**Unilateral Trade Preferences in the EU: An Empirical Assessment for the Case of Mozambican Exports**

by

Andrea Alfieri and Xavier Cirera

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Contactos:

Xavier Cirera
DNEAP/MPD
Av. Ahmed Sekou Touré, 21
Maputo Mozambique

xcirera@gmail.com

# Unilateral Trade Preferences in the EU: An Empirical Assessment for the Case of Mozambican Exports

Andrea Alfieri[†] and Xavier Cirera[‡]

## Abstract

This paper aims to shed light on the impact of unilateral preferences on exports focusing on the case of Mozambique. We look specifically at whether unilateral preferences are valuable by i) are used to generate exports and ii) the degree of appropriation of the price margin theoretically induced by the preference margin. We concentrate on EU preferential schemes since this is the main destination market for Mozambique. Our database covers the period 2000-2005 and uses unit values at HS8-digits as proxies for *cif* prices. Our findings indicate that export growth seems weakly linked to preference considering that most products enter at MFN zero and the main exported products show lower than average use of preferences. Although utilization rates are generally high this does not translate into significant price margins captured by Mozambican exporters compared to MFN competitors. On the contrary, we cannot identify a higher price obtained by preferential exporters. Non-utilization is probably due to sporadic events linked to inefficiencies in the export process by public authorities. We also test econometrically the relationship between price margins and tariff differentials for the sample of products exported by Mozambique using a large sample of countries. After controlling for factors such as market power and quality differences, we find that MFN prices are often higher than preferential prices, although we find evidence of a positive transmission of tariff preferences to price margins for exporters. However, despite such transmission, tariff margins hardly explain any variation in price margins suggesting that other major factors are at stake. In this light, the importance of preserving trade preferences in current negotiating *fora* (such as EPA) should be at least reconsidered.

# Unilateral Trade Preferences in the EU: An Empirical Assessment for the Case of Mozambican Exports

## 1. Introduction

Unilateral export preferences play a very important role in trade policy negotiations, especially in Less Developed Countries (LDCs). Despite most of the human capacity available in trade ministries, is devoted to negotiate reciprocal regional and preferential trade agreements (as opposed to multilateral or internal trade issues), a great deal of attention has been given to unilateral export preferences.[3]

Successive rounds of trade liberalization in developed countries under WTO agreements in recent years have reduced the margin of preference that unilateral preferences provided. This has increased the interest of LDCs to avoid the so called "erosion of preferences". As a result of this biased focus on preferential trade and the weight that unilateral preferences have in trade negotiations, one may want to ask the following question: are unilateral preferences valuable?

This paper aims to shed some light at this issue for the case of Mozambique. By "valuable" we understand two main elements: i) whether unilateral preferences are capable of creating exports that otherwise would have not been possible in the absence of a preference margin; and, ii) the degree of appropriation of the price margin theoretically induced by the preference margin.

Any analysis of unilateral export preferences in Mozambique implies a necessary focus on the EU market. Around 64% of the value of Mozambican exports in 2005 was directed to the EU market. This is equivalent to 74% of total exports excluding electricity and gas exports to SADC, and implies that 3 out of 4 non-energy products exported have the EU as the final destination market.

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[3] Mozambique trade negotiations are mainly focused on the Trade Protocol of the Southern African Development Cooperation (SADC) and the Economic Partnership Agreements (EPA) with the European Union (EU).

The focus on the EU market has also the advantage of data availability, since all trade flows to the EU are recorded in the EUROSTAT database. Concretely, for the analysis, we use a rich EUROSTAT dataset during the period 2000-2005 that allows us to identify: the main source of exports, their unit values, whether these products enjoy a margin of preference and whether the preference is being utilized. We then analyze whether preference rents induced by tariff margins are created and who captures them. Finally, we compute the degree of pass-through from the preference margin to the price margin that the exporter may enjoy.

Another important objective of this paper is to provide information that allows us to compute in a second stage the micro impact of preferences and exports on farmers via export prices. For this reason, we analyze the degree of price transmission from export unit values to producer farm prices. This information is then used to simulate the impact on households of different scenarios associated to different degrees of pass-trough and preference rent appropriation (Cirera, 2007).

The paper is organized as follows. The second section gives a brief introduction to the economic rationale of export preferences and their expected impact. The third section analyzes preference and price margins, and the degree of preference utilization by Mozambican exporters to the EU market. In the fourth section we employ econometric analysis and expand the sample to countries having same export base as Mozambique in order to analyze in more detail the degree of pass-through from tariffs to price margins. The last section concludes with the main policy implications of the paper.

## 2. Unilateral Export Preferences

### 2.1 Historical background

Unilateral export preferences are tariff concessions given by developed to developing countries that do not require reciprocity from beneficiary countries. There are several elements that justify the rationale of those preferences (see Hoekman and Ozden, 2005, for a comprehensive survey). The main element that explains unilateral export

preferences is based on the notion of Special and Differential Treatment (SDT) for developing countries (DCs) in the international trade domain. Under the SDT principle, countries recognise the specificities and difficulties of developing countries to achieve sustainable development and structural transformation. It draws upon the idea, widely influential in the 1950s and 1960s, that developing countries required protecting their markets in order to support infant industry and develop manufactures that could be exported. This would allow DCs to replace exports of primary commodities that exhibit declining terms of trade, the Prebisch-Singer hypothesis (Prebisch, 1950, Singer, 1950), by exports of manufactures. At the same time, it was widely accepted that domestic markets in DCs were often too small economically to be able to develop competitive domestic industries and, therefore, the need for expanding exports in order to increase market size and also as a source of foreign exchange.

Existing unilateral export preferences were rationalized under UNCTAD in 1968 with the introduction of the Generalized System of Preferences (GSP), and GATT articles were amended in order to allow for discrimination. For example, Article XVIII was amended in 1955 in order to allow DCs to use protection in case of balance of payment crisis or infant industry sectors.

Since the rationalization of the GSP system, several other schemes have proliferated. The EU, for instance, granted unilateral preferences to former Africa, Caribbean and Pacific colonies (ACP) since 1975 with the so-called Lomé Conventions rationalized in 2000 under the Cotonou Agreement. The US targeted specific groups of commodities and countries with acts such as the Caribbean basin Initiative (CBI). In addition, the last decade has also seen proliferation and expansion of the GSP system, with the GSP-plus and the Everything-but-Arms (EBA)[4] initiative granted by the EU, or the African Growth Opportunity Act (AGOA) granted by the US to African countries.

The coverage of such agreements differs substantially, from the nearly full coverage granted by EBA to roughly 6400 tariff lines in AGOA. Also, the countries eligible for

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[4] Only valid for LDCs

preferences differ among agreements and create discrimination between DCs and LDCs. This has been the subject of some controversy. Commodity specific provisions of the Cotonou Agreement, for instance, have been repeatedly challenged in the WTO (ex. banana, sugar). As a result, EU and ACP countries already agreed in Cotonou to replace it by reciprocal free trade agreements in 2008 - the Economic Partnership Agreements (EPA). Differences among schemes also include different rules on trade defence measures and, particularly, differences in non-tariff barriers such as rules of origin – determining the eligibility of a good to be exported enjoying preference.

## 2.2 Economics of unilateral preferences

The analysis of unilateral export preferences is similar to the analysis of free trade agreements.[5] In a simple partial equilibrium framework, assuming perfect competition and product homogeneity across sources, we should expect that a small country receiving preference and unable to affect the international price, exports the product at the international price plus the tariff. Figure 1 illustrates this case with an example where the demand for imports in the EU is satisfied by a horizontal rest of the world export supply that pays the MFN duty, and partly with imports from Mozambique that receives preference, and therefore, does not pay duties. Clearly, if Mozambique would pay MFN duties, it would receive $P^{cif}$ and export at point $a$. However, preferences allow Mozambique, to increase exports to $c$, and to be able to receive the full price $P^{*}$. In this setting, the price margin, the difference between the price that the exporter would pay under MFN regime and under the preferential scheme, should be proportional to the tariff margin, the difference between the MFN tariff and the preference tariff.

There are two main impacts of the unilateral preference. First, the price margin allows the preferential exporter to export more quantity. Second, it allows the exporter to capture a higher price than otherwise it would have captured. Note, that this is equivalent to the case of trade diversion, where unilateral preferences aim to divert trade and transfer revenue towards DCs.

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[5] The General Equilibrium impact of unilateral export preferences is different from reciprocal liberalization on its impact on the terms of trade, tax revenue and allocation of the resources between protected, export sectors with preference and other sectors.

It is difficult to assess the impact that unilateral exports preferences have had in practice so far. This impact seems to be product and country specific. However, it is clear in aggregate terms that unilateral export preferences have not achieved very large increases in exports or substantial production transformation towards manufactures in DCs and LDCs.

Several factors may explain this lack of success of unilateral preferences. First, several authors have suggested that stringent rules of origin associated with these agreements may jeopardize any advantage given by tariff concessions (see Carrere and de Melo (2004) and Cadot et al. (2004)). This determines that in practice we observe preferential producers paying MFN tariffs when entering developed countries markets. Second, some authors suggest that with successive liberalization in OECD countries and the resultant preference erosion (see Hoekman, Martin and Primo Braga, 2006) the preference margin has been substantially reduced to the point that in some products it does not give any competitive advantage. Finally, it is not clear whether the price margin suggested above accrues to the exporters. Some authors suggest that in practice and due to imperfect competition on the importer side, a large share of the price wedge created by preferences is appropriated by importers and not by exporters (Olarreaga and Ozden (2005) and Ozden and Sharma (2004)).

The following section assesses the impact of trade preference schemes granted by the EU to LDCs and developing countries taking Mozambique as country case.


## 3. Mozambique Exports, Preference Margin and Preference Utilization

### 3.1 Overview of Mozambique exports to the EU

The EU is currently the main destination for Mozambique exports with more than 60% of total value exported. In 2005, Mozambique exported €1.016 billions to the EU

(Eurostat).[6] The value of products exported in the EU grew by a factor of ten over the last 6 years, recording an average rate of growth per year of 47.2% (Table 1).

A big contribution to export growth came in the year 2000 with the opening of a large aluminium smelter (MOZAL), exporting its production to Belgium and Italy.[7] Despite this rapid growth, exports remain concentrated in very few products – a negative feature shared by many developing countries. Table 2 reports main export chapters (HS2) between 2000 and 2005. In this period a mere fourteen products amounted to 99% of the total value exported to the EU. Unwrought aluminium alone represented 76% of total exports followed by fish and crustaceans and tobacco products with, respectively, 12% and 2.6%. If we exclude occasional exports[8] from the analysis, we can identify 56 products at HS 8-digits as main exports over the period 2000-2005 (see Table 3).

At first glance, what emerges from the data is the low level of processing of Mozambican exports, mainly clustered around primary agriculture products, low-processed fishery products and mineral resources. The few products that may suggest some level of processing like cotton, wood and tobacco are exported at a very low stage of processing. Cotton is only ginned in Mozambique and sent to Europe for further processing while tobacco and wood products are mainly not manufactured. The industrial products recorded under HS Chapter 84 do not match any industry recorded by both the surveys of the *Instituto Nacional de Estatistica* (INE) and the Ministry of Industry and Commerce (MIC). It is very likely, therefore, that such exports are actually re-exports of products made elsewhere.

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[6] Data from the Instituto Nacional de Estatistica (INE) for the same period indicate a total of 1.121 billions USD (@ fob prices). Since Eurostat data refer to cif prices, and considering an average exchange rate USD/EUR of 0.8, there is an evident discrepancy between the two data. By applying a cif/fob factor of 1.2 and the exchange rate above we should get, according to EUROSTAT, an export @ fob prices equal to 881 millions USD.

[7] Mozal is actually selling to a company belonging to the same multinational group (BHP Billiton) so this export can be classified as intra-industry trade.

[8] We consider exports as "significant" (non occasional) if the amount exported from 2000 to 2005 is higher than 600,000 EUR or if in the last year (2005) the total exported is higher than 100,000 EUR. In this way we hope to capture both products being consistently exported by Mozambique in the past as well as emerging exports.

By looking at a simple concentration index such as the *Herfindahl index*[9] we can see that the pattern of Mozambican exports to the EU is more and more concentrated in few products. This is obviously due to the large importance assumed by MOZAL from year 2000. However, if we net out aluminium products from total exports, we may notice that some little diversification took place in our period of reference (See Figure 2), although exports still remain highly concentrated in primary products.

Concerning rules of origin, agriculture and fisheries products have to be "Wholly obtained" (W). For sugar there is a 30% of maximum "Value of foreign content" allowed (VC). In the case of fisheries, the rule per-se does not seem to be a constraint impeding the export *tout court* but may have an impact on the price margin captured by the exporter. Textile and clothing products face rather restrictive technological process rules (TEC). In the case of clothing, the rule requires a two-stage transformation process to take place locally (or within countries covered by Cotonou's cumulation rules) in order for the product to qualify. This is an important constraint not only for Mozambique but also for other ACP countries, since the poor textile manufacturing capacity in the ACP region often implies that producers have to import textile from abroad thus becoming non-compliant. A single-transformation rule as provided by AGOA would be much more beneficial to clothing industries in ACP countries. Wood products and mineral resources face a quite relaxed rule of Change of tariff heading (CTH) at HS 4-digits while important exports such as ferro-chromium, aluminium and nickel are even offered alternative rules (CTH or VC). Last column of Table 3 reports the relevant rule for each product analysed. In general, if we exclude textiles and clothing, we can state that rules of origin for the products currently exported by Mozambique do not seem to represent a major constraint.

### 3.2 Preferential access to the EU market

Mozambique currently enjoys preferential market access to the EU through different schemes: *the Cotonou Agreement*, the *EBA initiative* and the *GSP*. Coverage, tariff

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[9] We compute here a normalised Herfindahl index aggregating products at HS2. The index varies from zero to one, with a value close to zero indicating high diversification and vice versa.

margins and compliance procedures[10] vary between the schemes. The erosion of tariff preferences due to the ongoing multilateral liberalisation process at WTO level is a given fact. In 2005, the EU applied duty free access to MFN exporters in around 2,000 product lines of the existing 11,000 in the product structure. Trade weighted average of MFN tariff across the board amounts to 3.4%, but being very different for agricultural products (12.3%) and non-agricultural products (3.9%)[11].

*The Cotonou Agreement* - The first trade preferences between the EU and ACP countries[12] (including Mozambique) date back to 1975 with the signing of the first Lomé Convention. Such non reciprocal preferences included special commodity protocols granting tariff-rate quotas to specific products (sugar, rhum, meat and veal, banana) being extended every five years. In the year 2000, a new Agreement - the Cotonou Agreement – encompassing economic and trade cooperation as well as political cooperation and development finance was signed. Within the Cotonou framework, ACP countries benefit from non reciprocal preferences until 2008 when new WTO compatible (read "reciprocal") Agreements[13] will replace them. In terms of tariff preference, Cotonou exceeds the GSP for many products. Manufactured and processed products from ACP countries are generally exempted from customs duties. The picture changes for agricultural products, especially for those that directly compete with EU producers (ex. temperate products). These products benefit from less generous preferences, tariff rate quotas, seasonal duties in order to protect EU producers at the time of harvesting, or are simply excluded from the Agreement.

In terms of coverage, in 2000 ACP countries paid duties on 856 tariff lines. Among these, 116 tariff lines have been excluded from Cotonou, 301 were granted tariff-rate quotas at all-ACP level and only the remaining 439 benefited of tariff preference without quantitative restrictions (Hoekman and Ozden (2005)). The benefits of the Commodity protocols are being reduced by the new Common Agricultural Policies (CAPs) but also because of serious challenges within the WTO (ex. banana – EU vs

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[10] Ex. Rules of origin, safeguards clause, eligibility criteria, etc.
[11] WTO World Tariff Profiles (2006)
[12] Africa, Caribbean and Pacific
[13] The so-called Economic Partnership Agreements (EPA) currently under negotiations. It has to be noticed that the EPAs will replace only the trade regime between the EU and ACP countries as envisaged in the relevant chapter of the  Cotonou Agreement while the remaining parts of the Agreement will continue to be valid and last for twenty years (2020)

Central American countries; sugar – EU vs Brazil). The general perception is that Lomé and Cotonou alone have been rather unsuccessful in increasing export from ACP countries as well as encouraging diversification: from 1975 to 2000, the share of ACP exports in European markets has fallen by half, from nearly 8% to about 3%.

To benefit from these preferences, ACP countries must conform to rules of origin, which set out the degree of processing required within ACP countries. These rules of origin are generally seen as less generous than the ones granted by the GSP in terms of general principles[14], although product specific rules are basically identical. The RoO regime for ACP countries is less restrictive than GSP qualifiers since they benefit from full cumulation rather than diagonal cumulation and they have a more favourable tolerance rule (15% tolerance for all tariff lines instead of 10% plus an exclusion of access to the tolerance rule for chapters 50 to 63 which cover textiles and apparel (T&A) for the group of GSP eligible countries). Another significant difference is on fisheries products where more favourable tariff preferences granted by Cotonou are matched with more restrictive rules of origin on vessels. This determined that some LDCs (including Mozambique), unable to catch deep sea fish (ex. tuna) due to lack of adequate fleet, have been forced[15] to revert to bilateral agreements with the EU. In these agreements, EU vessels are granted fishing quotas in exchange of fees paid to national authorities. Such fish can then benefit of the preference and enter duty free in the EU market. Actually, in the case of Mozambique, this fish does not even appear in official EU statistics being classified as of EU origin. Obviously, unless the fee paid is equivalent to the preference margin, EU private companies are capturing part – or even all - the price margin granted by Cotonou.

*The EBA initiative* - The EBA initiative entered into force in March 2001 as special arrangement for LDCs in the framework of the ongoing GSP scheme. It is not an Agreement but a unilateral initiative taken by the EU – a feature that the European Commission is often reminding to ACP countries presently involved in the EPA negotiations. It basically grants duty and quota free access to all LDCs with the temporary exclusion of sugar and rice (until 2009) and the permanent exclusion of

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[14] Tolerance rule, Cumulation, etc.
[15] The EU has first right in negotiating an agreement and only if it refuses the ACP country can negotiate with a different country and export

arms and ammunitions. An initially excluded product – banana - has been liberalized in 2006. The exclusion of these products has been widely criticized in the past since the bulk of exports for a significant number of LDCs are concentrated in these products. Brenton (2003) shows that for the majority of LDCs, due to their narrow export base, the EBA does not bring a significant change since most of their export products have been already liberalized at MFN level or benefits of duty free access thanks to Cotonou. We have also to notice that sugar liberalisation for 2009 will only be partial, with LDCs acceding through increasing quotas at a pre-established price. Entry under each of the two regimes implies different paper work, different rules of origin and often different tariff preferences. For example, the certificate of origin needed for exporting under the EBA (EUR 1) is different from Cotonou's (EUR A) [16]. Such difference may well imply different costs of compliance for an exporter in order to qualify under one regime or another. Although we may recognize the positive contribution given by the EBA in terms of almost universal coverage (something that pushed WTO developed countries to take a similar commitment in the last Hong Kong Ministerial Conference), it is widely accepted that a modification of EBA rules of origin especially on products such as textile and clothing would prove greatly beneficial in expanding exports from LDCs.

The following sub-sections describe and assess existing preference margins for each regime, prices obtained by Mozambican exporters and the extent of preference utilization.

### 3.3 Preference Margins for Mozambican Exports

The main source of data related to imports in the EU is the EUROSTAT COMEXT database. It includes information on volume, quantities, country of origin and whether exports were eligible and used preferences. As the product price, we use the unit value obtained by dividing the value of exports with the correspondent number of tonnes or items. Working with unit values entails more uncertainty about the quality of the product and higher price volatility, as compared to working with actual prices. This

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[16] In Mozambique, certificates of origin needed for export under the Cotonou umbrella are issued by National Customs (EUR A), while certificates of origin for the EBA and the GSP (EUR 1) are issued by the Ministry of Industry and Trade (MIC).

implies the need for cleaning the data from outliers. The methodology used for obtaining unit values and cleaning outliers, Hadi (1992), and other data issues, is explained in detail in the appendix. All unit values are expressed as € *cif* values per ton.

Any Mozambican export is actually eligible for duty free access thanks to the EBA initiative.[17] This means two things: (a) the margin of preference potentially available for Mozambique is basically the MFN tariff and (b) any access through MFN would automatically signal non-use of preferences (see next section for an assessment of utilization rates in Mozambique). In terms of MFN tariffs, more than 41% of the tariff lines being exported by Mozambique already enjoy duty free access.[18] For these products, mainly cotton, tea, paprika, copra and wood products, any preferential access is therefore irrelevant. If we look at the value of exports entering through MFN zero over the total exported this share drops to a mere 4.5%. However, this is simply due to the weight of aluminium representing almost 80% of total export and facing a MFN tariff greater than zero.

Leaving aside the potential margin of preference we now focus on what exports concretely face when entering the EU market. Thus, we define the preference margin as the difference between the MFN tariff and the tariff actually applied on good *i* exported by Mozambique at time *t*:

$$Margin\_pref_{i,j,t} = MFN_{i,j,t} - Tariff_{i,j,t} \qquad (1)$$

If the MFN tariff is equal to the tariff applied or it is zero, then it means that there is no use of preference and *Margin_pref* will take the value zero. If the MFN tariff is greater than the applied tariff, then there is potential use of preference and *Margin_pref* will be positive. Since some Mozambican exports enter through Cotonou, even when preferences are used, for a few cases we expect some tariff margins lower than MFN, due to the fact that some products pays duties under Cotonou. In figure 3 we show the distribution of *(1)* in our period of reference. As we can see, a significant share of exports actually do not benefit of any margin of

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[17] Except sugar. Banana and rice are not being exported.
[18] See Appendix - Table 4

preference. This is due, in a large share of observations (85%), to the fact that MFN is already zero and in the remaining cases to non use of preference (15%).

On average, the tariff margin benefited by Mozambican goods is between 5% and 7% and has remained stable across the period of study. MFN and preferential tariffs have not been substantially modified in the period of reference although they have been reduced following sequenced liberalisations at MFN and preferential level.[19] Part of the variation shown from one year to the other is also due to few tariff lines facing seasonal or specific duties (ex. tobacco products HS-24, cut roses HS-06, fresh navels HS-08) at either MFN or preferential level. Results do not change significantly if we take the weighted average instead of the simple mean. Excluding the tariff lines already liberalised at MFN level shows an average margin of preference clearly a bit higher - between 9% and 12%. Table 5 and 6 summarise results at aggregate and product level.

The product showing the highest preference margin is sugar (close to 80%), thanks to the provisions of the sugar protocol (Cotonou) and of the EBA initiative, which allow the entrance of a sugar quota from Mozambique duty free and at a very favourable price. Non manufactured tobacco products (HS 24) also benefit of significant preferences – all above 6% and with a peak of 64% for tobacco refuse. Fish products (HS 03) all report an average margin of preference higher than 7% throughout the whole period with crustaceans (prawns and lobsters) recording margins of preference above 10%. Agricultural products such as cut roses (HS 06031010) benefit of a significant margin (10%) while grapefruit and cashew nuts respectively 2% and 7% on average. Textile and clothing (HS 50-63), show preference margins between 4% and 12%, but also face strict rules of origin (the so-called double transformation rule). Aluminium products have a preferential margin between 3.4% (unwrought aluminium) and 7.5%. Among products that do not benefit of any preference since they have been liberalised already multilaterally (MFN zero) we find traditional exports like cotton and tea as well as recent additions such as wood products (HS 44).

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[19] For example GSP rates changed in 2001, some FTAs (Chile, Mexico, EUROMED, etc) came gradually into force in our period of reference.

## 3.4 Price Margins for Mozambican Exports

In the presence of such positive tariff margins, perfect competition in the destination market among importers and similar quality in the product being exported by MFN and Mozambican exporters (*homogenous products*), we should expect: i) Mozambican exporters to get a higher price compared to MFN exporters of the same good in the same period; and, ii) the difference in prices being equal to the preference margin.

In order to analyze these price margins for Mozambican exports, we first need to select the relevant reference MFN price. The main concern when choosing the reference price is that it needs to reflect products that are very similar in terms of quality. If quality differences for the same product exported from different sources are large, price differential may be the result of these quality differentials and not related to tariff differentials. [20]

We try to correct this bias by constructing different MFN reference prices and so test for consistency of results. We first define $P_{cif}MFN_1$, $P_{cif}MFN_2$ and $P_{cif}MFN_3$ as:

- $P_{cif}MFN_1$ - the minimum *cif* unit value paid to a MFN exporter in the same month, which should be an approximation of the most efficient MFN exporter;

- $P_{cif}MFN_2$ - the average *cif* unit value paid to MFN exporters in the same month;

- $P_{cif}MFN_3$ - the *cif* unit value paid to the largest MFN exporter in the same month,

where the largest MFN exporter is the one with highest value of exports across the period. This should reduce the quality bias since we compare unit values of Mozambican exporters always with the same MFN competitor.

