive rules of origin, and therefore actual preference margins are generally lower than potential margins.

This paper is a product of the Development Research Group, Development Economics; and the Macroeconomics, Trade and Investment Global Practice. It is part of a larger effort by the World Bank to provide open access to its research and make a contribution to development policy discussions around the world. Policy Research Working Papers are also posted on the Web at http://www.worldbank.org/research. The authors may be contacted at aespitiarueda@worldbank.org, amattoo@worldbank.org, mimouni@intracen.org, pichot@intracen.org, and nrocha@worldbank.org.

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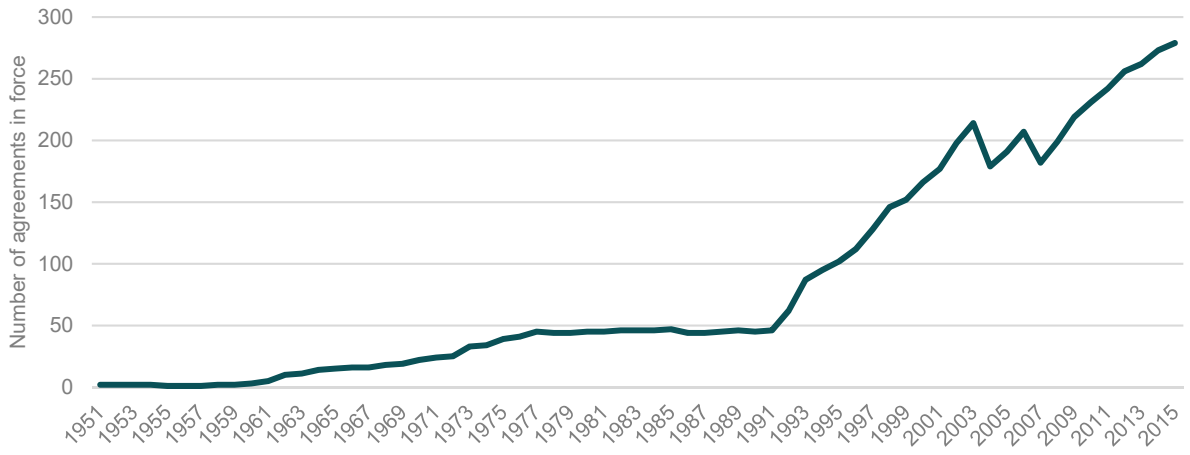
Keywords: regionalism, trade agreements, tariffs, MFN
JEL codes: F13, F14, F15

*World Bank and **International Trade Centre. We have benefited from the helpful comments of Nuno Limao, Ileana Cristina Neagu, Alejandro Forero Rojas, Michele Ruta and participants in the workshop on Deep Trade Agreements at the World Bank. We are also grateful for financial support from the World Bank's Multi-Donor Trust Fund for Trade and Development and Strategic Research Program. The findings in this paper do not necessarily represent the views of the World Bank's Board of Executive Directors or the governments they represent. Any errors or omissions are the authors' responsibility.

1. Introduction

Countries around the world have increased their participation in preferential trade agreements (PTAs) especially in the last two decades**.** From the 1950s onwards, the number of active PTAs increased steadily to almost 50 in 1990. Thereafter, PTA activity accelerated noticeably, with the number of PTAs more than doubling over the next five years and more than quadrupling by 2010, to reach close to 280 PTAs presently in force (see Figure 1).

Figure 1: Trade agreements have proliferated over time



Source: Authors' calculations using World Bank PTA data set (2016)

The existing literature suggests at least two reasons for the significant increase in the number of PTAs. First, the lack of progress in trade negotiations at the multilateral level has improved countries' incentives to engage in bilateral or regional preferential negotiations.[1] Second, the fear of market share loss by being excluded from existing PTAs has pushed more countries to sign PTAs - a "domino effect" of PTAs.[2]

The extent of preferential trade across countries has been previously estimated. However, the analysis is usually limited to a subsample of countries, due to the limited availability of data on preferential tariffs. Grether and Olarreaga (1998) estimated the share of preferential trade flows for a sample of 53 countries, representing around 85 percent of world trade for respectively 1990 and 1995. They estimated that the share of preferential trade was around 40 percent in 1995. Fugazza and Nicita (2010) calculated a bilateral index of preferential access, using a data set based on HS6-digit tariff lines and trade data ranging from 2000 to 2007 and covering 85 countries; they also tested the impact of preferences on bilateral trade. Figures included in their paper suggest that 40 percent of world trade was at zero MFN rates and 30 percent duty-free

[1] Capling and Low (2010) and Bhagwati (2008).
[2] Baldwin and Jaimovich (2010).

under preferences. Carpenter and Lendle (2011) used detailed information on tariffs and imports at the HS6-digit tariff line level for the 20 largest importers to estimate how much of world trade was preferential. They found that only 16 percent of world trade was eligible for preferences and that preferential margins are often small.

The findings of this paper are in line with the literature assessing the extent of preferential liberalization but add to it in scope and substance. We investigate the significance of tariff preferences using a new data set on preferential tariffs at the HS6-digit product level, imposed by 197 importers on 239 partners and representing approximately 97 percent of world imports in 2016. Two main questions are addressed in the analysis: (i) What tariff structure has emerged from unilateral and multilateral non-preferential liberalization? (ii) How have preferential tariffs changed the trade regime?

We find – in line with Fugazza and Nicita (2010) – that whereas 42 percent of the total value of trade traded free under MFN rates in 2016, PTAs have fully liberalized an additional 28 percent of global trade. In fact, only 5 percent of global imports are subject to positive tariffs under PTAs. Our findings also suggest that the extent of preferential liberalization varies significantly across countries and sectors. In terms of preferential margins, we find that while the average preferential margin in PTAs is low, more than a quarter of world trade is subject to an average preference margin of 7.4 percent.

These results are based on potentially applied tariffs. In practice, preferential duties are not granted automatically to all eligible products. An assessment of the scope of preference utilization for the sub-sample of EU imports from its trading partners suggests that more than 80 percent of preferences granted by the EU were fully utilized in 2016 – which is consistent with the findings for Australia, Canada, EU and US in Keck and Lendle (2012). However, the rate of utilization of preferences varies across countries and products. Key factors explaining low utilization rates include rules of origin as well as the related administrative burden and lack of knowledge of import and export processes.

The paper is organized as follows. Section 2 introduces the new data set on tariffs and preference margins that has recently been constructed by the International Trade Center (ITC) and the World Bank. Section 3 describes the multilateral trade regime and the scope for further liberalization. Section 4 discusses how preferential tariffs have changed the trade regime. Section 5 concludes.

2. A new database on preference margins and preferential trade

This analysis is based on a new data set on tariffs and preference margins that has recently been constructed by the ITC and the World Bank. The data set includes information on most favored nation (MFN) and preferential tariffs imposed at the HS6 digit product level in 2016 and has been constructed by merging different sources of data. The ITC is the main source of information on ad valorem equivalents at the HS 6-digit level for both MFN applied tariffs and preferential tariffs

by country pair. Imports in 2016 come from UN Comtrade[3] and information on PTAs in force during the same year comes from the new World Bank data set on the of content PTAs (Hofmann et at, 2017).[4]

ITC database description

The ITC Market Access Map database includes customs duties at the national tariff line code (NTLC) for 201 reporters and faced by 239 partners under MFN, non-MFN and preferential regimes and tariff rate quotas. The database is continuously updated with tariff data that ITC collects directly from national authorities such as customs offices, ministries and other governmental institutions. When the national sources cannot provide ITC with the preferential rates under a preferential trade agreement that is known to be in force, then ITC obtains the missing information from the tariff phase-out schedules of the agreement to complement.

The ITC database contains pre-calculated ad valorem equivalents (AVE) for non-ad valorem duties and tariff rate quotas (TRQ) (Table 1).

Table 1: Non-ad-valorem tariffs and ad-valorem equivalent composition

NAV tariff category	Example	Final AVE composition
Specific tariff	$2 per kg	AVE of the specific tariff
Compound tariff	10% plus $2 per kg	Ad valorem component added to (or subtracted from) the AVE of the specific component
Mixed tariff	30% or € 2 per kg, whichever is highest	AVE of the specific component subject to the conditional choice expressed in the tariff
Tariff rate quota	5% for imports within quota and 20% for out of quota imports	AVE depends on the real volume of imports in the year of reference. The marginal level of protection of a TRQ consists of the average of the inside and outside tariff rates if the import volume is less than or equal to 80% of the contingent, or the outside tariff if beyond
Technical tariff	9% on dairy spreads with a fat content between 39% and 60%	Not calculated due to a lack of information on technical product specifications

Source: ITC Market Access Map methodology - User guide

AVEs express non-ad valorem tariffs in percentage terms as follows:

$$AVE = \left(\frac{SP}{UV} * XR\right) * 100$$

Where SP is the monetary value of duty per unit of imports; UV is the import unit value that is calculated as the ratio between the value of imports (V) and the quantity of imports (Q); XR is the currency exchange rate when appropriate. The accuracy of the AVEs depends on the UV estimates, which are sensitive to variations in the data. ITC's strategy to select the most accurate UV estimates is schematized in Appendix figure A1 and the entire calculation process is detailed in the World Tariff Profiles 2006.[5]

[3] TRAINS and COMTRADE information is taken from the World Integrated Solution (WITS).
[4] The data set is available at http://data.worldbank.org/data-catalog/deep-trade-agreements.
[5] See World Tariff Profiles 2006, pages 186 -197.

Notice that not all non-ad valorem tariffs can be converted into an ad valorem equivalent rate. This is the case for technical duties imposed on some products (see Table 2). Nonetheless, such duties represent only 1.7 percent of the country-pair-product observations in the database.

Table 2: Examples of technical duties

Importing country	National Product Code	Product description	Custom duty as reported
Yemen	22043000	Wine of fresh grapes, including fortified wines; grape must other than that of heading 20.09; other grape must.	**Prohibited**
Russian Federation	8703329093	Motor cars and other motor vehicles principally designed for the transport of persons (other than those of heading 8702), including station wagons and racing cars; Other vehicles, with compression-ignite.	**2.2 euro per cm^3 of engine volume**
New Zealand	95081000	Roundabouts, swings shooting galleries and other fairground amusements; travelling circuses and travelling menageries; travelling theatres	**The rates applicable to the separate components**
United States	91091010	Alarm clock movements, complete and assembled, electrically operated, with optoelectronic display only	**3.9% on the movement + 5.3% on the battery**

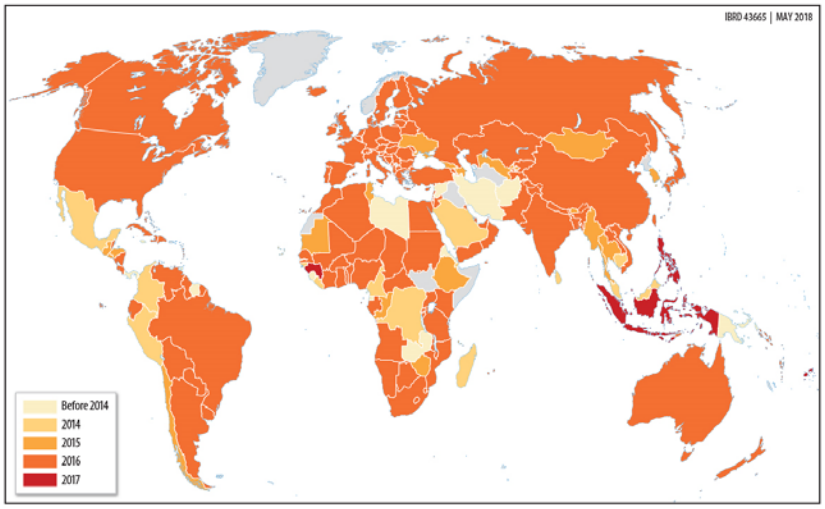
Source: ITC Market Access Map

To make the tariffs comparable across countries and sectors, AVEs are aggregated from the NTLC to HS6 by calculating the simple average of all underlying NTLC rates. If there is more than one preferential tariff under a given NTLC for a partner country, then the 'minimum' rate is selected. The most favored nation (MFN) tariff or the general tariff is used if no tariff preference is applicable.

