

# Truths and myths about the openness of EU trade policy and the use of EU trade preferences

Lars Nilsson and Nanna Matsson\*

European Commission

Directorate General for Trade

B-1049 Brussels

Belgium

*Comments welcome*

Version as of 24 April 2009

*Abstract:*

*This paper firstly explores the share of EU imports which is subject to duties, how much of the dutiable imports that is covered by trade preferences and how deep these preferences are. Secondly, it analyses the extent to which EU trade preferences are being used. These factors are explored for more countries/country groupings and sectors over a longer and more recent period of time (2003-2007) compared to previous studies. The paper further presents estimates of actual preference margins by developing country groups and sectors, aggregated from tariff line level. In a gravity model setting, the preferential margins then provide a more refined measure of trade preferences compared to the binary variables commonly used in the literature. Regressing these measures on EU preferential imports, as opposed to total imports, introduces another novelty compared to methods used in other studies.*

---

\* The opinions expressed in this paper are the authors' own and do not necessarily reflect any views of the European Commission. Thanks to Claudio Gasparini and Luc Stroobants for providing statistics on trade and tariffs and to Lucian Cernat for useful discussions. Corresponding author: [lars.nilsson@ec.europa.eu](mailto:lars.nilsson@ec.europa.eu)

## 1. Introduction

Trade preferences for developing countries have been used by the EU since the early 1960s. The preferential treatment the EU offers varies depending on whether the developing country is entitled to preferences under the generalised system of preferences (GSP) only (to which all developing countries are eligible) or other autonomous regimes, to preferences under the Cotonou Agreement (Economic Partnership Agreements (EPAs) as of 2008) or has signed a bilateral or regional free trade agreement (FTA) with the EU (e.g. Chile, Mexico and South Africa and most Mediterranean countries).

The value and use of EU trade preferences have been debated off and on for a number of years in a number of various contexts. For example, Brenton and Manchin (2003) argue that EU preferential trade schemes have been ineffective in delivering improved access to the EU market because of too strict rules of origin (RoO). On the other hand, the OECD (2005a) concludes that multilateral liberalisation by the EU is associated with relatively more sizeable erosion of preferences than liberalisation by Australia, Canada, Japan and the US thereby pointing to the relative importance of EU preferences compared to other donor's schemes. As far as EU vs. US trade preferences are concerned, the latter conclusion is also supported by Nilsson (2007). Persson and Wilhelmsson (2007) further find that certain EU preference arrangements have had large effects, in particular the schemes for the African Caribbean and Pacific (ACP) countries as did Nilsson (2002).

Exemplifying with the EU, this paper argues a donor country's preference schemes should be seen in light of the donor's overall trade openness. For example, if a donor has a low figure on imports covered by preferences this could imply that a large share of its imports enters under MFN-0 tariffs and that the scope for preferences is limited. Consequently, irrespective of whether the preference utilisation rate in such setting is high or low, it is of less importance. In order to obtain a correct picture of a donor's openness to imports from developing countries, it is important to examine the share and the volume of imports entering the EU at MFN-0, the share of dutiable imports, the share of imports eligible for preferences, and, finally, the rate of preference utilisation. We present such picture of EU trade preferences over the 2003-2007 period for seven broad groups of developing countries.

Based on the composition of the lion's share of exports of these seven developing country groups and (requested) use of EU trade preferences, we proceed to calculate actual preference margins at the tariff line level by developing country group and by Tariff Douanier Commune (TDC) section for 2007. This is done at a more detailed level and more recent period of time compared to existing studies. The quantitative part of the paper subsequently examines the effects of EU trade preferences on EU imports from the developing countries using estimates of the actual preference margin/actual value of the preferences by the exporting countries, rather than the traditional use of dummy variables.

The paper is structured as follows: The following section briefly describes the scope and coverage of EU trade preferences for developing countries. Section 3 contains a review of the literature, while Section 4 examines the use of EU trade preferences by country and

country groups over time and analyses patterns in the use of preferences by product groups, including the role of preference margins. Section 5 looks into the empirical relationship between preference margins and preferential trade. Section 6 summarises and concludes.

## 2. Scope and coverage of EU trade preferences<sup>1</sup>

### a. *The EU's GSP and other autonomous trade preferences*

In 1971, the European Community (EC) introduced its first GSP scheme.<sup>2</sup> It has been modified on several occasions since and the EU adopted a revised scheme in June 2008 which runs from 1 January 2009 until the end of 2011.<sup>3</sup> Product coverage under the general scheme is about 6300 tariff lines. Non-sensitive products (approximately half of the products covered) enjoy duty-free access, while sensitive products (mainly agricultural products, but also textile, clothing and apparel, carpets and footwear) benefit from a tariff reduction of 3.5 percentage points of *ad valorem* duties compared to the MFN tariff and a 30% reduction of specific duties (with a few exceptions).<sup>4</sup> For textiles and clothing, the reduction is 20% of the *ad valorem* MFN duty rate.<sup>5</sup>

Besides this general scheme, there is a 'GSP Plus' scheme for especially vulnerable countries with special development needs, which recognise labour rights and environmental standards. The scheme allows for duty-free entry to the EU market of the goods covered by the general GSP scheme and includes some additional products.<sup>6</sup> The Everything but Arms (EBA) initiative, which is formally part of the GSP and gives the 49 least developed countries (LDCs)<sup>7</sup> duty-free access to the EU market without any restrictions, remains unchanged.<sup>8</sup>

The GSP scheme graduates beneficiaries if they have become sufficiently competitive as measured by the share of the Community market expressed in terms of GSP preferential imports. The share is 15% in general, but 12.5% for textiles and clothing, split into two

---

<sup>1</sup> This section draws on Nilsson (2007).

<sup>2</sup> The objective of the current scheme is to assist developing countries to reduce poverty by helping them to generate revenue through international trade. Although the GSP is implemented in practice by Council Regulations running for three years, guidelines for achieving the objective of the GSP are valid for a ten year period (currently 2006 to 2015).

<sup>3</sup> Council Regulation (EC) No 732/2008.

<sup>4</sup> Tariffs are suspended if preferential treatment results in (*ad valorem*) duties of one percent or less, or in specific duties of €2 or less.

<sup>5</sup> This concerns mainly products in chapters 50-63 of the Harmonised System (HS).

<sup>6</sup> To be eligible, beneficiaries must meet a number of criteria including ratification and effective application of key international conventions on sustainable development and good governance, and demonstrate that their economies are dependent and vulnerable. Poor diversification and dependence are defined as meaning that the five largest sections of a beneficiary's GSP-covered exports to the Community must represent more than 75% of its total GSP-covered exports. GSP-covered exports from that country must also represent less than 1% of total EU imports under GSP.

<sup>7</sup> As defined by the United Nations, see <http://www.un.org/special-rep/ohrls/ohrls/default.htm>. Cape Verde is no longer an LDC and will be phased out from the EBA over a three-year period.

<sup>8</sup> Remaining transitional periods for sugar and rice will be fully phased in by October 2009.

sections. On this basis, the EU GSP scheme is restricted for some large developing countries.<sup>9</sup>

The EU has also introduced Autonomous Trade Measures (ATMs) for the countries of the Western Balkans (Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Kosovo, Serbia and Montenegro), which have been contractualised for most of the countries in Stabilisation and Association Agreements with the EU and for Moldova.<sup>10</sup>

#### *b. The Cotonou Agreement and the EPAs*

The Cotonou Agreement between the EC and 79 ACP countries was signed on 23 June 2000. It entered into force in April 2003 and replaced the previous Lomé Conventions, the first of which dates back to 1975.<sup>11,12</sup> Under the Cotonou Agreement's trade pillar, the ACPs benefited from non-reciprocal trade preferences for the period 2001-2007.<sup>13</sup> Industrial products originating in ACP countries were exempted from EU customs duties, while preferences for agricultural products were differentiated. Tropical products which did not compete with European products entered the EU market duty-free. Temperate products faced an exemption or reduction of customs duties, while fruits and vegetables were subject to seasonal restrictions. Other agricultural products faced quantitative restrictions or were excluded from preferential treatment. For certain products (bananas, beef, veal, and sugar), the EU provided special market access via so-called commodity protocols.

In 2008, the unilateral preferences under the Cotonou Agreement were replaced by WTO-compatible reciprocal full or interim EPAs between the EU and individual ACP countries or groups of countries. While there is a comprehensive full EPA agreed with the Caribbean region, with the other ACP regions a series of interim agreements based on new WTO compatible goods trade arrangements were concluded. The interim agreements provide for asymmetric reciprocal trade liberalisation between the parties (in favour of the ACP countries) over a transitional period up to 15 years and are explicitly drafted to provide the basis for subsequent comprehensive regional EPA agreements.<sup>14</sup> Full or interim EPAs were signed by all but three non-LDC ACPs (Congo (Brazzaville), Gabon and Nigeria).

---

<sup>9</sup> See Council Regulation (EC) No 980/2005, Annex I.

<sup>10</sup> The ATMs are similar to the EBA in that they provide for duty and quota free access for all products from the beneficiary countries, but with the exception of quotas for baby-beef, some fish products and wine. Live bovine animals, beef, and prepared fish are excluded and there are tariff quotas for sugar.

<sup>11</sup> The Agreement was under the cover of a WTO waiver approved at the Doha Ministerial Meeting, which expired on 31 December 2007. See WTO document WT/MIN(01)/15 of 14 November 2001.

<sup>12</sup> The Lomé Convention was in turn preceded by Yaoundé Conventions I and II.

<sup>13</sup> South Africa is a signatory to the Cotonou Agreement but its membership of the ACP Group is qualified (Protocol 3 on South Africa attached to the Cotonou Agreement). The provisions of the Trade, Development and Cooperation Agreement between the EC and South Africa take precedence over the provisions of the Cotonou Agreement.

<sup>14</sup> For more details, see Curran, Nilsson and Brew (2008).

### *c. Bilateral and regional FTAs*

In addition, the EU has a number of bilateral or regional FTAs with other developing countries, offering them additional market access on top of the GSP preferences. For instance, trade is an essential component of the Euro-Med Partnership, which ultimately aims to deepen regional integration in the Mediterranean region and to establish a Euro-Mediterranean FTA by 2010. The Mediterranean countries involved in the Euro-Med Partnership (except for Syria) has concluded and currently implements Association Agreements with the EU, which provide for liberalisation of trade in manufactured goods and asymmetric (in favour of the Mediterranean countries) reciprocal preferences in agriculture. Liberalisation of trade in services and investment, including the right of establishment, also form part of the Association Agreements' key objectives.

Bilateral FTAs have been established with Chile, Mexico, and South Africa, which provide for asymmetric liberalisation (in favour of the partner countries) of substantially all trade in manufactured and agricultural goods and in the former two cases progressive and reciprocal elimination of a number of behind the border barriers to trade and investment (intellectual property rights, government procurement, etc).

