The Doha Round and Market Access for LDCs: Scenarios for the EU and US Markets

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The Doha Round and Market Access for LDCs: Scenarios for the EU and US Markets

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Abstract

It was a hope of LDCs that the DOHA round would bring them greater market access in OECD countries than for non-LDCs. Using HS-6 tariff level data for the US and the EU for 2004, this paper estimates that, once the erosion from preferential access into the EU to non-LDCs are taken into account, LDCs have about a 3% preferential margin in the EU market. In the US market, in spite of preferences under AGOA, on a trade-weighted basis, LDCs are discriminated against. Under various "Swiss formulas" for tariff cuts, effective market access for LDCs in the EU will be negligible and still negative in the US. If the US were to apply a 97% rule (i.e. duty-free, quota-free access for all but three percent of the tariff lines), LDCs could increase exports by 10% or about $1billion annually. Effective market access is further reduced by complicated Rules of Origin (RoO) applied by the EU and the US. Furthermore, generally, the most restrictive RoO fall on products in which LDCs have the greatest preferential market access.

JEL classification: F13, F15

Keywords: Market Access, LDCs, Rules of Origin,

1. Introduction

The Doha round has been launched as a "development round" and has faltered so far for a number of reasons including market accesss for LDCs. Many observers feel that a sine qua non for completing a "successful" round, LDCs need to be convinced of getting some or greater preferential market access to OECD countries. By greater market access is understood greater market access than other non-LDC developing countries who already receive some by what is sometimes called "trade-preferences-for-development" (TPFD). The more ancient Generalized System of Preferences" (GSP) initiative and the recent EU "Everything But Arms" (EBA) initiative initiated in 2002 are the two vehicles for implementing TPFD. Upon adoption of the "enabling clause" in 1971, an exception to the "Most-Favored Nation" (MFN) principle became possible for developing countries and was put in place under the GSP scheme under which developed countries grant unilaterally preferences to developing countries without requiring reciprocal preferences from them. Under this scheme, 178 countries benefit from better-than-MFN treatment under the GSP scheme (see the list in annex 1).

"Trade-preferences-for-development" has been in place since 1971 and has been implemented to varying degrees across countries. Importantly, preferential access has been occurring alongside with: (i) multilateral reduction in tariffs; (ii) a spread of reciprocal Regional Trade Preferences (RTAs), many between a Northern partner (most often the EU or the US) and a Southern partner. Both developments reduce the preferential market access actually enjoyed by GSP countries and by the subset of 50 LDCs which are the focus of this paper. Furthermore, the extent of preferences actually accruing through non-reciprocal preferential schemes like the GSP is further complicated by the fact that the proliferation of preferential trading agreements (mostly FTAs) has been accompanied by complex rules (called rules of origin, RoO) to determine eligibility for preferential status. While RoO are necessary to prevent trade deflection, it is increasingly recognized that they deny market access by increasing the costs of those who are supposed to benefit from preferential status.

For many observers TFPD is in effect "giving away with one hand (preferences) and taking away with another (restrictive rules of origin")[1]

The issue then is how much market access the LDCs might expect from duty-free quota-free for the quasi totality of tariff lines in the major OECD markets. More precisely, how much market access might be embodied in the combination of two proposals:

- zero duty market access for 97 of the tariff lines in the industrialized countries
- a simplification of RoO (for greater effective market access).

This paper assesses these two proposals for the two most important QUAD members, the US and the EU (these are the countries with the best data summarizing the effects of RoO on the use of preferences). Section 2 gives background information on the composition of exports to the QUAD by the 50 LDCs. Sections 3 and 4 evaluate the potential extent of market access from combining the above two proposals in the two largest markets, the EU and the US markets. The analysis is carried at the most disaggregated level possible (usually the HS-6 or HS-8 tariff levels).

Section 3 measures tariff and tariff-equivalent measures and gives several measures of the extent of preferential access that take into account the fact that the EU and US are engaged in many regional trade agreements (usually full FTAs) which in effect amounts to cancelling the preferential access that the LDCs might have from facing lower (including zero) tariffs than MFN rates In the case of the EU it is quite simple since all LDCs get duty-free quota-free (DFQF) market access. The estimates of market access to LDCs show that the average effective market access for LDCs in the EU is cut by a third to a 3% preferential margin once one factors in the FTAs of the EU which give DFQF access to other trading partners that are competing with LDCs in the markets in which they export to the EU. This preferential margin could be cut to an average of 1.5.% if the DOHA round leads to a tariff cut by a Swiss-type formula. For the US, once one takes into account the FTAs of the US, on average, LDCs are already discriminated against in the US market. This implies that the US could give market access by application of the "97%" DFQF formula.

[1] See the contributions in Cadot et al. eds (2006) that document the various ways in which rules of origin have been captured by vested interests.