The resulting aggregated database includes information on the ad valorem equivalent at the 6-digit HS product level for both the maximum applied rate (MFN rates) and preferential tariffs for a total 199 reporters and 239 partners. Among the 199 reporters, 141 countries have data for 2016, 7 for 2017, 20 for 2015 and 13 for 2014. For the remaining 18 countries, most recent information is available between 2006 and 2013 (see Figure 2).[6] In terms of products, information is reported on all 5,203 HS6 level products (HS 2012 nomenclature).

[6] Out of these 18 countries, only Panama and Trinidad and Tobago have signed agreements entering into force after the date for which tariff information is available (see Appendix Table A. 2).

Figure 2: Most recent tariff information, ITC data set



Source: Authors' calculation using ITC

By construction, MFN tariffs between members of a customs union are not available in the database.[7] This is the case for countries that are part of the European Union, SACU, Switzerland/Liechtenstein customs union, Israel/West Bank and Gaza customs union, and the Eurasian Economic Union. For this analysis, the missing MFN rate will be replaced by the MFN rate available from other partners as a notional MFN rate to be able to compute preferential margins.

The reporter-partner-product combinations covered in the data set represent approximately 97 percent of world imports in 2016. Non-covered trade is mainly explained by the lack of information on trade flows, either from the reporter or partner country (1.3 percent), or by missing information on MFN rates (0.9 percentage) or preferential tariffs (0.6 percentage). The information on preferential tariffs covers 94 percent of PTAs notified to the WTO that are currently in force.[8]

3. The MFN legacy

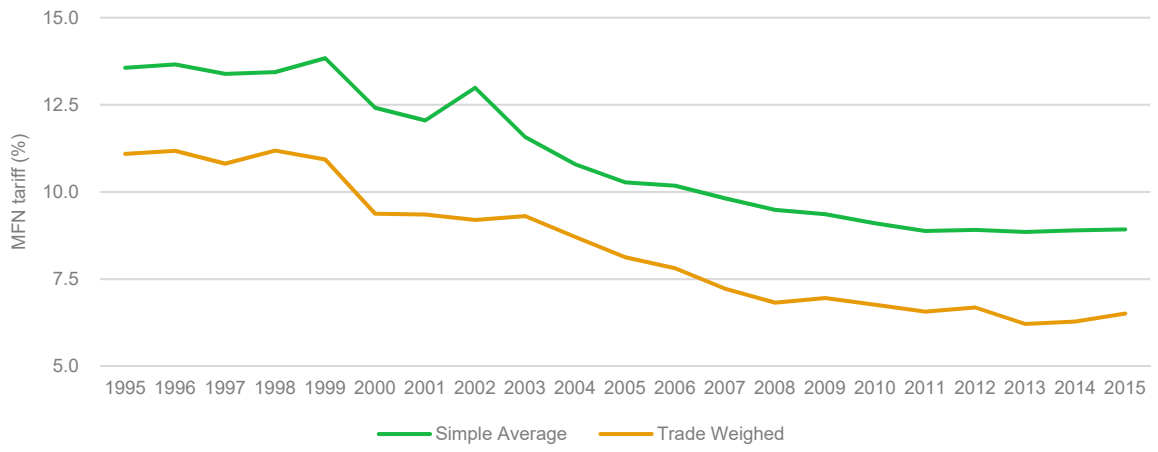
MFN tariffs have progressively fallen since the establishment of the General Agreement on Tariffs and Trade (GATT) in 1948**.** Unilateral liberalization and eight rounds of multilateral trade negotiations have significantly reduced tariffs applied by WTO members. Applied MFN rates have

[7] A member of a customs union does not apply any MFN tariffs to the other members.

[8] Although all 260 PTAs are included in the database, for 16 agreements (6 percent) we do not have information on all partners: for example, in the COMESA agreement, we are missing information on South Sudan. See Appendix Table A. 8.

fallen from levels between 12.5 and 15 percent in 1995 to lower than 10 percent during 2015 (see Figure 3).

Figure 3: Applied MFN rates have steadily declined over time

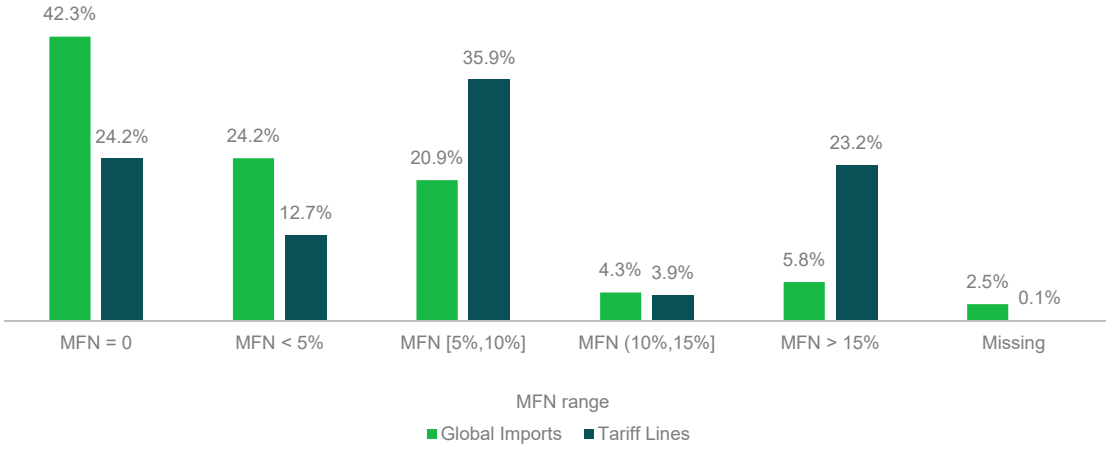


Source: WITS

Note: To avoid sample selection bias, tariffs have been calculated for a balanced sub-sample of countries and missing data have been interpolated. The sub-sample includes 27 countries with applied MFN rates in at least 15 years between 1995 and 2015 (see Appendix Table A. 3). The data used in the figure are simple averages and trade weighed of MFN rates for all products.

Of the total value of imports, 42 percent trades free under MFN rates. Another 45 percent is subject to MFN rates below 10 percent, and only one-tenth to MFN rates above 10 percent. In terms of products, 24 percent of tariff lines are subject to zero MFN rates, 23 percent to MFN rates over 15 percent and one-quarter to rates between 5 and 10 percent (see Figure 4).

Figure 4:Almost two-thirds of imports by value are subject to MFN rates of less than 5 percent

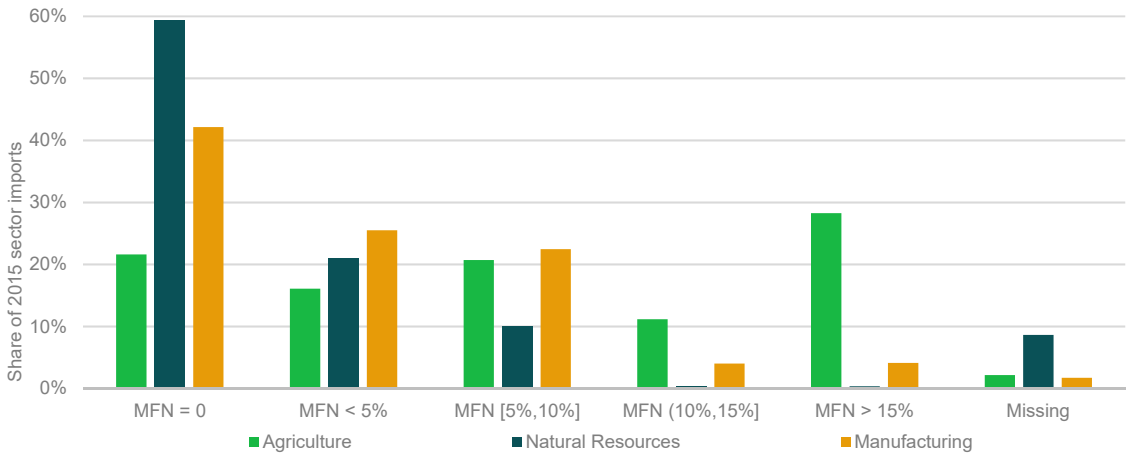


Source: Authors' calculation using ITC/World Bank database

On average, agricultural imports are subject to higher MFN rates than manufacturing and natural resources. Whereas more than half the imports of natural resources and around 42 percent of

manufacturing goods are subject to zero-MFN rates, less than a quarter of agricultural imports benefit from duty free treatment. At the same time, nearly 40 percent of agricultural imports are subject to MFN rates over 10 percent (see Figure 5), compared to less than one-tenth of manufacturing imports.

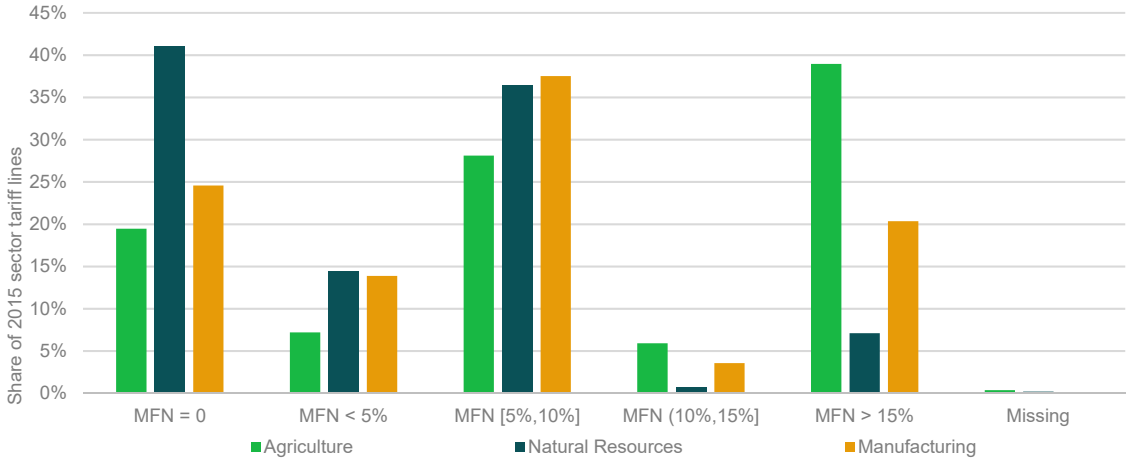
Figure 5: MFN rates vary significantly across the three economic sectors (value of imports)



Source: Authors' calculation using ITC/World Bank database

Also, a higher share of tariff lines is subject to higher MFN rates in agriculture, compared to manufacturing and natural resources (see Figure 6). Nearly two-fifths of agricultural tariff lines and about one-fifth of manufacturing tariff lines are subject to MFN rates over 15 percent.