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[20] This phenomenon is well illustrated by Schott (2004). He analyses US imports over 25 years and shows that import unit values vary widely within product categories (HS 8-digits) finding evidence of a positive relationship between exporter capital endowment and unit values. That is, capital and skill abundant exporters use their endowment advantage to produce higher quality products and therefore get higher prices. If we assume that MFN exporters are generally middle-high income countries and Mozambique is a LDC, we may expect a severe quality bias in our price ratios, being biased downwards. This feature seems to be confirmed by looking at the average GNI per capita in our sample. Countries exporting through MFN regime show an income per capita two to three times higher than those exporting through preferences.

We then construct price ratios as unit values recorded under preference over reference MFN unit values. According to our assumptions, we expect it to be higher than one when there is a preferential margin and exporters are capturing it. If it is lower than one then it means that there is no price margin captured by Mozambique

$$M \arg in\_price_k = \frac{P_{cif}Mozambique_{i,t}}{P_{cif}MFN_k} \qquad (2)$$

where $P_{cif}Mozambique_{i,t}$ is the *cif* unit value paid to the export of good *i* in month *t.* and $P_{cif}MFN_1$, $P_{cif}MFN_2$ and $P_{cif}MFN_3$ are the reference prices described above.

Comparing $P_{cif}Mozambique_{i,t}$ with the min MFN price $P_{cif}MFN_1$, we obtain ratios mostly higher than one, and extremely large, which is difficult to explain by the impact of any preference margin. Although some of these excessively high ratios may be due to outliers still present in our sample easily caught by the minimum price, it seems quite likely that minimum-price-MFN- exporters are not simply the most efficient but those exporting the lowest quality of good *i* among all exporters. If so, the quality bias is very high and it becomes pointless to compare the two prices since we are referring to products with very different characteristics. For these reasons we decide to drop $P_{cif}MFN_1$ from our analysis. Figure 4 and 5 show the distribution of *Margin_price₂* and *Margin_price₃* when Mozambican exporters are using preferences and MFN is greater than zero.

For a large number of observations the price paid to Mozambican exporters is actually lower than the MFN reference prices used. Using $P_{cif}MFN_2$ we have a positive price margin only for 39% of the observations while with $P_{cif}MFN_3$ this figure raises up to 52%. We then look whether at least some products show ratios only above one or in higher percentages. In the first case, we find that crayfish (HS 03061110), a couple of tobacco products (HS 24011041 and 24012020), t-shirts (HS 61091000) and leather uppers (HS 64061011) only report price ratios above one, consistent with a positive tariff margin. However, by using the alternative reference price we do not find consistency for these results since according swordfish (HS 03037987) and raw sugar

(HS 17011110) display price ratios above one and only for a limited number of observations. For sugar, the low number of observations is due to the fact that only a handful of exports took place under preferences (quota filling), but they all show price ratios above one. Few products show substantially more observations above one than below one [21] but there is no consistency using alternative reference prices. Unwrought aluminium for instance alternates price ratios above and below one.[22] In general, it is fair to say that most products show ratios below or above one in similar percentages. *Prima facie*, it seems that Mozambican exporters are not capturing a higher price than MFN competitors even in presence of tariff preference margins.

We need to be sure that results are consistent and not biased by the quality difference between Mozambican products and reference MFN. To try to overcome this problem we construct new reference prices $P_{cif}MFN_{4,5}$ based on "same country MFN exports". In our sample we find evidence of Mozambique exporting the same good through MFN and through preferential tariff along the year or even in the same month (non utilization of preferences). We try to offer some possible explanations for this in section 3.4. By comparing the price paid to the export of good $i$ in month $t$ entering through preferential tariff with the average price of the same good $i$ entering MFN in the same period $t$ or with its yearly average we may eliminate the quality issue if the quality of good $i$ exported by Mozambique does not change significantly over time. We then construct $P_{cif}MFN_{4,5}$ accordingly, where $P_{cif}MFN_4$ is the average price of good $i$ entering MFN in the same month $t$, while $P_{cif}MFN_5$ is the average price of good $i$ entering MFN in the same year.

The dispersion of these new price ratios is much smaller than the previous ones. This may suggest that we managed to reduce the quality bias. However, and very

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[21] HS 06031010 (cut roses) HS 08054000 (grapefruit) HS 24013000 (tobacco refuse) according to Margin_price$_2$ and HS 03061350 (frozen shrimps) HS 08051030 (fresh navels) with Margin_price$_3$

[22] Being aluminium export an intra-industry trade we expect prices to be influenced by tax differentials. If the exporting country offers a more liberal fiscal regime, multinational companies have the incentive to overprice the good exported in order to transfer income and reduce the tax burden. Vice versa, if the company prefers to transfer income in the destination market because of lower taxation rates or because it wants to repatriate profits, then exports will be down priced. MOZAL currently enjoys large tax exemptions in Mozambique and it is guaranteed free repatriation of profits as foreseen in the Mozambican investment law. However, as reported, we do not find evidence of any consistent down-pricing or over-pricing by MOZAL

importantly, we still find a large share of observations for which *Margin_price* is below one – 43% when using *Margin_price₄* and 49% when using *Margin_price₅*. Again we look at the distribution of *Margin_price₄ and 5* product by product. In the first case the number of observations is too limited to draw any conclusion. In the second one we find that two products having price ratios only above one, frozen shrimps (HS 03061350) and sisal fibres (HS 56072100), while other two, saltwater fish (HS 03026999) and air-cured tobacco (HS 24012050), display a large majority of observations above one. Again, we find that most products show price ratios above and below one in similar percentages. It seems that even when the same country exports a good *i* through MFN and preferential tariff, the latter often is not enough to guarantee a price margin for the exporter. This may be explained by the reasons behind non-use of preferences (see also next section). We observe that preferences are not used in sporadic cases, suggesting the existence of some event that hinders the preferential exports and force exporters to choose to go through MFN. As we know, preferential exports need additional documentation (ex. certificate of origin) compared to MFN. In case in a particular moment this documentation implies an excessive delay, the exporter may choose to export MFN in order not to loose the business. In presence of rigid contract prices, the unit values obtained may be then insensitive to these episodes even when the exporter is forced to pay MFN duties.

Finally, we try to assess whether there is some degree of correlation between the tariff differential and the price ratios. We would expect to see a positive correlation between these two variables though the lack of evidence in favour of price margins casts some doubts on such a relationship. In Figures 8, 9, 10 and 11 we plot the price ratios described above against the margin of preference. As expected, there is no clear evidence of the correlation we expected to see in any of the price ratios used. Price margins vary significantly around the same level of tariff differential and do not increase positively with this latter in a substantial way.

Summarising, we find weak or non-existing evidence of higher prices for Mozambican exporters using preferences compared to MFN exporters across products. At product level we do find a limited number of products displaying some price margins but these results are not consistent when using different reference prices – except for raw sugar. Also, we do not find evidence of a positive correlation

between price margins and preference margins for the products exported by Mozambique. In other words, we do not find for the case of Mozambican exports the existence of a price margin associated to tariff preferences.

Despite our sensitivity analysis, these results however are potentially biased by the inability to clean up quality differentials and the low number of existing observations for Mozambique. For this reason, section 4, analyzes in more detail, using observations also for other countries, the relationship between price margins and preference margins.

### 3.5 Preference Utilization

Another important issue to analyze in the context of preferences is related to the degree of preference utilization. A widespread critique made to preferential schemes applied by developed countries is that often, the products covered are the ones scarcely exported by the beneficiaries[23], thus strongly limiting the use of preferences granted. In the case of Mozambique, this critique can be considered valid for Cotonou where many agricultural products are only partially liberalised but much less true for the EBA. Temporary restrictions on rice and banana do not affect Mozambique so far since the country is not exporting any of these products. Quotas on sugar may be seen as a shortcoming. However, Mozambique EBA quotas have been increasing in the years and at a very favourable price. As a confirmation, Brenton (2003) includes Mozambique within the countries with higher expected gains from EBA. In the case of Mozambique, the joint coverage of EU preferential schemes - defined as value of exports eligible for preference over dutiable imports - is basically 100% if we exclude sugar which has limited duty-free access.

We define *utilization of preference* as the ratio between the value of exports receiving preference and the value of eligible exports – net of products having already a MFN tariff equal to zero. Table 8 shows utilization rates by product across the five years of our reference period. For a large share of tariff lines preference utilization is not relevant, since MFN is already at zero. On the remaining products, Mozambique

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[23] See Brenton (2003) on EBA or Manchin (2005) on Cotonou and EU GSP

displays quite a high utilization rate, being the average across products and years equal to 91%. In comparison with other similar studies our utilization rates appear to be quite high. Manchin (2005) finds an average utilization rate of Cotonou for non LDCs in the range of 50% in 2000 and a much lower for GSP (6%). In the same year Mold (2005) finds an average utilization rate for GSP of 41% for African LDCs. However, both examine only one scheme and do not take into account competing schemes as we actually do. In a broader evaluation of the effectiveness of different EU preferential schemes available, the OECD (2004) find that utilization rates are much higher than commonly thought when competing schemes are taken into account. This is confirmed by our findings, at least for the case of Mozambique.

Interestingly, aluminium products report utilization rates below the average, especially the major export aluminium unwrought (HS 76011000) which also shows a large variability in utilization rates across the years. Fisheries products reports more than 94% of utilization, cashew nuts (HS 08051030) 95%. Grapefruit (HS 08054000) shows a variable utilization and a relatively low average (75%). Brown sugar is exported to the EU only through preferential quotas while some exports of cane molasses (HS 17031000) entered paying MFN tariff (lowest utilization rate at 53%). Tobacco products enter through preferential tariffs in almost all cases except for Stemmed air-cured tobacco (HS 24012050) and Kentucky type tobacco (HS 24011041). Textile and clothing, show high variations in the utilization of preferences with three products over seven below the overall average utilization rate – twine of sisal fibres (HS 56072100), cordage of sisal (HS 56072910) and t-shirts (HS 61091000). We find complete non-use of utilization only for three products and in specific years: fresh navels (HS 8051030) in 2005, cane molasses (HS 17031000) in 2002 and twine of sisal fibres (HS 56072100) in 2005.

We can think of two main potential explanations for lack of preference utilization. The first explanation is related to the costs of compliance attached to preferential schemes. In order to benefit of the preference granted any good exported to the EU must comply with its specific rule of origin as stated in the relevant annexes of the Cotonou Agreement and the GSP (for EBA). Compliance means that exporters have to face additional costs. For example, Cadot et al. (2006) describe two possible ways through which rules of origin, as the main component of cost of compliance, may

impact on the exporters cost structure. On one side, more restrictive rules may oblige firms to purchase inputs from less efficient sources, thus increasing its production cost by a fraction X. We can call this fraction *efficiency cost*. On the other side, firms will need to put in place a system in order to manage the documentation needed to prove compliance as well as pay for certificates emitted by public authorities. In fact, in both GSP (EBA) and Cotonou it is a designated public authority in the exporting country the only one allowed validating the certificate. We may call this second cost *administrative cost*. If the total cost of compliance is higher than the preference margin, then it makes sense for the firm not to export through preference but face a MFN tariff. Carrere and de Melo (2004) estimate (non parametrically) a cost of compliance for PANEURO rules of origin between 4.7% and 8.2% of the cif export price. Manchin (2005) obtain a similar estimate (4.5%) for tariff preference below which traders do not have the incentive to request preference.

The second explanation is still related to the rules and documentation required by preferential schemes. Consider an exporter that for some reason has to proceed to export its good in the shortest time possible. This may be due to a sudden request by the importer or to the deterioration of the quality of the product being exported (ex. perishable products). The reason that triggers this urgency may well be unexpected so that we can even model it as a random event. In these cases, any delay in the export process endangers the positive conclusion of the transaction. For example, the signatures required for the certificates of origin may be quite difficult to obtain in Mozambique as well as in other developing countries. One common complaint offered by private sector is that the person in charged is sometimes absent or far from the production site. In both cases the exporter would have to waste precious time in order to get the signature or wait a few days until the person is back to work. This entails an additional cost on top of other possible delays that a firm would face in any export process – whether through MFN or not. If the exporter believes that further delay would compromise its export, then it may decide to give up preferences in order not to lose the whole shipment.

Under the first argument, preferences are only used if the expected gain induced by the margin of preference – a higher price compared to MFN exporters - exceeds the costs of compliance. As we have seen in the previous section, the link between price

margins and preference margins appears to be quite weak in the case of Mozambique. Thus, we do not expect to see any positive correlation between price margins and utilization rates. Nevertheless, the existence of tariff preferences may signal to the exporter the possibility of additional profits and thus encouraging him or her to use the preference. If so, this would translate into a positive correlation between the tariff margin potentially available to a Mozambican exporter (the MFN tariff) and the utilization rates when the preference margin is above a certain threshold (the cost of compliance). Under the second argument, we should observe unexpected jumps in preference utilization uncorrelated with price or tariff margins.

In Figure 12 we plot the utilization rates against the (yearly average) of the MFN tariff. Despite the expected relationship seems relatively weak, there is a certain tendency for the utilization rate to be closer to one when the MFN tariff increases.

At the same time, though, there is no indication of a substantial drop in utilization rates when the MFN tariff is below a certain threshold. Even at product level, the products showing the lowest utilization rates (below 80%)[24] do not display neither the lowest MFN tariffs nor similar ones – these latter ranging from 2.4% to 12% (Table 9).

The existing narrow export base in Mozambique indicates that there is a very low number of firms exporting. This implies that most likely each product is exported by one or few more firms. At the same time, preference margins have been quite stable on time, as suggested above. Thus, if the cost of compliance would impact significantly on the choice of using preference, we would expect very low utilization rates or not utilization at all for certain products where MFN tariffs are sufficiently low. In these cases, in fact, the exporter would not choose to export the product preferentially since the compliance costs would equal the tariff preference potentially available. In contrast, in our data, we observe rather high utilization rates across products and few isolated drops of utilization rates. This seems to indicate that the

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[24] Aluminium unwrought and secondary aluminium (HS 76011000 and 76012091), grapefruit and fresh navels (HS 08054000 and 08051030), t-shirts and twine of sisal (HS 61091000 and 56072100) and sugar molasses (HS 17031000)

second explanation, unforeseen administrative problems, may be a much better explanation for the discontinuous utilization rates in Mozambique.

So far, we have performed an analysis based on simple correlations and the use of all the observations available for Mozambique. However, it is possible that the simple correlation analysis has not been able to isolate the quality differential between goods exported by Mozambique and those of its MFN competitors – thus biasing our analysis of price margins. In addition, we cannot exclude that other factors other than tariff differentials may impact on price margins. For these reasons, in the next section we proceed to test the relationship between prices and tariff preferences for a broader sample of countries exporting the same products as Mozambique using econometric analysis.

## 4 Econometric estimations using a broader sample

### 4.1 Analytical framework

As explained in section 1, under perfect competition and homogenous goods across sources, we should expect that preferences create a price margin and that exporters that enjoy preferential treatment will capture this price margin (Figure 1). However, as we saw in the previous section, there is no significant evidence of price rents captured by Mozambican exporters. When we compare unit values from exports entering under preference with exports of the same product entering under MFN, we find that the ratios do not tend to represent tariff differentials, and that for a large number of observations, the ratio of unit values is lower than one - which means that MFN exporters are able to get a higher price despite the preference.

Three main problems arise when comparing unit values and tariff differentials. First, as we said earlier, when we compare products at HS8-digits, we may be comparing very different varieties of the same product. Second, there may be significant costs of compliance with preferential procedures in certain products that may reduce the incentive of preferential margins when exporting under a preferential scheme. Third, exporters and importers may have different degrees of market power when negotiating

price contracts, due to size or asymmetric information, which may impact on price rent appropriation. As a result, any robust analysis linking preference and price margins needs to control for quality differences between varieties, market power and costs of compliance.

Several studies attempted to correct for these problems when analyzing the relationship between preference and price margins.[25] Olarreaga and Özden (2005), for example, analyze US imports of apparel from a sample of seven countries acceding through AGOA between 2001 and 2002. They find evidence that importers market power substantially impact the price margin captured by exporters and confirm that price margins tend to be partially appropriated by importers. The implication of this is that the real value of preferences is lower than theoretically expected. In order to control for quality differences, the authors compare only observations of same country and product entering in certain periods under preferential scheme and in others under MFN. They then compare the two in their analysis. In our view, two caveats arise when using this methodology. First, it may still be possible for products from the same country entering under MFN and under preferential scheme to be different varieties. Unfortunately, without more disaggregated data at the firm level, it is difficult to control for these differences. Second and more relevant, there is a risk of sample selection bias. The sample is based on preference non-utilization, and therefore it only uses products and countries eligible for preference that at some point enter via MFN. As we saw in section 3.4, non-utilization may be due to unforeseen events forcing the exporter to go through the MFN scheme. In these cases, it is difficult to believe that exporters may pass the duties paid to the importer, especially in the presence of some rigid contracts. Thus, if non-preference is dominated by these random events, we should expect low fluctuation of unit values and a very low elasticity of response of price margins to tariff differentials. However, this would be the result of a sample selection problem, rather than showing the true elasticity coefficient.

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[25] Özden and Sharma (2004) analyze price effects of preferential access in the context of the Caribbean basin Initiative in apparel products. Manchin (2005) estimates the impact of cost of compliance on request of preferences for non LDCs exporters in Cotonou. Anson et al. (2007) estimate the costs of compliance associated to rules of origin in NAFTA.

In order to correct for these problems, we use a methodology based on sensitivity analysis. First, we use different reference prices. Second, we use country and product dummies, and estimate the model in first differences in order to control for quality differences.

We assume that the internal price in the EU market for good $i$ coming from country $j$ at time $t$ is equal to $P^*$. When the good enters via MFN this equals the *cif* unit value times the MFN tariff $\tau$ and a margin that represents the market power of the exporter relative to the importer $m$ (equation 1), which is proxied by its relative market share. On the other hand, when the same good enters through a preferential scheme this is equal to the *cif* unit value times the preferential tariff $\tau^{pref}$ and the compliance cost[26] associated to the scheme $c$ (equation 2). We assume that both internal prices are similar, and they only need to be adjusted for quality differences by a coefficient $\delta$, which is constant on time and product specific, and measures the average difference qualities within each HS-8 category (equation 3). Rearranging equations (1), (2) and (3), we obtain equation (4), and taking logs and adding an error term, we obtain equation (5). Equation (5) implies that the ratio of *cif* prices entering under a preferential scheme and under MFN, should be explained by the tariff margin, the relative market power between exporters relative to importers, the inverse of the cost of compliance and the product specific quality adjustment.

$$P_{ijt}^{*MFN} = P_{ijt}^{cif}(1+\tau_{ijt})(1+m_{ijt}) \tag{1}$$

$$P_{ikt}^{*\operatorname{Pr}ef} = P_{ikt}^{cif}(1+\tau_{ikt}^{pref})(1+m_{ikt})(1+c_{ikt}) \tag{2}$$

$$P_{ijt}^{*MFN}\delta_i = P_{ikt}^{*\operatorname{Pr}ef} \tag{3}$$

$$P_{ikt}^{*\operatorname{Pr}ef}/P_{ijt}^{*MFN} = \frac{P_{ikt}^{cif}}{P_{ijt}^{cif}} = \frac{(1+\tau_{ijt})(1+m_{ijt})}{(1+\tau_{ikt}^{pref})(1+m_{ikt})(1+c_{ikt})}\delta_i \tag{4}$$

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[26] Preferential and MFN exports face costs due to compliance with quality standards, SPS, etc. We assume these costs to be the same between the two and included in the *cif* unit value. Here, costs of compliance refer exclusively to costs required to be able to use preferential schemes, mainly compliance with rules of origin and documentation.

$$\ln\left(\frac{P_{ikt}^{cif}}{P_{ijt}^{cif}}\right) = \alpha + \beta\ln\left(\frac{1+\tau_{ijt}}{1+\tau_{ikt}^{pref}}\right) + \delta\ln\left(\frac{1+m_{ijt}}{1+m_{ikt}}\right) + \gamma\ln\left(\frac{1}{1+c_{ikt}}\right) + \phi\ln(\delta_i) + \varepsilon_{ikt} \qquad (5)$$

We expect to find a positive sign for β, since an increase in the tariff differential would imply a higher price for the exporter using preferences; a negative sign for δ, since a higher market power of MFN exporters compared to the country exporting preferentially would imply less bargaining power and a smaller price margins; a positive sign for γ, the higher the cost of compliance the lower the ratio and the lower the price margin; and, a positive sign for φ, the higher the quality difference the higher the price differential commanded by the two varieties of good *i*.

The limited number of observations does not allow to test specifically (5) for Mozambique so we attempt to assess whether this relationship holds for a larger sample of countries. Thus, we proceed to test our baseline equation (5) using a panel of countries exporting the same 56 major export products identified for Mozambique in our period of reference.

It is important to keep in mind along the analysis is that our sample of products is not randomly selected and corresponds to Mozambique's main exports. As a result the sample is biased towards some primary products and a very low number of processed products. On the other hand, focusing primarily on primary products has the advantage that quality differences should be reduced as compared to processed and manufactured products. [27]

### 4.2 Data and methodology

Products and countries represented in our panel are summarised in Tables 10 and 11. After cleaning for outliers,[28] we have a total of 88,283 observations for 56 products defined at HS-8 digits and 196 countries. Trade flows are reported on a monthly basis and differentiated on the basis of the type access (MFN zero or greater than zero;

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[27] Schott (2004) confirms that in his sample of US imports there is more quality difference in processed products (Ex. HS8 Cotton T-shirts) than in semi-processed or primary products (ex. HS8 ginned cotton). He shows that among the first category unit values from one country can be even 20 times the values recorded from another exporting country (ex. Japan cif price for t-shirts can be 20 times the recorder cif price for Bangladesh).

[28] See the section "Data Issues" in the Appendix.

Preferential Tariff zero or greater than zero). The product with highest number of observations is t-shirt (HS 61091000 – 8290 observations), while the one least represented is copra (HS1203000 - 149 observations). In terms of countries, on average, each country in our sample exports 30% of the products, but with a large variability. There are countries exporting just one product (ex. few pacific islands) and others exporting almost all the products in the range (ex. South Africa, China, Brazil). Not surprisingly, the latter are generally middle or high-income countries while the former belong to developing countries or LDCs.

The panel is unbalanced in the sense that we do not have observations for some products or countries every month. In addition, due to the different kind of access, we may have more than one observations per time unit (ex. in the same month $t$, a country $j$ could report exports through MFN and preferential).

As price ratios, we use the same variables we defined in section 3.3 for Mozambique. As tariff ratio, we use MFN and preferential tariff faced by country $j$ exporting product $i$ in month $t$ or, alternatively, the yearly average of MFN and preferential tariffs faced by country $j$ exporting product $i$. As proxy for relative margins, we take the ratio between the average market share of countries exporting product $i$ through MFN during the year of reference $t$ and the market share of a country $j$ exporting product $i$ in year $t$ – where market share is defined as the ratio between the value of product $i$ exported in year $t$ over total imports by the EU of the same product in that year. Alternatively, when we use *Margin_price₃* as dependent variable we replace the numerator with one plus the market share of the reference country in year $t$.

The average MFN tariff in our sample is 7%, ranging from a minimum of zero to values above 100% for some products paying specific duties. Almost 50% of the exports recorded in our sample take place with a MFN tariff equal to zero. For these exports we cannot expect any benefit from preferences. Table 12 shows basic statistics for these explanatory variables when MFN is greater than zero, positive preference margin, and preferences are being used, so that we would expect to see a price margin associated to preferences. *Margin_price₁* displays too high values signalling a substantial quality bias and, as before, it is excluded from estimations. The other price ratios show averages very close or higher than one. When we compare

the exporter *cif* price with the price obtained when the same exporter exports MFN (*Margin_price₄*) we even obtain an average price margin of 100%. This seems to be in contrast with the indications drawn from the Mozambican case where we noticed a certain rigidity of prices. In the broad sample, switching from MFN to preferential seems to make a difference. However the maximum recorded by this specific price ratio is excessively high, signalling a potential problem with outliers or a substantial quality difference within the same product category. An important issue to notice is that all the price ratios computed show a median slightly below one meaning that in half of the observations where we record use of preferences, the exporting country does not get a price margin. This is quite striking also considering the fact that the average tariff differential (*tdiff* in Table 12) is 10%.

In terms of relative market power, we find that the preference-using exporting country has on average a comparable market power than the average MFN exporter (market ratio equals 98%). The figure obviously changes when we compare it with the market power of the largest MFN exporter. In this case the market ratio is well above 100% - being 109%.