For the US, it is more difficult more difficult to assess how much market access might result from the "97%" formula. Section 4 provides estimates of the market access that would result if the US were to grant 0% tariffs on 97% of its tariff lines. As discussed in section 4, the tariff cuts would mostly concern Textiles and Apparel (T&A) which are excluded from GSP preferences and non-AGOA LDCs. Depending on elasticity assumptions, estimates suggest an increase in exports to the US of 10% (and ot 15% if the US were to apply zero-tariffs on all tariff lines exported by the LDCs)

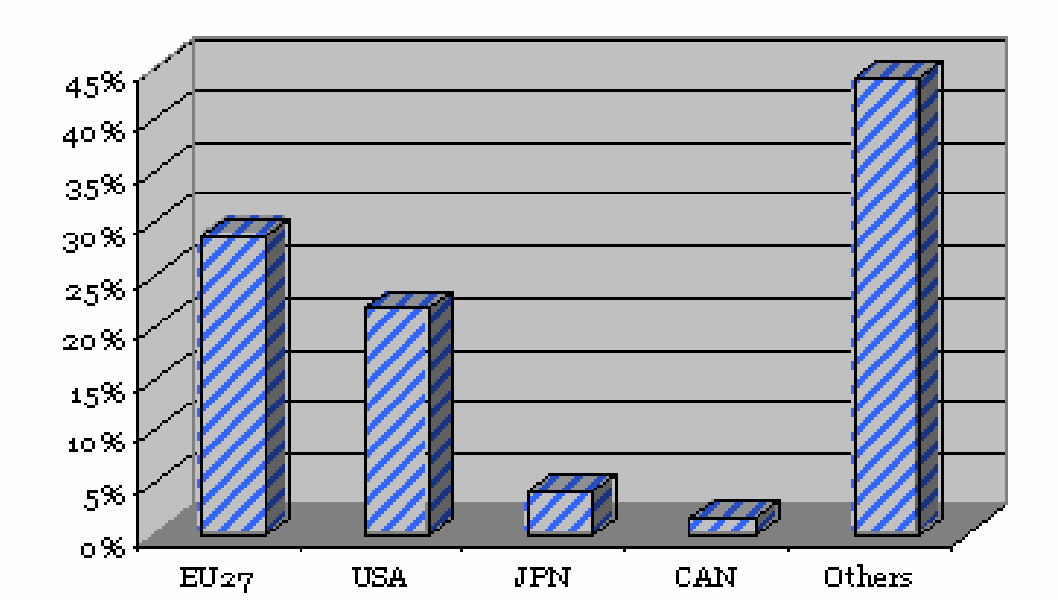
Section 5 addresses the more challenging task of quantifying how much market access is actually taken away by having to comply with what many view as more-stringent-than-necessary rules of origin (RoO) to meet origin requirements to qualify for preferential access. While it is true that reciprocal preferential arrangements also face similar barriers due to the application of (usually) the same set of RoO, it is argued that, as a result of their complexity which we document using various synthetic measures, the LDCs are unnecessarily and excessively penalized in OECD markets.

Section 6 concludes with a summary of main findings and with policy recommendations on the gains from extending DFQF access and on the gains from simplifying RoO.

2. LDC Exports to the QUAD

Figure 1 shows the distribution of exports of the 50 LDC countries that would be beneficiaries of increased market access to the QUAD. The proposed measures could affect up to 55% of their exports (45% of their exports are to other countries), although as shown in figure 2 they already have DFQF access for 20% (EU) and 40% (US) of the tariff lines of these countries.

Figure 1. LDC exports by main markets
(in % of total LDC trade), 2004.



Source : Author's calculations based on mirror data from COMTRADE and table 1

Table 1 gives the details behind these aggregate figures, the first part of the table giving the shares by each country to each QUAD member, the second part of the table giving country shares in each one of the QUAD. Several patterns stand out. Most LDCs are ex-colonies of EU members so they export more to the EU than to the US They are also geographically closer to the EU market). In volume, Bangladesh is the most important member in the LDC group, whether it is exports to the US or to the EU. Note that Bangladesh exports almost twice as much (33% vs. 18%) to the EU than to the US. Given that all the LDCs, including Bangladesh, export similar baskets of goods, this large difference in export shares to the two destinations reflects the DFQF access to the EU while the low share to the US reflects the fact that T&A are excluded from the US GSP. Also a large number of SSA countries have very small shares ranging below one percent, especially if oil exporters are excluded. Finally, we use 2004 data because it is the year for which we have the most recent exhaustive information on tariffs and the tariff equivalents of other barriers to trade in agriculture in the EU and US markets.

Table 1. LDC exports by main markets, 2004.