Figure 6: MFN rates vary significantly across the three economic sectors (tariff lines)



Source: Authors' calculation using ITC/World Bank database

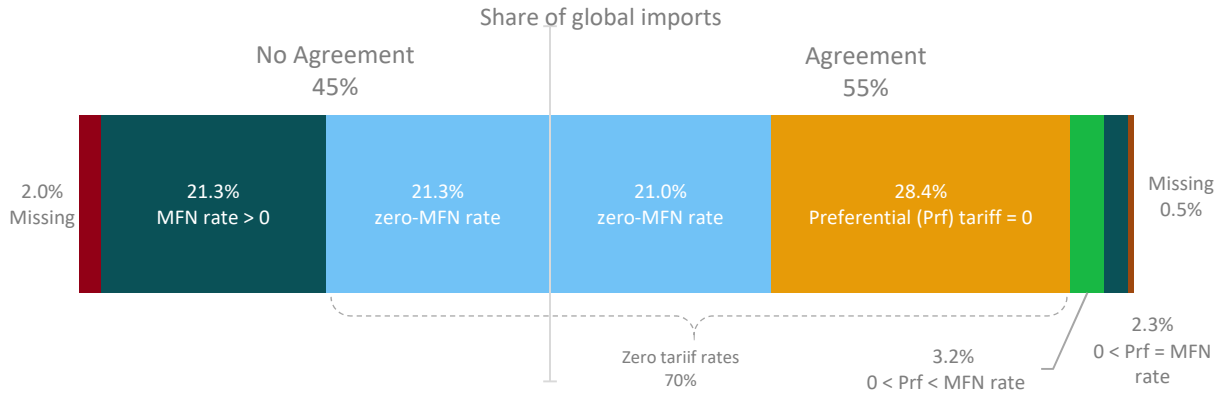
4. How have preferential agreements changed trade regimes?

Lack of progress in multilateral negotiations, among other reasons, has spurred tariff reductions through bilateral and regional preferential trade agreements.

Patterns of preferential liberalization

In 2016, preferential trade agreements fully liberalized an additional 28 percent of global trade. This brings to 70 percent the share of global imports taking place duty free between countries in 2016. Only 5.5 percent of global imports are subject to positive tariffs under PTAs, of which one-fifth receive no preferences at all (see Figure 7). The overall trade-weighted average tariff has been reduced from 5.0 to 2.7 percent.

Figure 7: More than half of the value of global trade took place under an agreement in 2015

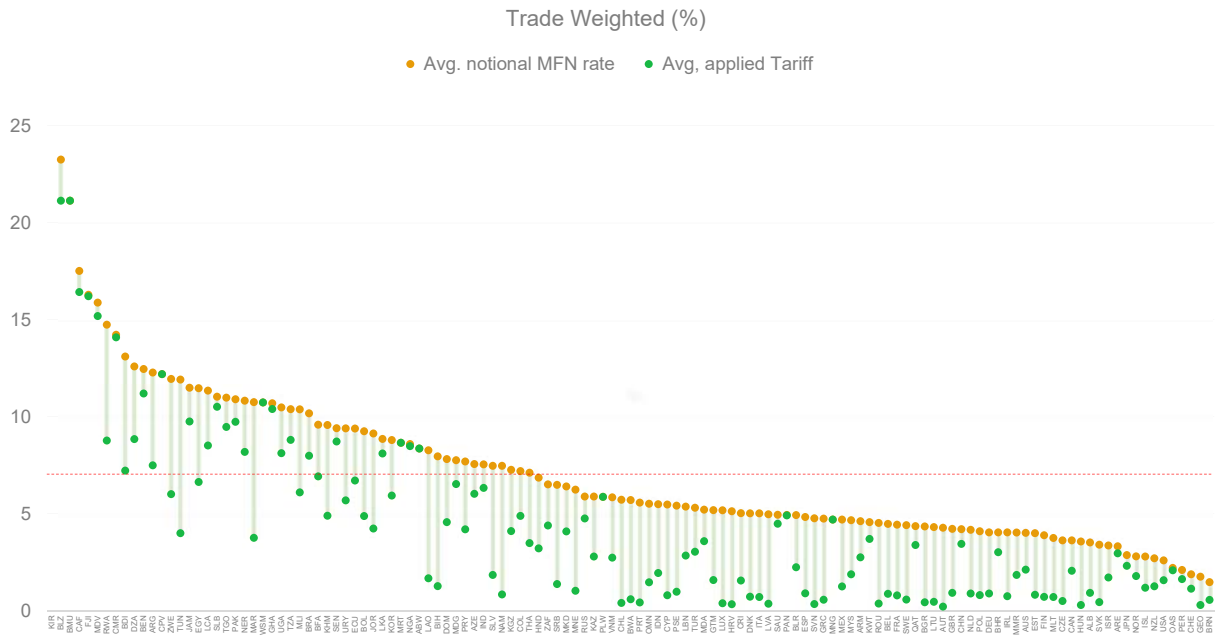


Source: Authors' calculation using ITC/World Bank database

The extent of preferential liberalization varies across countries, but more than two-thirds of countries have reduced trade-weighted average tariffs to less than 5 percent. Multilateral liberalization efforts have been driven mainly by high-income countries. This is reflected in their low preferential trade-weighted applied MFN rates (mainly below 5 percent, see Figure 8). However, preferential liberalization has been widely spread across nations, with developing countries such as Rwanda, Burundi and Uganda reducing their average preferential trade-weighted rates by 40 percent.[9]

[9] See Appendix **Error! Reference source not found.**.

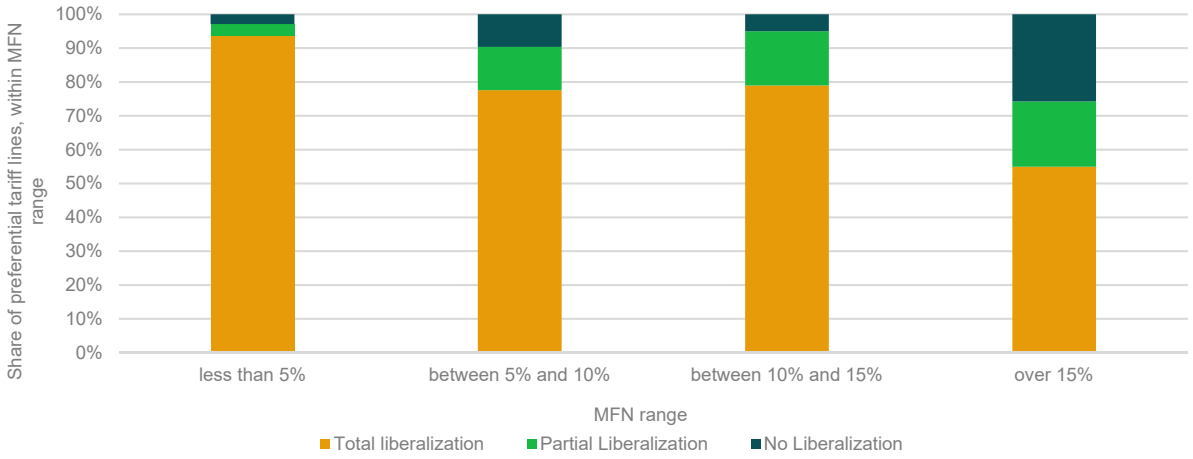
Figure 8: Preferential liberalization has reduced trade-weighted average tariffs rates to less than 5 percent for more than two-thirds of countries



Source: Authors' calculation using ITC/World Bank database

Liberalization efforts through PTAs are taking place across tariff lines, but countries are in general less willing to liberalize higher tariffs. While over three-quarters of tariff lines with MFN rates under 15 percent are fully liberalized, that is the case for only half of the lines with MFN rates over 15 percent. In fact, nearly one-quarter of tariff lines with MFN rates over 15 percent are completely excluded from preferential liberalization (see Figure 9).

Figure 9: Preferential agreements have reduced protection across the board but less so where tariffs are high



Source: Authors' calculation using ITC/World Bank database

Tariffs have been reduced across sectors but are still high for agricultural products. Agricultural sectors such as foodstuffs, animal and animal products, and vegetables (MFN trade-weighted average over 15 percent) have seen tariff rates cut by half, but remain relatively high (see Figure 10). On average tariff reductions across sectors range between 32 and 62 percent on average.

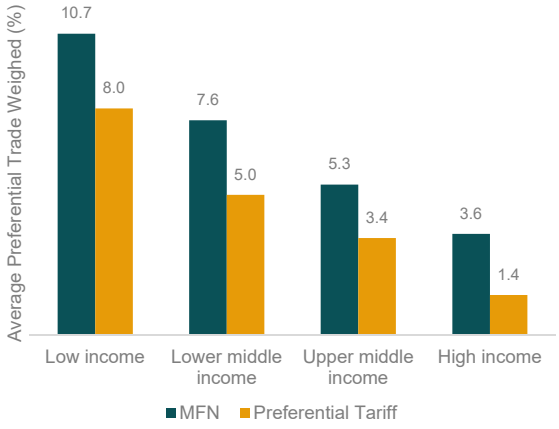
Figure 10: Tariffs have been reduced across sectors but are still high for agricultural products

Source: Authors' calculation using ITC/World Bank database

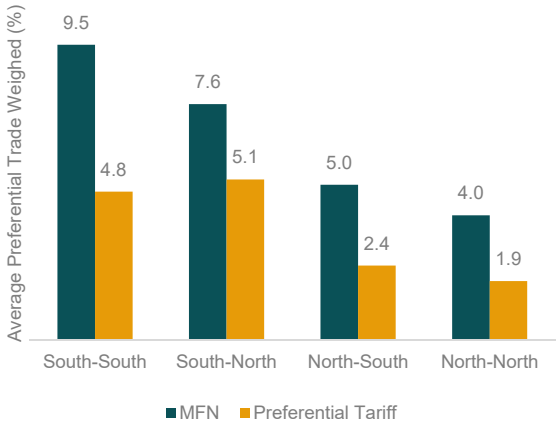
There is room left for further liberalization, especially in lower income countries. Low-income and lower-middle-income countries still have trade-weighted preferential tariff levels over 5 percent on average (see Figure 11.a). When preferential tariffs are split by level of development of importing and exporting countries, trade-weighted preferential tariffs imposed by South countries on the North and on the South are respectively more than 2.7 times and 2 times higher than those imposed by the North (see Figure 11.b).