Proxies for cost of compliance and quality differences are the most problematic to obtain, due to the fact that both are unobservable. We use two different specifications in order to deal with this problem. First we try to deal with the cost of compliance problem. Following Carrere and de Melo (2004) we assume that the utilization rate is a function of preference rate minus the compliance cost $U_i = f(\tau_i - c_i)$ $f'(.) > 0$ and that this latter depends positively on the restrictiveness of the rule of origin $c_i = \beta' RoO_i + v_i$, where $RoO_i$ is alternatively a dummy variable or the Estevadeordal restrictiveness index for the PANEURO system of rules of origin.[29] By estimating the reduced form $u_i = \lambda + \alpha\tau_i + \theta RoO_i + \varepsilon_i$ we can obtain estimates of the cost of compliance replacing the estimated coefficients on the cost of compliance equation: $c_i = \frac{\hat{\theta}}{\hat{\alpha}} RoO_i$. Unfortunately, our estimates using pooled OLS, fixed effects or random effects models did not give significant results. We obtain extremely low R-squared (close to zero), non significant coefficients and costs of compliance in wrong range.

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[29] See Estevadeordal and Suominen (2003)

The fact that in our sample primary and low-processed products are over represented may be an explanation for these findings. An alternative would be to use non-parametric estimates where compliance costs are simple average of tariff differentials when utilization rates are close to zero. However, this would be highly correlated with the tariff ratio. In order to keep cost of compliance in our equation we try to add a fixed cost equal to 4% as estimated in similar studies on EU preference schemes (ex. Manchin (2005)) to the preferential tariff. We have to bear in mind though, that even in the case of Mozambique we did not find evidence supporting the hypothesis of a fixed-percentage cost of compliance impacting on utilization rates. As suggested in the previous section, lack of compliance occurs in very few sporadic cases. Thus, we estimate two different specifications, once without fixed costs of compliance, and a second one where we subtract directly the fixed costs of compliance from the tariff ratio (*tariff_ratio2*).

To control for quality differences, we first use product (country) fixed effects to capture the product (country) specific quality adjustment coefficient. Our specification then becomes:

$$\ln\left(\frac{P_{ikt}^{cif}}{P_{ijt}^{cif}}\right) = \alpha + \beta \ln\left(\frac{1+\tau_{ijt}}{1+\tau_{ikt}^{pref}+\widetilde{c}}\right) + \delta \ln\left(\frac{1+m_{ijt}}{1+m_{ikt}}\right) + \phi \ln(\delta_i) + \varepsilon_{ikt} \quad (5b)$$

Since it is possible that product fixed effects may not be able to fully control for quality differences, we estimate the model using yearly averages in first differences *t − (t-1)* (equation 6). The assumption is that if the quality difference factor varies between product and countries but remain constant over time, so it will be wiped out when taking first differences.

$$\Delta \ln\left(\frac{P_{ikt}^{cif}}{P_{ijt}^{cif}}\right)_{t;t-1} = \beta \Delta \ln\left(\frac{1+\tau_{ijt}}{1+\tau_{ikt}^{pref}+\widetilde{c}}\right)_{t;t-1} + \delta \Delta \ln\left(\frac{1+m_{ijt}}{1+m_{ikt}}\right)_{t;t-1} + \varepsilon_{ikt} \quad (6)$$

The coefficients in (6) can be interpreted as elasticities with respect changes in price margins and the expected signs of the coefficients are the same as described in (5). The following section describes the main results from the estimations.

### 4.3 Results

We first estimate (5b) by using pooled OLS and then repeat the estimates by using fixed effects model (FEM) and Random effects model (REM). We correct for heteroskedasticity by using Huber-White sandwich estimators in the OLS case. It is worth reminding that by using OLS we do not capture the effect of the unobserved quality factor and that our estimates are likely to be biased. By estimating FEM and RE we also try to make use of the three possible dimensions of the panel using both product and time and country and time as panel dimensions. In this way we allow the (omitted) quality factor to vary alternatively across products or countries.

We then estimate (6) by using pooled OLS first and we cluster the error terms alternatively around products and countries.[30] Application of OLS to first differences provides unbiased and consistent estimators but it is not efficient. The OLS first difference estimator and FEM performed by STATA are based on similar forms of differencing, being the latter a differentiation from the group means (*within group estimator*). Thus, in this case it would be redundant to use FEM, therefore, we only proceed to an additional estimation of (6) with REM.

We also repeat estimations of (5b) and (6) for each product. Although the number of observations obviously diminishes, in this way we can control whether the relationship is products specific. In these estimates, panel dimensions are country and time, which implies that we are now assuming the quality factor as country specific and constant through time.

Estimations of (5b) using price margins computed on a monthly basis show poor results (Table 13). Coefficients of explanatory variables alternate positive and

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[30] In STATA the "cluster (varname)" option specifies that the observations are independent across groups but not necessarily independent within groups. varname specifies to which group each observation belongs. By specifying cluster we also imply that the Huber/White/sandwich estimator of variance is to be used in place of the traditional calculation (STATA).

negative values according to the price ratio, the model (OLS, FEM, REM) and panel dimension being used. $R^2$ are consistently close to zero. The problem may actually lie in the almost complete lack of variation of the explanatory variables compared to a significant variation in the dependant variable. Price margins computed on a monthly basis tend to vary from one month to the other while the tariff ratio do not vary monthly, being both MFN and preferential tariff constant along the same year.[31] Variations in tariff differentials are more likely to happen on a yearly basis due to sequenced liberalisations in MFN and preferential tariffs. Market ratio is by its nature calculated on a yearly basis and both cost of compliance and quality do not vary monthly. As a reference, Table 14 shows unconditional average and standard deviation for the variables of interest.

In order to overcome this problem, we try to estimate (5b) and (6) using yearly averages. On one hand this smoothes the variation of our dependant variable and on the other hand it (slightly) increases the variance of the tariff ratio variable. We concentrate our analysis in proxies *Margin_price$_2$* and *Margin_price$_3$.* By using price ratios computed using the same country exporting MFN and preferential (*Margin_price$_{5\ and\ 6}$* ) we would eliminate the market ratio variable from our equation since it would always take the value of zero (*in(1)=0*). Thus we use *Margin_price$_2$* in order to make comparisons with the average MFN exporter, while with *Margin_price$_3$* we compare price differences between same pairs of countries for the whole period – allowing us to correct for the quality differences bias. Correlation between price margins and tariff ratios is positive, while it is negative for price margin and market ratios, but extremely weak in both cases (Table 15). Results for OLS, FEM and REM estimates for (5b) having *Margin_price$_2$* as dependent variable are reported in Table 16. We report estimates for FEM and REM using both product and country as panel dimensions and estimates for tariff ratios including and excluding the fixed cost of compliance (*tariff_ratio1* and *tariff_ratio2)*. Table 17 reports the estimates when using *Margin_price$_3$* as dependant variable.

Results are quite similar for both dependent variables. Regarding the coefficient of interest, we find a positive and statistically significant preference margin pass-through

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[31] Exception made for those few products where we have specific or seasonal duties (ex. fresh navels, grapefruit, tobacco products).

(β). The size of *β* is more or less stable across OLS, FEM and REM but increases when using country as panel dimension. The coefficient for market ratio is negative in the first specification and close to zero in the second – but being non significant in both. Including a fixed cost of compliance does not change significantly the results. REM are preferred to FEM according to Hausman tests but rejected by Breusch-Pagan tests which is counterintuitive.

Still, a major problem in the estimations is the extremely low $R^2$ (close to zero) for both specifications, independently of using OLS, FEM or REM. Despite the significance of the tariff coefficient, the model seems unable to explain hardly any of the variation in price margins.

The problem may also lay in the omitted quality variable whose effect on prices is not yet captured by FEM or REM. Thus, to correct for this bias we now proceed to estimate (6) using the same variable specifications. Results are shown in Tables 18 and 19. Correlation among variables of interest remains weak. We obtain similar results as above in terms of sign, magnitude and significance of the coefficients in both specifications. It has to be stressed that the coefficient for the tariff ratio is consistently positive (as expected) and statistically significant. However, the $R^2$ continues to be very low. Despite eliminating from our regression the non-observable quality factor through first differences, tariff differential and market power are still not able to explain the variation in price margins.

It is still possible that the issue of preference margin transmission to price margins is product specific. If this is the case, there are no benefits from pooling all the observations and estimate common coefficients. Thus, we proceed to estimate (5b) and (6) at product level. We do not include the fixed cost of compliance since it is likely to be product specific so it should not alter the estimations. For these specifications, we find higher explanatory power of the model for some products. Table 20 summarises results for the two coefficients of interest β and δ for those products showing highest $R^2$ and expected signs.[32]

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[32] We take products showing $R^2$ above 10% in at least one specification (OLS, REM). Detailed results by product are shown in Tables 21 to 24.

We do not expect to obtain high significance levels due to the limited amount of observations. Among these products $\beta$ is generally positive (i.e. fresh navels, tobacco products, industrial trousers, ferro-chromium and aluminium unwrought) while $\delta$ shows more alternate signs. The only products showing some coherence across the different specifications are the three tobacco products: HS 24012010, HS 24012020 and HS 24013000.[33] For these products there is evidence that tariff differentials due to preference impact positively on prices, while an increase in the market power of MFN exporters compared to preferential ones is detrimental to the price obtained by these latter (as for assumptions). However, when we cross check these results with Mozambican data we do not find evidence that there exist a positive price margin between preferential and MFN exporters, since in most cases price ratios below one.

### 4.4 Summary of main results

The main challenge when carrying out the estimations is to isolate quality differences within products, so to ensure that we are comparing similar varieties from the same product. We first estimate different specifications using monthly data and different reference prices. We find that the results are not very robust, mainly due to the lack of variation on the tariff differential variable on a monthly basis and likely quality differences between preferential and MFN exporters.

In order to overcome these problems, we first use yearly averages, so that the variation of the explanatory variables is increased. Second, we use two different reference prices: the average MFN price - in order to estimate the impact of relative market ratio - and the price of largest MFN exporter – in order to reduce the quality bias and be able to capture quality difference through product fixed effects. The results clearly indicate a positive and statistically significant coefficient on the tariff differential (there is a pass-through), but the model still explains very little of price margin variations.

As a result, we explore the possibility that the relationship between preference margins and price margins is product specific. For this reason, we perform the same

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33'HS 24012010: "Partly or wholly stemmed Virginia Tobacco"; HS 24012020: "Partly or wholly stemmed Burley Tobacco"; HS 24013000: "Tobacco refuse"

estimations product by product. The results only show some robust explanatory power of the model in the case of few products. However, for most products, we still find that tariff differences do not explain a large part of price margins variance. These results are also confirmed by estimating the model in first differences in order to further clean for quality bias.

Summing up, when expanding the dataset to other exporting countries the results lead to two conclusions. First, tariff differentials are transmitted to price margins with a product specific and positive "pass-through" elasticity; ranging between 0.4 and 0.6 on average. Second, preference margins are unable to explain most of the variation in price margins. This means that other unidentified factors, from data collection problems to unobserved pricing policy, may be more important in determining price margins.

## 5. Conclusions and policy implications

The analysis of exports from Mozambique to the EU shows that in the five-years period from 2000 to 2005, Mozambique substantially increased the value of its exports by a factor of ten. Such impressive growth does not result from a broadening of the export base but merely from the opening of a large aluminium smelter and substantial increase in aluminium exports. Exports remain highly concentrated in primary or semi-processed products clustered around agriculture, fisheries and natural resources. In total, we find that around 56 products cover 99% of total exports.

The question that we formulated at the beginning of the paper is whether unilateral preferences in the EU have had a positive impact on Mozambican exports. The EU grants unilateral trade preferences to Mozambique through two different schemes: the Cotonou agreement and the EBA initiative. The rational of unilateral trade preferences is to allow developing countries to increase and diversify exports as well as ensure a competitive advantage to exporters which should translate into a higher *cif* price compared to MFN competitors. Previous studies show that developing countries often fails to benefit of such positive effects due to the limited coverage of many

preferential schemes which exclude major exports or to the ongoing process of multilateral liberalisation, eroding the effect of the preference advantage.

The first element to be stressed is that the joint coverage of both preferential EU schemes, Cotonou and EBA reaches 100% of the products being exported and the large majority of exports entering preferential does not pay duties. This turns the whole issue of using Cotonou or EBA superfluous for Mozambique considering the present export structure, since for these goods the two schemes provide almost identical conditions. On the other hand, more than 40% of the tariff lines currently exported have a MFN tariff equal to zero, which means that Mozambique does not benefit of any "preferential" advantage compared to world exporters for these goods. Since Mozambican firms are exporting these goods, we can conclude that at least in these cases they are able to face competition with world exporters without the advantage of preferences. On the remaining exports, Mozambique enjoys a significant *de jure* preference margin - between 9% and 12% on average depending on the reference year.

The second element to be highlighted is the relatively high preference utilization rates. Mozambique shows relatively high utilization rate (91% on average) and fairly stable, with no drops of utilization in correspondence of low tariff margins. In this sense, the traditional explanation of the effect of costs of compliance does not seem to be an issue for Mozambican exporters. This is not surprising if we consider that exported products are primary or with very low level of processing, meaning that rules of origin are not particularly impacting on producers' costs. However, few products show utilization rates substantially below the average. It is important to determine the reason behind this non-utilization since it may be due to inefficiencies in the certification process managed by public authorities more than to costs of compliance linked to the preference. This is an issue repeatedly raised in the past by the Mozambican private sector that deserves attention by the relevant public institutions such as the Ministry of Industry and Trade (MIC) and Customs (*Alfandegas*).

A third and more important element is that we do not find a price margin for preferential exporters compared to MFN competitors. Using data for Mozambique we observe that in roughly 50% of cases price ratios are below one, indicating a higher

price for exporters under MFN. In fact, the majority of products exported by Mozambique displays in a similar percentage of observations, prices above and below MFN exporters. We can actually identify only a handful of products with price ratios above one and when we conduct some sensitivity analysis by changing reference price, the results also change, showing lack of robustness.

A substantial problem that we face when doing the analysis at HS8-digits is that we are not able to distinguish between varieties of the same product. Quality may be a much stronger explanation for price differences than tariff differential. In order to take into account this factor we compare the prices obtained by Mozambican exporters when they access the EU market through preferences and MFN – assuming that the quality of the product would be the same. Even in these cases, price margins do not show the desired pattern. As suggested above, the explanation may lie in the fact that non-utilization of preferences is due to random events linked to sporadic problems in the certification system required by the preferential scheme at national level. In presence of rigid contract prices, when the exporter does not obtain relevant certification, it decides to proceed with the export acceding through MFN in order not to lose its shipment. This hypothesis seems to be confirmed by the pattern of utilization rates and the lack of evidence in favour of the cost of compliance explanation.

In order to control for quality differences, we try to assess econometrically whether price margins are positively affected by tariff margins and negatively by cost of compliance and relative market power for a sample of countries exporting the same products as Mozambique. Our attempt of estimating parametrically costs of compliance give no significant results, supporting the hypothesis that for this sample of products it may be not relevant. We continue to observe that for a high percentage of observations, price ratios are below one implying that MFN prices are higher despite significant tariff differentials. In estimating the relationship between price margins and tariff differentials we control for market power and quality differences through product dummies and first-differencing the reduced form equation. We find a positive and statistically significant pass-through elasticity from tariff margins to price margins. Nevertheless, tariff differences hardly explain any price margin variation.

We repeat estimations at product level and we find that for a small number of products (8 over the 56 analysed), tariff margins are more important in explaining price margins, although in some cases, the coefficients of the other explanatory variables do not display the expected sign. The products showing more consistency in the results and along the lines hypothesized are three tobacco products (Barley, Virginia and Tobacco refuse).

Thus, going back to the main question of our paper, the evidence suggests that export preferences are utilized and that, on average, preference margins are transmitted to price margins. Nevertheless, there are other relevant factors explaining price margins. First, it is likely that unobserved contract pricing policies between importers and exporters have a higher influence on price margins than any change in MFN tariffs. Second, it is well established that for certain products at HS8, different unit may result from different varieties of the same product, thus implying quality bias. Schott (2004) argues that unit values for the same product reflect country endowments. Capital abundant countries export capital intense varieties of the same good, being paid higher unit values compared to other exporting countries. If so prices actually refer to different varieties that may follow totally different dynamics. As a result, to properly control for quality differences, a more disaggregated classification is required and we should control for country factor endowments. Third, it is possible that export unit values imply substantial bias in their representation of price changes (Silver, 2007).

The fact that the price effect associated to preferences may be very small does not imply that preferences have no value at all. It is possible that preferences may be a signal used by importers to choose among potential suppliers. This is an empirical question worth analyzing in detail. Nevertheless, if this is the case, preferences provide only an initial advantage for exporting. Once exports have originated from preferential countries, exporters are subject to similar price conditions than any other MFN exporter.

For Mozambique, the general message of our findings is that it is difficult to sustain that EU preferences are currently valuable. Despite a positive pass-through of preference margins on price margins, this remains small if compared to the impact that other unexplained factors have on prices. Product quality differences and the type

of relationship between exporter and importer seem to be far more important. In addition, Mozambique export growth has been mainly achieved thanks to a single investment apparently unrelated to the existence of trade preferences and there has not been any significant diversification towards exports in products with positive preference margins. Thus, in light of these results, the priority given in defending tariff preferences in current negotiating *fora* (for example the EPA) should be at least re-considered.

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# APPENDIX

*Data Issues*

In our study we use EUROSTAT COMEXT data to analyse exports to the EU. Our period of reference goes from 2000 to 2005. Although trade data are available for earlier years, tariff data needed for our analysis are only available from year 2000. This year is also the year of entering into force of the Cotonou Agreement, a relevant issue in our study. Trade flows analysed in this paper only include EU external trade thus excluding any intra EU trade or re-exports within the EU and refer to goods imported in the EU for final use only. COMEXT data report value and quantities of monthly imports at HS 8-digits. Unit values are then computed by dividing values by quantities and assumed as proxy for cif prices. Unit values so computed show large volatility and variance. This is explained by the reasons outlined in the paper but also by potential measurement errors in customs. In order to smooth the series, we apply Hadi´s (1992) methodology to eliminate outliers at 95% confidence level to the unit values series. This allows us to eliminate extreme values due to typing errors or due to large quality differences.

Other information includes country of origin and an indication of the tariff faced by product. However, concerning this latter, COMEXT only distinguishes between "MFN" (zero or greater than zero) and "Preferential tariff" (zero or greater than zero) without specifying the scheme through which the export takes place nor the actual level of the tariff applied. This is a serious shortcoming and implies, for instance, that it is not possible to compare exports taking place under EBA or Cotonou. Also, there is a significant share of imports that cannot be classified either as MFN or Preferential Export due to mistakes in customs documents. We thus proceed to eliminate such observations from our sample.

In order to get the relevant MFN tariff and the tariff actually faced by each good we cross the information provided by COMEXT with the one contained in the TARIC database. We then obtain MFN and applied tariffs for each good $i$ exported by country $j$ in period $t$. The creation of such database has been quite long and cumbersome due to the complexity of the EU tariff system, the number of FTAs signed by the EU (ex. Euro-Med Association Agreements, EEA, FTA-Chile, FTA- Mexico) and its

unilateral preferential schemes (EBA, Cotonou and GSP). One shortcoming of our database is that it cannot take into account eventual exemptions granted or distinguish between different tariff-rate quotas available. In these cases our tariffs would be biased (most likely upward). However, such bias, where existing, is limited to specific tariff lines and only to certain specific shipments so we believe it does not impact significantly on our analysis. The best way to eliminate such bias would be to use data on import duties. By computing the ratio between the unit value of each export and the duties collected would automatically net out any exemption and provide the exact tariff applied. Unfortunately, such information is not made publicly available by the EC.

# Tables and Figures

## Tables

*Table 1 Mozambican export to the EU 2000/2005*

|                          | 2000  | 2001   | 2002  | 2003  | 2004  | 2005   | TOT    |
|--------------------------|-------|--------|-------|-------|-------|--------|--------|
| **Exports (millions EUR)** | 172.6 | 519.9  | 583.1 | 596.7 | 838.6 | 1016.3 | 3727.2 |
| **Growth rate**          |       | 201.2% | 12.2% | 2.3%  | 40.5% | 21.2%  |        |

Source: EUROSTAT

*Table 2 Main Mozambican export to the EU 2000/2005 by HS2 Chapter*

| HS 2 Chapter | Product | Value (millions EUR) | % over TOT | Cumulative |
|---|---|---|---|---|
| 76 | aluminium and articles thereof | 2962.43 | 77.20% | 77.20% |
| 03 | fish and crustaceans | 464.67 | 12.11% | 89.31% |
| 24 | tobacco and manufactured tobacco substitutes | 102.82 | 2.68% | 91.99% |
| 52 | Cotton | 88.77 | 2.31% | 94.30% |
| 25 | salt; sulphur; earths and stone; plastering material, lime and cement | 50.12 | 1.31% | 95.61% |
| 17 | sugars and sugar confectionery | 45.93 | 1.20% | 96.80% |
| 44 | wood and articles of wood; wood charcoal | 24.61 | 0.64% | 97.44% |
| 27 | mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes | 16.15 | 0.42% | 97.86% |
| 12 | oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medical plants; straw and fodder | 16.07 | 0.42% | 98.28% |
| 08 | edible fruit and nuts; peel of citrus fruits or melons | 8.98 | 0.23% | 98.52% |
| 84 | nuclear reactors, boilers, machinery and mechanical appliances; parts thereof | 7.30 | 0.19% | 98.71% |
| 56 | wadding, felt and nonwovens; special yarns; twine, cordage, rope and cable and articles thereof | 6.20 | 0.16% | 98.87% |
| 71 | natural or cultured pearls, precious or semi-precious stones, precious metals | 4.49 | 0.12% | 98.99% |
| 72 | iron and steel | 4.46 | 0.12% | 99.10% |