Countries	Exports (in % of each LDC total exports) to:					Share of each LDC in the total LDC export to:					
	EU27	USA	JPN	CAN	Others	ALL	EU27	USA	JPN	CAN	Others
Afghanistan	18.8%	12.7%	0.5%	0.1%	67.8%	0.3%	0.2%	0.2%	0.0%	0.0%	0.5%
Angola	9.3%	37.5%	0.1%	0.0%	53.1%	20.9%	6.8%	36.1%	0.4%	0.0%	25.3%
Burundi	66.8%	9.6%	0.8%	0.5%	22.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Benin	8.9%	0.4%	0.0%	0.0%	90.7%	0.7%	0.2%	0.0%	0.0%	0.0%	1.5%
Burkina Faso	13.8%	0.2%	2.8%	0.0%	83.2%	0.6%	0.3%	0.0%	0.5%	0.0%	1.2%
Bangladesh	57.9%	24.4%	1.4%	3.7%	12.5%	16.5%	33.1%	18.5%	5.8%	42.9%	4.7%
Bhutan	1.6%	0.3%	4.6%	0.0%	93.5%	0.1%	0.0%	0.0%	0.1%	0.0%	0.3%
Central African Republic	72.9%	6.5%	1.6%	0.1%	18.9%	0.2%	0.6%	0.1%	0.1%	0.0%	0.1%
Comoros	30.3%	43.7%	1.5%	0.2%	24.3%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%
Cape Verde	71.4%	17.4%	0.6%	0.1%	10.5%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Djibouti	14.1%	2.4%	0.0%	0.3%	83.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%
Eritrea	44.1%	4.2%	7.1%	0.1%	44.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ethiopia	44.7%	8.3%	13.5%	0.9%	32.5%	0.9%	1.4%	0.3%	3.0%	0.6%	0.7%
Guinea	45.6%	8.0%	0.1%	1.7%	44.6%	1.6%	2.6%	0.6%	0.1%	1.9%	1.7%
Gambia, The	45.4%	1.1%	2.3%	0.1%	51.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%
Guinea-Bissau	5.4%	24.8%	0.4%	0.0%	69.4%	0.2%	0.0%	0.2%	0.0%	0.0%	0.3%
Equatorial Guinea	22.9%	29.4%	1.1%	6.1%	40.4%	7.0%	5.5%	9.5%	1.9%	29.7%	6.4%
Haiti	4.1%	89.0%	0.2%	4.1%	2.6%	0.7%	0.1%	2.9%	0.0%	2.0%	0.0%
Cambodia	28.3%	54.0%	3.4%	3.7%	10.6%	4.8%	4.7%	12.0%	4.1%	12.2%	1.2%
Kiribati	9.9%	14.5%	46.7%	0.1%	28.8%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%
Lao PDR	45.9%	0.8%	1.8%	1.5%	49.9%	0.7%	1.1%	0.0%	0.3%	0.8%	0.8%
Liberia	72.0%	7.7%	0.0%	0.6%	19.8%	1.9%	4.7%	0.7%	0.0%	0.7%	0.9%
Lesotho	5.6%	91.4%	0.1%	2.0%	0.9%	0.9%	0.2%	3.7%	0.0%	1.2%	0.0%
Madagascar	50.5%	36.1%	2.5%	1.6%	9.3%	2.2%	3.9%	3.7%	1.4%	2.4%	0.5%
Maldives	17.1%	40.6%	10.2%	1.1%	31.0%	0.3%	0.2%	0.7%	0.9%	0.3%	0.2%
Mali	22.7%	1.1%	0.1%	0.1%	76.1%	0.6%	0.4%	0.0%	0.0%	0.0%	1.0%
Myanmar	18.4%	0.0%	5.6%	0.6%	75.3%	5.2%	3.3%	0.0%	7.4%	2.2%	8.9%
Mozambique	75.2%	0.7%	1.1%	0.0%	23.0%	2.7%	6.9%	0.1%	0.8%	0.0%	1.4%
Mauritania	53.7%	0.9%	13.4%	0.0%	32.0%	1.4%	2.6%	0.1%	4.6%	0.0%	1.0%
Malawi	39.2%	12.4%	2.5%	0.2%	45.7%	0.9%	1.2%	0.5%	0.5%	0.1%	0.9%
Niger	54.9%	9.4%	8.4%	0.6%	26.7%	0.5%	0.9%	0.2%	1.0%	0.2%	0.3%
Nepal	18.7%	22.8%	1.1%	1.7%	55.7%	1.1%	0.7%	1.2%	0.3%	1.3%	1.4%
Rwanda	9.1%	1.7%	0.0%	0.0%	89.2%	0.6%	0.2%	0.0%	0.0%	0.0%	1.2%
Sudan	4.2%	0.1%	33.2%	0.0%	62.4%	6.3%	0.9%	0.0%	53.0%	0.0%	9.0%
Senegal	40.1%	0.4%	2.0%	0.1%	57.5%	1.5%	2.1%	0.0%	0.8%	0.1%	2.0%
Solomon Islands	6.2%	1.8%	9.4%	0.0%	82.6%	0.3%	0.1%	0.0%	0.8%	0.0%	0.6%
Sierra Leone	82.4%	4.7%	0.1%	1.2%	11.6%	0.4%	1.1%	0.1%	0.0%	0.3%	0.1%
Somalia	2.4%	0.8%	1.4%	0.1%	95.3%	0.1%	0.0%	0.0%	0.1%	0.0%	0.3%
Sao Tome and Principe	65.9%	0.7%	0.0%	0.8%	32.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Chad	20.8%	59.7%	0.0%	0.0%	19.5%	2.3%	1.6%	6.2%	0.0%	0.0%	1.0%
Togo	15.2%	0.4%	0.1%	0.1%	84.2%	0.8%	0.4%	0.0%	0.0%	0.1%	1.5%
Tuvalu	89.4%	2.3%	0.0%	0.0%	8.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Tanzania	40.4%	2.4%	7.4%	0.2%	49.6%	1.8%	2.5%	0.2%	3.3%	0.2%	2.0%
Uganda	59.7%	5.6%	1.8%	0.7%	32.2%	0.9%	1.8%	0.2%	0.4%	0.4%	0.6%
Vanuatu	12.2%	1.0%	7.8%	0.2%	78.8%	0.4%	0.1%	0.0%	0.7%	0.1%	0.6%
Samoa	26.9%	31.9%	6.3%	0.1%	34.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Yemen	1.8%	1.6%	1.7%	0.0%	94.9%	6.8%	0.4%	0.5%	2.9%	0.0%	14.7%
Congo, Dem. Rep.	75.5%	10.8%	0.8%	0.0%	12.9%	2.0%	5.2%	1.0%	0.4%	0.0%	0.6%
Zambia	15.4%	2.2%	6.5%	0.0%	75.8%	2.4%	1.3%	0.2%	4.0%	0.0%	4.2%
Total LDC	**28.9%**	**21.8%**	**4.0%**	**1.4%**	**43.9%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Author's calculations based on mirror data from COMTRADE