Figure 11: There is room for further liberalization

a. Especially in lower income countries…



b. …in their trade with both developing and developed nations



Source: Authors' calculation using ITC/World Bank database

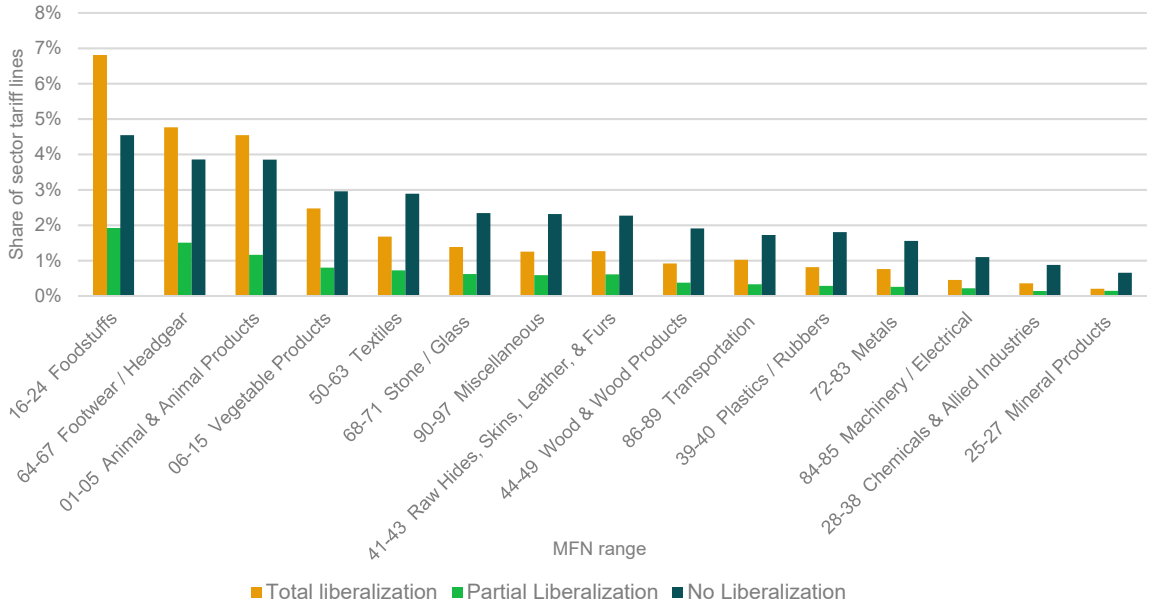
What did preferences do to tariff peaks?

The analysis below focuses on "sensitive products," defined as the subset of tariff lines that are subject to MFN rates above 15 percent.

Although preferential liberalization has targeted highly protected sectors, there remain pockets of protection in agricultural products, textiles and footwear. Preferential tariff lines with MFN rates over 15% are mostly concentrated in apparel and agroindustry goods. Around half of those tariff lines have been fully liberalized through preferential trade agreements (see Figure 12). While total liberalization efforts in these industries has been mostly granted by developed nations, developing nations are still reluctant to grant liberalization in multilaterally sensitive products (see Appendix Table A. 4 and Table A. 5). This trend is maintained when tariff rates are weighted by partner's share of global trade at the product level,[10] to control for the fact that lower tariffs can be granted on non-traded goods or to non-trading partners (see Appendix Figure A 3).

[10] We use the following formula to calculate the trade-weighted tariff lines: $wT_i^k = T_i^K * \sum_j SX_j^k$ WHERE T_i^K IS the total number of tariff lines of product k from country i. ($T_i^K = \sum_j t_{ij}^k$) and SX_j^k is the share of country j of global exports of product k ($SX_j^k = \frac{\sum_i x_{ij}^k}{\sum_j \sum_i x_{ij}^k}$).

Figure 12: Although preferential liberalization has targeted highly protected sectors (MFN tariffs greater than 15%), agricultural products, textiles and footwear remain pockets of protection



Source: Authors' calculation using ITC/World Bank database

How big is the preferential advantage?

The most common way to measure the advantage given by preferential access is through preference margins. Preference margins are traditionally calculated as the difference between the MFN applied rate and the preferential tariff.[11]

While the average preferential margin in PTAs is low, more than a quarter of world trade is subject to an average preference margin of 7.4 percent. The average preferential margin is low, because one-fifth of world trade under preferential agreements is already duty free and a further 2 percent of world trade is not at all liberalized. However, significant margins are applied to the trade that is liberalized under PTAs: the average preference is 7.4 percent for the 28 percent of world trade that is completely liberalized, and 6.4 percent for the remaining 3 percent that is partially liberalized (see Table 3).[12]

[11] Traditional preference margin = $\mathrm{T}_{\mathrm{k,i}}^{\mathrm{MFN}} - \mathrm{T}_{\mathrm{k,i}}^{\mathrm{j}}$, where $T_{k,i}^{MFN}$ is the MFN rate applied by country k on product i and $T_{k,i}^{j}$ is the preferential rate applied to country j.

[12] The preferential margin is significantly larger if MFN bound rates instead of applied rates are used as a point of reference. The average preferences are on average 17.4 percent for the 28 percent of world trade that is completely liberalized, and 13.6 percent for the 3 percent that is partially liberalized (see Table 3).

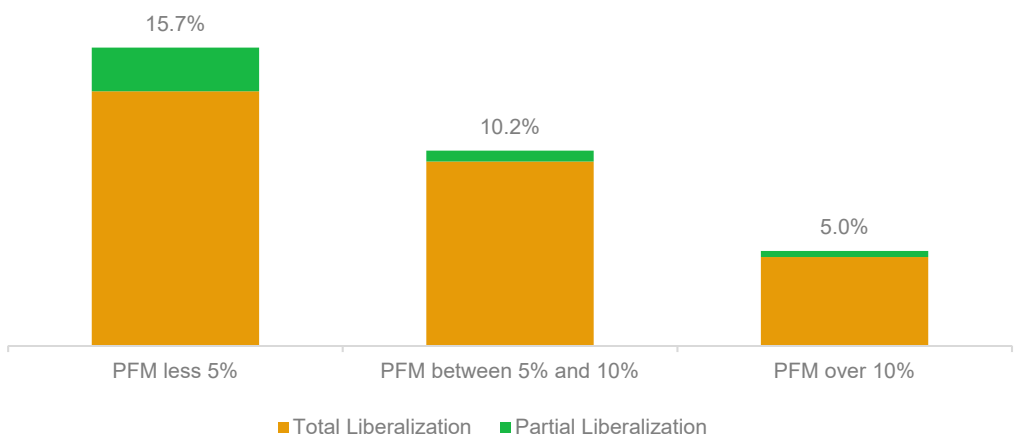
Table 3: More than a quarter of world trade is subject to an average preference margin of 7.4 percent

	Type of regime	Share of global imports (%)	Avg. Bound MFN rate	Avg. Applied MFN rate	Avg. Applied Preferential Rate
Trade not covered by an Agreement	MFN rate > 0	21	27.9	9.9	
	Zero-MFN rate	21	10.5	0.0	
Trade covered by an Agreement	Zero-MFN rate	21	13.4	0.0	0.0
	Total Liberalization	28	24.8	7.4	0.0
	Partial Liberalization	3	27.7	14.1	7.7
	No Liberalization	2	34.5	15.1	15.1

Source: Authors' calculation using ITC/World Bank database

How are preference margins distributed? Of the 31 percent of global trade subject to positive preference margins, 16 percent is subject to preferences below 5 percent, 10.2 percent is subject to preferences between 5 and 10 percent and 5 percent is subject to preference margins over 10 percent (see Figure 13).

Figure 13: Distribution of preference margins



Source: Authors' calculation using ITC/World Bank database

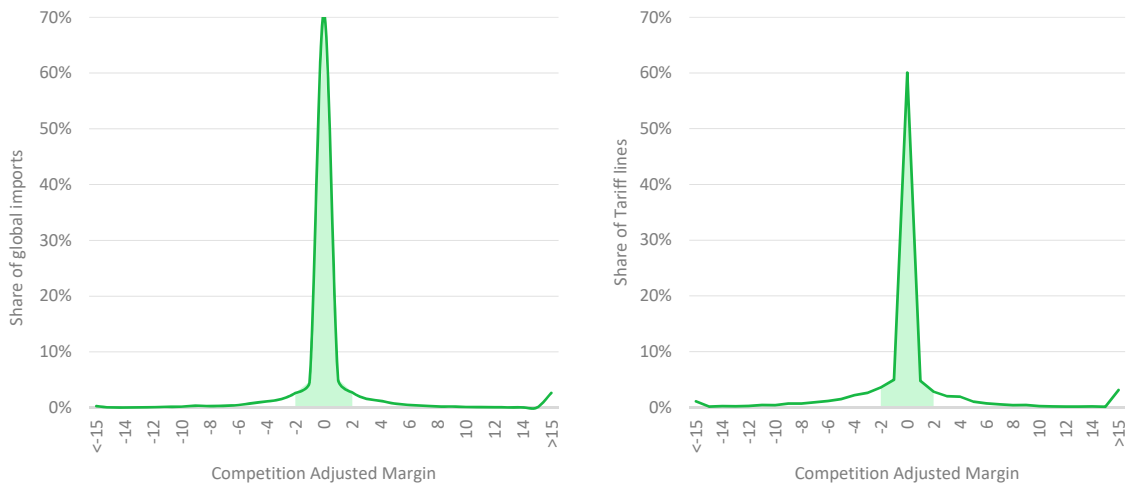
Preferential margins vary significantly across economic sectors. Preferential liberalization efforts have been significant for sectors such as agroindustry and apparel, where initial trade-weighted MFN rates were above 10 percent. Over 45 percent of animal and animal products, foodstuffs, and textiles preferential trade was subject to preferential margins over 10 percent (62, 47 and 46 percent, respectively). On the other hand, sectors such as machinery/electrical, transportation and raw hides, skins, leather where initial MFN rates were moderate (between 5 and 10 percent) were mainly subject to preferential margins under 5 percent (see Appendix Table A. 6).

Given the proliferation of PTAs, the advantage conferred by a preferential tariff to a given exporter does not depend only on the difference between the MFN tariff and preferential rate, but also on tariffs faced by competing suppliers from other countries in the same market. Low et al. (2009) introduced the concept of competition-adjusted preference margins to account for

this. Competition-adjusted preference margins are calculated as the percentage-point difference between the weighted average tariff rate applied to the rest of the world and the preferential rate applied to the beneficiary country, where weights are represented by trade shares in the preference-granting market.[13] Unlike a traditional preference margin, the competition-adjusted preference margin can assume positive as well as negative values. A negative value indicates that, in a specific market, a certain country faces worse market conditions than its trade competitors.

In terms of competition-adjusted preference margins, relatively small shares of world trade receive a significant preferential advantage or suffer a significant preferential disadvantage. Specifically, only 5.2 percent of global trade benefited from a preferential advantage over 5 percent and only 3.3 percent of global trade suffered from a preferential disadvantage higher than 5 percent (see Figure 14).