Source: Authors' calculations based on EUROSTAT

*Table 3 Main Mozambican exports (HS8)*

| Product description | TOT Exp 2000/2005 (1000 EUR) | Rule of Origin (EBA & Cotonou) |
|---|---|---|
| 03026999:FRESH OR CHILLED FISH (EXCL. 0302.11-00 TO 0302.69-87) | 1349.36 | W |
| 03037987:FROZEN SWORDFISH  XIPHIAS GLADIUS | 2416.55 | W |
| 03061110:FROZEN CRAWFISH TAILS, WHETHER IN SHELL OR NOT, INCL. CRAWFISH TAILS IN SHELL, COOKED BY STEAMING OR BY BOILING IN WATER | 1043.73 | W |
| 03061190:FROZEN ROCK LOBSTER AND OTHER SEA CRAWFISH  PALINURUS SPP., PANULIRUS SPP. AND JASUS SPP. , WHETHER IN SHELL OR NOT, INCL. ROCK LOBSTER AND OTHER SEA CRAWFISH IN SHELL, COOKED BY STEAMING OR BY BOILING IN WATER (EXCL. CRAWFISH TAILS) | 382.77 | W |
| 03061350:FROZEN SHRIMPS OF THE GENUS  PENAEUS , WHETHER IN SHELL OR NOT, INCL. SHRIMPS IN SHELL, COOKED BY STEAMING OR BY BOILING IN WATER | 304337.86 | W |
| 03061380:FROZEN SHRIMPS AND PRAWNS, WHETHER IN SHELL OR NOT, INCL. SHRIMPS AND PRAWNS IN SHELL, COOKED BY STEAMING OR BY BOILING IN WATER (EXCL.  PANDALIDAE ,  CRANGON , DEEPWATER ROSE SHRIMPS PARAPENAEUS LONGIROSTRIS  AND SHRIMPS OF THE GENUS  PENAEUS ) | 142722.62 | W |
| 03061910:FROZEN FRESHWATER CRAYFISH, WHETHER IN SHELL OR NOT, INCL. CRAYFISH IN SHELL, COOKED BY STEAMING OR BY BOILING IN WATER | 643.58 | W |
| 03075910:FROZEN OCTOPUS  OCTOPUS SPP. , WITH OR WITHOUT SHELL | 883.84 | W |
| 05080000:CORAL AND SIMILAR MATERIALS, SHELLS OF MOLLUSCS, CRUSTACEANS OR ECHINODERMS, CUTTLE-BONE, POWDER AND WASTE THEREOF, UNWORKED OR SIMPLY PREPARED BUT NOT OTHERWISE WORKED OR CUT TO SHAPE | 980.74 | W |
| 06031010:FRESH CUT ROSES AND BUDS, OF A KIND SUITABLE FOR BOUQUETS OR FOR ORNAMENTAL PURPOSES | 768.44 | W or VC (max 50% foreign content) |
| 08013200:FRESH OR DRIED CASHEW NUTS, SHELLED | 5282 | W |
| 08051030:FRESH NAVELS, NAVELINES, NAVELATES, SALUSTIANAS, VERNAS, VALENCIA LATES, MALTESE, SHAMOUTIS, OVALIS, TROVITA AND HAMLINS | 1100.08 | W |
| 08054000:FRESH OR DRIED GRAPEFRUIT | 1880.09 | W |
| 09024000:BLACK FERMENTED TEA AND PARTLY FERMENTED TEA, WHETHER OR NOT FLAVOURED, IN IMMEDIATE PACKINGS OF > 3 KG | 1576.38 | CH |
| 09042030:DRIED FRUITS OF GENUS CAPSICUM OR PIMENTA, NEITHER CRUSHED OR GROUND (EXCL. SWEET PEPPERS) | 365.97 | W |
| 12030000:COPRA | 15764.32 | W |
| 17011110:RAW CANE SUGAR, FOR REFINING (EXCL. ADDED FLAVOURING OR COLOURING) | 35923.36 | VC (30% max foreign content) |
| 17031000:CANE MOLASSES RESULTING FROM THE EXTRACTION OR REFINING OF SUGAR | 6406.82 | VC (30% max foreign content) |
| 24011041:FIRE-CURED KENTUCKY TYPE TOBACCO (EXCL. STEMMED OR STRIPPED) | 14309.02 | W |
| 24012010:PARTLY OR WHOLLY STEMMED OR STRIPPED FLUE-CURED VIRGINIA TYPE TOBACCO, OTHERWISE UNMANUFACTURED | 1402.67 | W |
| 24012020:PARTLY OR WHOLLY STEMMED OR STRIPPED LIGHT AIR-CURED BURLEY TYPE TOBACCO, INCL. BURLEY HYBRIDS, OTHERWISE UNMANUFACTURED | 24586.56 | W |
| 24012041:PARTLY OR WHOLLY STEMMED OR STRIPPED FIRE-CURED KENTUCKY TYPE TOBACCO, OTHERWISE UNMANUFACTURED | 1758.11 | W |

| Product description | TOT Exp 2000/2005 (1000 EUR) | Rule of Origin (EBA & Cotonou) |
|---|---|---|
| 24012050:PARTLY OR WHOLLY STEMMED OR STRIPPED LIGHT AIR-CURED TOBACCO, OTHERWISE UNMANUFACTURED (EXCL. BURLEY OR MARYLAND TYPE) | 56095.15 | W |
| 24013000:TOBACCO REFUSE | 1139.96 | W |
| 25041000:NATURAL GRAPHITE IN POWDER OR IN FLAKES | 1209.83 | TEC |
| 25161100:GRANITE, CRUDE OR ROUGHLY TRIMMED (EXCL. ALREADY WITH THE CHARACTERISTICS OF SETTS, CURBSTONES AND FLAGSTONES) | 46905.91 | TEC |
| 27011290:BITUMINOUS COAL ECSC , WHETHER OR NOT PULVERIZED (EXCL. AGGLOMERATED AND COKING) | 14491.65 | CH |
| 27011900:COAL ECSC , WHETHER OR NOT PULVERIZED (EXCL. AGGLOMERATED, ANTHRACITE AND BITUMINOUS COAL) | 1652.5 | CH |
| 41015010: WHOLE RAW HIDES AND SKINS OF BOVINE INCL. BUFFALO OR EQUINE ANIMALS, WHETHER OR NOT DEHAIRED OR SPLIT, OF A WEIGHT PER SKIN > 16 KG, FRESH | 485.41 | CH |
| 41032000:RAW HIDES AND SKINS OF REPTILES, FRESH OR SALTED, DRIED, LIMED, PICKLED OR OTHERWISE PRESERVED, (EXCL. PARCHMENT-DRESSED) | 1017 | CH |
| 41041151: FULL GRAINS, UNSPLIT AND GRAIN SPLITS, IN THE WET STATE INCL. WET-BLUE , OF THE WHOLE HIDES AND SKINS OF BOVINE INCL. BUFFALO ANIMALS, WITH A SURFACE AREA OF > 2,6 M2, TANNED, WITHOUT HAIR ON (EXCL. FURTHER PREPARED) | 180.86 | TEC |
| 44020000:WOOD CHARCOAL, INCL. SHELL OR NUT CHARCOAL, WHETHER OR NOT COMPRESSED (EXCL. WOOD CHARCOAL USED AS A MEDICAMENT, CHARCOAL MIXED WITH INCENSE, ACTIVATED CHARCOAL AND CHARCOAL IN THE FORM OF CRAYONS) | 618.71 | CH |
| 44039995: WOOD IN THE ROUGH, WHETHER OR NOT STRIPPED OF BARK OR SAPWOOD, OR ROUGHLY SQUARED (EXCL. ROUGH-CUT WOOD FOR WALKING STICKS, UMBRELLAS, TOOL SHAFTS AND THE LIKE; WOOD CUT INTO BOARDS OR BEAMS, ETC.; WOOD TREATED WITH PAINT, STAINS, CREOSOTE OR OT | 844.47 | TEC |
| 44072969:KERUING, RAMIN, KAPUR, TEAK, JONGKONG, MERBAU, JELUTONG, KEMPAS, OKOUME, OBECHE, SAPELLI, SIPO, ACAJOU D AFRIQUE, MAKORE, IROKO, TIAMA, MANSONIA, ILOMBA, DIBETOU, LIMBA, PALISSANDRE DE RIO, PALISSANDRE DE PARA AND PALISSANDRE DE ROSE, SAWN OR CUT | 878.92 | TEC |
| 44072995: ABURA, AFRORMOSIA, AKO, ANDIROBA, ANINGRE, AVODIRE, BALAU, BOSSE CLAIR, BOSSE FONCE, CATIVO, CEDRO, DABEMA, DOUSSIE, FRAMIRE, FREIJO, FROMAGER, FUMA, GERONGGANG, IPE, JABOTY, JEQUITIBA, KOSIPO, KOTIBE, KOTO, LOURO, MACARANDUBA, MAHOGANY (EXCL. | 1777.19 | TEC |
| 44079994:TROPICAL WOOD, SAWN OR CHIPPED LENGTHWISE, SLICED OR PEELED, OF A THICKNESS OF > 6 MM (EXCL. PLANED, SANDED OR FINGER-JOINTED, AND TROPICAL WOOD SPECIFIED IN SUBHEADING NOTE 1 TO THIS CHAPTER) | 819.62 | TEC |
| 44079997: WOOD, SAWN OR CHIPPED LENGTHWISE, SLICED OR PEELED, OF A THICKNESS OF > 6 MM (EXCL. PLANED, SANDED OR FINGER-JOINTED, AND TROPICAL WOOD, CONIFEROUS WOOD, OAK QUERCUS SPP. , BEECH FAGUS SPP. AND POPLAR) | 8112.78 | TEC |
| 44092091:BLOCKS, STRIPS AND FRIEZES FOR PARQUET FLOORING, NOT ASSEMBLED, OF WOOD (EXCL. THOSE OF CONIFEROUS WOOD) | 664.58 | TEC |

| Product description | TOT Exp 2000/2005 (1000 EUR) | Rule of Origin (EBA & Cotonou) |
|---|---|---|
| 44092098: NON-CONIFEROUS WOOD, CONTINUOUSLY SHAPED  TONGUED, GROOVED, REBATED, CHAMFERED, V-JOINTED BEADED, MOULDED, ROUNDED OR THE LIKE  ALONG ANY OF ITS EDGES OR FACES, WHETHER OR NOT PLANED, SANDED OR FINGER-JOINTED (EXCL.  MOULDINGS FOR FRAMES FOR P | 358.61 | TEC |
| 47032900:SEMI-BLEACHED OR BLEACHED CHEMICAL WOOD PULP, SODA OR SULPHATE (EXCL. DISSOLVING GRADES AND CONIFEROUS CHEMICAL WOOD PULP) | 172.1 | CH |
| 52010090:COTTON, NEITHER CARDED NOR COMBED (EXCL. ABSORBENT OR BLEACHED) | 86025.99 | CH |
| 52081299:PLAIN WOVEN FABRICS OF COTTON, CONTAINING >= 85 % COTTON BY WEIGHT AND WEIGHING > 130 G TO 200 G PER M2, UNBLEACHED, WITH A WIDTH OF > 165 CM | 1488.97 | TEC |
| 53089090:YARN OF VEGETABLE TEXTILE FIBRES (EXCL. FLAX YARN, YARN OF JUTE OR OF OTHER TEXTILE BAST FIBRES OF HEADING 5303, COIR YARN, HEMP YARN, PAPER YARN, RAMIE YARN AND WOOL YARN) | 208.54 | TEC |
| 56072100:BINDER OR BALER TWINE OF SISAL OR OTHER TEXTILE FIBRES OF THE GENUS AGAVE | 1720.47 | TEC |
| 56072910:TWINE, CORDAGE, ROPE AND CABLE OF SISAL OR OTHER TEXTILE FIBRES OF THE GENUS AGAVE, WHETHER OR NOT PLAITED OR BRAIDED, WHETHER OR NOT IMPREGNATED, COATED, COVERED OR SHEATHED WITH RUBBER OR PLASTIC, WITH A LINEAR DENSITY OF > 100 000 DECITEX, I.E | 3686.97 | TEC |
| 56072990:TWINE, CORDAGE, ROPE AND CABLE OF SISAL OR OTHER TEXTILE FIBRES OF THE GENUS AGAVE, WHETHER OR NOT PLAITED OR BRAIDED, WHETHER OR NOT IMPREGNATED, COATED, COVERED OR SHEATHED WITH RUBBER OR PLASTIC, WITH A LINEAR DENSITY OF =< 100 000 DECITEX, I. | 713.94 | TEC |
| 61091000:T-SHIRTS, SINGLETS AND OTHER VESTS OF COTTON, KNITTED OR CROCHETED | 2991.77 | TEC |
| 62034211:MEN S OR BOYS  INDUSTRIAL AND OCCUPATIONAL TROUSERS AND BREECHES OF COTTON (EXCL. KNITTED OR CROCHETED AND BIB AND BRACE OVERALLS) | 135.98 | TEC |
| 64061011:LEATHER UPPERS, WHETHER OR NOT ATTACHED TO SOLES OTHER THAN OUTER SOLES | 1969.23 | CH |
| 71031000:PRECIOUS STONES AND SEMI-PRECIOUS STONES, UNWORKED OR SIMPLY SAWN OR ROUGHLY SHAPED, WHETHER OR NOT GRADED (EXCL. DIAMONDS AND IMITATION PRECIOUS STONES AND SEMI-PRECIOUS STONES) | 4363.41 | CH |
| 72024199:FERRO-CHROMIUM, CONTAINING BY WEIGHT > 6% CARBON AND > 60% CHROMIUM | 2866.1 | CH |
| 75021000:NICKEL, NOT ALLOYED, UNWROUGHT | 629.61 | CH |
| 76011000:ALUMINIUM, NOT ALLOYED, UNWROUGHT | 2782710.6 | CH or VC (50% max foreign content) |
| 76012010:PRIMARY ALUMINIUM, ALLOYED, UNWROUGHT | 102067.44 | CH or VC (50% max foreign content) |
| 76012091:SECONDARY ALUMINIUM, ALLOYED, IN INGOTS OR IN LIQUID STATE | 77059.49 | CH or VC (50% max foreign content) |

| Product description | TOT Exp 2000/2005 (1000 EUR) | Rule of Origin (EBA & Cotonou) |
|---|---|---|
| 76051100:WIRE OF NON-ALLOY ALUMINIUM, WITH A MAXIMUM CROSS-SECTIONAL DIMENSION OF > 7 MM (EXCL. STRANDED WIRE, CABLES, PLAITED BANDS AND THE LIKE AND OTHER ARTICLES OF HEADING 7614, AND ELECTRICALLY INSULATED WIRES) | 304.42 | CH or VC (50% max foreign content) |

Rule of Origin: W (Wholly obtained); CH (Change of tariff heading @ HS4); TEC (Technological process); VC (Value content)

*Source: Authors' calculations based on EUROSTAT*

*Table 4 Average MFN tariff for products exported by Mozambique*

| | year | | | | | |
|---|---|---|---|---|---|---|
| **HS 8** | **2000** | **2001** | **2002** | **2003** | **2004** | **2005** |
| **03026999** | 15.0% | 15.0% | 13.8% | 15.0% | 15.0% | 15.0% |
| **03037987** | 7.5% | 7.5% | | | | |
| **03061110** | 12.5% | 12.5% | 12.5% | 12.5% | 12.5% | 12.5% |
| **03061190** | 12.5% | 12.5% | 12.5% | 12.5% | 12.5% | 12.5% |
| **03061350** | 12.0% | 12.0% | 12.0% | 12.0% | 12.0% | 12.0% |
| **03061380** | 12.0% | 12.0% | 12.0% | 12.0% | 12.0% | 12.0% |
| **03061910** | 7.5% | 7.5% | 7.5% | | | |
| **03075910** | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% |
| **05080000** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **06031010** | | | 8.5% | 9.9% | 9.4% | 9.6% |
| **08013200** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **08051030** | 16.0% | 19.2% | | | 16.0% | 16.0% |
| **08054000** | 2.4% | 2.4% | 2.4% | | 2.4% | 2.4% |
| **09024000** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **09042030** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **12030000** | 0.0% | 0.0% | 0.0% | | | |
| **17011110** | | | 82.0% | 80.6% | 80.9% | |
| **17031000** | 7.5% | 0.0% | 4.8% | 5.4% | 10.2% | 0.0% |
| **24011041** | 7.2% | 7.2% | 7.4% | 8.1% | 9.6% | 8.7% |
| **24012010** | 6.5% | 6.4% | | | | |
| **24012020** | 5.9% | 6.4% | 6.6% | 7.7% | 9.5% | 9.8% |
| **24012041** | | 10.6% | 11.1% | | | |
| **24012050** | 11.8% | 11.3% | 11.3% | 11.4% | 11.4% | 11.5% |
| **24013000** | | 57.9% | 55.0% | 71.9% | | 72.1% |
| **25041000** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **25161100** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **27011290** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **27011900** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **41015010** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **41032000** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **41041151** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **44020000** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **44039995** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **44072969** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **44072995** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **44079996** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **44079997** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **44092091** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **44092098** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **47032900** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **52010090** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **52081299** | 8.8% | | | | | |
| **53089090** | | 3.8% | 3.8% | | 3.8% | 3.8% |
| **56072100** | 12.0% | | 12.0% | 12.0% | | 12.0% |
| **56072910** | 12.0% | 12.0% | 12.0% | 12.0% | 12.0% | 12.0% |
| **56072990** | | 12.0% | 12.0% | 12.0% | 12.0% | 12.0% |
| **61091000** | 12.0% | 12.0% | 12.0% | | | 12.0% |
| **62034211** | | | | | 12.0% | 12.0% |
| **64061011** | 3.0% | 3.0% | | | | |
| **71031000** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **75021000** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |

| HS 8 | 2000 | 2001 | 2002 | year 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|
| **76011000** | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% |
| **76012010** | | 6.0% | 6.0% | | | 6.0% |
| **76012091** | | | 6.0% | 6.0% | 6.0% | 6.0% |
| **76051100** | | | | | | 7.5% |

Source: Authors' calculations based on TARIC

*Table 5 Average preference margins (Mozambique)*

| Average and weighted-average for *Margin_pref* (all tariff lines) | | | | | Average for *Margin_pref* (tariff lines with MFN>0 only) | |
|---|---|---|---|---|---|---|
| Year | Average | Max | Year | Weighted-average | Year | Average |
| **2000** | 5.0% | 15.0% | **2000** | 7.0% | **2000** | 9.0% |
| **2001** | 6.0% | 63.0% | **2001** | 6.0% | **2001** | 10.0% |
| **2002** | 7.0% | 83.0% | **2002** | 8.0% | **2002** | 12.0% |
| **2003** | 7.0% | 82.0% | **2003** | 4.0% | **2003** | 11.0% |
| **2004** | 6.0% | 81.0% | **2004** | 7.0% | **2004** | 10.0% |
| **2005** | 6.0% | 86.0% | **2005** | 6.0% | **2005** | 11.0% |

Source: authors' calculations based on TARIC and EUROSTAT

*Table 6 Average preference margins per product (Mozambique)*

| HS8 | 2000 | 2001 | 2002 | year 2003 | 2004 | 2005 | Average |
|---|---|---|---|---|---|---|---|
| 03026999 | 15.0% | 15.0% | 13.8% | 13.8% | 15.0% | 15.0% | 14.6% |
| 03037987 | 7.5% | 7.5% | | | | | 7.5% |
| 03061110 | 10.9% | 12.5% | 12.5% | 12.5% | 12.5% | 9.4% | 11.7% |
| 03061190 | 12.5% | 12.5% | 12.5% | 12.5% | 12.5% | 8.3% | 11.8% |
| 03061350 | 12.0% | 12.0% | 12.0% | 12.0% | 11.0% | 12.0% | 11.8% |
| 03061380 | 11.1% | 11.1% | 12.0% | 9.6% | 12.0% | 11.1% | 11.1% |
| 03061910 | 7.5% | 7.5% | 7.5% | | | | 7.5% |
| 03075910 | 8.0% | 8.0% | 8.0% | 6.4% | 8.0% | 6.4% | 7.5% |
| 05080000 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 06031010 | 8.5% | 9.9% | 8.7% | 9.6% | | | 9.2% |
| 08013200 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 08051030 | 9.1% | 7.3% | 12.8% | 0.0% | | | 7.3% |
| 08054000 | 1.6% | 1.8% | 1.2% | 1.6% | 1.6% | | 1.6% |
| 09024000 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 09042030 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 12030000 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 17011110 | 82.0% | 80.6% | 80.9% | | | | 81.2% |
| 17031000 | 3.8% | 0.0% | 0.0% | 3.0% | 10.2% | 0.0% | 2.8% |
| 24011041 | 7.2% | 7.2% | 7.4% | 6.8% | 9.6% | 8.7% | 7.8% |
| 24012010 | 6.5% | 6.4% | | | | | 6.4% |
| 24012020 | 5.9% | 6.4% | 6.6% | 7.7% | 9.5% | 9.8% | 7.7% |
| 24012041 | 10.6% | 11.1% | | | | | 10.9% |
| 24012050 | 11.8% | 11.3% | 7.1% | 6.9% | 8.6% | 9.8% | 9.2% |
| 24013000 | 57.9% | 55.0% | 71.9% | 72.1% | | | 64.2% |
| 25041000 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 25161100 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 27011290 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 27011900 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 41015010 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 41032000 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 41041151 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 44020000 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 44039995 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 44072969 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 44072995 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 44079996 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 44079997 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 44092091 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 44092098 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 47032900 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 52010090 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 52081299 | 8.8% | | | | | | 8.8% |
| 53089090 | 3.8% | 3.8% | 3.8% | 3.8% | | | 3.8% |
| 56072100 | 10.0% | 12.0% | 6.0% | 0.0% | | | 7.0% |
| 56072910 | 10.5% | 12.0% | 12.0% | 5.1% | 12.0% | 10.0% | 10.3% |
| 56072990 | 12.0% | 12.0% | 12.0% | 12.0% | 12.0% | | 12.0% |
| 61091000 | 9.0% | 9.0% | 12.0% | 0.0% | | | 7.5% |
| 62034211 | 12.0% | 12.0% | | | | | 12.0% |
| 64061011 | 2.8% | 2.5% | | | | | 2.6% |
| 71031000 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |

| HS8 | 2000 | 2001 | 2002 | year 2003 | 2004 | 2005 | Average |
|---|---|---|---|---|---|---|---|
| **75021000** | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| **76011000** | 2.0% | 3.5% | 4.2% | 3.1% | 4.2% | 4.8% | 3.6% |
| **76012010** | 6.0% | 6.0% | 6.0% | | | | 6.0% |
| **76012091** | 0.0% | 6.0% | 6.0% | 6.0% | | | 4.5% |
| **76051100** | 7.5% | | | | | | 7.5% |

Source: Authors' calculations based on TARIC

*Table 7 Tabulated price ratios (Margin_price₂ and Margin_price₃) per product*

| Margin_price₂<1 | | | | Margin_price₂>1 | | | |
|---|---|---|---|---|---|---|---|
| hs8 | Freq. | Percent | Cum. | hs8 | Freq. | Percent | Cum. |
| 03026999 | 69 | 19.83 | 19.83 | 03037987 | 2 | 0.63 | 0.63 |
| 03037987 | 8 | 2.3 | 22.13 | *03061110* | *10* | *3.13* | *3.76* |
| 03061190 | 7 | 2.01 | 24.14 | 03061190 | 9 | 2.82 | 6.58 |
| 03061350 | 47 | 13.51 | 37.64 | 03061350 | 23 | 7.21 | 13.79 |
| 03061380 | 67 | 19.25 | 56.9 | 03061380 | 5 | 1.57 | 15.36 |
| 03061910 | 4 | 1.15 | 58.05 | 03075910 | 7 | 2.19 | 17.55 |
| 03075910 | 17 | 4.89 | 62.93 | *06031010* | *29* | *9.09* | *26.65* |
| 06031010 | 3 | 0.86 | 63.79 | 08051030 | 1 | 0.31 | 26.96 |
| 08051030 | 11 | 3.16 | 66.95 | *08054000* | *10* | *3.13* | *30.09* |
| 08054000 | 1 | 0.29 | 67.24 | 17031000 | 1 | 0.31 | 30.41 |
| 17031000 | 3 | 0.86 | 68.1 | *24011041* | *14* | *4.39* | *34.8* |
| 24012010 | 7 | 2.01 | 70.11 | 24012010 | 14 | 4.39 | 39.18 |
| 24012050 | 19 | 5.46 | 75.57 | *24012020* | *63* | *19.75* | *58.93* |
| 24013000 | 1 | 0.29 | 75.86 | 24012050 | 26 | 8.15 | 67.08 |
| 52081299 | 3 | 0.86 | 76.72 | *24013000* | *18* | *5.64* | *72.73* |
| 56072100 | 10 | 2.87 | 79.6 | 52081299 | 2 | 0.63 | 73.35 |
| 56072910 | 1 | 0.29 | 79.89 | 53089090 | 8 | 2.51 | 75.86 |
| 62034211 | 4 | 1.15 | 81.03 | 56072910 | 4 | 1.25 | 77.12 |
| 76011000 | 41 | 11.78 | 92.82 | 56072990 | 6 | 1.88 | 79 |
| 76012010 | 2 | 0.57 | 93.39 | *61091000* | *16* | *5.02* | *84.01* |
| 76012091 | 22 | 6.32 | 99.71 | *64061011* | *21* | *6.58* | *90.6* |
| 76051100 | 1 | 0.29 | 100 | 76011000 | 20 | 6.27 | 96.87 |
| | | | | 76012010 | 10 | 3.13 | 100 |
| | | | | | | | |
| **Total** | 348 | 100 | | **Total** | 319 | 100 | |
| Margin_price₃<1 | | | | Margin_price₃>1 | | | |
| hs8 | Freq. | Percent | Cum. | hs8 | Freq. | Percent | Cum. |
| | | | | | | | |
| 03026999 | 42 | 9.63 | 9.63 | 03026999 | 27 | 9.41 | 9.41 |
| 03061110 | 17 | 3.9 | 13.53 | *03037987* | *10* | *3.48* | *12.89* |
| 03061190 | 8 | 1.83 | 15.37 | 03061110 | 8 | 2.79 | 15.68 |
| 03061350 | 7 | 1.61 | 16.97 | 03061190 | 12 | 4.18 | 19.86 |
| 03061380 | 27 | 6.19 | 23.17 | *03061350* | *63* | *21.95* | *41.81* |
| 03061910 | 2 | 0.46 | 23.62 | 03061380 | 45 | 15.68 | 57.49 |
| 03075910 | 10 | 2.29 | 25.92 | 03061910 | 2 | 0.7 | 58.19 |
| 06031010 | 31 | 7.11 | 33.03 | 03075910 | 14 | 4.88 | 63.07 |
| 08051030 | 1 | 0.23 | 33.26 | 06031010 | 1 | 0.35 | 63.41 |
| 08054000 | 15 | 3.44 | 36.7 | *08051030* | *11* | *3.83* | *67.25* |
| 17031000 | 4 | 0.92 | 37.61 | 08054000 | 1 | 0.35 | 67.6 |
| 24011041 | 14 | 3.21 | 40.83 | *17011110* | *4* | *1.39* | *68.99* |
| 24012010 | 12 | 2.75 | 43.58 | 24011041 | 2 | 0.7 | 69.69 |
| 24012020 | 51 | 11.7 | 55.28 | 24012010 | 9 | 3.14 | 72.82 |
| 24012050 | 26 | 5.96 | 61.24 | 24012020 | 14 | 4.88 | 77.7 |
| 24013000 | 19 | 4.36 | 65.6 | 24012050 | 20 | 6.97 | 84.67 |
| 52081299 | 3 | 0.69 | 66.28 | 52081299 | 2 | 0.7 | 85.37 |
| 53089090 | 8 | 1.83 | 68.12 | 56072100 | 2 | 0.7 | 86.06 |
| 56072100 | 4 | 0.92 | 69.04 | 56072910 | 5 | 1.74 | 87.8 |
| 56072910 | 19 | 4.36 | 73.39 | 56072990 | 2 | 0.7 | 88.5 |

| Margin_price₂<1 | | | | Margin_price₂>1 | | | |
|---|---|---|---|---|---|---|---|
| **hs8** | **Freq.** | **Percent** | **Cum.** | **hs8** | **Freq.** | **Percent** | **Cum.** |
| **56072990** | 12 | 2.75 | 76.15 | **76011000** | 13 | 4.53 | 93.03 |
| **61091000** | 16 | 3.67 | 79.82 | **76012091** | 19 | 6.62 | 99.65 |
| **62034211** | 4 | 0.92 | 80.73 | **76051100** | 1 | 0.35 | 100 |
| **64061011** | 21 | 4.82 | 85.55 | | | | |
| **76011000** | 48 | 11.01 | 96.56 | | | | |
| **76012010** | 12 | 2.75 | 99.31 | | | | |
| **76012091** | 3 | 0.69 | 100 | | | | |
| | | | | | | | |
| **Total** | 436 | 100 | | **Total** | 287 | 100 | |

Source: Authors' calculations

* Products highlighted in dark grey show products having price ratios only above one and in light grey products having the majority of observations above one but also some observations below one.