3. How Much Preferential Market Access

To ascertain the extent of preferential market access, we used two criteria: (i) data as disaggregated as possible on a comparable basis: (ii) data giving reasonable measures of the tariff equivalent of NTB measures (e.g. tariff-quotas for agriculture and of the special regime for EU preferences accorded to ACP countries). As explained in annex 1, for the EU we merged two data bases and ended up creating a data base at the HS-8 level in which all preferential regimes of the EU-27 were taken into account. These include the GSP, ACP, EBA, and all other preferential agreements signed by the EU27 by 2004. For the US, we relied on the MacMap HS6 v2.1 database developed jointly by CEPII and IFPRI using ITC contributions: As explained in annex 1, the US data base is at the HS-6 level (5113 products) with bilateral tariffs and, for lines with specific tariffs, the Ad-Valorem Equivalent (AVE) of the applied tariff. Preferential regimes are also taken into account when computing the tariff applied by the US. The preferential regimes for the US include the GSP, AGOA, and all the FTAs signed by the US in 2004.

3.1 Tariff Barriers in the EU and US markets

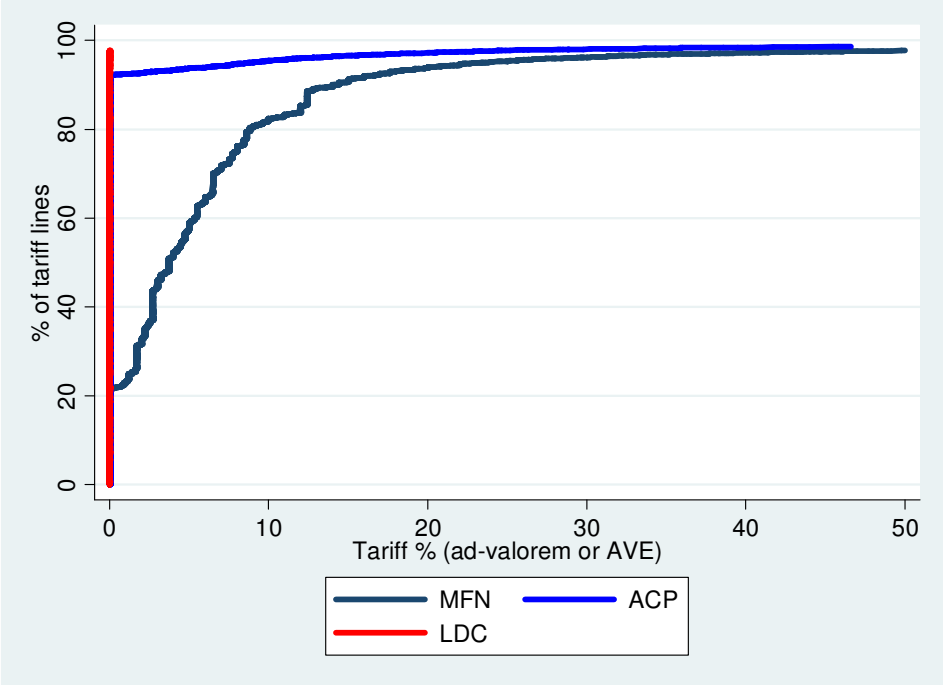
For reasons detailed in annex 1, LDCs face different tariffs in the EU and the US:

- In the EU-27 market, the 50 LDCs have duty-free quota-free (DFQF) access. This is because we take into account that the Special regime for bananas, rice and sugar is about to expire (and will have expired by the time the "97%" proposal would be applied) and also because chapter 93 "Arms and Ammunitions" is not included in the list of HS-8 products
- In the US market, LDCs are a heterogeneous group. AGOA LDCs get DFQF access but other LDCs face tariffs (see details in figure 2 below) Thus, on average the LDC group has less preference than AGOA-eligible countries and of course less market access than all countries in an FTA with US.

These characteristics of the tariffs faced by the LDC group in both markets are summarized in figure 2.