Figure 14: Most countries benefited from a competition-adjusted margin between -2 and 2 percent



Source: Authors' calculation using ITC/World Bank database

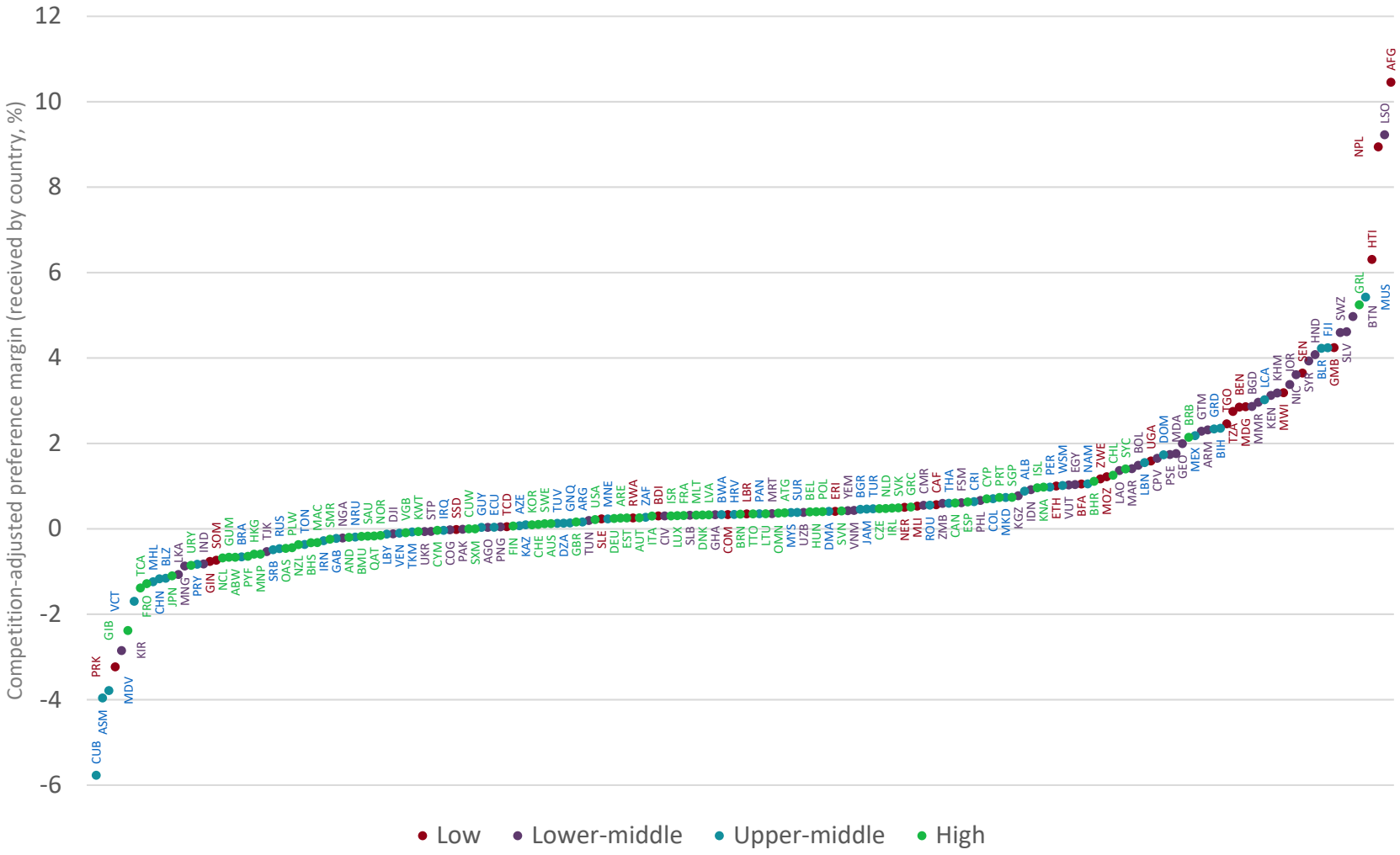
Lower income countries, tend to benefit the most from preferential access, with competition-adjusted margins over 3 percent. About 84 percent of competition-adjusted preference margins are concentrated within the range of -2 percent and +2 percent (see Figure 15), 15 percent of countries benefit from competition-adjusted margins of over 2 percent. Some countries such as

[13] **Competition-adjusted preference margin for product i granted to partner j by country k** = $CAPM_{jk,i} = T^{w}_{k,i} - T^{j}_{k,i}$. Where $T^{w}_{k,i} = \frac{\sum_v X_{vk,i} T^{v}_{k,i}}{\sum_v X_{vk,i}}$ is the export-weighted (X in the formula denotes exports of v into k) average tariff imposed by country k on all other exporting countries v (excluding country j) in respect of product i. The preferential rate applied to country j is $T^{j}_{k,i}$.

Nepal, Lesotho and Afghanistan, receive positive preferential margins of 8.9, 9.2 and 10.5 percent, respectively, whereas a few countries, like Cuba, American Samoa and the Maldives, pay 4 percentage higher tariffs on their exports than the competition-adjusted levels.[14]

[14] A similar result is obtained when import demand elasticities are also used as weights to aggregate preferential margins across products (see Figure A 4), to account for the fact that imports of some goods can be more responsive to changes in prices than others (see Nicita and Hoekman, 2008).

Figure 15: Lower income countries, tend to benefit the most in terms of competitive-adjusted margins



Source: Authors' calculation using ITC/World Bank database

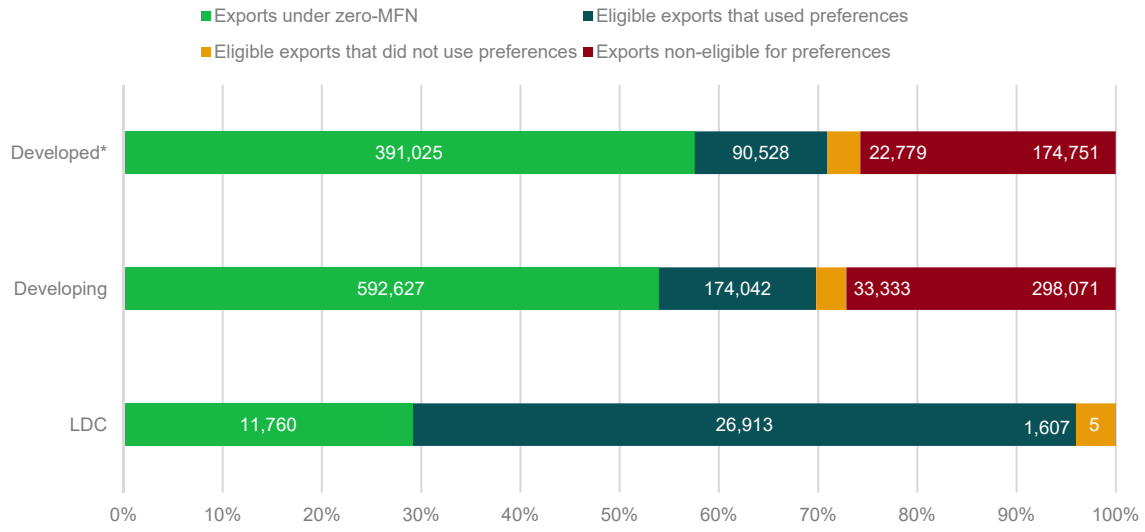
5. From preferences in principle to preferences in practice

So far, the analysis has been based on the preferential tariff rates that would in principle be levied on imports. However, not all imported products from preference-receiving sources are automatically eligible for preferential duties. If, for instance, a specific product does not comply with the origin rules specified in an agreement between two countries, its imports will be subject to the higher MFN duty. Preference utilization rates are defined at the HS-6 level as the share of total imports in a specific category that enter a country under preferences divided by the total imports from that source in the relevant category. [15] In this section, we illustrate the extent of preference utilization focusing on the European Union's preferential trade.[16]

More than 80 percent of preferences granted by the EU were fully utilized in 2016. More than 70 percent of exports from least developed countries to the European Union are eligible for preferences. In 2016, the rate of utilization of the duty free preferential advantage provided by the "Everything But Arms" arrangement[17] was equal to 94 percent. The share of exports from developing and developed countries which are eligible for preferences through non-reciprocal (GSP and GSP+) as well as reciprocal agreements with the EU is much lower and equal to 18 and 16 percent, respectively. The rate of utilization of such preference is still high at above 80 percent (see Figure 16).

[15] Note that the denominator of the utilization rate excludes all trade under zero MFN rates, and all trade in products under non-zero MFN rates for which no tariff preference is available.
[16] Data on utilization rates come from Eurostat.
[17] The EBA agreement allows LDC-originating products to enter the EU market duty-free for all products except arms and ammunition.

Figure 16: EU imports by tariff regime and country group (in million USD)

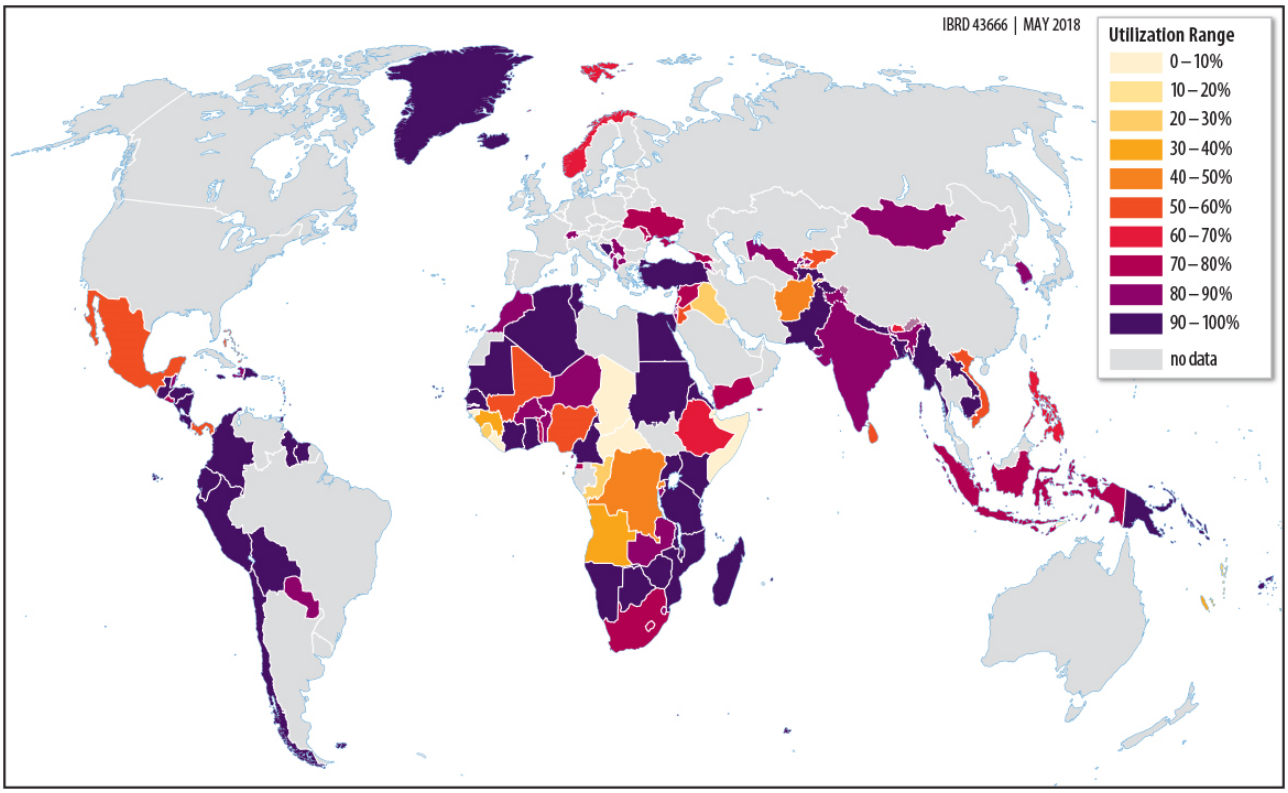


Source: Authors' calculation using statistics from Eurostat, 2016.
Note: (*) Excluding EU countries

Preference utilization rates vary widely across countries. Countries such as Bangladesh represent more than 60 percent of preferential trade from LDC countries to the EU and have rates of utilization above 90 percent (see Figure 17). In contrast, countries such as Chad and Guinea-Bissau rarely use preferences provided through the EU's EBA. Developing countries such as Sri Lanka used GSP preferences for only 55% of their eligible exports. A key explanation of the low utilization rates is restrictive rules of origin as well as the related administrative burden. In fact, 11 percent of Sri Lankan firms, interviewed in an ITC survey[18] on non-tariff measures in 2011, considered rules of origin a recurrent problem.