*Table 7 Tabulated price ratios (Margin_price$_4$ and Margin_price$_5$) per product*

| Margin_price$_4$<1 | | | | Margin_price$_4$>1 | | | |
|---|---|---|---|---|---|---|---|
| **hs8** | **Freq.** | **Percent** | **Cum.** | **hs8** | **Freq.** | **Percent** | **Cum.** |
| | | | | | | | |
| **03061380** | 4 | 11.11 | 11.11 | *03026999* | 2 | 4.17 | 4.17 |
| **06031010** | 1 | 2.78 | 13.89 | *03061350* | 1 | 2.08 | 6.25 |
| **08051030** | 1 | 2.78 | 16.67 | **03061380** | 2 | 4.17 | 10.42 |
| **08054000** | 3 | 8.33 | 25 | **08051030** | 3 | 6.25 | 16.67 |
| **24012050** | 5 | 13.89 | 38.89 | **08054000** | 4 | 8.33 | 25 |
| **56072910** | 4 | 11.11 | 50 | **24012050** | 12 | 25 | 50 |
| **61091000** | 3 | 8.33 | 58.33 | *56072100* | 1 | 2.08 | 52.08 |
| **64061011** | 1 | 2.78 | 61.11 | **56072910** | 1 | 2.08 | 54.17 |
| **76011000** | 14 | 38.89 | 100 | **61091000** | 1 | 2.08 | 56.25 |
| | | | | **64061011** | 2 | 4.17 | 60.42 |
| | | | | **76011000** | 19 | 39.58 | 100 |
| | | | | | | | |
| | | | | | | | |
| **Total** | 36 | 100 | | **Total** | 48 | 100 | |
| Margin_price$_5$<1 | | | | Margin_price$_5$>1 | | | |
| **hs8** | **Freq.** | **Percent** | **Cum.** | **hs8** | **Freq.** | **Percent** | **Cum.** |
| | | | | | | | |
| **03026999** | 1 | 0.68 | 0.68 | *03026999* | *22* | *13.84* | *13.84* |
| **03061110** | 9 | 6.12 | 6.8 | **03061110** | 1 | 0.63 | 14.47 |
| **03061190** | 2 | 1.36 | 8.16 | *03061350* | 11 | 6.92 | 21.38 |
| **03061380** | 34 | 23.13 | 31.29 | **03061380** | 14 | 8.81 | 30.19 |
| **03075910** | 6 | 4.08 | 35.37 | **03075910** | 2 | 1.26 | 31.45 |
| **06031010** | 4 | 2.72 | 38.1 | **06031010** | 7 | 4.4 | 35.85 |
| **08051030** | 2 | 1.36 | 39.46 | **08051030** | 7 | 4.4 | 40.25 |
| **08054000** | 8 | 5.44 | 44.9 | **08054000** | 8 | 5.03 | 45.28 |
| **17031000** | 2 | 1.36 | 46.26 | *24012050* | *32* | *20.13* | *65.41* |
| **24011041** | 4 | 2.72 | 48.98 | *56072100* | 6 | 3.77 | 69.18 |
| **24012050** | 9 | 6.12 | 55.1 | **56072910** | 7 | 4.4 | 73.58 |
| **56072910** | 11 | 7.48 | 62.59 | **61091000** | 2 | 1.26 | 74.84 |
| **61091000** | 13 | 8.84 | 71.43 | **64061011** | 11 | 6.92 | 81.76 |
| **64061011** | 10 | 6.8 | 78.23 | **76011000** | 29 | 18.24 | 100 |
| **76011000** | 32 | 21.77 | 100 | | | | |
| | | | | | | | |
| **Total** | 147 | 100 | | **Total** | 159 | 100 | |

Source: Authors' calculations

\* Products highlighted in dark grey show products having price ratios only above one and in light grey products having the majority of observations above one but also some observations below one.

*Table 8– Utilization rates – yearly (Mozambique)*

| HS8 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | *Average* |
|---|---|---|---|---|---|---|---|
| 03026999 | 100% | 100% | 100% | 99% | 100% | 100% | *100%* |
| 03037987 | 100% | 100% | . | . | . | . | *100%* |
| 03061110 | 87% | 100% | 100% | 100% | 100% | 77% | *94%* |
| 03061190 | 100% | 100% | 100% | 100% | 100% | 78% | *96%* |
| 03061350 | 100% | 100% | 100% | 100% | 100% | 100% | *100%* |
| 03061380 | 100% | 99% | 100% | 95% | 100% | 99% | *99%* |
| 03061910 | 100% | 100% | 100% | . | . | . | *100%* |
| 03075910 | 100% | 100% | 100% | 92% | 100% | 73% | *94%* |
| 05080000 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 06031010 | . | . | 100% | 100% | 99% | 100% | *100%* |
| 08013200 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 08051030 | 96% | 89% | . | . | 100% | 0% | *71%* |
| 08054000 | 93% | 86% | . | 26% | 90% | 78% | *75%* |
| 09024000 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 09042030 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 12030000 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 17011110 | . | . | 100% | 100% | 100% | . | *100%* |
| 17031000 | 50% | . | 0% | 60% | 100% | . | *53%* |
| 24011041 | 100% | 100% | 100% | 99% | 100% | 100% | *100%* |
| 24012010 | 100% | 100% | . | . | . | . | *100%* |
| 24012020 | 100% | 100% | 100% | 100% | 100% | 100% | *100%* |
| 24012041 | . | 100% | 100% | . | . | . | *100%* |
| 24012050 | 100% | 100% | 65% | 63% | 93% | 99% | *87%* |
| 24013000 | . | 100% | 100% | 100% | . | 100% | *100%* |
| 25041000 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 25161100 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 27011290 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 27011900 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 41015010 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 41032000 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 41041151 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 44020000 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 44039995 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 44072969 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 44072995 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 44079996 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 44079997 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 44092091 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 44092098 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 47032900 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 52010090 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 52081299 | 100% | . | . | . | . | . | *100%* |
| 53089090 | . | 100% | . | 100% | 100% | 100% | *100%* |
| 56072100 | 86% | . | 100% | 66% | . | 0% | *63%* |
| 56072910 | 96% | 100% | 100% | 18% | 100% | 72% | *81%* |
| 56072990 | . | 100% | 100% | 100% | 100% | 100% | *100%* |
| 61091000 | 96% | 98% | 100% | . | . | . | *74%* |
| 62034211 | . | . | . | . | 100% | 100% | *100%* |
| 64061011 | 98% | 93% | . | . | . | . | *95%* |
| 71031000 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |
| 75021000 | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero | MFN zero |

| HS8 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | *Average* |
|---|---|---|---|---|---|---|---|
| **76011000** | 46% | 97% | 100% | 43% | 99% | 81% | *78%* |
| **76012010** | . | 100% | 100% | . | . | 100% | *100%* |
| **76012091** | . | . | 0% | 100% | 100% | 100% | *75%* |
| **76051100** | . | . | . | . | . | 100% | *100%* |

Source: Authors' calculations

*Missing values indicate no exports

*Table 9 Products showing lowest average utilization rates*

| HS8 | Lowest Average Utilization rates (<80%) | Average MFN tariff |
|---|---|---|
| 76011000 | 78% | 6.0% |
| 08054000 | 75% | 2.4% |
| 76012091 | 75% | 6.0% |
| 61091000 | 74% | 12.0% |
| 08051030 | 71% | 17.1% |
| 56072100 | 63% | 12.0% |
| 17031000 | 53% | 4.6% |

Source: Authors' calculations

*Table 10 Broad sample - Products frequencies*

| hs8 | Freq. | Percent |
|---|---|---|
| 03026999 | 4236 | 4.8 |
| 03037987 | 1200 | 1.36 |
| 03061110 | 550 | 0.62 |
| 03061190 | 1017 | 1.15 |
| 03061350 | 3885 | 4.4 |
| 03061380 | 3146 | 3.56 |
| 03061910 | 301 | 0.34 |
| 03075910 | 2488 | 2.82 |
| 05080000 | 1479 | 1.68 |
| 06031010 | 2600 | 2.95 |
| 08013200 | 830 | 0.94 |
| 08051030 | 1137 | 1.29 |
| 08054000 | 1164 | 1.32 |
| 09024000 | 2201 | 2.49 |
| 09042030 | 1182 | 1.34 |
| 12030000 | 149 | 0.17 |
| 17011110 | 562 | 0.64 |
| 17031000 | 551 | 0.62 |
| 24011041 | 319 | 0.36 |
| 24012010 | 1688 | 1.91 |
| 24012020 | 1301 | 1.47 |
| 24012041 | 173 | 0.2 |
| 24012050 | 1086 | 1.23 |
| 24013000 | 1612 | 1.83 |
| 25041000 | 801 | 0.91 |
| 25161100 | 1908 | 2.16 |
| 27011290 | 717 | 0.81 |
| 27011900 | 589 | 0.67 |
| 41015010 | 744 | 0.84 |
| 41032000 | 726 | 0.82 |
| 41041151 | 1644 | 1.86 |
| 44020000 | 2161 | 2.45 |
| 44039995 | 2418 | 2.74 |
| 44072969 | 1964 | 2.22 |
| 44072995 | 1928 | 2.18 |
| 44079996 | 1663 | 1.88 |
| 44079997 | 3279 | 3.71 |
| 44092091 | 2834 | 3.21 |
| 44092098 | 2465 | 2.79 |
| 47032900 | 985 | 1.12 |
| 52010090 | 2890 | 3.27 |
| 52081299 | 1951 | 2.21 |
| 53089090 | 293 | 0.33 |
| 56072100 | 331 | 0.37 |
| 56072910 | 206 | 0.23 |
| 56072990 | 247 | 0.28 |
| 61091000 | 8290 | 9.39 |
| 62034211 | 2665 | 3.02 |
| 64061011 | 2430 | 2.75 |
| 71031000 | 1124 | 1.27 |
| 72024199 | 610 | 0.69 |

| hs8 | Freq. | Percent |
|---|---|---|
| **75021000** | 629 | 0.71 |
| **76011000** | 1719 | 1.95 |
| **76012010** | 1289 | 1.46 |
| **76012091** | 1243 | 1.41 |
| **76051100** | 683 | 0.77 |

Source: Authors' calculations

*Table 11 Broad sample - Country frequencies*

| Country | Overall | | Between products | | Average GNI per capita (USD) 2000/2005 |
|---|---|---|---|---|---|
| | Freq. | Percent | Freq. | Percent | |
| **Iceland** | 420 | 0.48 | 22 | 39.29 | 36080.51 |
| **Norway** | 1709 | 1.94 | 46 | 82.14 | 44463.97 |
| **Switzerland** | 1427 | 1.62 | 45 | 80.36 | 43329.29 |
| **Turkey** | 1814 | 2.05 | 46 | 82.14 | 3189.504 |
| **Romania** | 1435 | 1.63 | 36 | 64.29 | 2419.54 |
| **Bulgaria** | 1049 | 1.19 | 31 | 55.36 | 2273.146 |
| **Albania** | 653 | 0.74 | 25 | 44.64 | 1690.245 |
| **Ukraine** | 987 | 1.12 | 33 | 58.93 | 1010.699 |
| **Belarus** | 499 | 0.57 | 22 | 39.29 | 1957.595 |
| **Moldova** | 276 | 0.31 | 21 | 37.5 | 621.2681 |
| **Russia** | 1564 | 1.77 | 38 | 67.86 | 2695.467 |
| **Georgia** | 237 | 0.27 | 19 | 33.93 | 851.9831 |
| **Armenia** | 58 | 0.07 | 13 | 23.21 | 1044.138 |
| **Azerbaijan** | 128 | 0.14 | 17 | 30.36 | 781.7969 |
| **Kasakhstan** | 306 | 0.35 | 14 | 25 | 1870.458 |
| **Turkmenistan** | 118 | 0.13 | 3 | 5.36 | |
| **Uzbekistan** | 230 | 0.26 | 10 | 17.86 | 463.7391 |
| **Tadjikistan** | 165 | 0.19 | 7 | 12.5 | 226.303 |
| **Kyrghistan** | 113 | 0.13 | 7 | 12.5 | 349.3805 |
| **Croatia** | 1102 | 1.25 | 36 | 64.29 | 5667.595 |
| **Bosnia and Herz.** | 968 | 1.1 | 26 | 46.43 | 1855.062 |
| **Serb.Monten.** | 872 | 0.99 | 27 | 48.21 | 1808.073 |
| **For.JRep.Mac** | 614 | 0.7 | 25 | 44.64 | 2089.495 |
| **Morocco** | 1238 | 1.4 | 38 | 67.86 | 1395.089 |
| **Algeria** | 420 | 0.48 | 20 | 35.71 | 2031.024 |
| **Tunisia** | 1169 | 1.32 | 38 | 67.86 | 2291.848 |
| **Libyan Arab Jamahiriya** | 12 | 0.01 | 7 | 12.5 | 4572 |
| **Egypt** | 1127 | 1.28 | 36 | 64.29 | 1360.453 |
| **Sudan** | 235 | 0.27 | 17 | 30.36 | 432.7234 |
| **Mauritania** | 450 | 0.51 | 13 | 23.21 | 461.9333 |
| **Mali** | 119 | 0.13 | 8 | 14.29 | 271.9328 |
| **Burkina Faso** | 95 | 0.11 | 8 | 14.29 | 293.8947 |
| **Niger** | 72 | 0.08 | 14 | 25 | 175.2778 |
| **Chad** | 92 | 0.1 | 5 | 8.93 | 257.6087 |
| **Cape Verde** | 110 | 0.12 | 8 | 14.29 | 1585.054 |
| **Senegal** | 674 | 0.76 | 23 | 41.07 | 521.1869 |
| **Gambia** | 223 | 0.25 | 18 | 32.14 | 294.574 |
| **Guinea Biss.** | 179 | 0.2 | 15 | 26.79 | 148.8827 |
| **Guinea** | 695 | 0.79 | 19 | 33.93 | 399.741 |
| **Sierra Leone** | 60 | 0.07 | 14 | 25 | 196.3333 |
| **Liberia** | 157 | 0.18 | 15 | 26.79 | 127.2414 |
| **Ivory Coast** | 1142 | 1.29 | 29 | 51.79 | 667.662 |
| **Ghana** | 1135 | 1.29 | 30 | 53.57 | 335.1013 |
| **Togo** | 334 | 0.38 | 18 | 32.14 | 274.9102 |
| **Benin** | 373 | 0.42 | 18 | 32.14 | 391.9571 |
| **Nigeria** | 935 | 1.06 | 30 | 53.57 | 380.8235 |
| **Cameroon** | 772 | 0.87 | 22 | 39.29 | 753.6278 |
| **Centr.Africa** | 246 | 0.28 | 14 | 25 | 285.2846 |
| **Equat.Guinea** | 162 | 0.18 | 7 | 12.5 | 710 |

| Country | Overall | | Between products | | Average GNI per capita (USD) 2000/2005 |
|---|---|---|---|---|---|
| | Freq. | Percent | Freq. | Percent | |
| S.Tome,Princ | 21 | 0.02 | 4 | 7.14 | 331.8182 |
| Gabon | 502 | 0.57 | 14 | 25 | 3639.681 |
| Congo | 559 | 0.63 | 19 | 33.93 | 704.5081 |
| Congo (Dem. Rep.) | 477 | 0.54 | 19 | 33.93 | 102.0097 |
| Rwanda | 152 | 0.17 | 6 | 10.71 | 220.3947 |
| Burundi | 109 | 0.12 | 5 | 8.93 | 97.52294 |
| Saint Helena | 4 | 0 | 2 | 3.57 | |
| Angola | 222 | 0.25 | 15 | 26.79 | 673.1081 |
| Ethiopia | 280 | 0.32 | 14 | 25 | 124.75 |
| Eritrea | 147 | 0.17 | 11 | 19.64 | 168.3674 |
| Djibouti | 13 | 0.01 | 4 | 7.14 | 890.8333 |
| Somalia | 6 | 0.01 | 5 | 8.93 | |
| Kenya | 822 | 0.93 | 38 | 67.86 | 432.0803 |
| Uganda | 673 | 0.76 | 22 | 39.29 | 254.1308 |
| Tanzania | 1168 | 1.32 | 39 | 69.64 | 297.0805 |
| Seychelles | 195 | 0.22 | 11 | 19.64 | 7510.355 |
| Mozambique | 1502 | 1.7 | 55 | 98.21 | 241.1718 |
| Madagascar | 1347 | 1.53 | 37 | 66.07 | 261.4996 |
| Mauritius | 527 | 0.6 | 20 | 35.71 | 4233.454 |
| Comoros | 5 | 0.01 | 4 | 7.14 | 616.6667 |
| Mayotte | 54 | 0.06 | 3 | 5.36 | |
| Zambia | 476 | 0.54 | 22 | 39.29 | 359.4328 |
| Zimbabwe | 1549 | 1.75 | 32 | 57.14 | 593.6152 |
| Malawi | 741 | 0.84 | 17 | 30.36 | 153.2659 |
| South Africa | 2134 | 2.42 | 50 | 89.29 | 3271.771 |
| Namibia | 315 | 0.36 | 20 | 35.71 | 2171.016 |
| Botswana | 161 | 0.18 | 4 | 7.14 | 3956.708 |
| Swaziland | 241 | 0.27 | 14 | 25 | 1536.556 |
| Lesotho | 41 | 0.05 | 3 | 5.36 | 667.561 |
| USA | 2413 | 2.73 | 55 | 98.21 | 37655.11 |
| Canada | 1271 | 1.44 | 43 | 76.79 | 25212.2 |
| S.Pierre,Miq | 16 | 0.02 | 6 | 10.71 | |
| Mexico | 800 | 0.91 | 40 | 71.43 | 6214.575 |
| Bermuda | 4 | 0 | 3 | 5.36 | |
| Guatemala | 537 | 0.61 | 23 | 41.07 | 1959.33 |
| Belize | 207 | 0.23 | 22 | 39.29 | 3378.485 |
| Honduras | 545 | 0.62 | 26 | 46.43 | 960.789 |
| El Salvador | 124 | 0.14 | 8 | 14.29 | 2242.6 |
| Nicaragua | 279 | 0.32 | 20 | 35.71 | 755.6272 |
| Costa Rica | 462 | 0.52 | 25 | 44.64 | 4103.745 |
| Panama | 287 | 0.33 | 24 | 42.86 | 4062.021 |
| Anguilla | 1 | 0 | 1 | 1.79 | |
| Cuba | 519 | 0.59 | 32 | 57.14 | |
| St.Ch.&Nevis | 26 | 0.03 | 5 | 8.93 | 7028.125 |
| Haiti | 78 | 0.09 | 4 | 7.14 | 445.1282 |
| Bahamas | 95 | 0.11 | 18 | 32.14 | |
| Turks,Caicos | 40 | 0.05 | 5 | 8.93 | |
| Dominican R. | 286 | 0.32 | 14 | 25 | 2235.42 |
| Virgin Isles | 5 | 0.01 | 4 | 7.14 | |
| Antigua,Barb | 19 | 0.02 | 9 | 16.07 | 9351.429 |
| Dominica | 90 | 0.1 | 7 | 12.5 | 3453.871 |

| Country | Overall | | Between products | | Average GNI per capita (USD) 2000/2005 |
|---|---|---|---|---|---|
| | Freq. | Percent | Freq. | Percent | |
| **Cayman Isles** | 26 | 0.03 | 2 | 3.57 | |
| **Jamaica** | 253 | 0.29 | 15 | 26.79 | 3053.795 |
| **St Lucia** | 12 | 0.01 | 4 | 7.14 | 4222.5 |
| **St Vincent** | 27 | 0.03 | 5 | 8.93 | 2945 |
| **Brit.Virg.Isl.** | 15 | 0.02 | 9 | 16.07 | |
| **Barbados** | 30 | 0.03 | 4 | 7.14 | |
| **Montserrat** | 14 | 0.02 | 5 | 8.93 | |
| **Trinidad,Tob** | 101 | 0.11 | 11 | 19.64 | 6893.366 |
| **Grenada** | 77 | 0.09 | 2 | 3.57 | 3589.804 |
| **Aruba** | 6 | 0.01 | 1 | 1.79 | |
| **Nl Antilles** | 27 | 0.03 | 9 | 16.07 | |
| **Colombia** | 946 | 1.07 | 37 | 66.07 | 1994.577 |
| **Venezuela** | 878 | 0.99 | 31 | 55.36 | 3528.059 |
| **Guyana** | 327 | 0.37 | 15 | 26.79 | 925.3405 |
| **Surinam** | 568 | 0.64 | 24 | 42.86 | 2142.134 |
| **Ecuador** | 671 | 0.76 | 32 | 57.14 | 1829.046 |
| **Peru** | 818 | 0.93 | 34 | 60.71 | 2233.301 |
| **Brazil** | 2752 | 3.12 | 51 | 91.07 | 3095.247 |
| **Chile** | 819 | 0.93 | 32 | 57.14 | 4788.706 |
| **Bolivia** | 405 | 0.46 | 18 | 32.14 | 964.1975 |
| **Paraguay** | 450 | 0.51 | 19 | 33.93 | 1082.356 |
| **Uruguay** | 376 | 0.43 | 23 | 41.07 | 4557.739 |
| **Argentina** | 1743 | 1.97 | 41 | 73.21 | 4950.643 |
| **Falkland Is.** | 3 | 0 | 3 | 5.36 | |
| **Lebanon** | 237 | 0.27 | 19 | 33.93 | 5334.093 |
| **Syria** | 405 | 0.46 | 22 | 39.29 | 1178.198 |
| **Iraq** | 4 | 0 | 2 | 3.57 | |
| **Iran** | 631 | 0.71 | 29 | 51.79 | 1967.67 |
| **Israel** | 733 | 0.83 | 29 | 51.79 | 16969.78 |
| **Gaza + Jericho** | 19 | 0.02 | 5 | 8.93 | |
| **East Timor** | 1 | 0 | 1 | 1.79 | 430 |
| **Jordan** | 116 | 0.13 | 10 | 17.86 | 1947.069 |
| **Saudi Arabia** | 217 | 0.25 | 25 | 44.64 | 9516.912 |
| **Kuwait** | 11 | 0.01 | 5 | 8.93 | 20278.18 |
| **Bahrain** | 262 | 0.3 | 16 | 28.57 | 12234.39 |
| **Qatar** | 30 | 0.03 | 7 | 12.5 | |
| **U.A.Emirates** | 585 | 0.66 | 33 | 58.93 | 21651.14 |
| **Oman** | 313 | 0.35 | 15 | 26.79 | 8230.36 |
| **Yemen** | 206 | 0.23 | 11 | 19.64 | 487.1359 |
| **Afghanistan** | 15 | 0.02 | 8 | 14.29 | |
| **Pakistan** | 917 | 1.04 | 27 | 48.21 | 526.7721 |
| **India** | 2470 | 2.8 | 51 | 91.07 | 545.0648 |
| **Bangladesh** | 603 | 0.68 | 26 | 46.43 | 406.6667 |
| **Maldives** | 91 | 0.1 | 5 | 8.93 | 2147.059 |
| **Sri Lanka** | 1059 | 1.2 | 30 | 53.57 | 932.3041 |
| **Nepal** | 247 | 0.28 | 7 | 12.5 | 239.1498 |
| **Bhutan** | 4 | 0 | 3 | 5.36 | 960 |
| **Myanmar** | 603 | 0.68 | 13 | 23.21 | |
| **Thailand** | 1568 | 1.78 | 41 | 73.21 | 2238.348 |
| **Lao (People s Democratic Republic)** | 195 | 0.22 | 12 | 21.43 | 341.7949 |
| **Vietnam** | 1184 | 1.34 | 38 | 67.86 | 480.5574 |