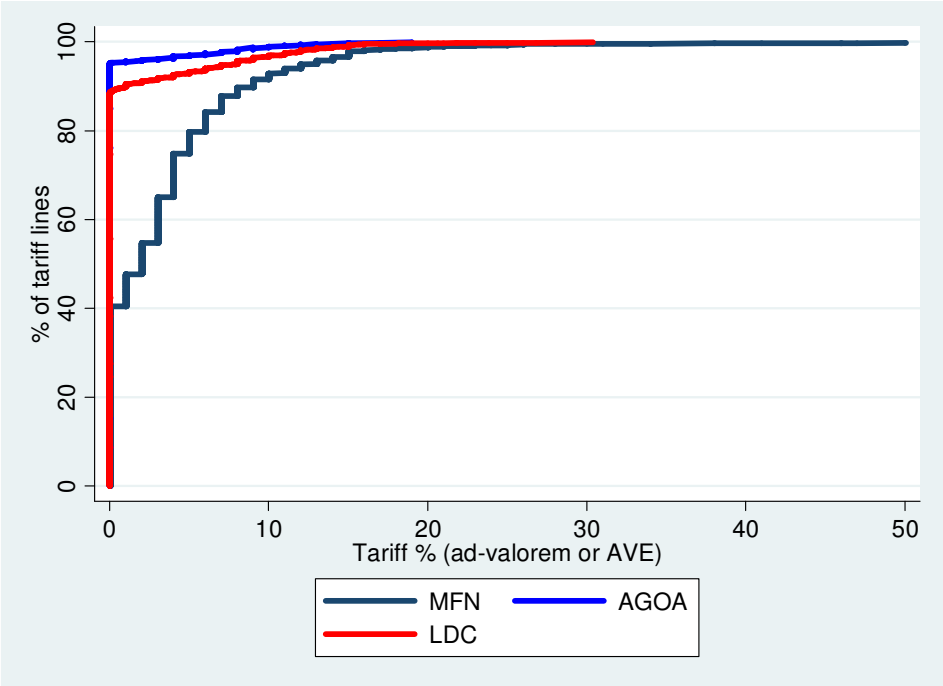
Figure 2. The Cumulative Tariffs Schedules of the EU and US T by main partners

2a. Distribution of EU Tariffs, MFN/ACP/LDC



Note : total of 9427 HS8 lines, 1.36% (1.24%) of lines have an MFN (ACP) tariff higher than 50%.

2b. Distribution of US Tariffs, MFN/AGOA/LDC



Note : total of 5113 HS6 lines, 0.25% of lines have an MFN tariff higher than 50%.

The figure depicts the cumulative tariff schedules of the two countries for three groups of partners (according to the extent of preferential status) for each country: the least favored (MFN) partners, followed by the ACP and LDC for the EU and by the AGOA and LDC group for the US. Although the two distributions are not strictly comparable since one is at the HS-8 level and the other at the HS-6 level, by comparing the two cumulative distributions, one sees that the EU has a lower share of zero tariffs (about 20% to the 40% for the SU) and hence has a bit more preference to "give away" (but not for the LDC group). Figure 2 also shows that the LDC group gets DFQF to the EU, while this is not the case for the US where the AGOA beneficiaries face lower tariffs than the other LDCs.

Table 3 gives further details on the tariffs faced by LDCs in the US market for each LDC with an emphasis on the number of lines on which each LDC face a positive tariff in the US market. Take for example, Bangladesh that exports $2.4 billion over 796 tariff lines (15.6% of the total US HS-6 lines). Of the 812 tariff lines with positive imports from Bangladesh, 415 (or 8.1%) face a positive tariff. This means that even if the US removed tariffs on all but 3% of its tariff lines (at the HS-6 level), then Bangladesh would still face some positive tariffs on some of the lines it would export to the US. Note that Cambodia (4.8%), Myanmar (4.2%) and Nepal (3.9%) are the only other countries that would surpass the 3% threshold. Of course, whether the other LDCs would also face positive tariffs on the lines they currently export to the US would depend on how the "97%" rule is applied. However, as shown in column 10, these lines represent a small amount of total exports.

The figures in table 3 also show that the lines with positive exports can represent quite a large share of the total lines actually exported by LDCs (column 7) and also in the total value of the export to the US (column 9). Note also that, except for a few countries, the share in total export is not so large (column 10) because the first (main) trading partner is the EU27 for most of LDCs.