[18] Sri Lanka: Company perspectives – An ITC series on non-tariff measures, 13 Dec. 2011.

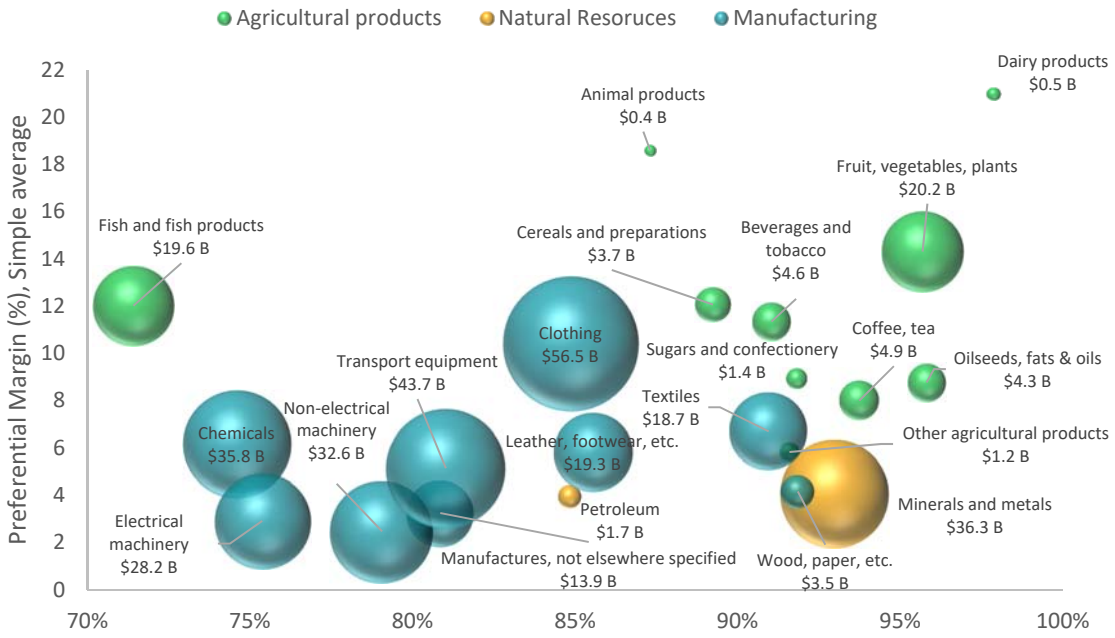
Figure 17: Utilization of EU preferences by beneficiary countries



Source: Authors' calculation using statistics from EUROSTAT and Market Access Map

At the sectoral level, agricultural imports tend to have higher utilization rates than manufacturing and natural resources imports. Manufacturing sectors with the highest utilization rates are from the apparel industry (textiles, clothing and leather), and wood and paper. The biggest import sector in terms of trade eligible for preferences is clothing. In 2016, the total amount of EU imports of clothing that was eligible for preferences amounted to $56.5 US billion dollars. The rate of utilization of such preferences, with an average preference margin of 10 percent, was 85 percent. The sector with the highest utilization rate is dairy products. This is also a sector with the highest preference margin (see Figure 18).

Figure 18: Utilization rates vs Preferential Margin



Source: Authors' calculation using statistics from EUROSTAT and Market Access Map.
Note: Product groups are based on multilateral trade negotiations categories (World Tariff Profiles 2017).

Common reasons for tariff preferences not being fully utilized include small preferential margins, small shipment amounts, time-sensitivity for certain goods, and transaction costs (lack of information, administrative burden). ITC business surveys on non-tariff barriers (ITC, 2015) identified rules of origin and origin certification as one of the most common obstacles to trade perceived by SMEs in developing countries. Rules of origin are perceived to be burdensome more often in industrial sectors than in agriculture – 35 percent of all complaints versus 11 percent of all complaints. Most of the complaints are related not to the restrictiveness of the rules of origin per se, but rather to the procedural obstacles related to obtaining proof of origin. Among typical procedural obstacles related to rules of origin are delays in obtaining a certificate of origin, unusually high fees, the large number of required documents, numerous administrative windows involved, and mismatch between published information and reality.[19] Recent surveys have also identified lack of knowledge and awareness by businesses as one of the reasons for the lack of utilization of preferences granted in PTAs.[20]

[19] Specific examples include rejections in certain Arabic countries of certificates of origin qualifying under the Pan-Euro-Med origin protocol due to customs officers' lack of knowledge, rejections due to minor mistakes in the certificate or in the documentary evidence, or the requirement of full translation, including of all technical terms.
[20] Global Trade Management Survey (2015 and 2016), PWC Australia (2018), Holmes and Jacob (2018).

6. Conclusion

MFN Tariffs have progressively fallen since the establishment of the General Agreement on Tariffs and Trade (GATT) in 1948. Unilateral liberalization and eight rounds of multilateral trade negotiations have significantly reduced tariffs applied by WTO members over time from levels between 12.5 and 15 percent in 1995 to lower than 10 percent during 2015. Also, countries around the world have increased their participation in PTAs, especially in the last two decades. From the 1990s onwards, the number of PTAs has almost quadrupled, from around 50 to close to 280 PTAs presently in force. Lack of progress in multilateral negotiations in recent years, among other reasons, has spurred tariff reductions through bilateral and regional preferential trade agreements.

Three main findings emerge from this paper on the significance of tariff preferences in a context of decreasing MFN applied tariffs and PTA proliferation. First, preferential trade agreements (PTAs), which now cover more than half of world trade, have significantly widened the scope of tariff-free trade. Whereas 42 percent of the total value of trade traded free under MFN rates in 2016, PTAs have fully liberalized an additional 28 percent of global trade. In fact, only 5 percent of global imports are subject to positive tariffs under PTAs.

Second, the extent of preferential liberalization varies across countries and sectors. Around 70 percent of countries participating in PTAs have reduced trade-weighted average preferential tariffs to less than 5 percent, but there remain pockets of protection. Several lower income countries still have trade-weighted average tariffs above 5 percent. And even PTAs have not been able to eliminate the high levels of protection for agricultural products, textiles and footwear.

Third, while the average preferential margin in PTAs is low, because one-fifth of world trade under preferential agreements is already duty free and another 2 percent has not been liberalized at all, more than a quarter of world trade is subject to an average preference margin of 7.4 percent. Once we consider competition from both preferential and non-preferential sources, however, only 5.2 percent of global exports benefited from a preferential advantage of over 5 percent and only 3.3 percent of global exports suffered from a preferential disadvantage higher than 5 percent.

These findings are based on potentially applied tariffs. In practice, preferential duties are not granted automatically to all potentially eligible products. An assessment of the scope of preference utilization for the sub-sample of EU imports from its trading partners suggests that the rate of utilization of preferences varies across countries and products. Key factors explaining low utilization rates include rules of origin as well as the related administrative burden and lack of knowledge of import and export processes.

The stylized facts on the patterns and extent of preferential liberalization presented in this paper provide the basis for a future research agenda on the implications and determinants of

preferential tariffs. The relatively small extent of preference margins also suggests motives for PTAs beyond purely preferential tariffs.