### **3. Literature review**

A number of studies have analysed the impact of EU trade preferences on imports from developing countries. Most have found positive impacts, in particular for the preferences offered to the ACP countries, see e.g. Nilsson (2002) and Persson and Wilhelmsson (2007) for a short summary and overview of such studies and the comprehensive literature review by Evenett (2008) on the effects of the EU GSP. Evenett (2008) notes among other things that the impact of the EU GSP depends on which of the EU GSP arrangement that is applied and that the administrative costs associated with obtaining preferences point to that preference margins of less than 4.5% are not used

Cipollina and Salvati (2008) analyse the impact of EU preferences in the agricultural sector using measures of the preferential margin calculated at the 6-digit level, instead of binary variables which is otherwise common. They find that EU preferential schemes have a significant impact on EU imports although with differences across products.

McQueen (2007) remarks that while the limitations of the EU's preferences are acknowledged, a reliance on outdated empirical evidence has led to an underestimation of the positive effects of EU preferences. On utilisation rates McQueen notes that a difficulty with a direct comparison of the preference margin and utilisation rate is that the decision to utilise preferences depends upon a number of factors other than simply the margin of preference, such as the traders' knowledge of the scheme as well as factors determining the costs and revenues from exporting to a particular market. Under-utilisation could occur if exporters are not aware of the preferences and over-utilisation if they underestimate compliance costs.

Bureau et. al. (2006) assesses the utilisation of EU (and US non-reciprocal preferential regimes) in the agri-food sector and the impact of these preferences as far as trade flows

are concerned. They calculate indicators of the utilisation of preferences in the agricultural, food, and fisheries sector and econometrically estimate the (latent) cost of using a given preference to explain why particular regimes are used. The first main finding is that the rate of utilisation is high; only a very small proportion of the imports eligible for these preferences is actually exported outside a preferential regime. The authors note that although preference utilisation ratios might be high, preferences may fail to generate significant trade flows. Hence, a high rate of utilisation does not mean that the preferences ‘work’ in terms of actually creating trade.

The second main finding is that explanations for the sometimes low level of LDCs exports (in spite of significant preferences) lie outside the issue of tariff protection. The authors conclude that, while citing inter alia OECD (2005) and Djankov et al. (2006), technical requirements in the importing countries, supply-side constraints, and administrative inefficiencies in the exporting countries seem to be the main obstacles to a larger use of preferences.

Candau and Jean (2006) found under-utilisation (below 75%) of EU preferences in the case of (i) non-African LDC exports of textile and clothing (46%); (ii) non-LDC exports (excluding countries with a contractual agreement with the EU) of textile and clothing sector (65%); and (iii) non-LDCs in other manufacturing products (70%). These are the only cases where preferential margins higher than six percentage points remain substantially under-utilised. The authors note that the under-utilisation of preferences may be explained by RoO applicable to the GSP. Candau et. al. (2004), examine the relationship between the preference margin and the utilisation rate and indicates that although the utilisation tends to be lower for margins below 3% (and to a lesser extent between 3% and 6%) it still remains at more than above 60%.

Manchin (2006) finds a threshold value (defined as the difference between the MFN and preferential tariff rates) of 4% under which traders have no incentives to ask for preferences since the costs of obtaining these exceeds their benefits and concludes that the higher the value of preferences offered, the higher the probability that preferences are requested. She also notes that once the decision is made to request the preferences, the magnitude of the preference margin does not appear to have a significant effect on the volume of preferential exports requested.

UNCTAD (2003) notes that most of EU imports from ACP LDCs are duty-free and that dutiable imports account for just about 25% of total EU imports from the ACP LDCs. Consequently, under the current export structures, preferences play a limited role for these countries. The paper also points to indications that low preference utilisation rates are mainly the result of the stringency and/or complexity of rules of origin and ancillary requirements.

#### **4. EU imports and the use of EU trade preferences**

This section examines the EU's openness to imports from developing countries in terms of the share and volume of imports entering the EU at MFN-0, of dutiable imports, of

imports eligible for preferences and of preferences used.<sup>15</sup> While keeping the exercise, manageable, we aim at covering as wide a spectrum as possible of developing countries at different levels of development situated in geographically different regions of the world, with a special focus on the poorest countries and on Africa. In so doing, we end up with the following country aggregates: ASEAN (excluding Singapore, Myanmar, Lao, and Cambodia), Latin America (excluding Chile and Mexico), Mediterranean countries (excluding Israel and Turkey), ACP non-LDC (excluding South Africa), ACP-LDC, LDC non-ACP (excluding Myanmar) and developing country FTAs (consisting of Chile, Mexico, and South Africa).<sup>16</sup>

*a. Analysis by developing country grouping*

Annex Figures 1a and 1b show the development of EU imports by tariff regime, use of preferences and country grouping over time. A general trend is that the share of EU imports under MFN-0 has increased until 2006, while there seems to be a break in this trend in 2007. This is partly an effect of an increase in the value of EU oil imports and other commodities as a result of the booming prices. A second observation concerns the LDC non-ACPs whose use of preference increase substantially over the study period. The same holds for the group Developing country FTA, albeit to a less extent.

Table 1 shows an overview of EU preferential imports from the World and selected developing country groupings in 2007. Overall, about 60% of the EU's imports were subject to MFN-0 duties (one minus the share of dutiable imports). Out of the remaining 40% dutiable imports, somewhat less than 40% were eligible for preferences. At world level, about 80% of the EU's preferences were used and close to 70% of all imports entered the EU duty-free in 2007.

Close to 75% of EU imports from ACP non-LDCs countries enters under MFN-0. In 2007, 100% of the dutiable imports are eligible for preferences of which 90% utilise these preferences. In total, more than 96% of EU imports from the ACP non-LDCs enter the EU free of duties. The figures for the LDC ACPs are similar, albeit the preference utilisation rate is higher. For the non-ACP LDCs, the use of preferences drops to about 77% and so does the share of exports entering the EU duty-free, while almost all their exports are dutiable.

---

<sup>15</sup> See Annex 2 for the methodology used.

<sup>16</sup> See Annex Table 1 for country coverage of the groupings.

**Table 1: Overview of EU preferential imports from the World and selected developing country groupings in 2007 (€ million, %)**

From	Imports				
	Total	Dutiable	Preference eligible	Preferential used	Zero duty
	€ million (%) <sup>†</sup>	€ million (%) <sup>*</sup>	€ million (%) <sup>a</sup>	€ million (%) <sup>b</sup>	€ million (%)
<b>World</b>	1277002 (100.0)	508079 (39.8)	189668 (37.3)	149759 (79.0)	890142 (69.7)
<b>ACP non-LDC</b>	24735 (100.0)	6697 (27.1)	6694 (100.0)	5994 (89.5)	23855 (96.4)
<b>ACP LDC</b>	11404 (100.0)	2695 (23.6)	2695 (100.0)	2560 (95.0)	11265 (98.8)
<b>LDC non-ACP</b>	5764 (100.0)	5531 (96.0)	5531 (100.0)	4256 (77.0)	4488 (77.9)
<b>ASEAN</b>	54215 (100.0)	26038 (48.0)	21361 (82.0)	13950 (65.3)	34314 (63.3)
<b>Latin America</b>	57297 (100.0)	19791 (34.5)	10834 (54.7)	8898 (82.1)	43400 (75.7)
<b>Mediterranean countries</b>	40154 (100.0)	18240 (45.4)	18226 (99.9)	15265 (83.8)	36520 (91.0)
<b>Developing country FTA</b>	41732 (100.0)	13500 (32.3)	13057 (96.7)	10432 (79.9)	37233 (89.2)

Source: COMEXT. Note: See Annex Table 1 for country coverage of the groupings. <sup>†</sup> Percent of total imports. <sup>\*</sup> Total imports minus imports at MFN-0. Percentages in relation to total imports. <sup>a</sup> Percent of dutiable imports. <sup>b</sup> Percent of eligible imports.

The share of dutiable EU imports from the ASEAN countries is about ten percentage points higher than the share from the World. About 80% of these dutiable imports were eligible for preferences out of which 65% was used. The share of duty-free imports from ASEAN was close to 65%, somewhat less than corresponding share of the World.

About 65% of EU imports from the Latin American countries enter at MFN-0. Close to 55% of the dutiable imports are eligible for preferences, the usage of which is above 80%. The share of EU imports from Latin America that enter at zero duties was close to 75% in 2007. The share of MFN-0 imports from the Mediterranean countries is about 55% and out of the dutiable 45% close to 100% is eligible for preferences. The preferences utilisation rate for the Mediterranean countries is close to 85% in 2007 and the share of exports entering the EU duty-free is about 90%.

Finally, the data for the three developing countries with an FTA with the EU (Chile, Mexico, and South Africa) shows that close to 70% of EU imports from these partners entered the EU at MFN-0 rates, the remaining dutiable imports were eligible for preferential treatment to more than 95% and used in about 80% of the cases. Overall, close to 90% of EU imports from the three countries entered the EU duty-free in 2007.



*b. Analysis by TDC section*

This section attempts to examine in more detail the underlying reasons for the picture described above. Based on data for 2007, the five largest sectors of EU imports and/or preferential imports (frequently overlapping), covering about between 70% (ASEAN) and 95% (LDC non-ACP) of EU imports from the regions, form the basis of the analysis, see Annex Table 2. The most common section is Mineral products, which is a main export sector for all country groupings but ASEAN, followed by Vegetable products, Prepared foodstuffs, Textile and textile articles, and Base metals (main export sectors for five of the seven of country groups).

The first observation by country group concerns the ACP non-LDCs in which approximately 95% of the EU's imports of the largest sectors enter duty-free, except for Vegetable products, where the figure is 88% and the preference utilisation rate 90%. Lower preference utilisation rates for, e.g., Mineral products (56%) and Pearls, precious stones, etc., (76%), have little overall significance considering that this unused proportion of the preferences is negligible compared to total EU imports in respective sector (i.e., only 4% and 1.3% respectively are dutiable).

The picture is similar for the ACP LDCs. Close to all EU imports enter the union duty-free and the preference utilisation rates in five of the seven most imported sectors are very high. In the case of Mineral products and Pearls, precious stones, etc., the lower preference utilisation rates are, as above, associated with insignificant levels of preference-eligible imports due to the fact that most of the imports in these sectors take place under MFN-0 rates.

For the LDC non-ACPs, the pattern is somewhat different. For the most important export sector (Textile and textile articles), 76% of the exports enter the EU duty-free. The same figure applies for the preference utilisation rate. For the remaining sectors, the share of imports entering the EU duty-free and the preference utilisation rate is high, except for in Mineral products, where the respective figures are 80% and 24%.