Table 3. Barriers of LDC Exports to US, 2004

Countries	Exports to US		Total Lines with a positive applied tariff *(exported or not to the US)*		Only Lines *actually* exported to the US				Exports value with a positive tariff to the US		Weighted Applied Tariff *(including AVE)*	
	(US$ million)	% of total exports	Nber	% ***a/***	Nber of lines	Nber with a positive tariff	% with a positive tariff	% ***a/***	% of total exports to US	% of total exports	on all exports to US	on exports to US with positive tariff
	(1)	**(2)**	**(3)**	**(4)** =(3)/5113	**(5)**	**(6)**	**(7)** =(6)/(7)	**(8)** =(6)/5113	**(9)**	**(10)**	**(11)**	**(12)**
LDC	**11433.9**	**21.8%**	**50540**	**19.8%**	**4722**	**1429**	**30%**	**0.6%**	**40.7%**	**8.85%**	**4.0%**	**9.8%**
Afghanistan	47.93	12.7%	2701	52.8%	58	27	47%	0.5%	3.5%	0.4%	0.2%	4.4%
Angola*	3635.59	37.5%	731	14.3%	39	0	0%	0.0%	0.0%	0.0%	0%	-
Bangladesh	2386.31	9.6%	796	15.6%	812	415	51%	8.1%	89.8%	8.7%	8.3%	9.6%
Benin*	2.24	0.4%	513	10.0%	33	2	6%	0.0%	12.5%	0.0%	0.7%	5.5%
Bhutan	1.28	0.2%	786	15.4%	21	6	29%	0.1%	38.3%	0.1%	2.1%	5.6%
Burkina Faso	3.57	24.4%	786	15.4%	48	3	6%	0.1%	2.8%	0.7%	0.4%	12.5%
Burundi	5.26	0.3%	786	15.4%	9	1	11%	0.0%	0.2%	0.0%	0.0%	4.0%
Cambodia	1689.79	6.5%	796	15.6%	385	247	64%	4.8%	96.8%	6.3%	9.5%	9.8%
Cape Verde*	5.84	43.7%	512	10.0%	50	1	2%	0.0%	0.7%	0.3%	0.0%	5.0%
Central African Republic	8.92	17.4%	796	15.6%	37	2	5%	0.0%	0.7%	0.1%	0.0%	5.3%
Chad	293.96	2.4%	725	14.2%	21	1	5%	0.0%	0.0%	0.0%	0.0%	10.0%
Comoros	8.55	4.2%	796	15.6%	14	1	7%	0.0%	1.2%	0.0%	0.1%	9.0%
Congo, Dem. Rep.*	188.17	8.3%	725	14.2%	65	0	0%	0.0%	0.0%	0.0%	0%	-
Djibouti*	0.49	8.0%	734	14.4%	18	0	0%	0.0%	0.0%	0.0%	0%	-
East Timor	0.06	1.1%	3066	60.0%	2	1	50%	0.0%	16.7%	0.2%	0.2%	1.0%
Equatorial Guinea	782.83	24.8%	793	15.5%	20	0	0%	0.0%	0.0%	0.0%	0.0%	-
Eritrea	0.52	29.4%	1349	26.4%	21	4	19%	0.1%	26.9%	7.9%	2.5%	9.3%
Ethiopia*	35.21	89.0%	513	10.0%	138	6	4%	0.1%	0.7%	0.6%	0.0%	5.1%
Gambia, The*	0.81	54.0%	734	14.4%	27	5	19%	0.1%	7.4%	4.0%	0.4%	5.7%
Guinea*	74.35	14.5%	734	14.4%	90	3	3%	0.1%	0.1%	0.0%	0.0%	12.2%
Guinea-Bissau*	25.28	0.8%	725	14.2%	6	0	0%	0.0%	0.0%	0.0%	0%	-
Haiti	320.65	7.7%	628	12.3%	253	84	33%	1.6%	86.1%	6.6%	10.8%	12.9%
Kiribati	1.01	91.4%	796	15.6%	8	0	0%	0.0%	0.0%	0.0%	0%	-
Lao PDR	3.69	36.1%	3064	59.9%	41	27	66%	0.5%	83.2%	30.1%	10.6%	13.0%
Lesotho*	406.81	40.6%	512	10.0%	75	2	3%	0.0%	0.0%	0.0%	0.0%	3.8%
Liberia	61.48	1.1%	3035	59.4%	45	19	42%	0.4%	1.2%	0.0%	0.0%	3.6%
Madagascar*	349.99	0.0%	511	10.0%	209	5	2%	0.1%	0.0%	0.0%	0.0%	7.8%
Malawi*	95.34	0.7%	511	10.0%	108	4	4%	0.1%	0.4%	0.0%	0.0%	3.3%
Maldives	82.03	0.9%	3066	60.0%	83	66	80%	1.3%	97.7%	0.9%	8.9%	9.1%
Mali*	9.04	12.4%	513	10.0%	134	7	5%	0.1%	1.2%	0.2%	0.1%	7.4%
Mauritania	1.55	9.4%	734	14.4%	20	3	15%	0.1%	7.1%	0.7%	0.7%	10.4%
Mozambique*	13.64	22.8%	513	10.0%	83	3	4%	0.1%	41.3%	9.4%	55.5%	134.1%
Myanmar	383.81	1.7%	3066	60.0%	263	216	82%	4.2%	86.2%	1.4%	9.5%	11.0%
Nepal	184.32	0.1%	796	15.6%	350	197	56%	3.9%	89.3%	0.1%	7.6%	8.6%
Niger*	38.41	0.4%	513	10.0%	126	5	4%	0.1%	0.4%	0.0%	0.0%	7.8%
Rwanda*	4.75	1.8%	512	10.0%	25	0	0%	0.0%	0.0%	0.0%	0%	-
Samoa	18.09	4.7%	793	15.5%	131	16	12%	0.3%	10.3%	0.5%	0.7%	7.1%
Sao Tome and Principe*	0.68	0.8%	734	14.4%	15	0	0%	0.0%	0.0%	0.0%	0%	-
Senegal*	12.9	0.7%	519	10.2%	136	12	9%	0.2%	1.6%	0.0%	0.1%	8.5%
Sierra Leone	9.45	59.7%	513	10.0%	158	2	1%	0.0%	0.4%	0.3%	0.0%	2.8%
Solomon Islands	3.03	0.4%	1381	27.0%	24	2	8%	0.0%	2.0%	0.0%	0.0%	2.2%
Somalia	0.92	2.3%	786	15.4%	29	3	10%	0.1%	13.0%	0.3%	1.0%	7.9%
Sudan	2.37	2.4%	3034	59.3%	8	2	25%	0.0%	2.1%	0.1%	0.0%	1.8%
Tanzania*	30.55	5.6%	513	10.0%	177	14	8%	0.3%	6.0%	0.3%	0.4%	7.0%
Togo	13.58	1.0%	796	15.6%	46	7	15%	0.1%	0.7%	0.0%	0.0%	7.4%
Uganda*	31.71	31.9%	512	10.0%	104	1	1%	0.0%	0.2%	0.1%	0.0%	2.0%
Vanuatu	3.19	1.6%	793	15.5%	26	2	8%	0.0%	20.4%	0.3%	2.3%	11.1%
Yemen	133.33	10.8%	786	15.4%	47	0	0%	0.0%	0.0%	0.0%	0%	-
Zambia*	20.62	2.2%	513	10.0%	84	5	6%	0.1%	1.1%	0.0%	0.1%	9.5%