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Appendix

Figure A 1: Reduction in trade weighted tariffs is uniform across sectors

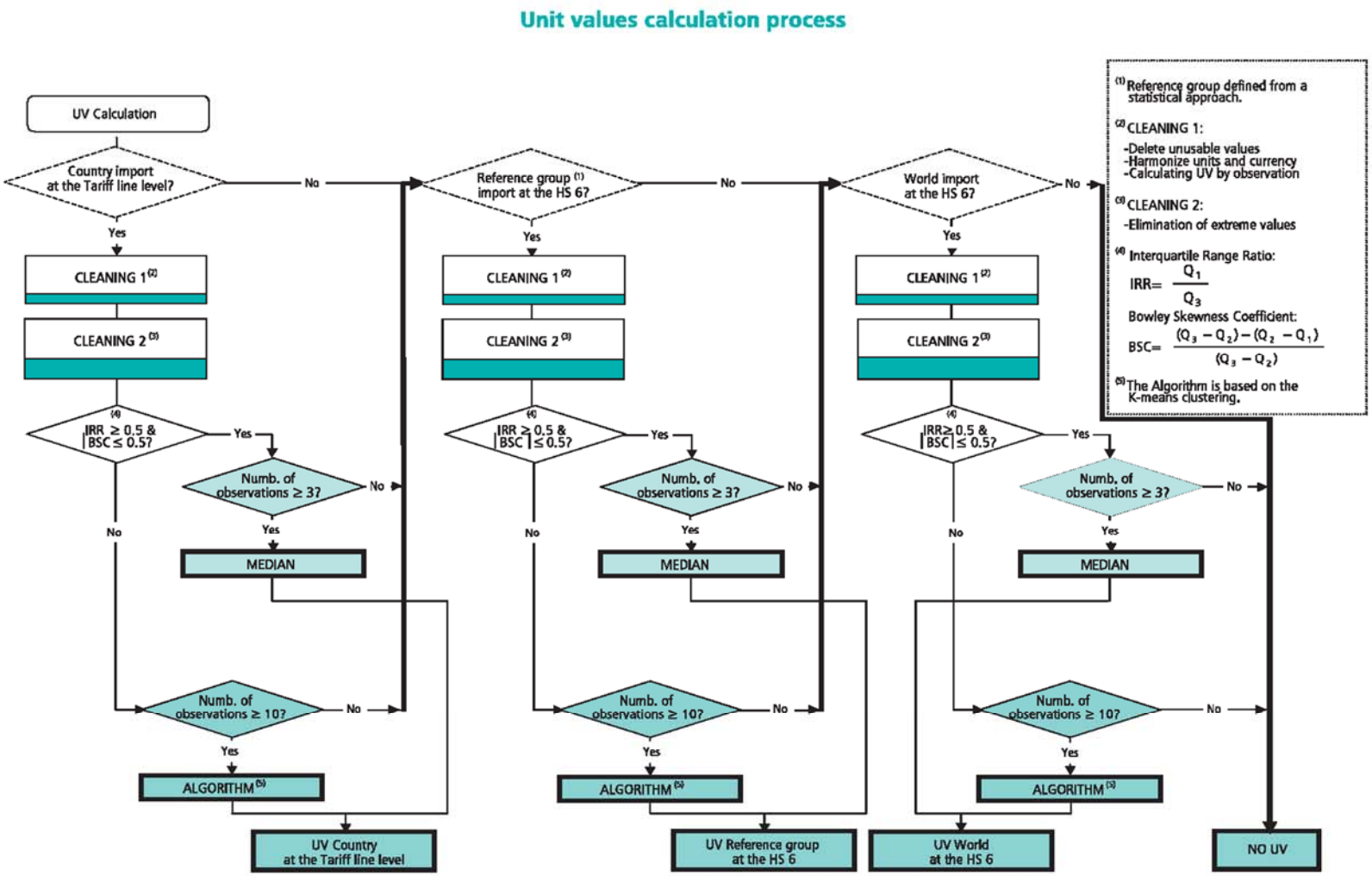
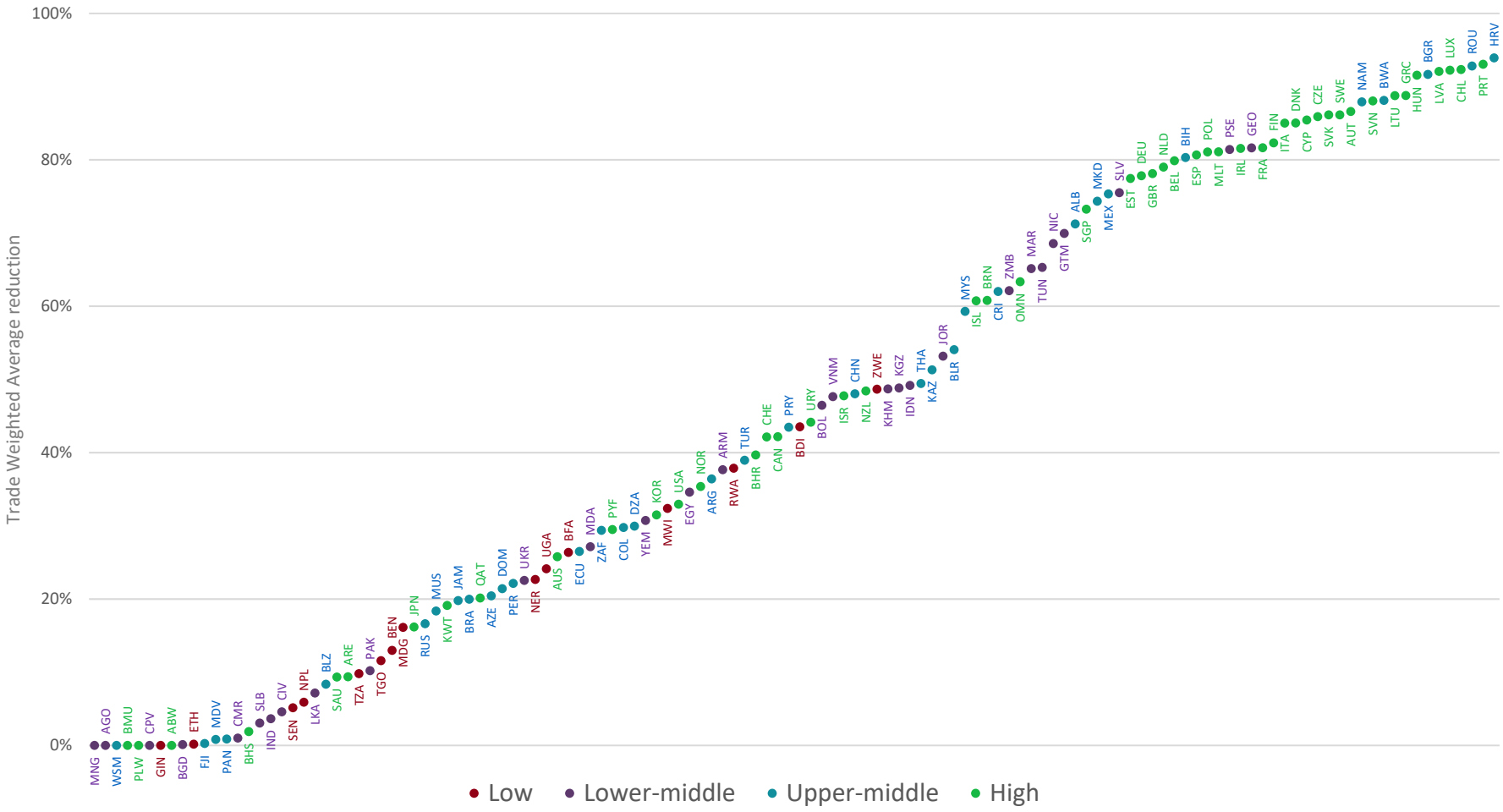
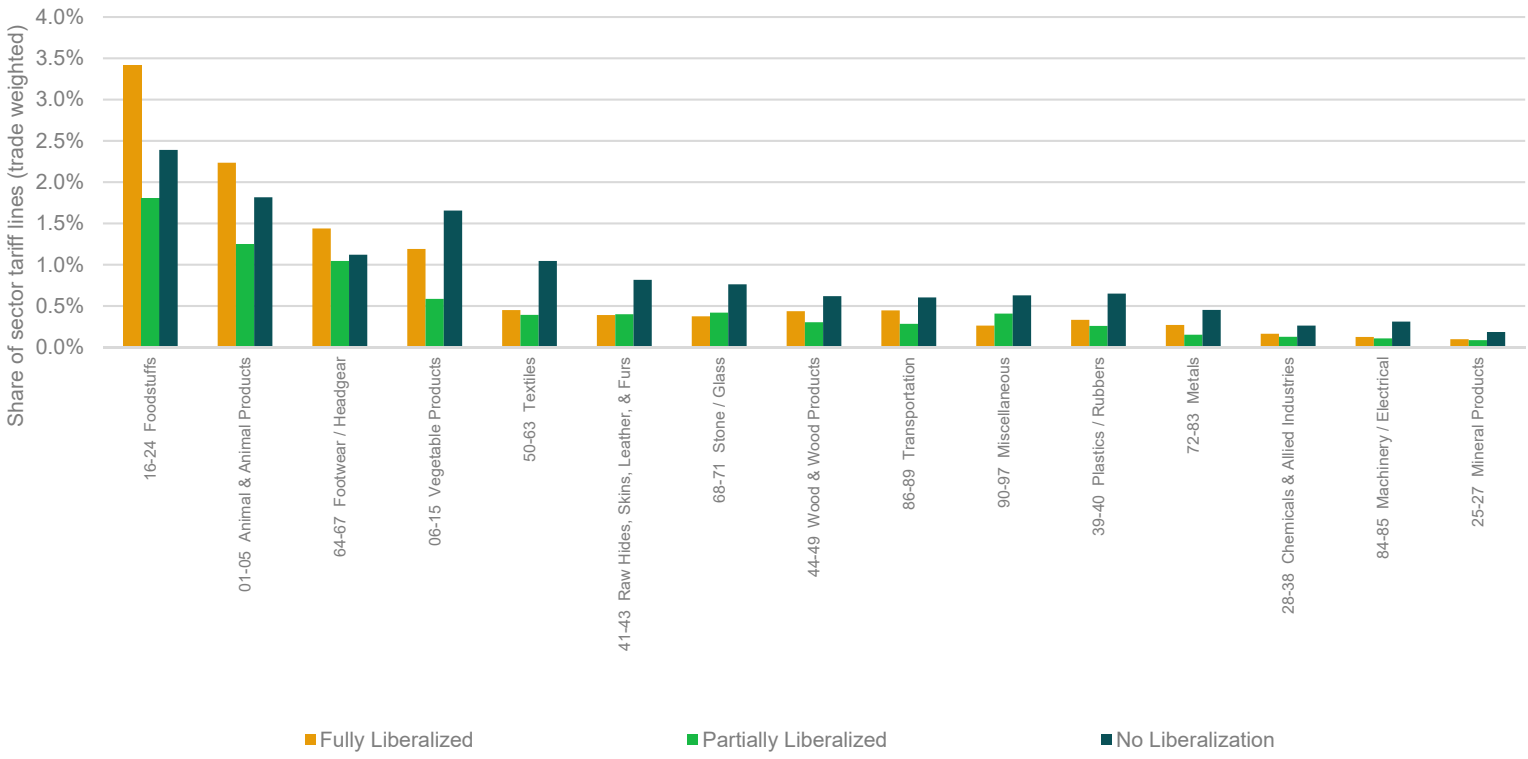