In the case of EU imports from ASEAN, most of the dutiable imports in the six sectors are eligible for EU preferences but the share of imports entering the EU duty-free is low: 0.5% in Textiles and textile articles, 6% in Footwear, and 16% in Prepared foodstuffs, etc. Preference utilisation rates are low in Textiles and textile articles and also in Mechanical appliances at less than 50%. This may be due to the fact that the preferences applicable to the composition of exports from ASEAN tend to offer a reduction of the MFN tariff rather than a zero duty.

For the Latin American countries, the share of duty-free imports in three of the six most important sections is about 85% and above, while it is somewhat lower in Vegetable products and in Prepared foodstuffs, etc. and down to 11% in Live animals, animal products. Apart from Mineral products and Mechanical appliances preference utilisation rates are about 90%. However, almost 100% of the former and around 85% of the latter enter the EU duty-free.

As far as the Mediterranean countries are concerned, more than 90% of the EU's imports in the six main sectors enter duty-free, except for Vegetable products (51%). Preferences are fairly well utilised; close to or above a 90% utilisation rate for five of the six sectors, except for Mineral products (47%). In this case, as has often been the case, the relatively low preference utilisation rate is associated with a relatively low volume of trade dutiable for preferences compared to total EU imports in the section (the vast majority enters duty-free).

Finally, in the developing country FTA group (Chile, Mexico, and South Africa), almost all imports in the three most important sections enter the EU duty-free, while the share for the two following sections are about 85% (Mechanical appliances, and Transport equipment). For the remaining sectors, Vegetable products and Prepared foodstuffs, the figures are 31% and 73%, respectively. The preference utilisation rates are at about 85% for Base metals, Transport equipment and in Prepared foodstuffs, somewhat lower at circa 75% in Mechanical appliances and Vegetable products, and lower in Pearls, precious stones, etc. (68%) and Mineral products (50%), where the volume of trade dutiable for preferences is insignificant (0.3% and 0.5% respectively).

The general impression of Annex Table 2 is that a large chunk of EU imports from the most important sections per country grouping enters the union duty-free. In cases where the preference utilisation rate is low, the volume of imports dutiable for preferences is often low. A main exception appears to be EU imports of Textiles and textile articles from the LDC non-ACPs (and from ASEAN). Overall, ASEAN is the only country/country group which 'under-utilised' its preferences, defined by Candau (2006) as rates below 75%.

Annex Figure 2a and 2b illustrate the development of EU imports by tariff regime, use of preferences and TDC section over time. Three sectors experience an increase in the amount eligible for preferences to equal the amount dutiable for years 2006 and 2007 respectively (Mechanical appliances, Plastics and rubber, and Footwear). This increase is not due to a change in policy in the respective sector for these years; instead it is simply due the composition and changes in trade flows. The sector Textiles and textile articles has also experienced a strong increasing trend in utilisation rates along with the amount eligible for preferences (c.f. the LDC non-ACP in Annex Figure 1a mentioned above). An increase in utilisation rates is also observed in Transport equipment especially for 2007.

### *c. Analysis of tariffs and preference margins*

Table 2 presents average MFN tariffs by TDC sections based on the same data used in the sub-section above.<sup>17</sup> We also present the actual preferential margins which have been calculated on the basis of each beneficiary's volume, composition and (requested) use of EU preferences and the difference between the tariff applied on these imports and what

---

<sup>17</sup> As a result of the sample of exporting countries, the average MFN tariffs are different compared to what would had been the case had we opted for the average of all tariff lines by TDC section.

the tariff would have been if all imports had faced MFN duties. The margins have been calculated as follows:

$$PREFMARG_{ijk} = \sum_{jk} \frac{(MDUT_{ijk} \times t_{MFN}) - ((MMFN_{ijk} \times t_{MFN}) + (MPREF_{ijk} \times t_{PREF}))}{MDUT_{ijk}} \quad (1)$$

PREFMARG denotes the preferential margin country  $j$  has been benefitted from in product  $p$  on the EU market ( $i$ ) in 2007, MDUT is dutiable imports, MMFN is (non-zero) MFN imports, MPREF is preferential imports and  $t_{MFN}$  and  $t_{PREF}$  indicate applicable MFN tariffs and preferential tariffs respectively. The preferential margins presented in Table 2 have been aggregated to developing country group and TDC section level. The basis of these figures are more detailed than most previous estimates in the literature as they are aggregated from tariff line level.

This approach differs somewhat from the one adopted by Bouët et. al. (2005) in that we take explicitly into account the so called "composition effect", that is a country's actual preferential margin is a function not only of the trade preferences it is eligible for, but also of in which goods exports are concentrated.<sup>18</sup>

The ACP non-LDCs display the largest overall preference margin vis-à-vis the MFN of about 13%, followed by the LDC non-ACPs at 9% and the ACP LDCs at 7.5%. The group of Mediterranean countries follows at 6%, the DC FTA group at somewhat more than 5% while the ASEAN group of countries and the countries in Latin America display actual preference margins of 2% and 3% respectively.

Overall, the highest actual preference margins are found in Section II (Vegetable products), XVII (Vehicles) and XI (Textiles and textile articles). By TDC Section and country grouping, the highest actual preference margins are found in Live Animals (LDCs), Vegetable Products (ACPs, MED, DC FTA), Prepared foodstuffs (LDC-non ACP, ACP non-LDC), Textile and textile articles (ACP, MED, LDC), Footwear (LDC non-ACP) and Vehicles (LDC non-ACP, DC FTA)).

MFN tariffs are highest in Prepared foodstuffs, Live animals, Vegetable products and in Textile and textile articles, which, in the case of the two latter sections correspond to where some of the highest actual total preference margins are found. The fact that the actual preference margin sometimes is greater than the MFN tariff is explained by the beneficiaries' volume, composition and use of EU preferences. For example, the average MFN tariff for Section XVII in our sample is 4.8%, while the actual preference margin for the LDC non-ACPs is as high as 12.6%, indicating that they have found a niche within the section where they exploit the preferences.

---

<sup>18</sup> Note that the actual preferential margin here is compared with corresponding MFN tariff rather than with the weighted tariff facing competitors' exports, the calculation of which at tariff line level would be too time consuming for the purpose of this study.

**Table 2: Actual tariffs and preference margins by country group and TDC Section, 2007 (%)**

TDC	Tariffs	Preference margins							
	MFN	Actual total	ACP LDC	ACP non-LDC	LDC non-ACP	ASEAN	DC FTA	Latin Am.	Med.
<b>01</b>	11.5	4.4	11.1		13.3			2.8	
<b>02</b>	11.1	9.1	9.1	35.3			8.3	2.0	15.9
<b>04</b>	12.6	6.5	3.4	11.4		3.3	5.7	6.0	2.6
<b>05</b>	1.8	1.2	0.2	0.9	0.9		2.1	2.8	1.1
<b>06</b>	2.9	5.2		4.5					5.6
<b>07</b>	4.7	3.2				3.2			
<b>08</b>	3.9	5.7			5.7				
<b>09</b>	1.7	5.1		5.1					
<b>11</b>	9.6	7.6	10.6	10.7	9.0	0.8			10.6
<b>12</b>	8.3	4.0			9.1	3.7			
<b>14</b>	1.4	2.1	1.5	2.5			1.9		
<b>15</b>	2.3	3.5	5.9	3.5			3.0	1.7	4.7
<b>16</b>	2.3	1.9			1.8	1.4	1.9	2.0	2.9
<b>17</b>	4.8	8.1			12.6		8.0		
<b>20</b>	2.5	3.0				3.0			
<b>Total</b>	<b>6.5</b>	<b>5.3</b>	<b>7.4</b>	<b>13.3</b>	<b>9.1</b>	<b>2.1</b>	<b>5.2</b>	<b>3.0</b>	<b>6.1</b>

*Source:* Own calculations based on data in TARIC, COMEXT, WITS and WTO (2007). See Annex 2 for details.

Annex Table 3 shows provides details on cases where preferences are important but where their potential value does not seem to be fully exploited. Due to the substantial amount of data involved in this work, we have adopted a pragmatic approach.<sup>19</sup> The following three criteria, based on average values for the 2003-2007 period has to fulfilled for each country/sector within respective grouping: (i) have a share of the region's exports to the EU above 10%; (ii) the sections examined account for at least 5% of the country's exports to the EU; and, given that the first two criteria are fulfilled and (iii) the preference utilisation rate in the section should be less than 90%.

Using this approach, we capture exports from countries which matter for the grouping they belong to, sections which are important for the individual country in question and which are subject to less than full rates of preference utilisation. Among the sectors, Mineral products dominate followed by Mechanical appliance, Textiles and textiles articles and Vegetable products. There is no clear pattern. We observe relatively high utilisation rates (65-70%) in sections where the average MFN duty is about 1.5% such as in Mineral products and in Pearls and precious stones, etc. On the other hand utilisation rates are relatively low in e.g. Mechanical appliance were the average MFN also is low.

<sup>19</sup> C.f. Curran, Nilsson and Frontini (2007).

Finally, preference utilisation rates are relatively low in Textiles and textiles articles at least against the background of relatively high MFN duties. As has been discussed in a multitude of studies, this indicates likely problems to meet EU rules of origin requirements. Still, the high actual preference margins indicate that some beneficiaries do make good use of EU preferences in this area.

## **5. Estimating the effects of EU trade preferences on EU preferential imports**

The purpose of this section is to quantitatively estimate the link between EU trade preferences and EU preferential imports by country group. Firstly, compared to previous studies, we provide a more refined and differentiated measure of the value of EU trade preferences compared to the binary variables normally used. Secondly, we measure the impact of the preferential margin on EU preferential imports rather than total imports which is usually the case. This approach should allow us to provide improved estimates of the actual impact of the trade preferences granted on EU imports from developing countries.

The measure of the preference margin used in this section is different from the one employed above; here we only include EU imports which are eligible for preferences as opposed to all dutiable imports. Using the measure of the preferential margin as defined in equation (1) would introduce an element of endogeneity since the value of preferential imports (MPREF) form part of the calculation of the actual preferential margin on the right-hand side of the equation. Consequently, we resort to using the simple difference between the MFN tariff and the preferential tariff as a measure of the preferential margin. Note that this approach implicitly implies full use EU preferences by developing countries.

We analyse the five largest TDC sections of EU imports and/or preferential imports (frequently overlapping), covering the lion's share of EU imports from the developing countries ranging from 70% in the case of the ASEAN countries to 95% in case of the LDC non-ACPs, c.f. Section 4b above. The empirical results below should be interpreted accordingly. That is, while the results of the effects of EU preferential margins may not hold for all countries concerned (including those not presently included), they do hold for sample examined.