| Country | Overall | | Between products | | Average GNI per capita (USD) 2000/2005 |
|---|---|---|---|---|---|
| | Freq. | Percent | Freq. | Percent | |
| Cambodia | 174 | 0.2 | 5 | 8.93 | 331.7241 |
| Indonesia | 2316 | 2.62 | 45 | 80.36 | 917.9663 |
| Malaysia | 1340 | 1.52 | 35 | 62.5 | 4017.649 |
| Brunei | 71 | 0.08 | 4 | 7.14 | |
| Singapore | 748 | 0.85 | 31 | 55.36 | 23581.77 |
| Philippines | 807 | 0.91 | 35 | 62.5 | 1131.115 |
| Mongolia | 42 | 0.05 | 10 | 17.86 | 562.1429 |
| China | 2390 | 2.71 | 50 | 89.29 | 1269.745 |
| North Korea | 20 | 0.02 | 6 | 10.71 | |
| South Korea | 700 | 0.79 | 35 | 62.5 | 12133.57 |
| Japan | 317 | 0.36 | 34 | 60.71 | 35206.47 |
| Taiwan | 595 | 0.67 | 34 | 60.71 | |
| Hong Kong | 445 | 0.5 | 22 | 39.29 | 26156.14 |
| Macao | 124 | 0.14 | 8 | 14.29 | 14010 |
| Australia | 1479 | 1.68 | 43 | 76.79 | 24214.69 |
| Papua N.G. | 280 | 0.32 | 14 | 25 | 577.4332 |
| Aust.Oceania | 1 | 0 | 1 | 1.79 | |
| Nauru | 3 | 0 | 3 | 5.36 | |
| New Zealand | 396 | 0.45 | 34 | 60.71 | 17569.07 |
| Solomon Is. | 49 | 0.06 | 7 | 12.5 | 588.0488 |
| Tuvalu | 1 | 0 | 1 | 1.79 | |
| N. Caledonia | 100 | 0.11 | 8 | 14.29 | |
| Am. Oceania | 10 | 0.01 | 3 | 5.36 | |
| Wallis,Futun | 6 | 0.01 | 1 | 1.79 | |
| Kiribati | 1 | 0 | 1 | 1.79 | 930 |
| N.Z Oceania | 1 | 0 | 1 | 1.79 | |
| Fiji | 115 | 0.13 | 9 | 16.07 | 2513.412 |
| Vanuatu | 40 | 0.05 | 3 | 5.36 | 1297.297 |
| Tonga | 6 | 0.01 | 2 | 3.57 | 1566 |
| West. Samoa | 6 | 0.01 | 1 | 1.79 | 1370 |
| North.Mar.Is | 33 | 0.04 | 3 | 5.36 | |
| Fr.Polynesia | 38 | 0.04 | 5 | 8.93 | |
| Fed.Micron. | 1 | 0 | 1 | 1.79 | 2110 |
| Marshall Is. | 3 | 0 | 1 | 1.79 | 2810 |
| Palau | 2 | 0 | 2 | 3.57 | |
| Américan Samoa | 3 | 0 | 3 | 5.36 | |
| Guam | 4 | 0 | 3 | 5.36 | |
| US Minor outlying Islands | 2 | 0 | 2 | 3.57 | |
| Cocos Islands(or Keeling Isl.) | 1 | 0 | 1 | 1.79 | |
| Christmas Island | 1 | 0 | 1 | 1.79 | |
| Heard Island & McDonald Islan. | 2 | 0 | 1 | 1.79 | |
| Cook Islands | 4 | 0 | 2 | 3.57 | |
| Tokelau | 12 | 0.01 | 3 | 5.36 | |
| Bouvet Island | 5 | 0.01 | 3 | 5.36 | |
| South Georgia & S.Sandwich Is. | 2 | 0 | 2 | 3.57 | |
| TOT | 88283 | 100 | | | |

Source: Authors' calculations

*Table 12 Broad sample descriptive statistics for explanatory variables (conditional to preferences being used)*

| variable | mean | median | sd | min | max |
|---|---|---|---|---|---|
| *Margin_price$_1$* | 18.56 | 2.11 | 443.02 | 0.02 | 28324.83 |
| *Margin_price$_2$* | 0.96 | 0.90 | 0.52 | 0.01 | 11.83 |
| *Margin_price$_3$* | 1.21 | 1.01 | 0.93 | 0.01 | 20.21 |
| *Margin_price$_4$* | 2.00 | 0.99 | 63.26 | 0.00 | 145.30 |
| *Margin_price$_5$* | 1.05 | 0.98 | 0.88 | 0.01 | 69.37 |
| | | | | | |
| **Tdiff** | 10% | 8% | 11% | 0% | 186% |
| **Mfn** | 12% | 12% | 11% | 1% | 186% |
| **Tariff** | 2% | 0% | 3% | 0% | 95% |
| **Mkt_ratio** | 98% | 100% | 8% | 53% | 143% |
| **Mkt_ratio_ref_country** | 109% | 105% | 15% | 53% | 159% |

Source: Authors' calculations

*Table 13 Regressions monthly - DEP VAR in(Margin_price2), in(Margin_price3), in(Margin_price4), in(Margin_price5)*

| DEP VAR ln(Margin_price2) | OLS | | OLS | |
|---|---|---|---|---|
| ltratio | 0.0008 | | | |
| | [0.0278] | | | |
| lmkt_ratio | -0.1238*** | | -0.1243*** | |
| | [0.0221] | | [0.0221] | |
| ltratio2 | | | -0.0074 | |
| | | | [0.0279] | |
| Constant | -0.1624*** | | -0.1625*** | |
| | [0.0023] | | [0.0020] | |
| Observations | 87302 | | 87302 | |
| R-squared | 0 | | 0 | |
| Robust standard errors in brackets | | | | |
| * significant at 10%; ** significant at 5%; *** significant at 1% | | | | |
| | | | | |
| | | | | |
| DEP VAR ln(Margin_price2) | FEM (hs8, year) | FEM (country, year) | FEM (hs8, year) | FEM (country, year) |
| ltratio | -0.3033*** | 0.1291*** | | |
| | [0.0423] | [0.0324] | | |
| lmkt_ratio | -0.0816*** | -0.1725*** | -0.0813*** | -0.1730*** |
| | [0.0245] | [0.0250] | [0.0245] | [0.0250] |
| ltratio2 | | | -0.3373*** | 0.1150*** |
| | | | [0.0436] | [0.0325] |
| Constant | -0.1526*** | -0.1669*** | -0.1644*** | -0.1621*** |
| | [0.0023] | [0.0021] | [0.0020] | [0.0019] |
| Observations | 87302 | 87302 | 87302 | 87302 |
| Number of hs8 | 56 | | 56 | |
| R-squared | 0 | 0 | 0 | 0 |
| Number of country | | 196 | | 196 |
| Standard errors in brackets | | | | |
| * significant at 10%; ** significant at 5%; *** significant at 1% | | | | |
| | | | | |
| | | | | |
| DEP VAR ln(Margin_price2) | REM (hs8, year) | REM (country, year) | REM (hs8, year) | REM (country, year) |
| ltratio | -0.2939*** | 0.1306*** | | |
| | [0.0420] | [0.0323] | | |
| lmkt_ratio | -0.0809*** | -0.1729*** | -0.0807*** | -0.1734*** |
| | [0.0244] | [0.0250] | [0.0244] | [0.0250] |
| ltratio2 | | | -0.3267*** | 0.1167*** |
| | | | [0.0433] | [0.0324] |
| Constant | -0.1370*** | -0.1685*** | -0.1484*** | -0.1636*** |
| | [0.0231] | [0.0199] | [0.0230] | [0.0199] |
| Observations | 87302 | 87302 | 87302 | 87302 |
| Number of hs8 | 56 | | 56 | |
| Number of country | | 196 | | 196 |
| Standard errors in brackets | | | | |
| * significant at 10%; ** significant at 5%; *** significant at 1% | | | | |

| DEP VAR ln(Margin_price3) | OLS | | OLS | |
|---|---|---|---|---|
| ltratio | 0.2314*** | | | |
| | [0.0396] | | | |
| lmkt_ratio_country | -0.1221*** | | -0.1224*** | |
| | [0.0162] | | [0.0162] | |
| ltratio2 | | | 0.2235*** | |
| | | | [0.0399] | |
| Constant | 0.0267*** | | 0.0355*** | |
| | [0.0038] | | [0.0031] | |
| Observations | 82609 | | 82609 | |
| R-squared | 0 | | 0 | |
| Robust standard errors in brackets | | | | |
| * significant at 10%; ** significant at 5%; *** significant at 1% | | | | |

| DEP VAR ln(Margin_price3) | FEM (hs8, year) | FEM (country, year) | FEM (hs8, year) | FEM (country, year) |
|---|---|---|---|---|
| ltratio | -0.3255*** | 0.4104*** | | |
| | [0.0473] | [0.0427] | | |
| lmkt_ratio_country | -0.1057*** | -0.1057*** | -0.1056*** | -0.1060*** |
| | [0.0280] | [0.0163] | [0.0280] | [0.0163] |
| ltratio2 | | | -0.3610*** | 0.3954*** |
| | | | [0.0488] | [0.0430] |
| Constant | 0.0410*** | 0.0185*** | 0.0283*** | 0.0340*** |
| | [0.0053] | [0.0040] | [0.0051] | [0.0035] |
| Observations | 82609 | 82609 | 82609 | 82609 |
| Number of hs8 | 55 | | 55 | |
| R-squared | 0 | 0 | 0 | 0 |
| Number of country | | 196 | | 196 |
| Standard errors in brackets | | | | |
| * significant at 10%; ** significant at 5%; *** significant at 1% | | | | |

| DEP VAR ln(Margin_price3) | REM (hs8, year) | REM (country, year) | REM (hs8, year) | REM (country, year) |
|---|---|---|---|---|
| ltratio | -0.3242*** | 0.4105*** | | |
| | [0.0473] | [0.0427] | | |
| lmkt_ratio_country | -0.1050*** | -0.1076*** | -0.1049*** | -0.1078*** |
| | [0.0280] | [0.0162] | [0.0279] | [0.0163] |
| ltratio2 | | | -0.3596*** | 0.3956*** |
| | | | [0.0487] | [0.0430] |
| Constant | 0.0444 | 0.0254 | 0.0319 | 0.041 |
| | [0.0544] | [0.0251] | [0.0544] | [0.0251] |
| Observations | 82609 | 82609 | 82609 | 82609 |
| Number of hs8 | 55 | | 55 | |
| Number of country | | 196 | | 196 |
| Standard errors in brackets | | | | |
| * significant at 10%; ** significant at 5%; *** significant at 1% | | | | |

| DEP VAR ln(Margin_price4 ) | OLS | | OLS | |
|---|---|---|---|---|
| ltratio | -0.2349*** | | | |
| | [0.0764] | | | |
| lmkt_ratio | 0.0401 | | 0.0404 | |
| | [0.0395] | | [0.0395] | |
| ltratio2 | | | -0.2504*** | |
| | | | [0.0768] | |
| Constant | 0.0215*** | | 0.0131** | |
| | [0.0080] | | [0.0063] | |
| Observations | 10439 | | 10439 | |
| R-squared | 0 | | 0 | |
| Robust standard errors in brackets | | | | |
| * significant at 10%; ** significant at 5%; *** significant at 1% | | | | |
| | | | | |
| | | | | |
| DEP VAR ln(Margin_price4 ) | FEM (hs8, year) | FEM (country, year) | FEM (hs8, year) | FEM (country, year) |
| ltratio | 0.0928 | -0.3342*** | | |
| | [0.1417] | [0.1039] | | |
| lmkt_ratio | 0.1098* | 0.0673 | 0.1092* | 0.0678 |
| | [0.0562] | [0.0648] | [0.0562] | [0.0648] |
| ltratio2 | | | 0.0752 | -0.3487*** |
| | | | [0.1458] | [0.1044] |
| Constant | 0.0002 | 0.0300*** | 0.0043 | 0.0178** |
| | [0.0118] | [0.0097] | [0.0076] | [0.0069] |
| Observations | 10439 | 10439 | 10439 | 10439 |
| Number of hs8 | 32 | | 32 | |
| R-squared | 0 | 0 | 0 | 0 |
| Number of country | | 120 | | 120 |
| Standard errors in brackets | | | | |
| * significant at 10%; ** significant at 5%; *** significant at 1% | | | | |
| | | | | |
| | | | | |
| DEP VAR ln(Margin_price4 ) | REM (hs8, year) | REM (country, year) | REM (hs8, year) | REM (country, year) |
| ltratio | 0.0474 | -0.3212*** | | |
| | [0.1175] | [0.1018] | | |
| lmkt_ratio | 0.1258** | 0.0617 | 0.1254** | 0.0622 |
| | [0.0551] | [0.0643] | [0.0550] | [0.0643] |
| ltratio2 | | | 0.0333 | -0.3353*** |
| | | | [0.1199] | [0.1023] |
| Constant | 0.0185 | 0.0036 | 0.0208 | -0.008 |
| | [0.0195] | [0.0356] | [0.0180] | [0.0349] |
| Observations | 10439 | 10439 | 10439 | 10439 |
| Number of hs8 | 32 | | 32 | |
| Number of country | | 120 | | 120 |
| Standard errors in brackets | | | | |
| * significant at 10%; ** significant at 5%; *** significant at 1% | | | | |

| DEP VAR ln(Margin_price5) | OLS | | OLS | |
|---|---|---|---|---|
| ltratio | -0.1437*** | | | |
| | [0.0416] | | | |
| lmkt_ratio | -0.0807*** | | -0.0818*** | |
| | [0.0116] | | [0.0116] | |
| ltratio2 | | | -0.1584*** | |
| | | | [0.0418] | |
| Constant | -0.0397*** | | -0.0456*** | |
| | [0.0013] | | [0.0018] | |
| Observations | 65722 | | 65722 | |
| R-squared | 0 | | 0 | |
| Robust standard errors in brackets | | | | |
| * significant at 10%; ** significant at 5%; *** significant at 1% | | | | |
| | | | | |
| DEP VAR ln(Margin_price5) | FEM (hs8, year) | FEM (country, year) | FEM (hs8, year) | FEM (country, year) |
| | | | | |
| ltratio | -0.0646 | -0.1209*** | | |
| | [0.0399] | [0.0378] | | |
| lmkt_ratio | -0.0724*** | -0.0926*** | -0.0728*** | -0.0934*** |
| | [0.0159] | [0.0171] | [0.0159] | [0.0171] |
| ltratio2 | | | -0.0815** | -0.1338*** |
| | | | [0.0413] | [0.0381] |
| Constant | -0.0406*** | -0.0402*** | -0.0435*** | -0.0451*** |
| | [0.0014] | [0.0014] | [0.0017] | [0.0016] |
| Observations | 65722 | 65722 | 65722 | 65722 |
| Number of hs8 | 56 | | 56 | |
| R-squared | 0 | 0 | 0 | 0 |
| Number of country | | 173 | | 173 |
| Standard errors in brackets | | | | |
| * significant at 10%; ** significant at 5%; *** significant at 1% | | | | |
| | | | | |
| | | | | |
| DEP VAR ln(Margin_price5) | REM (hs8, year) | REM (country, year) | REM (hs8, year) | REM (country, year) |
| ltratio | -0.0614 | -0.1437*** | | |
| | [0.0396] | [0.0357] | | |
| lmkt_ratio | -0.0702*** | -0.0807*** | -0.0706*** | -0.0818*** |
| | [0.0158] | [0.0155] | [0.0158] | [0.0156] |
| ltratio2 | | | -0.0770* | -0.1584*** |
| | | | [0.0408] | [0.0359] |
| Constant | -0.0336*** | -0.0397*** | -0.0363*** | -0.0456*** |
| | [0.0056] | [0.0014] | [0.0057] | [0.0016] |
| Observations | 65722 | 65722 | 65722 | 65722 |
| Number of hs8 | 56 | | 56 | |
| Number of country | | 173 | | 173 |
| Standard errors in brackets | | | | |
| * significant at 10%; ** significant at 5%; *** significant at 1% | | | | |

Source: Authors' calculations

*Table 14 Monthly Regressions - unconditional mean and standard deviation of variables of interest*

| | Margin_price2 | Margin_price3 | Margin_price4 | Margin_price5 | tratio | mkt_ratio | mkt_ratio_c |
|---|---|---|---|---|---|---|---|
| **mean** | 0.987855 | 1.310481 | 1.146245 | 1.007218 | 1.034848 | 0.992629 | 1.18567 |
| **sd** | 0.567246 | 1.674809 | 24.21294 | 0.41169 | 0.079971 | 0.073817 | 0.18337 |

Source: Authors' calculations

*Table 15 Yearly Regressions - Correlation table log(Margin_price$_2$)*
*log(Margin_price$_3$), log(tariff_ratio), log(tariff_ratio 2), log(market_ratio)*

| Margin_price$_2$ | lpratio | ltariff_ratio | ltariff_ratio2 | lmkt_ratio |
|---|---|---|---|---|
| lpratio | 1 | | | |
| ltariff_ratio | 0.0536 | 1 | | |
| ltariff_ratio2 | 0.0541 | | 1 | |
| lmkt_ratio | -0.0135 | -0.1151 | -0.1173 | 1 |

| Margin_price$_3$ | lpratio | ltariff_ratio | ltariff_ratio2 | lmkt_ratio |
|---|---|---|---|---|
| lpratio | 1 | | | |
| ltariff_ratio | 0.0426 | 1 | | |
| ltariff_ratio2 | 0.0427 | | 1 | |
| lmkt_ratio | -0.0173 | -0.3237 | -0.3322 | 1 |

Source: Authors' calculations

*Table 16 Yearly regressions - Equation (5b) DEP VAR Margin_price$_2$*

| DEP VAR ln(Margin_price2 ) | OLS | | OLS | |
|---|---|---|---|---|
| ln(tariff_ratio) | 0.4719*** | | | |
| | [0.0633] | | | |
| lmkt_ratio | -0.0679 | | -0.0664 | |
| | [0.0734] | | [0.0734] | |
| ln(tariff_ratio2) | | | 0.4779*** | |
| | | | [0.0633] | |
| Constant | -0.1567*** | | -0.1386*** | |
| | [0.0063] | | [0.0054] | |
| Observations | 12283 | | 12283 | |
| R-squared | 0.0029 | | 0.003 | |

Robust standard errors in brackets
* significant at 10%; ** significant at 5%; *** significant at 1%

| DEP VAR ln(Margin_price2 ) | FEM (hs8, year) | FEM (country, year) | FEM (hs8, year) | FEM (country, year) |
|---|---|---|---|---|
| ln(tariff_ratio) | 0.3888*** | 0.6264*** | | |
| | [0.1141] | [0.0844] | | |
| lmkt_ratio | -0.0497 | -0.0743 | -0.0497 | -0.0736 |
| | [0.0841] | [0.0824] | [0.0841] | [0.0824] |
| ln(tariff_ratio2) | | | 0.4019*** | 0.6242*** |
| | | | [0.1177] | [0.0845] |
| Constant | -0.1545*** | -0.1611*** | -0.1395*** | -0.1372*** |
| | [0.0064] | [0.0060] | [0.0056] | [0.0054] |
| Observations | 12283 | 12283 | 12283 | 12283 |
| Number of hs8 | 56 | | 56 | |
| R-squared | 0.0029 | 0.0029 | 0.003 | 0.003 |
| Number of country | | 196 | | 196 |

| DEP VAR ln(Margin_price2 ) | REM (hs8, year) | REM (country, year) | REM (hs8, year) | REM (country, year) |
|---|---|---|---|---|
| | | | | |
| ln(tariff_ratio) | 0.3951*** | 0.6280*** | | |
| | [0.1097] | [0.0831] | | |
| lmkt_ratio | -0.0398 | -0.0765 | -0.0396 | -0.0757 |
| | [0.0835] | [0.0821] | [0.0835] | [0.0821] |
| ln(tariff_ratio2) | | | 0.4071*** | 0.6267*** |
| | | | [0.1127] | [0.0833] |
| Constant | -0.1539*** | -0.1789*** | -0.1387*** | -0.1550*** |
| | [0.0227] | [0.0191] | [0.0224] | [0.0189] |
| Observations | 12283 | 12283 | 12283 | 12283 |
| Number of hs8 | 56 | | 56 | |
| R-squared | 0.0029 | 0.0029 | 0.003 | 0.003 |
| Number of country | | 196 | | 196 |

Standard errors in brackets
* significant at 10%; ** significant at 5%; *** significant at 1%

Source: Authors' calculations

*Table 17 Yearly regressions - Equation (5b) DEP VAR Margin_price$_3$*

| DEP VAR ln(Margin_price3 ) | OLS | | OLS | |
|---|---|---|---|---|
| ln(1+mean_mfn)/(1+mean_tariff) | 0.4172*** | | | |
| | [0.0722] | | | |
| ln((1+mkt_share_refcountry)/(1+expindex)) | -0.0182 | | -0.0161 | |
| | [0.0418] | | [0.0419] | |
| ln(1+mean_mfn)/(1+mean_tariff+cost) | | | 0.4212*** | |
| | | | [0.0721] | |
| Constant | 0.0400*** | | 0.0556*** | |
| | [0.0102] | | [0.0090] | |
| Observations | 12129 | | 12129 | |
| R-squared | 0.018 | | 0.018 | |

**Robust standard errors in brackets**
**\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%**

| DEP VAR ln(Margin_price3 ) | FEM (hs8, year) | FEM (country, year) | FEM (hs8, year) | FEM (country, year) |
|---|---|---|---|---|
| ln(1+mean_mfn)/(1+mean_tariff) | 0.4084*** | 0.6151*** | | |
| | [0.1166] | [0.1005] | | |
| ln((1+mkt_share_refcountry)/(1+expindex)) | 0.0022 | 0.0273 | 0.0022 | 0.0289 |
| | [0.0738] | [0.0435] | [0.0738] | [0.0436] |
| ln(1+mean_mfn)/(1+mean_tariff+cost) | | | 0.4231*** | 0.6114*** |
| | | | [0.1202] | [0.1009] |
| Constant | 0.0363** | 0.0255** | 0.0520*** | 0.0487*** |
| | [0.0158] | [0.0115] | [0.0154] | [0.0102] |
| Observations | 12129 | 12129 | 12129 | 12129 |
| Number of hs8 | 56 | | 56 | |
| R-squared | 0.018 | 0.018 | 0.018 | 0.018 |
| Number of country | | 196 | | 196 |

| DEP VAR ln(Margin_price3 ) | REM (hs8, year) | REM (country, year) | REM (hs8, year) | REM (country, year) |
|---|---|---|---|---|
| ln(1+mean_mfn)/(1+mean_tariff) | 0.4059*** | 0.6095*** | | |
| | [0.1156] | [0.0991] | | |
| ln((1+mkt_share_refcountry)/(1+expindex)) | 0.0009 | 0.015 | 0.0011 | 0.0167 |
| | [0.0724] | [0.0432] | [0.0724] | [0.0434] |
| ln(1+mean_mfn)/(1+mean_tariff+cost) | | | 0.4200*** | 0.6064*** |
| | | | [0.1191] | [0.0995] |
| Constant | 0.0096 | 0.0185 | 0.0251 | 0.0415* |
| | [0.0533] | [0.0236] | [0.0532] | [0.0230] |
| Observations | 12129 | 12129 | 12129 | 12129 |
| Number of hs8 | 56 | | 56 | |
| R-squared | 0.018 | 0.018 | 0.018 | 0.018 |
| Number of country | | 196 | | 196 |

**Standard errors in brackets**
**\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%**
Source: Authors' calculations