Note:
No data for Tuvalu
* AGOA countries *in 2004* according to http://www.agoa.gov/eligibility/country_eligibility.html
Other non-LDC AGOA in 2004: Botswana, Cameroon, Gabon, Ghana, Cote d'Ivoire, Kenya, Mauritius, Namibia, Nigeria, Seychelles, South Africa, Swaziland.
a) Maximum number of lines for all countries = 5113 (number of products at the HS6 level) – we use 50*5113 for the LDC computation as a group.

Source: Authors calculation based on MacMap HS6 v2.1 and mirror data in COMTRADE

So far we have been reasoning at the intensive margin, i.e. as if the elimination of tariffs by the US on LDC exports would not bring new products to be exported to the US. This would obviously not be the case, but can we guess how important new products might be, i.e. should one expect substantial changes at the extensive margin since some goods not already exported to the US might be start to be exported under duty-free entry on the US market? If one neglects the impact of differences in transport costs to the US and EU markets across countries, one can compare the goods exported by LDCs to the DFQF EU market with those exported to the US markets respectively. As we show below, the same set of goods are exported to both markets, so that reasoning at the intensive margin as we have been doing implicitly is probably a good-enough first approximation.

3.2 How Much Preferential Market Access?

Since the proposals on the table are for all LDCs, all measures will treat the LDCs as a group, usually taking trade-weighted averages (the alternative of combining product-weighted averages at the country level with simple averages across countries would give too much weight to small countries of which there are many (see table 1).

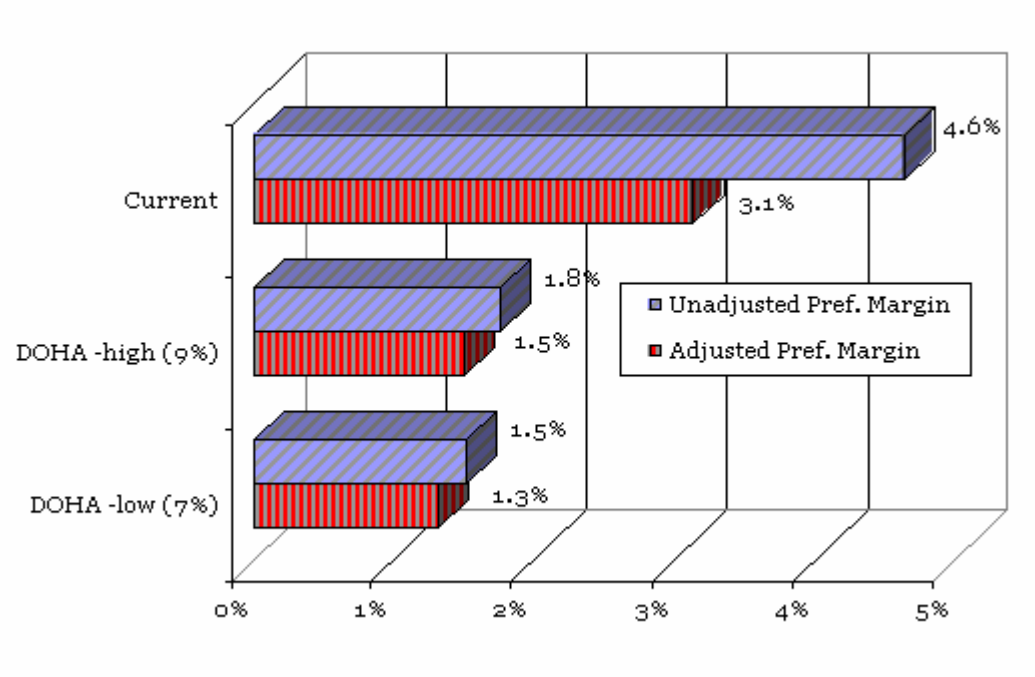
A useful first start at evaluating the extent of market access is to measure the average preferential margin received by the LDC group in each market. The top of figure 3a indicates a current preferential access of 4.6% in the EU market and less than 1%(0.86%) in the US. As mentioned earlier, the very low figure for the US (in spite of AGOA) is because the preferences on T&A are excluded from the GSP. Indeed, this is confirmed by considering the applied tariff on the top 25 products exported by the LDCs in the US market given in table 4b. In most cases, the applied tariff is close to the MFN tariff, the lower rate being due to the zero tariffs applied on AGOA exports

Next, factor in the potential consequences of a successful conclusion to the DOHA round negotiations. We simulate this by applying the ”Swiss formula” for MFN tariff reductions by the OECD (see annex 2 for the parameters used). Then, as shown in figure 3, the preferential margins for sales to the EU market will be drastically cut to a level of less than 2%. As a point of reference, an often-heard cited figure of the costs