In this context, one should note the overwhelming dominance of Mozambique in the group of some 40 ACP LDCs. Mozambique accounts for about 45% of EU preference eligible imports from this group. Most of this trade takes place in a single product in HS76 (aluminium) at an actual preferential margin of about 6%, which none of the other ACP LDCs export. In order to be able to draw some conclusions concerning the effects of the preference margin for the ACP LDC group as a whole, and to avoid too heavy an influence of Mozambique, we decided to omit Mozambique from the regression analysis below.<sup>20</sup>

---

<sup>20</sup> One could argue that the same reasoning holds for Bangladesh in the group of LDC non-ACP, but the main difference is that most of Bangladesh's exports actually take place in the same category of products

*a. The gravity model*

We have chosen a version of the gravity model to analyse the link between the preference margin and EU imports. The gravity model has been extensively used to estimate a range of issues such as the effects of trade preference schemes, regional trading blocs, customs unions, exchange-rate regimes etc.<sup>21</sup> It has constantly gained in popularity and use partly as a result of improved theoretical underpinnings.<sup>22</sup>

The work of Anderson and van Wincoop (2003) is widely seen as the standard reference for the theoretical foundation of the gravity model. Based on the assumptions of each country producing only one good, identical homothetic consumer preferences approximated by a CES function, market clearance and symmetric trade costs, Anderson and van Wincoop (2003) derive a gravity model which states that bilateral trade between two countries is determined by the product of their respective national incomes over world income, the bilateral trade barrier between two countries and the relation between this bilateral trade barrier and the average level of trade barrier each of the countries faces in world trade.

This result has empirical implications which are consistent with the literature on empirical applications of the gravity model. The unobservable average level of trade barrier each country faces in world trade can be modelled empirically through the introduction of exporting country-specific binary variables. These binary variables account for all time-invariant fixed national factors that affect the developing countries' exports.

The most common approach is to make the gravity model linear by taking logarithms and then estimate the resulting equation by ordinary least squares (OLS), including fixed effects or exporting country specific binary variables, depending on the sample. However, while attractive from an empirical point of view, this approach may be biased because the log-linearized model is not defined for zero trade flows. In our case, this is a problem since at tariff line level many observations are eligible for preferences which are not used. The zeroes can be dropped if they are randomly distributed, an assumption which is not likely to hold since economically larger countries generally trade in more products. The problem could also be handled by using some form of a sample selection model, c.f. Heckman (1979)

In addition, OLS estimates may be both biased and inefficient in the presence of heteroscedasticity. Using the gravity set up of Anderson and van Wincoop (2003), Santos Silva and Tenreyro (2006) showed that the presence of heteroskedasticity can generate very different results when the gravity equation is log-linearized, rather than estimated in levels, even when controlling for fixed effects. To remedy the shortcomings of the former approach Santos Silva and Tenreyro (2006) suggest that a Poisson pseudo-maximum likelihood (PPML) estimator be used and show that the data does not have to be Poisson

---

(Textiles and textile articles) that is being exported by the other countries in the group as opposed to the case of Mozambique and the ACP LDCs.

<sup>21</sup> See Greenaway and Milner (2002) for an overview of gravity models and regional free trade areas.

<sup>22</sup> See e.g. Anderson and Wincoop (2003) and Evenett and Keller (2002) and the literature cited therein.

distributed (and does not even have to be an integer) for the estimator to be consistent. Westerlund and Wilhelmsson (2008) argue that the PPML is superior to OLS and performs well with only a small bias and good size accuracy in most cases. However, they show that in some data generating processes, the estimated standard errors can be downward biased and suggest the use of bootstrapped standard errors.

In light of the above, we proceed to estimate the gravity model using the PPML estimator, which also enable us to account for those cases where products are eligible for preferences but preferences are not used. Since the data we use is for 2007 only, the effects of the traditional gravity variables are picked up by the exporting country-specific binary variables. The gravity model applied in this paper, with independent variables in (natural) logs, is specified as follows:

$$\text{MPREF}_{ijk} = \alpha + \beta_1 \text{PREFMARG}_{ijk} + \sum \delta_m (\text{DEVEXP}_{mj}) + \sum \phi_n (\text{TDC}_{nj}) + \varepsilon_{ijk} \quad (2)$$

The dependent variable  $\text{MPREF}_{ijk}$  is the value of EU preferential imports in product  $k$  from country  $j$  in products that are eligible for preferences. Our variable of main interest,  $\text{PREFMARG}$ , captures the effect on EU imports from developing countries/developing country groupings of preference margins greater than one in the  $k$  products.<sup>23</sup> In a second stage of the estimation,  $\text{PREFMARG}$  is split into seven variables denoting the effect on EU imports of the preferential margin (greater than one) by developing country group. This approach provides a more refined measure of the worth of trade preferences compared to the binary variables commonly used in the literature for this purpose.

The variable  $\text{DEVEXP}$  denotes exporting country binary variables while the variable  $\text{TDC}$  marks binary variables for the TDC sections. Finally,  $\alpha$ ,  $\beta_i$ ,  $\phi_n$  and  $\delta_m$  are parameters to be estimated. EU import data is from COMEXT and preferential margins have been calculated based on data from TARIC, WITS and WTO (2007).<sup>24</sup>

### *b. Results*

The results are displayed in Table 3. Columns 1 and 2 display regression results of the full sample. The first regression shows the overall effects of preferences on EU imports from the countries in the sample, while column 2 decomposes this effect by developing country grouping. The regression results in columns 3 and 4 are similar, but the sample includes only flows for which the preferential margin is lower than or equal to 4%. This threshold by and large corresponds to the estimates of costs of meeting rules of origin in the literature<sup>25</sup> and the threshold of 4% found by e.g. Manchin (2006) and cited in Evenett (2008) under which countries choose not to use preferences.

---

<sup>23</sup> See Council Regulation (EC) No 732/2008, paragraph 18 of the preamble: "Duties should be suspended totally, where the preferential treatment for an individual import declaration results in an ad valorem duty of 1 % or less or in a specific duty of EUR 2 or less, since the cost of collecting such duties might be higher than the revenue gained." We apply this approach for all flows for which the simple preferential margin is less than or equal to one percent and not only when the MFN tariff less than or equal to one percent.

<sup>24</sup> See Annex 2 for details.

<sup>25</sup> See e.g., Cadot et al (2006).

The coefficient for the preferential margin, PREFMARG is positive and statistically significant at the 1% level in the two regressions. Splitting this overall effect into effect per developing country grouping gives the results displayed in Column 2 and Column 4. In the full sample (Column 2), the preferential margin by country group is positive and statistically significant at conventional levels for all country groups except for DC FTA. The same holds for the sample containing preference margins of less than or equal to 4%, in which also the coefficient for Latin America turns insignificant.

The magnitude of the coefficients can not be straightforwardly compared across country groups or samples. The estimated coefficients which are aggregated to developing country group level are derived from disaggregated data which, at product level, hides substantial variations in elasticities and thus respond differently to an increase in the preferential margin. An additional complicating factor is that the underlying levels of the preferential margin vary across products and countries. A ten percent increase in the preferential margin for e.g. ASEAN would increase its (simple) preferential margin from about 3% to 3.3%, while the same ten percent increase in the preferential margin would imply more than a full percentage point increase (from 10% to 11%) in the preferential margin for e.g. the LDC non-ACPs. It is not clear that the same relative increase (which results in different absolute increases) in the preferential margin would have the same effect on EU imports across country groups.

The positive and statistically significant coefficients indicate that EU preferential imports from developing countries increase with the size of the preferential margin and hence that EU preferences matter. The finding that also relatively low preferential margins seem to matter is not surprising in light of the facts at hand. Most of the products eligible for preferences under the standard GSP are entitled to reduction of the MFN duty of 3.5% and these preference are fairly well used (a preference utilisation rate of about 70%).

The Latin American countries and the ASEAN export to the EU under GSP (standard or 'plus' in the case of the former group of countries) preferences, but the regression results are different for the two country groupings in as far as the estimate for products with a preferential margin of less than 4% is insignificant in case of Latin America as opposed to ASEAN. This latter insignificant coefficient estimate for exports subject to preference margins of less than or equal to 4% is likely to be explained by small variations in the preferential margin combined with substantial variations in the value of exports. For example, the (most common) preference margin of 3.5% is associated with export values of hundreds of millions of Euros in some products as well as of a few thousand Euros in others. Hence, there is simply no correspondence in the data between higher preferential margins and more exports.

However, in the case of the ASEAN countries which also export to the EU under GSP preferences, the situation is different. Most exports take place in products with a preference margin of 3.5% followed by products exported at a preference margin of 2.7% and 2.4%, thus indicating a positive relation between higher preference margins and the value of exports.



The insignificant estimate of DC FTA is related to South Africa, which accounts for about half of all EU preferential imports from the grouping, most of which take place in TDC sections 15 and 16 (Base metals and Mechanical appliances). The largest exports take place in a product in HS84 with a preferential margin of 1.7% while exports of products with higher preference margins take place at lower values. This is likely to explain the insignificant estimate(s). Subsequently, excluding South Africa renders the coefficient estimate positive and statistically significant (not reported in the table).

**Table 3: Gravity model regression results of EU preferential imports from developing countries, 2007**

Variable	Preferential EU imports (PPML)			
	Full sample Pref. margin>1		1< Pref. margin =< 4%	
	(1)	(2)	(3)	(4)
Pref. margin >1% ( <i>PREFMARG</i> )	0.48***		1.59***	
ACP LDC		0.40***		4.63**
ACP non-LDC		0.42***		5.02***
ASEAN		0.38***		1.36***
DC FTAs		-0.26		0.69
Latin Am.		0.63***		0.78
LDC non-ACP		2.29***		5.41***
Mediterranean		0.88***		2.55***
Constant	7.94***	3.70***	3.67***	-1.01
Number of obs.	36089	36089	26693	26693
Adjusted/Pseudo R <sup>2</sup>	0.12	0.14	0.16	0.17

*Source:* Own calculations. *Note:* PPML denotes Poisson pseudo maximum likelihood. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 based on robust standard errors. Coefficients for exporting country binary variables and TDC section binary variables are not displayed.

If we would have used ordinary dummy variables for trade preferences, we could have followed the traditional approach and divided our left-hand side variable with the binary variable<sup>26</sup> raised to the power of the coefficient estimate to get a precision of the extent to which preferences have helped to generate exports. However, it should be recalled that there can be no preferential EU imports without trade preferences and that trade preferences do not affect the level of duty free (MFN-0) imports. Hence, the resulting

<sup>26</sup> The use of 2 instead of 1 is standard in this case since the log of 1 is zero.

estimates of the impact of trade preferences using this approach must be interpreted carefully and accordingly.

Bearing this in mind, we review one of the latest estimates in the literature on the effects of EU trade preferences. Persson and Wilhelmsson (2007) find that without EU preferences total EU imports from the ACP LDCs would have been 32.6% lower. EU imports from the ACPs LDCs stood at €8884 million in 2002, out of which €2035 million or 23% were preferential imports.<sup>27</sup> The result of Persson and Wilhelmsson (2007) implies that without EU preference total EU imports from these countries would have been €2896 million lower (32.6%\*€8884 million). However, this figure is more than 40% higher than the actual value of EU preferential imports from the ACP LDCs in 2002 which are the only imports that trade preferences could affect and is hence most probably too high.