*Table 18 Regressions in first differences DEP VAR Δln(Margin_price2)*

| DEP VAR Δln(Margin_price2 ) | OLS (year) | OLS (country) | OLS (year) | OLS (country) |
|---|---|---|---|---|
| lmean_tratio[_n]-lmean_tratio[_n-1] | 0.5606* | 0.5606*** | | |
| | [0.2821] | [0.1918] | | |
| lmkt_ratio[_n]-lmkt_ratio[_n-1] | -0.1143 | -0.1143 | -0.1147 | -0.1147 |
| | [0.2597] | [0.1854] | [0.2598] | [0.1854] |
| lmean_tratio2[_n]-lmean_tratio2[_n-1] | | | 0.5787* | 0.5787*** |
| | | | [0.2895] | [0.1970] |
| Constant | | | | |
| | | | | |
| Observations | 8891 | 8891 | 8891 | 8891 |
| R-squared | 0 | 0 | 0 | 0 |
| Robust standard errors in brackets<br>* significant at 10%; ** significant at 5%; *** significant at 1% | | | | |
| | | | | |
| DEP VAR Δln(Margin_price2 ) | REM (product year) | REM (country year) | REM (product year) | REM (country year) |
| lmean_tratio[_n]-lmean_tratio[_n-1] | 0.5651*** | 0.5769*** | | |
| | [0.1336] | [0.1336] | | |
| lmkt_ratio[_n]-lmkt_ratio[_n-1] | -0.1144 | -0.1198 | -0.1148 | -0.1202 |
| | [0.1517] | [0.1516] | [0.1517] | [0.1516] |
| lmean_tratio2[_n]-lmean_tratio2[_n-1] | | | 0.5834*** | 0.5956*** |
| | | | [0.1375] | [0.1375] |
| Constant | -0.0069 | -0.0056 | -0.0069 | -0.0056 |
| | [0.0048] | [0.0126] | [0.0048] | [0.0126] |
| Observations | 8891 | 8891 | 8891 | 8891 |
| Number of hs8 | 56 | | 56 | |
| Number of country | | 174 | | 174 |
| Standard errors in brackets<br>* significant at 10%; ** significant at 5%; *** significant at 1% | | | | |

Source: Authors' calculations

*Table 19 Regressions in first differences DEP VAR Δln(Margin_price3)*

| DEP VAR Δln(Margin_price3 ) | OLS (year) | OLS (country) | OLS (year) | OLS (country) |
|---|---|---|---|---|
| **lmean_tratio[_n]-lmean_tratio[_n-1]** | 0.6234* | 0.6234*** | | |
| | [0.3525] | [0.2035] | | |
| **lmkt_ratio[_n]-lmkt_ratio[_n-1]** | -0.0296 | -0.0296 | -0.0299 | -0.0299 |
| | [0.1599] | [0.0955] | [0.1600] | [0.0955] |
| **lmean_tratio2[_n]-lmean_tratio2[_n-1]** | | | 0.6428* | 0.6428*** |
| | | | [0.3620] | [0.2092] |
| **Constant** | | | | |
| | | | | |
| **Observations** | 8727 | 8727 | 8727 | 8727 |
| **R-squared** | 0 | 0 | 0 | 0 |
| **Robust standard errors in brackets** <br> ***\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | | | |
| | | | | |
| *DEP VAR Δln(Margin_price3 )* | **REM (product year)** | **REM (country year)** | **REM (product year)** | **REM (country year)** |
| **lmean_tratio[_n]-lmean_tratio[_n-1]** | 0.6101*** | 0.6198*** | | |
| | [0.1393] | [0.1394] | | |
| **lmkt_ratio[_n]-lmkt_ratio[_n-1]** | -0.0177 | -0.0134 | -0.0181 | -0.0137 |
| | [0.0929] | [0.0930] | [0.0929] | [0.0930] |
| **lmean_tratio2[_n]-lmean_tratio2[_n-1]** | | | 0.6289*** | 0.6390*** |
| | | | [0.1434] | [0.1435] |
| **Constant** | 0.0221*** | 0.0198 | 0.0221*** | 0.0198 |
| | [0.0048] | [0.0122] | [0.0048] | [0.0122] |
| **Observations** | 8727 | 8727 | 8727 | 8727 |
| **Number of hs8** | 55 | | 55 | |
| **R-squared** | 0 | 0 | 0 | 0 |
| **Number of country** | | 174 | | 174 |
| **Standard errors in brackets \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | | | |

Source: Authors' calculations

*Table 20 Summary selected regressions by product - DEP VAR ln(Margin_price2), ln(Margin_price3), Δln(Margin_price3) Δln(Margin_price3)*

| Dep Var HS8 | $MPr_5$ β | δ | $MPr_6$ β | δ | Δ $MPr_5$ β | δ | Δ $MPr_6$ β | δ |
|---|---|---|---|---|---|---|---|---|
| 08051030 | **positive*** | *positive* | **positive*** | *positive**** | **positive*** | **negative** | **positive*** | *positive* |
| 17011110 | **positive*** | **negative** | *negative* | *positive* | . | **.** | . | . |
| 24011041 | **positive** | *positive* | **positive** | *positive* | . | **.** | . | . |
| 24012010 | **positive*** | **negative** | **positive*** | **negative** | **positive*** | **negative** | **positive*** | **negative** |
| 24012020 | **positive*** | **negative** | **positive*** | *mixed* | **positive*** | **negative** | **positive** | *positive* |
| 24013000 | . | . | . | . | **positive*** | **negative**** | **positive*** | **negative**** |
| 62034211 | . | . | . | . | **positive** | *positive**** | . | . |
| 72024199 | . | . | . | . | **positive** | **negative** | . | . |
| 76011000 | . | . | . | . | **positive*** | *positive*** | . | . |

Source: Authors' calculations

- Positive/negative signs reported refer to persistence of sign across OLS, FEM and REM. In **bold** coefficient signs coherent with assumptions and in *italics* coefficients showing opposite sign.

- Significance levels may be interpreted as average significance across OLS, FEM and REM specifications

*Table 21 Selected yearly regressions by product - Equation (5b) DEP VAR*
*ln(Margin_price₂)*

| | HS8 | 08051030 | |
|---|---|---|---|
| *DEP VAR ln(Margin_price2 )* | **OLS** | **FEM** | **REM** |
| **ln(tariff_ratio)** | 2.2827*** | 2.7833*** | 2.6745*** |
| | [0.4810] | [0.2272] | [0.1909] |
| **lmkt_ratio** | 0.0761 | 0.141 | 0.1914 |
| | [0.2498] | [0.6625] | [0.4587] |
| **ln(1+mean_mfn)/(1+mean_tariff)** | | | |
| | | | |
| | | | |
| **Constant** | -0.0841*** | -0.0989*** | -0.0816** |
| | [0.0282] | [0.0160] | [0.0363] |
| **Observations** | 176 | 176 | 176 |
| **R-squared** | 0.46 | 0.56 | |
| **Number of country** | | 53 | 53 |
| **Robust standard errors in brackets** | | | |
| **\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | | |
| | | | |
| | | | |
| | HS8 | 17011110 | |
| *DEP VAR ln(Margin_price2 )* | OLS | FEM | REM |
| **ln(tariff_ratio)** | 0.2417*** | 0.0339 | 0.1267*** |
| | [0.0486] | [0.0470] | [0.0362] |
| **lmkt_ratio** | -0.1599* | -0.1121 | -0.285 |
| | [0.0792] | [0.5350] | [0.2290] |
| **Constant** | -0.0195 | 0.0559** | 0.0213 |
| | [0.0249] | [0.0246] | [0.0178] |
| **Observations** | 139 | 139 | 139 |
| **R-squared** | 0.41 | 0.01 | |
| **Number of country** | | 35 | 35 |
| **Robust standard errors in brackets** | | | |
| **\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | | |
| | | | |
| | | | |
| | HS8 | 24011041 | |
| *DEP VAR ln(Margin_price2 )* | OLS | FEM | REM |
| **ln(tariff_ratio)** | 4.0629** | 2.0807* | 3.2780*** |
| | [1.6267] | [1.1804] | [1.0318] |
| **lmkt_ratio** | 0.8167 | 0.1336 | 0.2901 |
| | [0.8228] | [0.5300] | [0.5175] |
| **Constant** | -0.4524*** | -0.4020*** | -0.3950*** |
| | [0.0886] | [0.0521] | [0.1097] |
| **Observations** | 63 | 63 | 63 |
| **R-squared** | 0.15 | 0.07 | |
| **Number of country** | | 20 | 20 |
| **Robust standard errors in brackets** | | | |
| **\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | | |
| | | | |
| | | | |

| | HS8 | 24012010 | |
|---|---|---|---|
| *DEP VAR ln(Margin_price2 )* | OLS | FEM | REM |
| **ln(tariff_ratio)** | 4.0116*** | 2.8646*** | 3.3106*** |
| | [0.6369] | [0.4801] | [0.4234] |
| **lmkt_ratio** | -1.8900** | -0.5267 | -1.4304*** |
| | [0.7640] | [0.7983] | [0.5374] |
| **Constant** | -0.2257*** | -0.2363*** | -0.2465*** |
| | [0.0504] | [0.0298] | [0.0503] |
| **Observations** | 172 | 172 | 172 |
| **R-squared** | 0.39 | 0.22 | |
| **Number of country** | | 47 | 47 |
| **Robust standard errors in brackets** | | | |
| **\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | | |
| | | | |
| | HS8 | 24012020 | |
| *DEP VAR ln(Margin_price2 )* | OLS | FEM | REM |
| **ln(tariff_ratio)** | 5.0554*** | 2.4242*** | 2.9664*** |
| | [0.8653] | [0.6540] | [0.5862] |
| **lmkt_ratio** | -1.8612*** | 0.1352 | -0.8297 |
| | [0.5656] | [0.6413] | [0.5082] |
| **Constant** | -0.2238*** | -0.2379*** | -0.2643*** |
| | [0.0521] | [0.0302] | [0.0643] |
| **Observations** | 132 | 132 | 132 |
| **R-squared** | 0.52 | 0.13 | |
| **Number of country** | | 39 | 39 |
| **Robust standard errors in brackets** | | | |
| **\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | | |
| | | | |
| | HS8 | 56072100 | |
| *DEP VAR ln(Margin_price2 )* | OLS | FEM | REM |
| **ln(tariff_ratio)** | -3.0142 | -0.6542 | -2.0299 |
| | [1.8338] | [2.0634] | [1.4077] |
| **lmkt_ratio** | 2.2554*** | 1.2209 | 2.1080*** |
| | [0.2294] | [1.6931] | [0.7828] |
| **Constant** | -0.021 | -0.1909 | -0.0333 |
| | [0.1189] | [0.1235] | [0.1178] |
| **Observations** | 88 | 88 | 88 |
| **R-squared** | 0.27 | 0.01 | |
| **Number of country** | | 32 | 32 |
| **Robust standard errors in brackets** | | | |
| **\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | | |

Source: Authors' calculations

*Table 22 Selected yearly regressions by product - Equation (5b) DEP VAR*
*ln(Margin_price$_3$)*

| | HS8 | 03075910 | |
|---|---|---|---|
| **DEP VAR ln(Margin_price3 )** | OLS | FEM | REM |
| **ln(1+mean_mfn)/(1+mean_tariff)** | -0.3813 | -1.8284 | -1.5938 |
| | [1.5952] | [1.5948] | [1.2616] |
| **ln((1+mkt_share_refcountry)/(1+expindex))** | -2.2712*** | -5.8590*** | -4.8231*** |
| | [0.7553] | [0.6447] | [0.5568] |
| **Constant** | 0.2359*** | 0.3800*** | 0.3214*** |
| | [0.0865] | [0.0814] | [0.0861] |
| **Observations** | 265 | 265 | 265 |
| **R-squared** | 0.1 | 0.3 | |
| **Number of country** | | 64 | 64 |
| **Robust standard errors in brackets** | | | |
| **\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | | |
| | | | |
| | | | |
| | HS8 | 08051030 | |
| *DEP VAR ln(Margin_price3 )* | OLS | FEM | REM |
| **ln(1+mean_mfn)/(1+mean_tariff)** | 2.2793*** | 2.7653*** | 2.6540*** |
| | [0.4804] | [0.2411] | [0.1994] |
| **ln((1+mkt_share_refcountry)/(1+expindex))** | 0.2363 | 0.3991** | 0.3896** |
| | [0.1816] | [0.1617] | [0.1532] |
| **Constant** | -0.1501*** | -0.2028*** | -0.1833*** |
| | [0.0400] | [0.0408] | [0.0518] |
| **Observations** | 176 | 176 | 176 |
| **R-squared** | 0.46 | 0.54 | |
| **Number of country** | | 53 | 53 |
| **Robust standard errors in brackets** | | | |
| **\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | | |
| | | | |
| | | | |
| | HS8 | 17011110 | |
| *DEP VAR ln(Margin_price3 )* | OLS | FEM | REM |
| **ln(1+mean_mfn)/(1+mean_tariff)** | 0.2192*** | -0.0465** | -0.0221 |
| | [0.0601] | [0.0193] | [0.0194] |
| **ln((1+mkt_share_refcountry)/(1+expindex))** | -0.041 | 0.2070* | 0.1068 |
| | [0.0545] | [0.1182] | [0.1149] |
| **Constant** | 0.1160*** | 0.2151*** | 0.2029*** |
| | [0.0313] | [0.0076] | [0.0173] |
| **Observations** | 139 | 139 | 139 |
| **R-squared** | 0.39 | 0.08 | |
| **Number of country** | | 35 | 35 |
| **Robust standard errors in brackets** | | | |
| **\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | | |
| | | | |
| | | | |

| | HS8 | 24011041 | |
|---|---|---|---|
| *DEP VAR ln(Margin_price3 )* | OLS | FEM | REM |
| **ln(1+mean_mfn)/(1+mean_tariff)** | 3.9988** | 1.3003 | 2.8635*** |
| | [1.7248] | [1.1538] | [1.0472] |
| **ln((1+mkt_share_refcountry)/(1+expindex))** | 0.3247 | -0.3655 | -0.3411 |
| | [0.6267] | [0.4512] | [0.4603] |
| **Constant** | -0.9348*** | -0.8092*** | -0.8126*** |
| | [0.1109] | [0.0534] | [0.1190] |
| **Observations** | 63 | 63 | 63 |
| **R-squared** | 0.15 | 0.04 | |
| **Number of country** | | 20 | 20 |
| **Robust standard errors in brackets** | | | |
| ***  significant at 10%; ** significant at 5%; *** significant at 1%** | | | |
| | | | |
| | | | |
| | HS8 | 24012010 | |
| *DEP VAR ln(Margin_price3 )* | OLS | FEM | REM |
| **ln(1+mean_mfn)/(1+mean_tariff)** | 4.2277*** | 3.0998*** | 3.4908*** |
| | [0.5673] | [0.4524] | [0.4071] |
| **ln((1+mkt_share_refcountry)/(1+expindex))** | -1.4579*** | -0.167 | -0.4525* |
| | [0.5180] | [0.2719] | [0.2523] |
| **Constant** | 0.0937 | -0.1871*** | -0.1620** |
| | [0.1352] | [0.0658] | [0.0777] |
| **Observations** | 172 | 172 | 172 |
| **R-squared** | 0.39 | 0.28 | |
| **Number of country** | | 47 | 47 |
| **Robust standard errors in brackets** | | | |
| ***  significant at 10%; ** significant at 5%; *** significant at 1%** | | | |
| | | | |
| | | | |
| | HS8 | 24012020 | |
| *DEP VAR ln(Margin_price3 )* | OLS | FEM | REM |
| **ln(1+mean_mfn)/(1+mean_tariff)** | 5.1901*** | 2.6506*** | 3.0320*** |
| | [0.9122] | [0.6777] | [0.6314] |
| **ln((1+mkt_share_refcountry)/(1+expindex))** | -1.4190** | 1.5438*** | 1.0037*** |
| | [0.6987] | [0.3681] | [0.3517] |
| **Constant** | -0.5906** | -1.5749*** | -1.4681*** |
| | [0.2620] | [0.1341] | [0.1473] |
| **Observations** | 132 | 132 | 132 |
| **R-squared** | 0.46 | 0.23 | |
| **Number of country** | | 39 | 39 |
| **Robust standard errors in brackets** | | | |
| ***  significant at 10%; ** significant at 5%; *** significant at 1%** | | | |
| | | | |
| | | | |

| | HS8 | 56072100 | |
|---|---|---|---|
| *DEP VAR ln(Margin_price3 )* | OLS | FEM | REM |
| ln(1+mean_mfn)/(1+mean_tariff) | -3.009 | -1.359 | -2.1624 |
| | [1.8648] | [2.0317] | [1.4299] |
| ln((1+mkt_share_refcountry)/(1+expindex)) | 2.1756*** | 0.5477 | 1.5780** |
| | [0.2146] | [0.9989] | [0.6642] |
| Constant | 1.1690*** | 1.0832*** | 1.1935*** |
| | [0.1092] | [0.1202] | [0.1232] |
| Observations | 88 | 88 | 88 |
| R-squared | 0.26 | 0.02 | |
| Number of country | | 32 | 32 |
| Robust standard errors in brackets | | | |
| * significant at 10%; ** significant at 5%; *** significant at 1% | | | |

Source: Authors' calculations

*Table 23 Selected first diff regressions by product - Equation (5b) DEP VAR Δln(Margin_price₂)*

| DEP VAR Δln(Margin_price2 ) | HS8 | 08051030 |
|---|---|---|
|  | OLS | REM |
| lmean_tratio[_n]-lmean_tratio[_n-1] | 2.9065*** | 2.6634*** |
|  | [0.7534] | [0.2548] |
| lmkt_ratio[_n]-lmkt_ratio[_n-1] | 0.0406 | -0.187 |
|  | [0.6583] | [0.7741] |
| Constant |  | -0.0086 |
|  |  | [0.0396] |
| Observations | 123 | 123 |
| R-squared | 0.56 |  |
| Number of country |  | 35 |
| Robust standard errors in brackets |  |  |
| * significant at 10%; ** significant at 5%; *** significant at 1% |  |  |
|  |  |  |
|  |  |  |
|  | HS8 | 24012010 |
| DEP VAR Δln(Margin_price2 ) | OLS | REM |
| lmean_tratio[_n]-lmean_tratio[_n-1] | 3.0607*** | 2.6750*** |
|  | [0.6925] | [0.5083] |
| lmkt_ratio[_n]-lmkt_ratio[_n-1] | -1.2214 | -0.8139 |
|  | [1.3786] | [1.2675] |
| Constant |  | -0.0175 |
|  |  | [0.0412] |
| Observations | 125 | 125 |
| R-squared | 0.28 |  |
| Number of country |  | 36 |
| Robust standard errors in brackets |  |  |
| * significant at 10%; ** significant at 5%; *** significant at 1% |  |  |
|  |  |  |
|  |  |  |
|  | HS8 | 24012020 |
| DEP VAR Δln(Margin_price2 ) | OLS | REM |
| lmean_tratio[_n]-lmean_tratio[_n-1] | 2.1422 | 1.9462*** |
|  | [1.7723] | [0.6621] |
| lmkt_ratio[_n]-lmkt_ratio[_n-1] | -0.3861 | -0.3383 |
|  | [0.7427] | [0.8470] |
| Constant |  | -0.0122 |
|  |  | [0.0223] |
| Observations | 93 | 93 |
| R-squared | 0.1 |  |
| Number of country |  | 25 |
| Robust standard errors in brackets |  |  |
| * significant at 10%; ** significant at 5%; *** significant at 1% |  |  |
|  |  |  |
|  |  |  |

| | HS8 | 24013000 |
|---|---|---|
| *DEP VAR Δln(Margin_price2 )* | OLS | REM |
| **lmean_tratio[_n]-lmean_tratio[_n-1]** | 0.7771*** | 0.8050*** |
| | [0.2512] | [0.1260] |
| **lmkt_ratio[_n]-lmkt_ratio[_n-1]** | -1.4274*** | -1.3471* |
| | [0.3699] | [0.8087] |
| **Constant** | | -0.0141 |
| | | [0.0223] |
| **Observations** | 152 | 152 |
| **R-squared** | 0.21 | |
| **Number of country** | | 46 |
| **Robust standard errors in brackets** | | |
| **\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | |
| | | |
| | | |
| | HS8 | 56072910 |
| *DEP VAR Δln(Margin_price2 )* | OLS | REM |
| **lmean_tratio[_n]-lmean_tratio[_n-1]** | -0.3822 | -0.4749 |
| | [1.0779] | [1.6979] |
| **lmkt_ratio[_n]-lmkt_ratio[_n-1]** | 0.9137*** | 0.9440*** |
| | [0.2289] | [0.2137] |
| **Constant** | | -0.0939** |
| | | [0.0478] |
| **Observations** | 33 | 33 |
| **R-squared** | 0.36 | |
| **Number of country** | | 11 |
| **Robust standard errors in brackets** | | |
| **\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | |
| | | |
| | | |
| | HS8 | 56072990 |
| *DEP VAR Δln(Margin_price2 )* | OLS | REM |
| **lmean_tratio[_n]-lmean_tratio[_n-1]** | -11.8002*** | -11.8104*** |
| | [1.0806] | [3.2572] |
| **lmkt_ratio[_n]-lmkt_ratio[_n-1]** | -0.8647 | -0.5021 |
| | [1.0646] | [1.0226] |
| **Constant** | | -0.0757 |
| | | [0.1098] |
| **Observations** | 48 | 48 |
| **R-squared** | 0.21 | |
| **Number of country** | | 17 |
| **Robust standard errors in brackets** | | |
| **\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | |
| | | |
| | | |

| | HS8 | 72024199 |
|---|---|---|
| *DEP VAR Δln(Margin_price2 )* | OLS | REM |
| **lmean_tratio[_n]-lmean_tratio[_n-1]** | 3.9968 | 4.5564** |
| | [2.8832] | [2.1805] |
| **lmkt_ratio[_n]-lmkt_ratio[_n-1]** | -0.1458 | -0.3322 |
| | [0.6958] | [0.7675] |
| **Constant** | | -0.0219 |
| | | [0.0239] |
| **Observations** | 36 | 36 |
| **R-squared** | 0.1 | |
| **Number of country** | | 14 |
| **Robust standard errors in brackets** | | |
| **\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | |
| | | |
| | | |
| | **HS8** | **76011000** |
| *DEP VAR Δln(Margin_price2 )* | OLS | REM |
| **lmean_tratio[_n]-lmean_tratio[_n-1]** | 3.2000*** | 2.8226*** |
| | [0.6004] | [0.8049] |
| **lmkt_ratio[_n]-lmkt_ratio[_n-1]** | 0.5117*** | 0.4886* |
| | [0.1864] | [0.2771] |
| **Constant** | | -0.0039 |
| | | [0.0134] |
| **Observations** | 145 | 145 |
| **R-squared** | 0.12 | |
| **Number of country** | | 37 |
| **Robust standard errors in brackets** | | |
| **\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | |

Source: Authors' calculations

*Table 24 Selected first diff regressions by product - Equation (5b) DEP VAR Δln(Margin_price₃)*

| | HS8 | 08051030 |
|---|---|---|
| *DEP VAR Δln(Margin_price3 )* | OLS | REM |
| **lmean_tratio[_n]-lmean_tratio[_n-1]** | 2.9029*** | 2.6743*** |
| | [0.7938] | [0.2774] |
| **lmkt_ratio[_n]-lmkt_ratio[_n-1]** | 0.1991 | 0.0232 |
| | [0.2212] | [0.1936] |
| **Constant** | | -0.0272 |
| | | [0.0417] |
| **Observations** | 123 | 123 |
| **R-squared** | 0.52 | |
| **Number of country** | | 35 |
| **Robust standard errors in brackets** | | |
| **\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | |
| | | |
| | | |
| | HS8 | 24012010 |
| *DEP VAR Δln(Margin_price3 )* | OLS | REM |
| **lmean_tratio[_n]-lmean_tratio[_n-1]** | 3.0270*** | 2.6544*** |
| | [0.6704] | [0.5038] |
| **lmkt_ratio[_n]-lmkt_ratio[_n-1]** | -0.0057 | 0.1146 |
| | [0.5383] | [0.6616] |
| **Constant** | | 0.0091 |
| | | [0.0441] |
| **Observations** | 125 | 125 |
| **R-squared** | 0.28 | |
| **Number of country** | | 36 |
| **Robust standard errors in brackets** | | |
| **\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | |
| | | |
| | | |
| | HS8 | 24012020 |
| *DEP VAR Δln(Margin_price3 )* | OLS | REM |
| **lmean_tratio[_n]-lmean_tratio[_n-1]** | 2.2199 | 2.0863*** |
| | [1.5025] | [0.6399] |
| **lmkt_ratio[_n]-lmkt_ratio[_n-1]** | 1.0617** | 0.4716 |
| | [0.4559] | [0.6037] |
| **Constant** | | -0.0268 |
| | | [0.0243] |
| **Observations** | 93 | 93 |
| **R-squared** | 0.15 | |
| **Number of country** | | 25 |
| **Robust standard errors in brackets** | | |
| **\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | |
| | | |
| | | |

| | HS8 | 24013000 |
|---|---|---|
| *DEP VAR Δln(Margin_price3 )* | OLS | REM |
| **lmean_tratio[_n]-lmean_tratio[_n-1]** | 0.9023*** | 0.8398*** |
| | [0.2297] | [0.1311] |
| **lmkt_ratio[_n]-lmkt_ratio[_n-1]** | -1.0216*** | -1.2337*** |
| | [0.3588] | [0.3459] |
| **Constant** | | 0.0585*** |
| | | [0.0221] |
| **Observations** | 152 | 152 |
| **R-squared** | 0.25 | |
| **Number of country** | | 46 |
| **Robust standard errors in brackets** | | |
| **\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | |
| | | |
| | | |
| | HS8 | 62034211 |
| *DEP VAR Δln(Margin_price3 )* | OLS | REM |
| **lmean_tratio[_n]-lmean_tratio[_n-1]** | 1.456 | 1.3516 |
| | [1.9222] | [1.2014] |
| **lmkt_ratio[_n]-lmkt_ratio[_n-1]** | 6.2842*** | 6.6194*** |
| | [0.7677] | [0.7512] |
| **Constant** | | 0.1275*** |
| | | [0.0293] |
| **Observations** | 232 | 232 |
| **R-squared** | 0.23 | |
| **Number of country** | | 62 |
| **Robust standard errors in brackets** | | |
| **\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%** | | |