Figure A 2: On average countries had reduced tariffs by half



Source: Authors' calculation using ITC/World Bank database

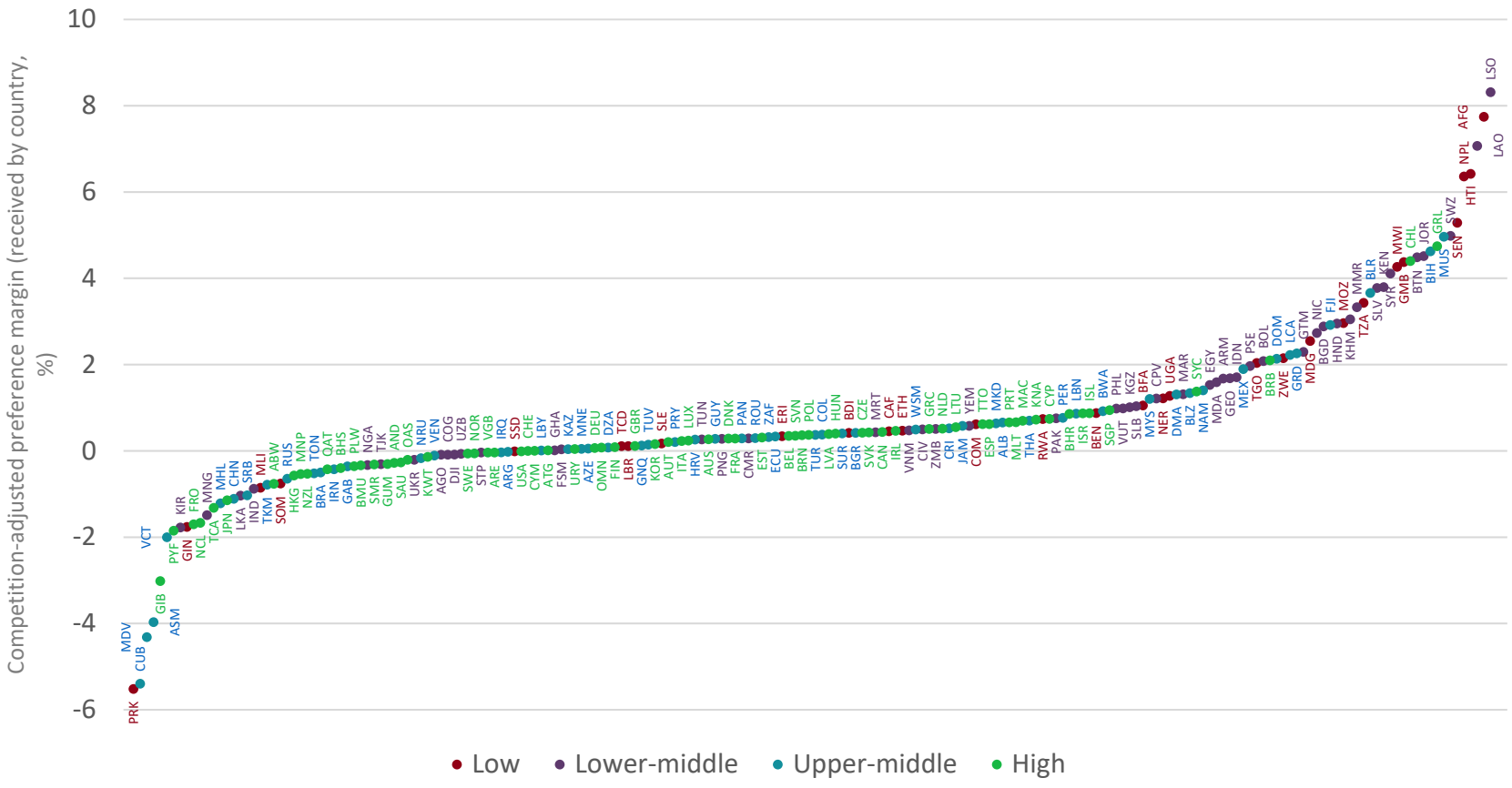
Figure A 3: Share of sector tariff lines weighted by partner's share of global trade)



Source: Authors' calculation using ITC/World Bank database

Notes: (i) We use the following formula to calculate the trade weighed tariff lines: $wT_i^K = T_i^K * \sum_j SX_j^k$ WHERE T_i^K IS the total number of tariff lines of product k from country i. ($T_i^K = \sum_j t_{ij}^k$) and SX_j^k is the share of country j of global exports of product k ($SX_j^k = \frac{\sum_i x_{ij}^k}{\sum_j \sum_i x_{ij}^k}$)

Figure A 4: Competition Adjusted preference margin using import demand elasticities



Source: Authors' calculation using ITC/World Bank database

Notes: Competition adjusted preferential margins measuring the advantage that exports of country *j* have in exporting its goods is calculated as: $\frac{\sum_k \sum_i X_{jk,i}(\frac{\sum_k X_{jk,i}\varepsilon_{k,i}CAPM_{jk,i}}{\sum_k X_{jk,i}\varepsilon_{k,i}})}{\sum_k \sum_i X_{jk,i}}$ Where $CAPM_{jk,i}$ is the competition-adjusted preference margin for product i granted to partner j by country k. $\varepsilon_{k,i}$ is an estimate of the price elasticity of demand for an import. Weighted by the trade share of the country concerned and by total exports of country j.

Table A. 1: Agreements with Partial Information

Agreement	Missing Country
Armenia - Turkmenistan	Turkmenistan
CIS	Turkmenistan
COMESA	South Sudan
EC-Faroe Islands	Faroe Islands
EU - Andorra	Andorra
EU-San Marino	San Marino
Faroe Islands - Norway	Faroe Islands
Faroe Islands - Switzerland	Faroe Islands
Georgia - Turkmenistan	Turkmenistan
Iceland - Faroe Islands	Faroe Islands
Pacific Island Countries Trade Agreement	Faroe Islands
Panama - Chinese Taipei	Chinese Taipei
Russian Federation - Turkmenistan	Turkmenistan
Ukraine-Turkmenistan	Turkmenistan

Source: Authors' calculations using World Bank PTA data set (2016)

Table A. 2: Comparison of available data and entry into force of last agreement

Country	Available data	Entry in force of last agreement	Country	Available data	Entry in force of last agreement
Afghanistan	2013	2011	Mayotte	2013	
Barbados	2013	2008	Micronesia, Fed. Sts.	2006	2003
Equatorial Guinea	2007	1999	Panama	2013	2014
Eritrea	2006	1994	Papua New Guinea	2010	2009
Gambia, The	2012	1993	Sierra Leone	2006	1993
Iran, Islamic Rep.	2011		Suriname	2007	2008
Jamaica	2011	2008	Syrian Arab Republic	2013	2007
Kiribati	2006	2003	Trinidad and Tobago	2008	2008
Libya	2006	1998	Zambia	2013	2000

Source: Authors' calculation using ITC/World Bank database

Table A. 3: Countries with MFN information in at least 15 years between 1995 and 2015

Country	Missing	Country	Missing	Country	Missing
Argentina	N/A	El Salvador	N/A	Paraguay	N/A
Bolivia	N/A	Guatemala	1996	Peru	1996, 2012
Brazil	N/A	Japan	N/A	Singapore	2004
Canada	N/A	Korea, Rep.	N/A	Switzerland	N/A
Central African Republic	1996, 1998-2000, 2014	Madagascar	1999	Thailand	1996-1998, 2002, 2012
Chile	2014	Mauritius	2003	Tunisia	1996 – 1997, 1999, 2001, 2007, 2014
Colombia	N/A	Mexico	N/A	Turkey	2012, 2014
Ecuador	2013	Nicaragua	N/A	United States	N/A
Egypt, Arab Rep.	1996-1997	Norway	N/A	Uruguay	2003

Source: Authors' calculation using ITC/World Bank database

Table A. 4: Share of sectorial and development level tariff lines (Multilaterally Sensitive Preferentially Free)

Sector	South-South	South-North	North-South	North-North
Animal & Animal Products	3.10%	0.83%	11.75%	13.06%
Vegetable Products	2.45%	1.00%	5.42%	6.67%
Foodstuffs	3.49%	1.24%	19.37%	22.24%
Mineral Products	0.37%	0.27%	0.02%	0.26%
Chemicals & Allied Industries	0.50%	0.47%	0.20%	0.27%
Plastics / Rubbers	1.29%	1.10%	0.03%	0.54%
Raw Hides, Skins, Leather, & Furs	1.93%	1.30%	0.64%	1.96%
Wood & Wood Products	1.49%	1.24%	0.17%	0.36%
Textiles	2.61%	1.16%	0.80%	2.38%
Footwear / Headgear	3.69%	1.77%	10.10%	14.45%
Stone / Glass	2.28%	1.19%	0.09%	1.70%
Metals	1.24%	0.91%	0.03%	0.53%
Machinery / Electrical	0.76%	0.50%	0.01%	0.33%
Transportation	1.10%	0.72%	1.38%	1.84%
Miscellaneous	2.14%	0.83%	0.13%	1.12%

Source: Authors' calculation using ITC/World Bank database

Table A. 5: Share of sectorial and development level tariff lines (Excluded)

Sector	South-South	South-North	North-South	North-North
Animal & Animal Products	4.55%	7.25%	1.29%	5.26%
Vegetable Products	3.93%	4.82%	0.97%	4.38%
Foodstuffs	5.74%	7.58%	1.10%	5.89%
Mineral Products	0.76%	0.42%	0.06%	0.90%
Chemicals & Allied Industries	1.06%	0.69%	0.07%	0.93%
Plastics / Rubbers	2.75%	2.03%	0.06%	0.96%
Raw Hides, Skins, Leather, & Furs	3.39%	2.76%	0.06%	1.48%
Wood & Wood Products	3.05%	2.37%	0.05%	0.77%
Textiles	5.10%	3.33%	0.02%	0.30%
Footwear / Headgear	6.19%	4.73%	0.07%	1.41%
Stone / Glass	3.93%	2.91%	0.04%	0.64%
Metals	2.46%	1.45%	0.07%	1.01%
Machinery / Electrical	1.43%	1.04%	0.06%	0.93%
Transportation	2.25%	2.19%	0.06%	0.99%
Miscellaneous	3.64%	3.28%	0.05%	0.83%

Source: Authors' calculation using ITC/World Bank database

Table A. 6: Share of preferential trade by preferential margin and MFN range

MFN range (%)	Less 5		Between 5 and 10			Over 10			
Preferential Margin (%)	***None***	***Less 5***	***None***	***Less 5***	***5 - 10***	***None***	***Less 5***	***5 - 10***	***Over 10***
Animal & Animal Products	3.92	8.48	2.04	2.61	10.22	4.81	2.61	3.47	61.83
Vegetable Products	1.68	17.98	6.67	2.96	28.05	9.22	2.20	2.67	28.58
Foodstuffs	1.07	12.78	2.40	3.17	21.46	5.19	4.37	2.31	47.26
Mineral Products	7.28	74.07	2.70	0.51	11.42	1.45	0.54	1.03	1.00
Chemicals & Allied Industries	3.38	23.77	7.63	3.54	57.12	0.95	0.19	0.22	3.20
Plastics / Rubbers	1.37	27.59	4.98	4.03	55.09	1.39	0.29	0.34	4.91
Raw Hides, Skins, Leather, & Furs	0.77	37.86	4.35	11.02	36.52	1.23	0.72	0.68	6.83
Wood & Wood Products	1.25	33.48	8.77	5.64	36.62	1.72	0.34	0.30	11.88
Textiles	0.27	9.26	3.13	4.27	24.12	6.09	6.05	1.08	45.73
Footwear / Headgear	0.05	14.06	1.36	10.71	32.77	3.58	8.45	2.73	26.29
Stone / Glass	0.19	48.48	7.90	3.90	29.11	1.60	0.58	0.51	7.73
Metals	1.78	47.24	7.82	3.73	31.19	1.59	0.37	0.52	5.76
Machinery / Electrical	1.98	63.39	4.75	2.09	12.25	0.95	0.24	0.36	14.00
Transportation	2.33	45.57	1.84	0.93	33.44	2.06	0.80	0.74	12.29
Miscellaneous	1.11	48.48	3.84	8.94	14.60	1.20	1.01	0.72	9.20

Source: Authors' calculation using ITC/World Bank database

Table A. 7: Share of preferential trade by preferential margin and MFN range, by importing country group

MFN range (%)	Less 5		Between 5 and 10			Over 10			
Preferential Margin (%)	***None***	***Less 5***	***None***	***Less 5***	***5 - 10***	***None***	***Less 5***	***5 - 10***	***Over 10***
Low income	0.12	0.71	23.96	5.78	16.67	24.67	2.86	2.50	22.72
Lower middle income	6.06	12.43	25.60	5.81	21.39	11.40	1.83	3.03	12.45
Upper middle income	4.27	23.81	6.54	6.23	23.72	4.33	1.60	1.18	28.33
High income	1.26	51.68	1.03	1.66	29.10	0.63	1.08	0.53	13.02

Source: Authors' calculation using ITC/World Bank database