In our case the above method is not applicable as the preferential margin varies by country and product. Instead, we sum up the contribution of the preferential margin in explaining EU preferential imports (i.e.  $\sum(\beta_i \times \text{PREFMARG}_{ijk})$ ) and relate the finding to the sample total of EU imports.<sup>28</sup> In doing so, we obtain figures comparable with previous estimates in terms of how much trade preferences have contributed to increase total EU imports from developing countries.

The result is displayed in Table 4. Overall, preferences explain 11% of EU imports from the developing countries. This figure is in the same range as the share of EU preferential imports from developing countries in 2007 (13%). Preferences are by far most important for the LDC non-ACPs for which it is estimated that without preferences their exports to the EU would be almost 75% lower. This is consistent with the high share of EU dutiable imports from this group of countries. Preferences are also relatively important for the ACP LDCs explaining about 20% of EU imports in 2007, by and large corresponding to their share of EU preferential imports in total imports. For the rest of the country groups, EU trade preferences appear to explain about 10% of EU imports well below their corresponding shares of EU preferential imports in total imports.

The results reflect not only the weight of EU preferential imports by country group in total imports they also show that for some countries factors other than preferences (captured by our exporting country binary variables) are important. This seems to be particularly the case for the ACP non-LDCs, Latin America and for the Mediterranean countries.

---

<sup>27</sup> The study period of Persson and Wilhelmsson (2007) ends in 2002. Figures on preferential imports are available from Eurostat at [http://epp.eurostat.ec.europa.eu/portal/page?\\_pageid=0.1136217.0\\_45571467&\\_dad=portal&\\_schema=PORTAL](http://epp.eurostat.ec.europa.eu/portal/page?_pageid=0.1136217.0_45571467&_dad=portal&_schema=PORTAL)

<sup>28</sup> Recall that the sample contains the lion's share of EU imports from developing countries, c.f. Section 5 p. 13.

**Table 4: The contribution of trade preferences in explaining EU imports (%)**

Variable	Full sample	
	(1)	(2)
All	11.0	
ACP LDC		19.0
ACP non-LDC		10.1
ASEAN		9.1
DC FTAs		n.a.
Latin Am.		8.9
LDC non-ACP		74.1
Mediterranean		12.4

*Source:* Own calculations. .n.a. denote not applicable. The coefficient estimate is insignificant.

## 6. Summary

This paper explores the EU's openness to imports from more developing countries over a longer and more recent period of time (2003-2007) and in more detail compared to most other studies. It shows that the lion's share of EU imports from the developing countries (except the ASEAN) enters the EU under zero duties and that EU preferences are well used, in particular by the ACPs.

In cases where preference utilisation is low, the volume of imports dutiable and hence potentially eligible for preferences is also often low. An exception appears to be EU imports of Textiles and textile articles from the non-ACPs LDC and from ASEAN, which may be related to restrictive EU RoO in that particular sector, rather than it being a general phenomenon. For the former group of countries, there is a significant increase in the use of preferences over the study period. Estimates of the countries' actual benefits of EU trade preferences based on calculations of an overall preference margin vis-à-vis the MFN of 13% for the ACP non-LDCs, followed by the LDC non-ACPs at about 9% and the ACP LDCs at 7%.

The quantitative part of the paper finds statistically significant impact of EU preferences, measured by the preferential margin vis-à-vis the MFN rate, on EU preferential imports from the beneficiaries in general. When the result is disaggregated by developing country group, it emerges that EU preferences are statistically significant for all country groups except for the group of developing countries having an FTA with the EU (Chile, Mexico and South Africa).

In terms of impact on total imports, the results show that some of the previous estimates in the literature may have been exaggerated and that the effects of EU trade preferences on total EU imports from developing countries are more likely to lie in the range of 10%. Regressing only observations for which the preference margin is lower than or equal to 4% provides a similar result, which is contrary to most of the findings in the literature, but which reflects the relatively high use of EU preferences under the GSP for which preferential margins are lower than 4%.

## REFERENCES

Anderson, J.E. (1979), A Theoretical Foundation for the Gravity Equation, *American Economic Review*, 69 (1), 106–116.

Anderson, J.E. and E. van Wincoop (2003), ‘Gravity with Gravitas: A Solution to the Border Puzzle, *American Economic Review*, 93 (1), 170–92.

Bouët, A., Jean, S. and L. Fontagne (2005), Is Erosion of Preferences a Serious Concern? in Anderson K. and W. Martin (eds.) *Agricultural Trade Reform and the Doha Development Agenda*, pp. 161-192, Oxford University Press and The World Bank, Washington, D.C.

Brenton, P. and M. Manchin (2003), Making EU Trade Agreements Work: The Role of Rules of Origin, *The World Economy* 26 (5), 755–769.

Bureau, J.-C., Chakir R. and J. Gallezot (2006), The Utilisation of Trade Preferences for Developing Countries in the Agri-food Sector, *Journal of Agricultural Economics*, vol. 58, issue 2, pp. 175-198.

Cadot, O., de Melo, J. and E. Pondard (2006) Evaluating the Consequences of a Shift to a Value-added method for Determining Origin in the European Union’s GSP Preferential Scheme, *Report prepared for the EC Commission*

Candau, F. and S. Jean (2009), What Are European Union Trade Preferences Worth for Sub-Saharan African and Other Developing Countries?, in *Trade Preference Erosion: Measurement And Policy Response*, in Hoekman, B., Martin, W. and C.A. Primo Braga (eds.), Palgrave-McMillan and The World Bank, 2009, pp. 65-102.

Candau, F, Fontagné and S. Jean (2004), The utilisation rate of preferences in the EU, Paper presented at the 7<sup>th</sup> Global Economic Analysis Conference, Washington D.C.

Cipollina, M and L. Salvatici (2008), EU and developing countries: what is the impact of agricultural preferences? Paper presented at the 10<sup>th</sup> European Trade Study Group conference, Warsaw.

Curran, L., Nilsson, L and D. Brew (2008), The Economic Partnership Agreements: Rationale, Misperceptions and Non-trade aspects, *Development Policy Review*, Vol. 26, Issue 5, pp. 529-553, September.

Curran, L., Nilsson, L and G. Frontini (2007), Assessing the Scope for Preference Erosion on the EU Market A Pragmatic Approach, *Global Trade and Customs Journal*, Volume 2, Nr. 10, pp. 347-358.

Djankov, S., Freund, S. and C.S. Pham (2006), Trading on Time, *Working Paper WPS3909*, Washington, DC: The World Bank.

Evenett, S. J. (2008), The European Union's Generalised System of Preferences: An Assessment of the Evidential Base. Paper presented at the CEPR discussion meeting: What have EU Trade Policies done for developing countries? A look at the evidence. Brussels, June.

Evenett, S. J. and W. Keller (2002), On Theories Explaining the Success of the Gravity Equation, *Journal of Political Economy*, 110 (2), 281–316.

Greenaway, D. and C. Milner (2002), Regionalism and Gravity, *Scottish Journal of Political Economy*, 49 (5), 574–85.

Heckman, J. (1979), Sample selection bias as a specification error, *Econometrica*, 47, 153–61.

Manchin, M (2006), Preference Utilisation and Tariff Reduction in EU Imports from ACP Countries, *World Economy*, Volume 29, Issue 9.

McQueen, M. (2007), Are EU non-reciprocal trade preferences passé? *Intereconomics*, July/August.

Nilsson, L. (2002), Trading Relations: Is the Roadmap from Lome to Cotonou Correct? *Applied Economics*, Vol. 34, issue 4, pages 439-52.

Nilsson, L. (2007), Comparative effects of EU and US trade policies on developing country exports, in Y. Bourdet, J. Gullstrand and K. Olofsdotter (eds.) *The European Union and Developing Countries: Trade, Aid, and Growth in an Integrated World*, Edward Elgar.

OECD (2005a), Trade Preference Erosion: Potential Economic Impacts, *TD/TC/WP(2004)30/REV1*.

OECD (2005b), *Preferential Trading Arrangements in Agricultural and Food Markets: The Case of the European Union and the United States*, Paris: Organisation for Economic Co-operation and Development.

Persson, M. and F. Wilhelmsson (2007), Assessing the Effects of EU Trade Preferences for Developing Countries, in Y. Bourdet, J. Gullstrand and K. Olofsdotter (eds.) *The European Union and Developing Countries: Trade, Aid, and Growth in an Integrated World*, Edward Elgar.

Rose, A.K. and E. van Wincoop (2001), 'National Money as a Barrier to International Trade: The Real Case for Currency Union', *American Economic Review*, 91 (2), 386–90.

Santos Silva, J. M. C. and S. Tenreyro (2006), The Log of Gravity, *The Review of Economics and Statistics*, MIT Press, vol. 88(4), pages 641-658.

WTO (2007), *Ad Valorem* Equivalent (AVEs) of Scheduled Final Bound Agricultural Tariffs, *JOB(07)/192*, Committee on Agriculture Special Session, Note by the Secretariat, November.

UNCTAD (2003), Trade Preferences for LDCs: An Early Assessment of Benefits and Possible Improvements.

ANNEX

Figure 1a:

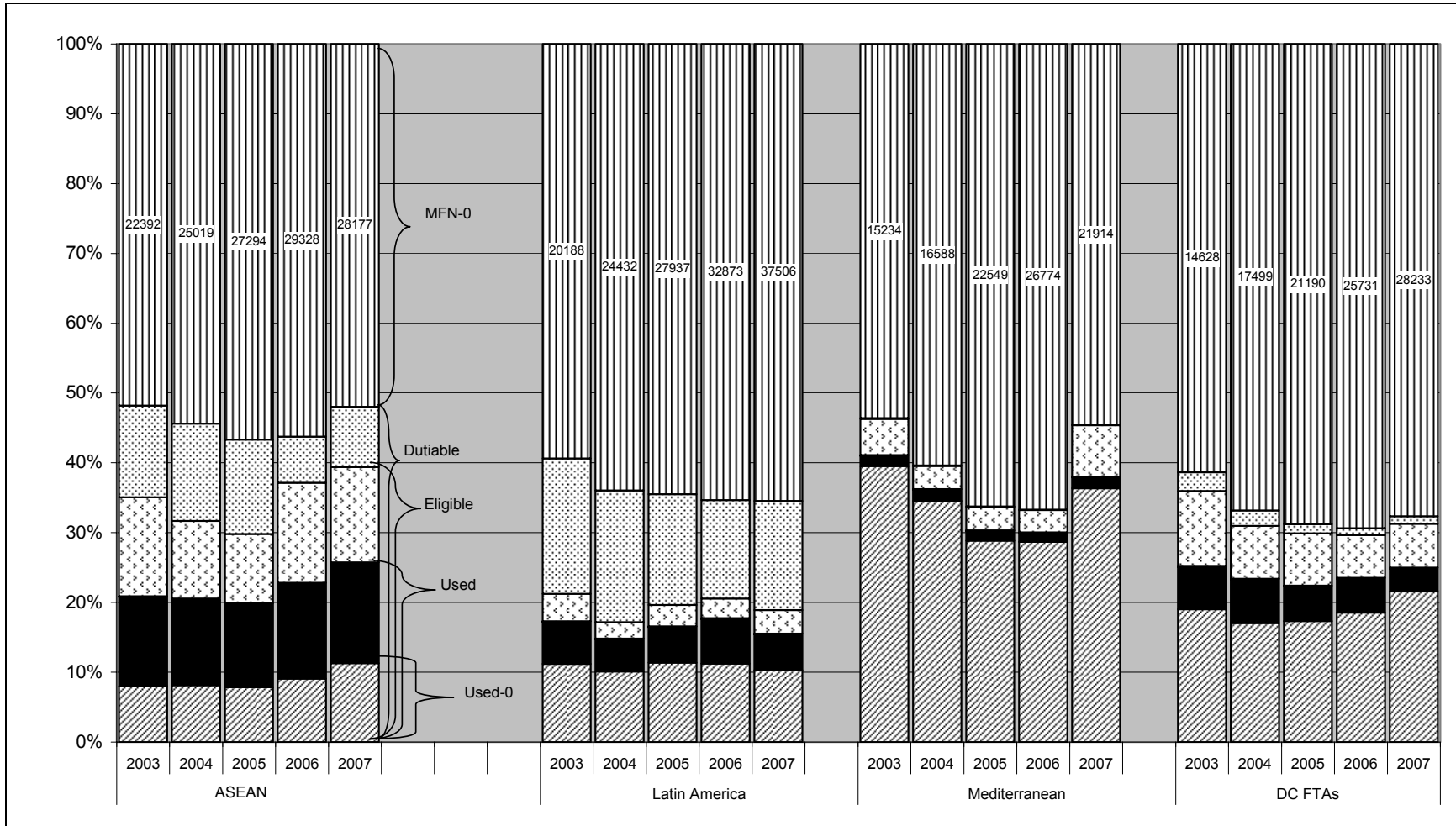
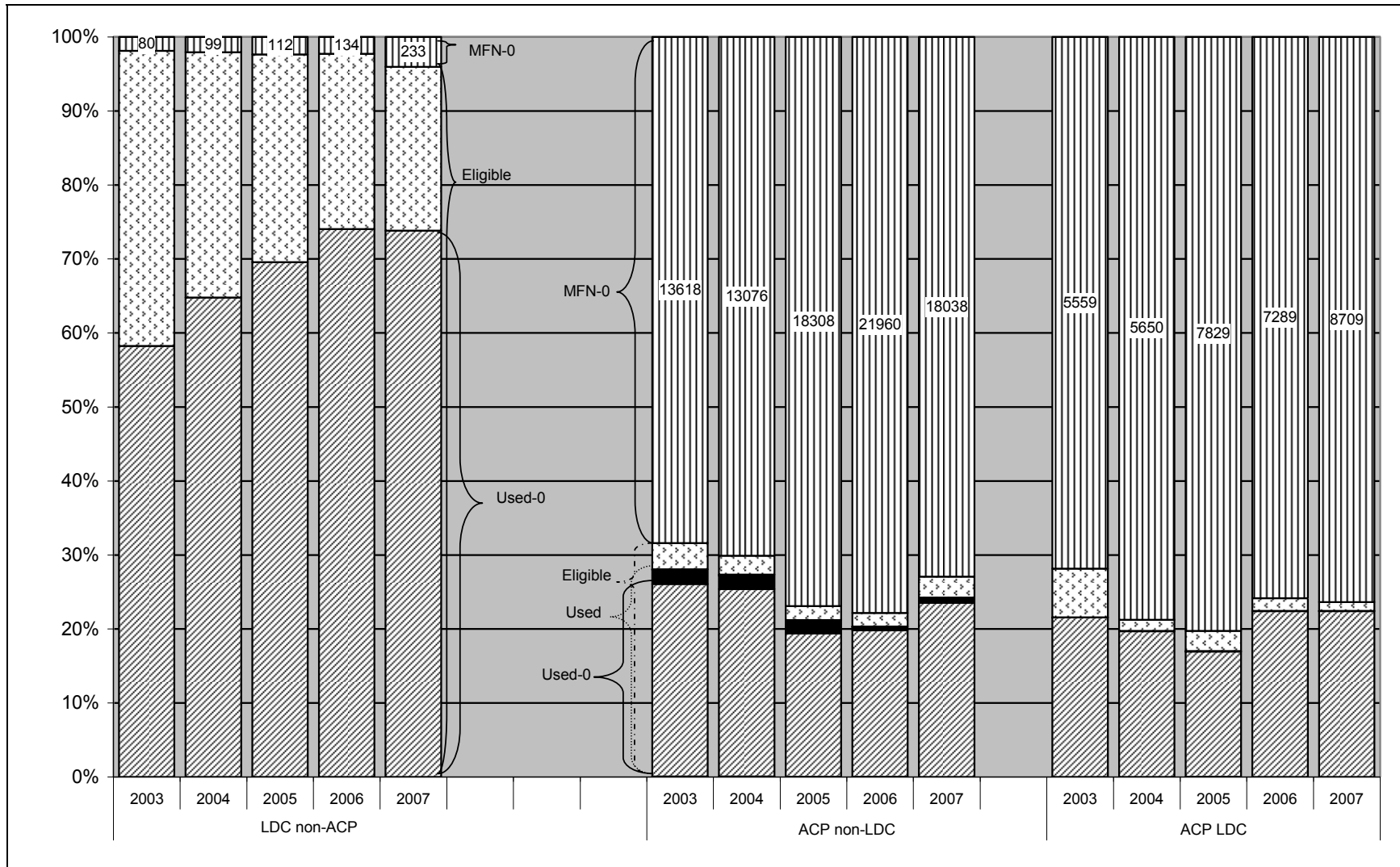
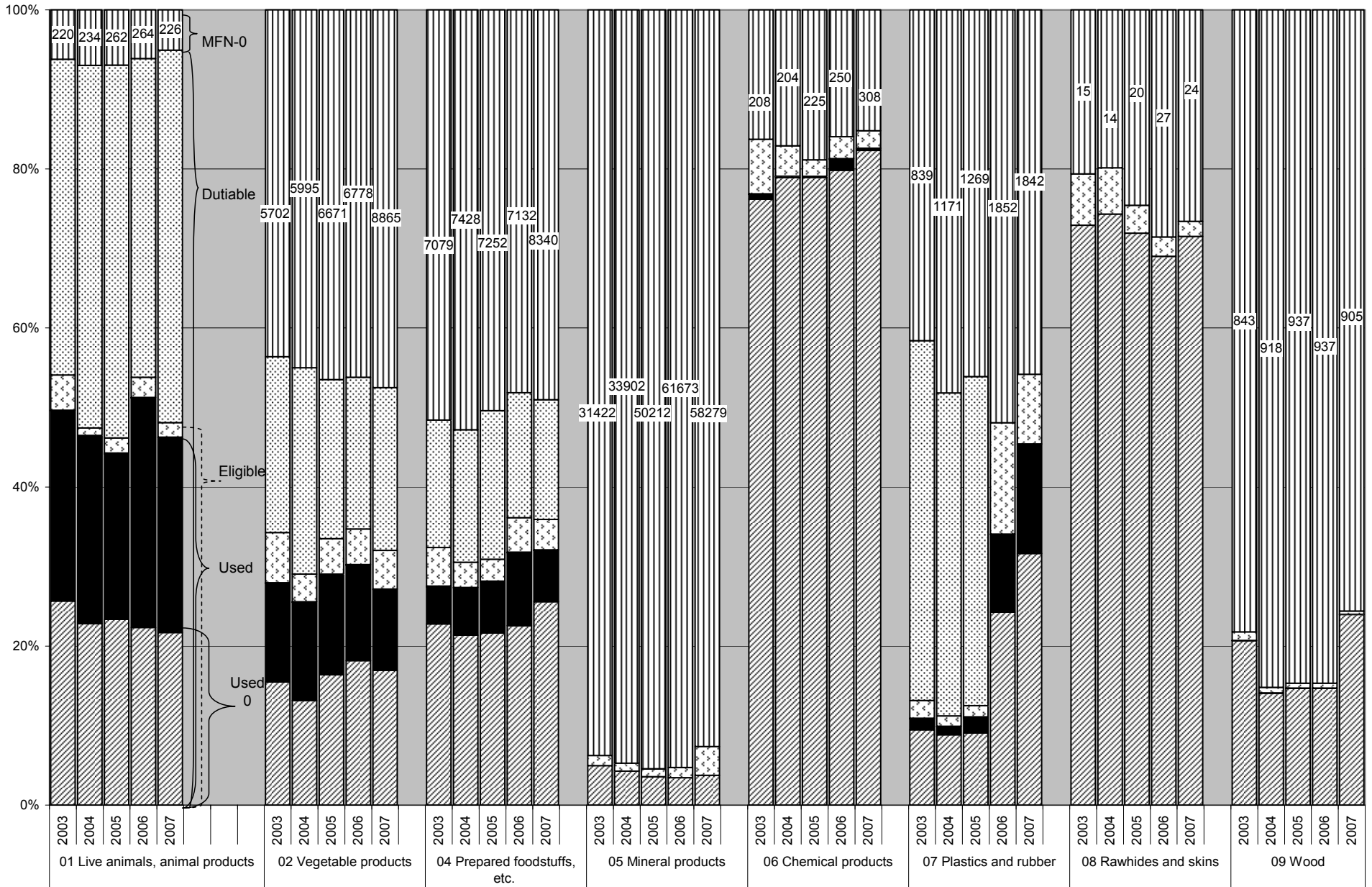