# Figures

*Figure 1 Unilateral Preferences Under Perfect Competition and Homogenous Products*
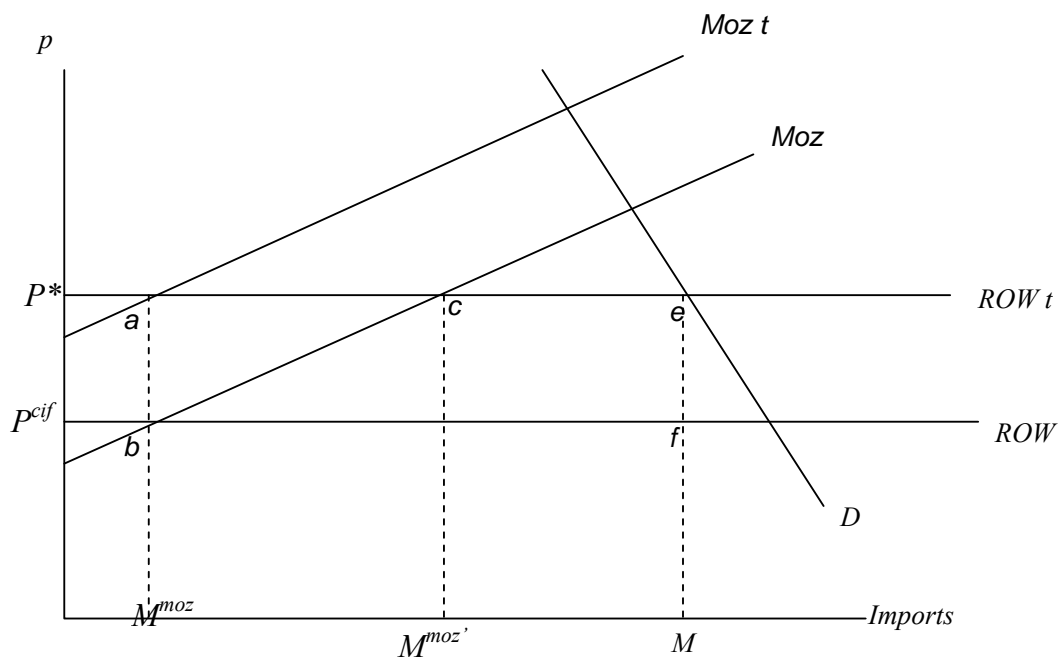
*Figure 2 Herfindhal concentration index for Mozambican exports to the EU*
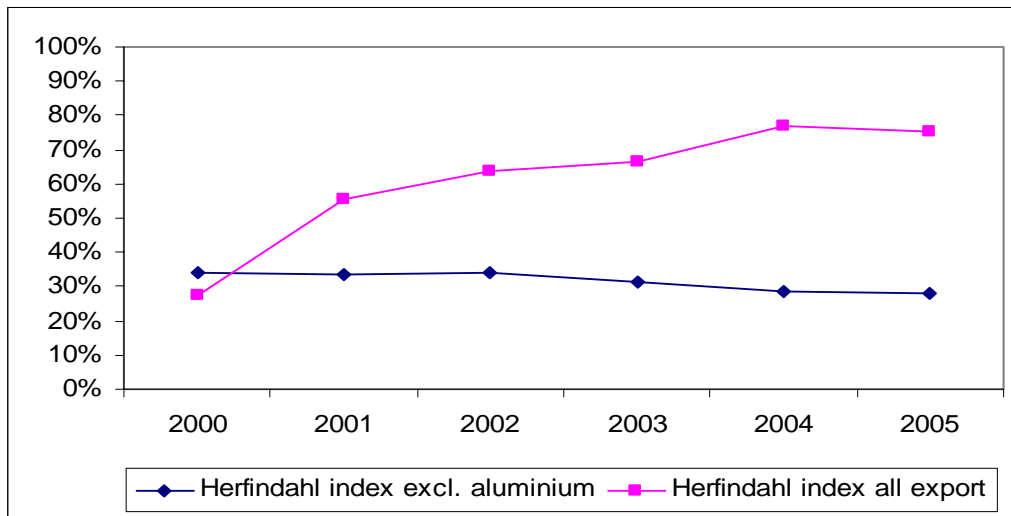


Source: Authors' calculations based on EUROSTAT

*Figure 3 Distribution of actual preference margins*
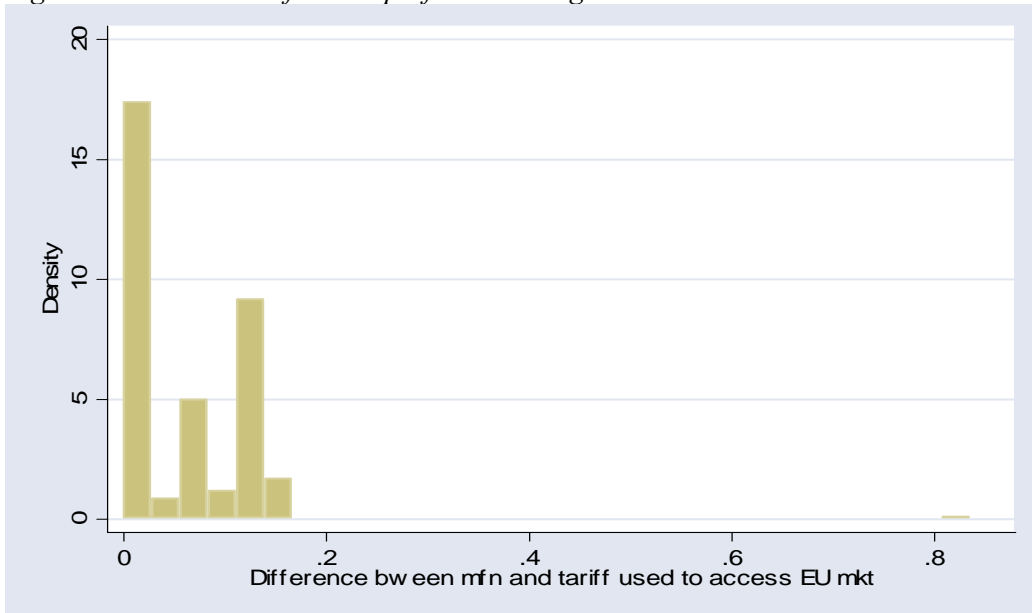


Source: Authors' calculations based on TARIC

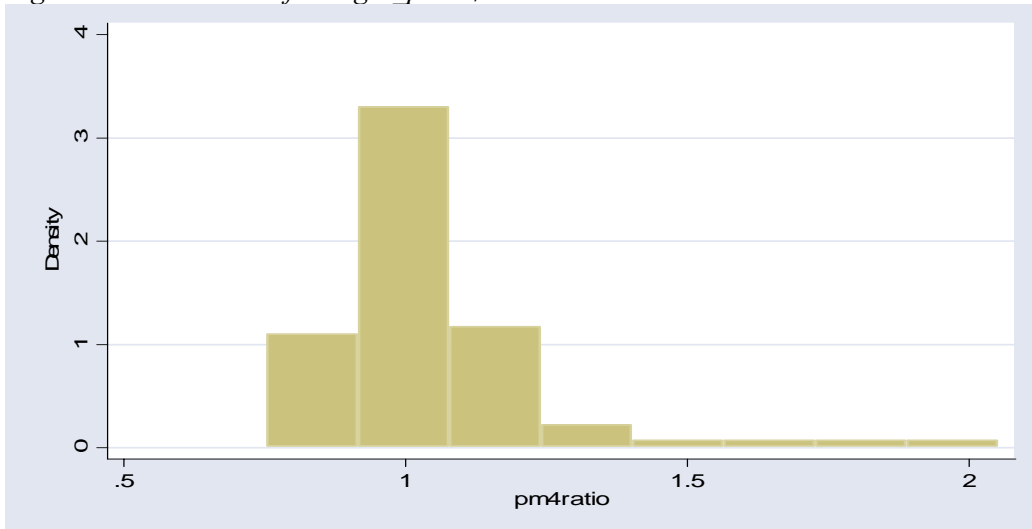*Figure 4 Distribution of Margin_price$_2$*
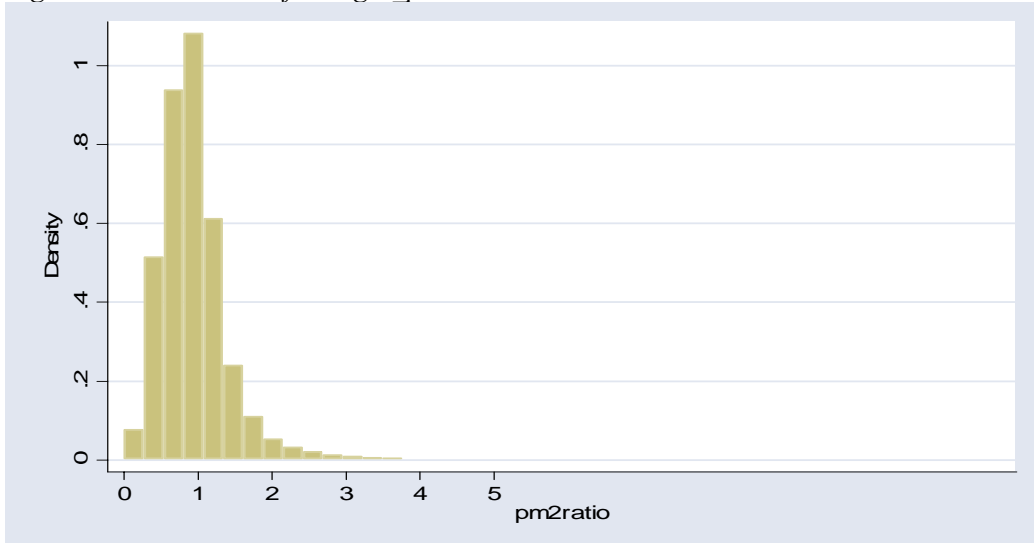


Source: authors' calculations
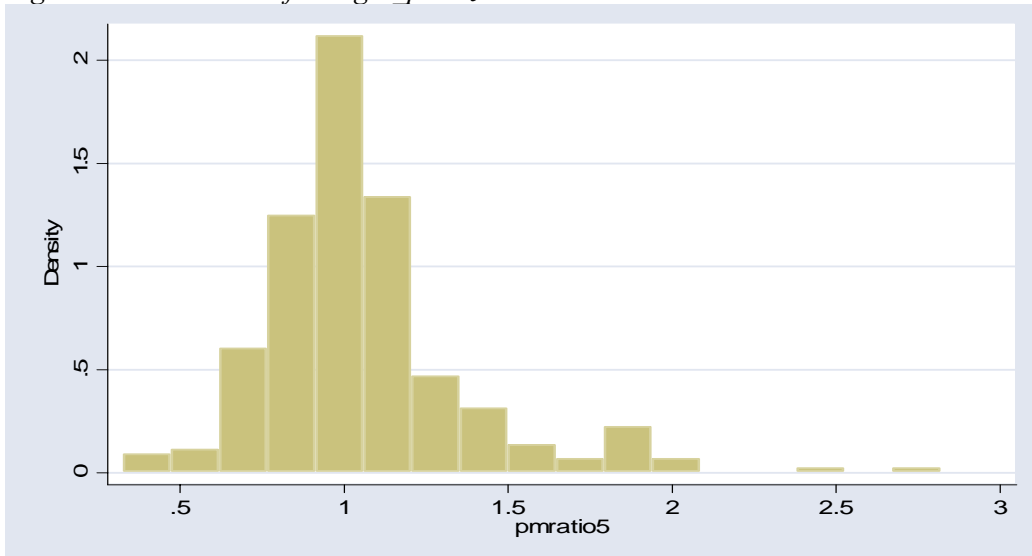
*Figure 5 Distribution of Margin_price$_3$*
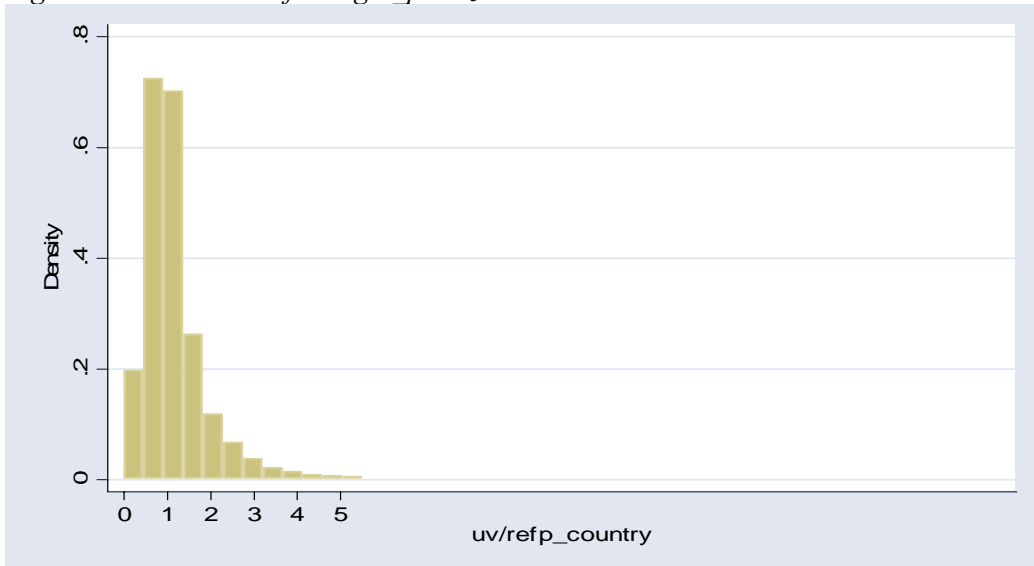


Source: authors' calculations

*Figure 6 Distribution of Margin_price$_4$*



Source: authors' calculations

*Figure 7 Distribution of Margin_price$_5$*



Source: authors' calculations

*Figure 8 Margin_price$_2$ and tariff differentials (Mozambique)*
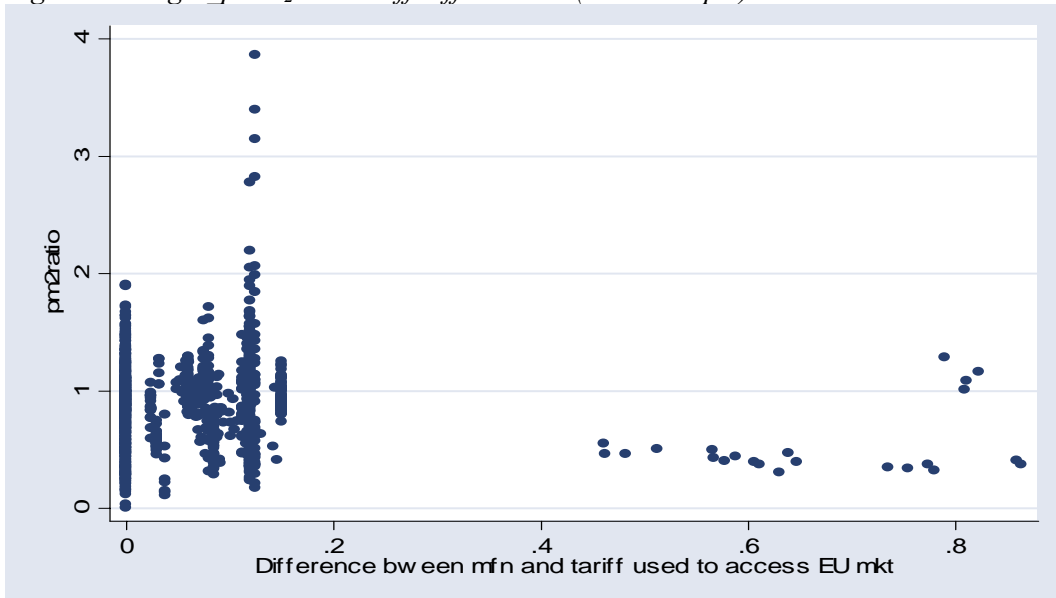
*Figure 9 Margin_price$_3$ andt tariff differentials (Mozambique)*
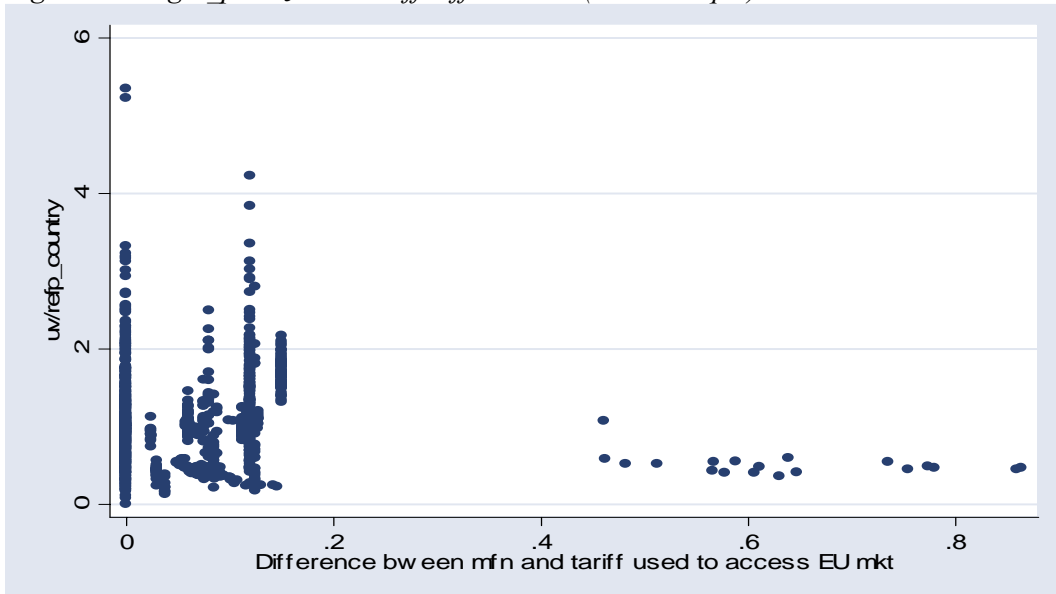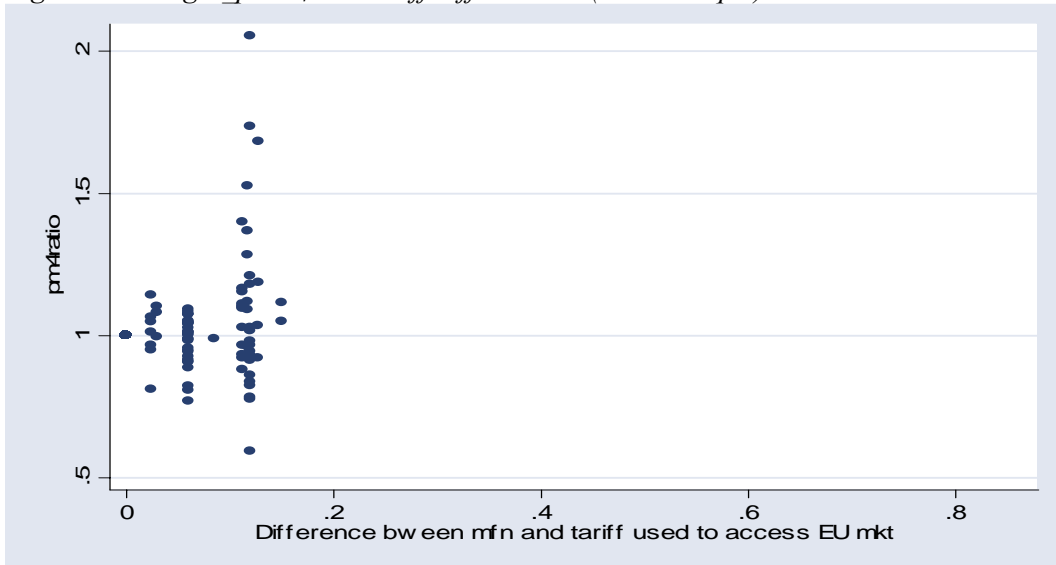
*Figure 10 Margin_price$_4$ and tariff differentials (Mozambique)*

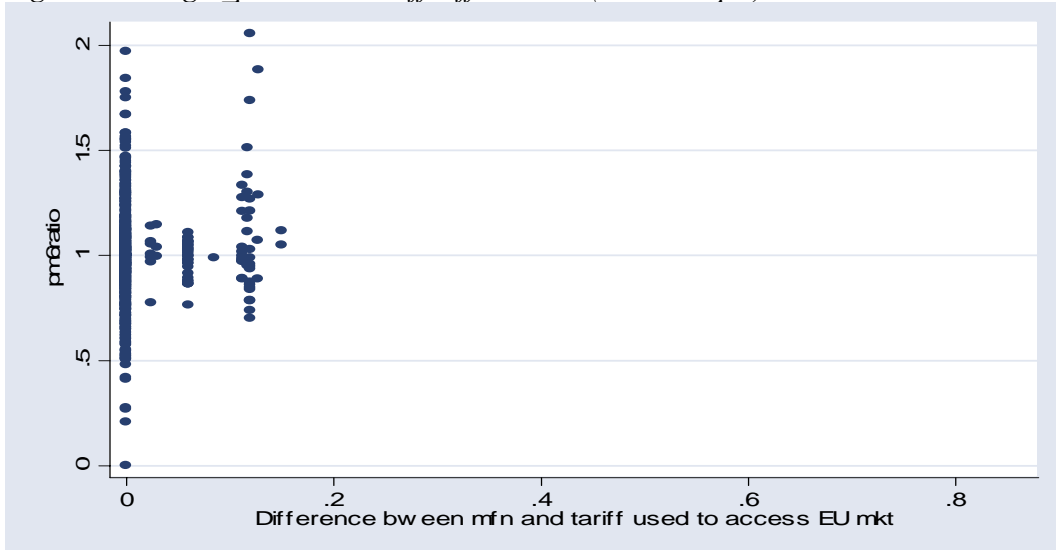*Figure 11 Margin_price$_5$ and tariff differentials (Mozambique)*
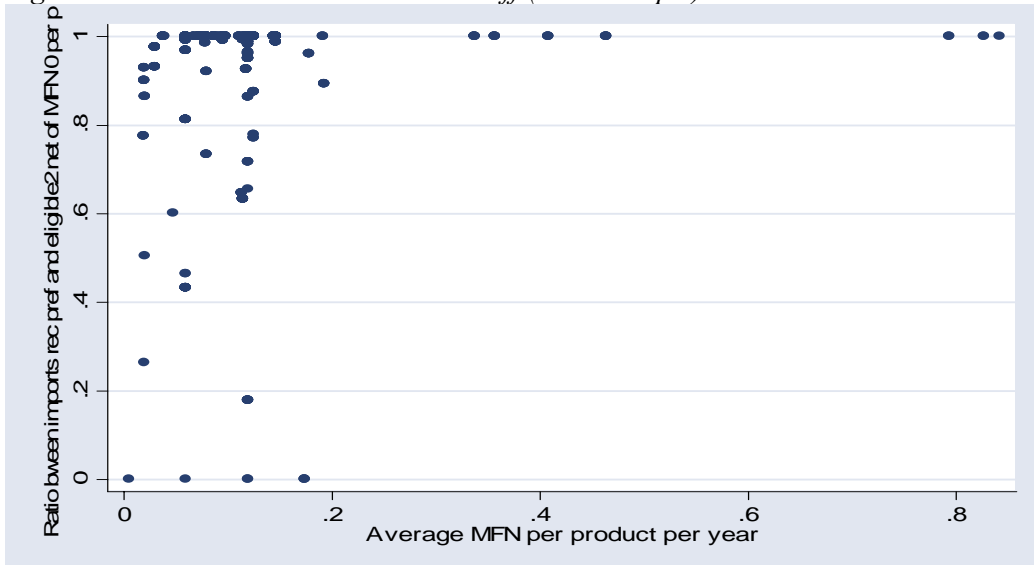
*Figure 12 Utilization rates and MFN tariff (Mozambique)*



Source: authors' calculations