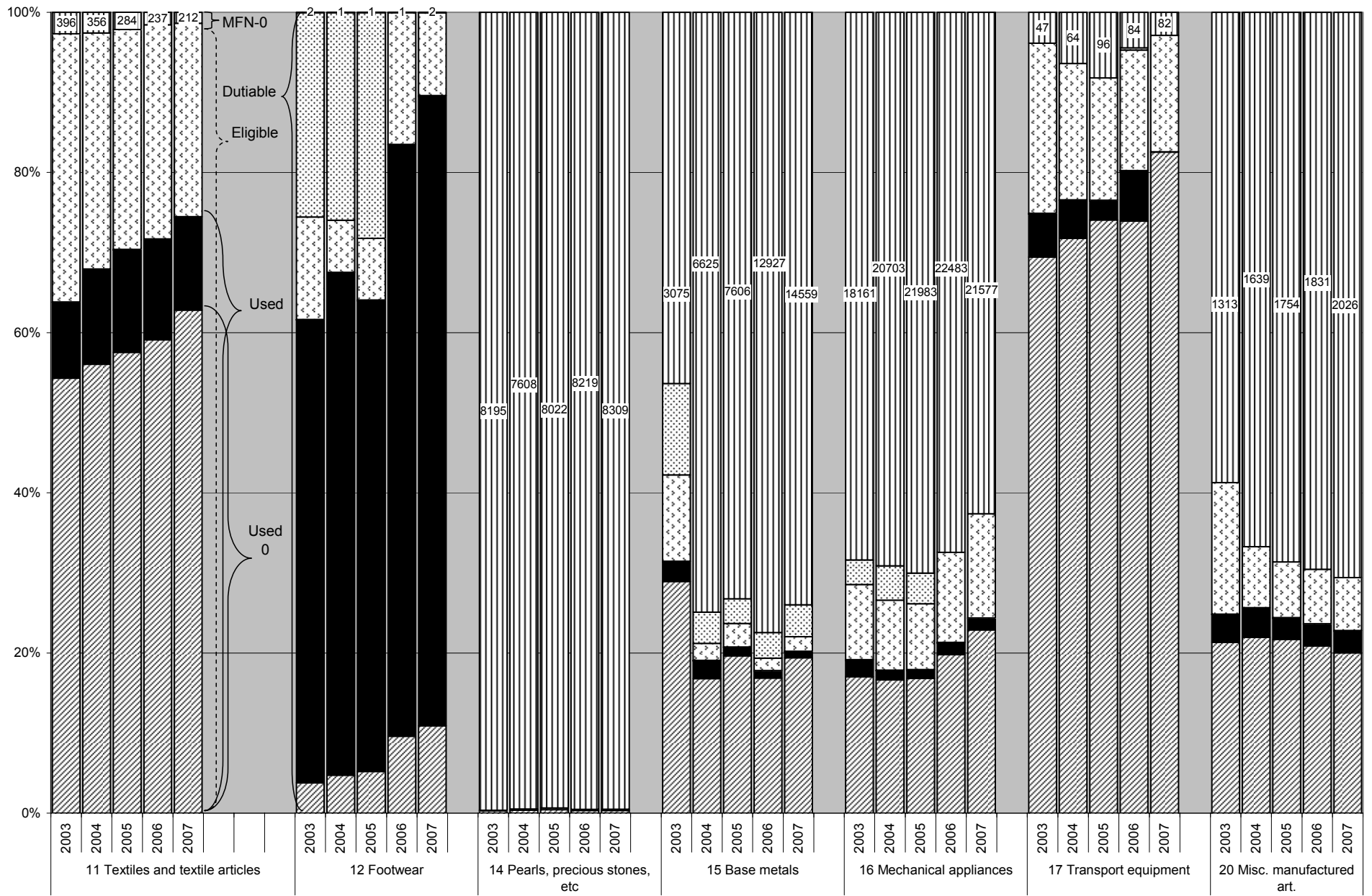
Figure 1b:



**Figure 2a:**



**Figure 2b:**



**Table 1: List of countries making up the country aggregates/country groups**

<b>ASEAN<sup>29</sup></b>	Brunei, Indonesia, Malaysia, Philippines, Thailand, Vietnam
<b>Latin America<sup>30</sup></b>	Argentina, Bolivia, Brazil, Colombia, Costa Rica, El Salvador, Ecuador, Guatemala, Honduras, Nicaragua, Panama, Paraguay, Peru, Uruguay, Venezuela
<b>Mediterranean countries<sup>31</sup></b>	Algeria, Occupied Palestinian Territory, Egypt, Jordan, Lebanon, Morocco, Syria, Tunisia
<b>ACP non-LDC</b>	Antigua and Barbuda, The Bahamas, Barbados, Belize, Botswana, Cameroon, Congo Rep., Côte d'Ivoire, Dominica, Dominican Republic, Fiji, Gabon, Ghana, Grenada, Guyana, Jamaica, Kenya, Mauritius, Namibia, Nigeria, Papua New Guinea, Seychelles, St. Kitts and Nevis, St. Lucia, St. Vincent, Suriname, Swaziland, Tonga, Trinidad and Tobago, Zimbabwe
<b>ACP-LDC</b>	Angola, Benin, Burkina Faso, Burundi, Cape Verde, Central Africa, Chad, Comoros, Congo (Dem. Rep.), Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Rwanda, Samoa, Sao Tome and Principe, Senegal, Sierra Leone, Solomon Islands, Somalia, Sudan, Tanzania, Togo, Tuvalu, Uganda, Vanuatu, Zambia
<b>LDC non-ACP</b>	Afghanistan, Bangladesh, Bhutan, Cambodia, Lao Dem. Rep., Maldives, Nepal, Yemen
<b>DC FTA</b>	Chile, Mexico, South Africa

<sup>29</sup> Cambodia and Lao are accounted for in the group LDC, non-ACP. Myanmar is excluded as its preferences on the EU market are suspended. Singapore is also excluded as it does not receive any preferences on the EU market.

<sup>30</sup> Chile and Mexico are included in the group DC FTA.

<sup>31</sup> Israel is excluded as it is not a GSP beneficiary.

**Table 2: Overview of EU preferential imports in 2007, by TDC Section (€million, %)**

From	EU Imports	Total	Dutiable*	Pref. elig.	Used	0-duty
		€ mn (%)	€ mn (%)	€ mn (%) <sup>a</sup>	€ mn (%)	€ mn (%)
<b>ACP non-LDC</b>		<b>(91.7)</b>				
02 Vegetable products		1581.1 (6.4)	1105.0 (69.9)	1102.7 (99.8)	993.3 (90.0)	1389.5 (87.9)
04 Prepared foodstuffs, bev., tobacco		4141.2 (16.7)	2116.1 (51.1)	2115.9 (100.0)	2073.8 (98.0)	4079.6 (98.5)
05 Mineral products		12101.9 (48.9)	497.1 (4.1)	497.1 (100.0)	275.7 (55.5)	11880.5 (98.2)
06 Chemical products		703.1 (2.8)	599 (85.2)	599 (100.0)	592.8 (99.0)	695.2 (98.9)
09 Wood		1196.3 (5.4)	291.8 (24.4)	291.8 (100.0)	287 (98.3)	1191.2 (99.6)
11 Textiles and textile articles		537.2 (2.2)	498.7 (92.8)	498.7 (100.0)	464.3 (93.1)	501.3 (93.3)
14 Pearls, precious stones, etc.		1285.1 (5.2)	16.7 (1.3)	16.7 (100.0)	12.8 (76.3)	1281.1 (99.7)
15 Base metals		1021.5 (4.1)	507.6 (49.7)	507.6 (100.0)	463.5 (91.3)	977.1 (95.7)
<b>ACP LDC</b>		<b>(91.5)</b>				
01 Live animals, animal products		639.0 (5.6)	631.0 (100.0)	631.0 (100.0)	625.9 (100.0)	633.9 (100.0)
02 Vegetable products		913.1 (6.1)	219.6 (24.1)	219.6 (100)	214.8 (97.8)	904.1 (99.0)
04 Prepared foodstuffs, bev., tobacco		665.9 (5.8)	447.8 (67.2)	447.8 (100)	437.8 (97.8)	655.5 (98.4)
05 Mineral products		6006.8 (52.7)	79.0 (1.3)	79.0 (100)	51.0 (64.5)	5978.7 (99.5)
11 Textiles and textile articles		338.6 (3.0)	270.2 (79.8)	270.2 (100)	252.9 (93.6)	321.3 (94.9)
14 Pearls, precious stones, etc.		759.5 (6.7)	2.1 (0.3)	2.1 (100.0)	1.0 (49.9)	758.5 (99.9)
15 Base metals		1322.2 (11.6)	772.6 (58.4)	772.6 (100.0)	760.2 (98.4)	1309.8 (99.1)
<b>LDC non-ACP</b>		<b>(97.3)</b>				
01 Live animals, animal products		164.6 (2.9)	164.4 (99.9)	164.4 (100)	162.3 (98.7)	162.5 (98.7)
05 Mineral products		149.0 (2.6)	39.3 (26.4)	39.3 (100)	9.4 (24.0)	119.2 (80.0)
08 Rawhides and skins		88.5 (1.5)	65.0 (73.4)	65.0 (100)	63.3 (97.4)	86.8 (98.1)
11 Textiles and textile articles		4991.3 (86.6)	4949.9 (99.2)	4949.9 (100)	3747.8 (75.7)	3789.3 (75.9)
12 Footwear		162.3 (2.8)	162.3 (100.0)	162.3 (100.0)	150.6 (92.8)	150.6 (92.8)
17 Transport equipment		53.3 (0.9)	53.2 (99.8)	53.2 (100.0)	47.9 (90.0)	47.9 (90.0)

**Table 2 continued**

From	EU Imports	Total	Dutiable*	Pref. elig.	Used	0-duty
		€ mn (%)	€ mn (%)	€ mn (%) <sup>a</sup>	€ mn (%)	€ mn (%)
<b>ASEAN</b>		<b>(69.7)</b>				
04 Prep. foodstuffs, bev., tobacco		2084.0 (3.8)	1742.5 (83.6)	1247.9 (71.6)	905.9 (72.6)	341.9 (16.4)
07 Plastics and rubber		4019.1 (7.4)	2177.0 (54.2)	2177.0 (100.0)	1825.7 (83.9)	3113.1 (77.5)
11 Textiles and textile articles		3942.8 (7.3)	3924.0 (99.5)	3922.5 (100.0)	1780.5 (45.4)	18.8 (0.5)
12 Footwear		2420.6 (4.5)	2418.9 (99.9)	2418.9 (100.0)	2163.8 (89.5)	132.6 (5.5)
16 Mechanical appliances		22461.5 (41.4)	5332.0 (23.7)	5329.7 (100.0)	2438.3 (45.7)	19078.5 (84.9)
20 Misc. manufactured products		2869.8 (5.3)	844.2 (29.4)	844.2 (100.0)	654.6 (77.5)	2600.0 (90.6)
<b>Latin America</b>		<b>(82.8)</b>				
01 Live animals, animal products		3653.3 (6.4)	3435.1 (94.0)	1348.0 (39.2)	1273.9 (94.5)	397.1 (11.0)
02 Vegetable products		12306.6 (21.5)	5070.9 (41.2)	1479.4 (29.2)	1289 (87.1)	8236 (67.0)
04 Prepared foodstuffs, bev., tobacco		8663.1 (15.1)	3195.9 (36.9)	1233.5 (38.6)	1167.2 (94.6)	6547 (75.6)
05 Mineral products		13407.4 (23.4)	431.3 (3.2)	431.3 (100.0)	347 (78.5)	13323.1 (99.4)
15 Base metals		5553.5 (9.7)	1267.2 (22.8)	589.2 (46.5)	523.7 (88.9)	4651 (83.7)
16 Mechanical appliances		3847.6 (6.7)	1793.8 (46.6)	1793.8 (100.0)	1235.1 (68.9)	3267.4 (84.9)
<b>Mediterranean countries</b>		<b>(90.7)</b>				
02 Vegetable products		1505.0 (3.7)	1321.6 (87.8)	1314.9 (99.5)	1175.1 (89.4)	764.4 (50.8)
05 Mineral products		22467.4 (56)	3550.5 (15.8)	3550.5 (100.0)	1655.2 (46.6)	20572.0 (91.6)
06 Chemical products		1323.9 (3.3)	1120.0 (84.6)	1120.0 (100.0)	1081.3 (96.6)	1281.7 (96.8)
11 Textiles and textile articles		5629.4 (14)	5584.6 (99.2)	5584.6 (100.0)	5252.6 (94.1)	5280.3 (93.8)
15 Base metals		1947.7 (4.9)	872.5 (44.8)	872.5 (100.0)	836.3 (95.9)	1910.3 (98.1)
16 Mechanical appliances		3521.0 (8.8)	2663.9 (75.7)	2663.9 (100.0)	2351.7 (88.3)	3208.7 (91.1)

**Table 2 continued**

From	EU Imports	Total	Dutiable*	Pref. elig.	Used	0-duty
		€ mn (%)	€ mn (%)	€ mn (%) <sup>a</sup>	€ mn (%)	€ mn (%)
<b>Developing country FTA</b>		<b>(86.7)</b>				
02 Vegetable products		2358.5 (5.7)	2082.7 (88.3)	1863.2 (89.5)	1397.3 (75.0)	732.7 (31.1)
04 Prepared foodstuffs, bev., tobacco		1460.2 (3.5)	1172.2 (80.3)	1068.3 (91.1)	876.5 (82.0)	1067.2 (73.1)
05 Mineral products		8788.8 (21)	45.1 (0.5)	45.1 (100)	22.5 (50.0)	8766.2 (99.7)
14 Pearls, precious stones, etc.		6305 (15.1)	21.6 (0.3)	21.6 (100.0)	14.7 (68.0)	6298 (99.9)
15 Base metals		9834.2 (23.6)	1700 (17.3)	1594.8 (93.8)	1396.2 (87.5)	9525.3 (96.9)
16 Mechanical appliances		4633.1 (11.1)	3096 (66.8)	3096 (100.0)	2369.1 (76.5)	3906.2 (84.3)
17 Transport equipment		2794.2 (6.7)	2711.9 (97.1)	2711.9 (100.0)	2303.8 (85.0)	2384.9 (85.4)

Source: COMEXT. Note: See Annex Table 1 for country coverage of the groupings. <sup>1</sup> in percent of total imports. \* Total imports minus imports at MFN-0, as a percentage of total imports. <sup>a</sup> in percent of dutiable imports.

**Table 3: Countries and sections in the respective regions/country groupings, average 2003-2007**

Region / group	Country	Share of group exports (%) <sup>a</sup>	Preference utilisation rate <sup>b</sup> (%)	TDC Section	Share of country exports (%) <sup>a</sup>	Preference utilisation rate (%) <sup>a</sup>
<b>ASEAN (97.9%)</b>	Indonesia	20.1	67.6	05. Mineral products 11. Textiles and textile articles 16. Mechanical appliances	12.2 15.2 16.1	38.3 53.6 63.1
	Malaysia	30.0	60.4	16. Mechanical appliances	66.3	44.0
	Philippines	12.0	53.8	16. Mechanical appliances	74.7	46.2
	Thailand	25.1	62.7	11. Textiles and textile articles 16. Mechanical appliances 17. Transport equipment	8.3 39.4 7.8	55.7 54.7 47.8
	Vietnam	10.7	72.0	02. Vegetable products 11. Textiles and textile articles 20. Misc. manufactured art.	10.6 14.3 11.5	81.0 17.2 67.4
<b>LDC non-ACP (89.4%)</b>	Bangladesh	76.5	70.6	11. Textiles and textile articles	91.6	67.0
	Cambodia	10.5	69.9	11. Textiles and textile articles	86.7	66.0
<b>Medit. (90.2%)</b>	Algeria	41.0	79.8	05. Mineral products	96.6	84.1
	Egypt	13.8	83.9	02. Vegetable products 05. Mineral products	6.2 53.6	89.0 68.3
	Morocco	18.1	92.6	05. Mineral products	7.0	67.2
	Tunisia	17.3	93.6	05. Mineral products	15.2	70.6
<b>Latin Am. (63.9%)</b>	Argentina	14.5	85.6	04. Prepared foodstuffs, etc. 05. Mineral products	42.2 5.3	85.7 72.6
	Brazil	49.4	80.0	02. Vegetable products 04. Prepared foodstuffs, etc. 16. Mechanical appliances	18.9 15.6 8.6	78.1 71.8 80.6
<b>DC FTAs (100%)</b>	Mexico	24.7	63.2	05. Mineral products 06. Chemical products 16. Mechanical appliances 17. Transport equipment	27.7 5.0 25.1 14.4	65.1 64.4 30.2 86.7
	Chile	25.8	85.0	02. Vegetable products	9.4	80.9
	South Africa	49.5	80.6	05. Mineral products 14. Pearls, precious stones, etc. 15. Base metals 16. Mechanical appliances	22.5 29.5 11.3 11.8	87.0 66.3 89.6 77.0

<sup>a</sup> Average 2003-2007. <sup>b</sup> Average 2003-2007, for the country's total exports to the EU.



## ANNEX 2

### *a. Establishing import regime*

Eurostat provides information on the share of duty-free imports and/or preferential imports into the EU in the following classification: positive MFN imports (MFN>0), duty-free MFN imports (MFN=0), positive preferential imports (PREF>0) and duty-free preferential imports (PREF=0). Since EU preferential regimes overlap for some countries (e.g., an LDC may export under the EBA as well as under the Cotonou regime until the end of 2007), it has been chosen to present all preferential imports as PREF=0 or PREF>0 without specifying the preference scheme under which the exports entered. This classification appears simple but requires a complex procedure matching tariff data with trade (import) data using the appropriate statistical regimes.<sup>32</sup>

To establish the correct classification of imports, it is first checked whether the MFN tariff is zero or not. If the MFN tariff is zero it is assumed that the product is imported at MFN=0. If the MFN rate is greater than zero, the importer's request for preferential treatment is compared with the preference eligibility for the product, as defined in TARIC. If the request for preferential treatment is related to a product which is eligible for preferences, it is assumed that the product entered under the requested regime. This is an approximation as the information on whether the product effectively obtained the requested regime is not collected.<sup>33</sup>

As far as the choice of tariffs is concerned, one could note that the TARIC database is not designed for analytical purposes. The database is useful to find the tariff for a specific product from a specific country at a specific point in time, but it is less useful if one needs to obtain information on tariffs for several products and countries at more than one point in time. Tariffs can be suspended, changed or may apply only during a specific time period which creates additional difficulties. The database is updated daily, while trade flows at the most detailed level are only available on a monthly basis. It has therefore been decided to use the applicable tariff the first day of each month and consider that it remains unchanged throughout the month. Furthermore, a tariff is considered to be zero when the normal tariff is zero or when there is a suspension (with a zero tariff). The final data is verified through a procedure which compares requests for preferential treatment with preference eligibility for the products in question.

It is also checked whether the importer asked to be subject to imports under a quota. If this is the case, and if the quota was available at the time of request, the product is considered to have been imported within the quota. If the quota is an MFN quota and offers duty-free entry, the import will be considered as MFN=0.<sup>34</sup> If the quota offers only a reduced tariff it will appear as MFN>0. Preferential quotas at positive and zero rates are classified in a similar fashion.

So-called unknown trade (trade for which the preferential treatment, if any, has not been possible to establish) has been taken out of the statistics. We therefore avoid distorting the estimates on imports

---

<sup>32</sup> Statistical Regime 1 refers in general to imports of goods for final use in the EU. Regime 3 relates to customs outward processing. Regime 5 and 6 are for customs inward processing. Regime 7 deals with certain economic outward processing relating to textiles. The information on duty-free imports and/or preferential imports is based on regimes 1, 3 and 7. Note that there is no regime 2 and that Regime 4 refers to the sum of all regimes mentioned above.

<sup>33</sup> In a proposal from the Commission relating to external trade statistics, it is proposed that information be recorded on which preferential regime products actually enter the EU, see COM (2007), 653 final.

<sup>34</sup> Note that MFN quotas can apply to specific countries and not on an MFN basis.

eligible for preferences and imports using preferences, while reducing the overall volume of EU imports from the countries/country groupings analysed.

*b. Matching trade flows with tariffs*

1. When there was no match between TARIC and COMEXT figures,<sup>35</sup> we moved to the next higher degree of aggregation. For example, if there is not duty found for product 20202010, we used the tariff for 20202000.<sup>36</sup> If an imported product fell in-between two 8-digit tariff lines, we used the average tariff of the two closest matches.
2. Ad-valorem equivalents (AVEs) from the WTO (2007) were used if available, if not we made use of the AVEs available through WITS (UNCTAD method 1).<sup>37</sup> When there was no match between COMEXT trade flows and the AVE data in WITS, we moved to the next higher degree of aggregation (as above).
3. In product groups with seasonal tariffs, we used simple averages. The only exception is for the Mediterranean countries, where the sheer volume of preferential imports subject to seasonal tariffs made us use the "first" seasonal tariff listed in TARIC.
4. When preferential imports took place under more than one preferential quota, a weighted average tariff was calculated. For the DC FTA countries it was assumed that when the import regime is PREFER QUOTA>0, the goods were imported under a tariff rate quota rather than under the GSP. Likewise for the DC FTA countries, if the import regime was PREFER QUOTA>0 and there was no corresponding AVE for the product in question, the GSP rate was used.
5. When no preferential AVE was available (mainly applying to certain sugar categories), the MFN AVE was used as a point of departure and a *pro rata* reduction of the levy per ton was calculated to arrive at a preferential AVE.
6. In a few cases when the AVE was lower than the MFN tariff, the latter was kept.
7. When there was an MFN suspension of duties (to zero), the preferential duty is also taken to be zero.
8. In those cases where trade is eligible for preferences and the AVE is estimated to be zero, the ad-valorem part of the tariff was used to calculate the preferential margin.
9. In a handful of cases, the preferential margin was calculated to be negative and these observations have been dropped.

---

<sup>35</sup> In theory, this should not be the case, but could be possible due to the fact that TARIC is updated daily and COMEXT is not.

<sup>36</sup> In rare case, we had to aggregate higher to find a match.

<sup>37</sup> Here we had to assume that the AVE data for 2005 also applied to the 2007 data, see <http://wits.worldbank.org/witsweb/>.