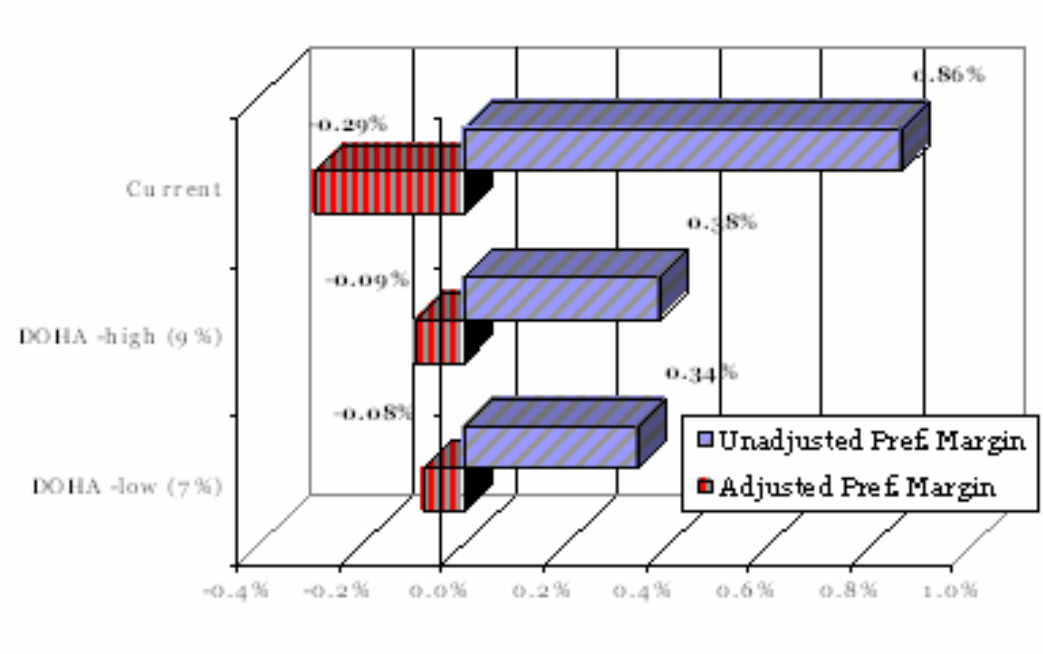
of compliance for meeting origin requirements is in the 1%-3% range of the value of the products (Cadot and de Melo (2007) summarize the evidence).

Figure 3 LDCs' Average Preferential margins, 2004
(Weighted by the LDC export value at the product level)

3a. EU27 market



3b. US market



Source: Authors calculation

The most pertinent pattern in figure 3 relates to the erosion of market access to the EU and US due to the numerous FTAs of both countries. Indeed, when one measures preferential access in terms not of the MFN tariff, but of the effective tariff paid by competing sellers in the EU and the US markets the preference margin enjoyed by the LDCs is very small. In the EU market, the current adjusted preferential margin is around 3% , and in the US it is negative.[2] This means, that the LDCs are discriminated against in the US market for the main products they sell there because the US has FTAs with trade partners that compete with them in the US market

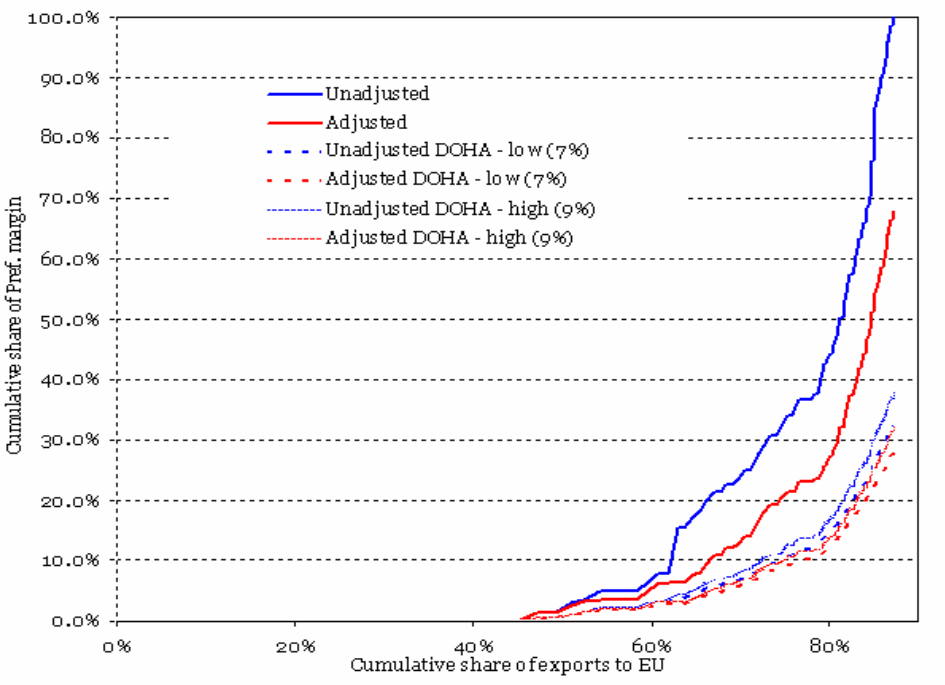
Another useful summary of the distribution of preferential access across products is to plot, in decreasing order, the top 100 products exported towards the EU or the US against the normalized (to 100%) cumulative unadjusted preferential margins on the vertical axis. This results in a step-like figure with the height of a step indicating the relative importance of preferences to the HS-8 (HS-6) product drawn on the x-axis. So a steep step approaching a vertical line means a very small product with a high preference margin. In effect, figure 4 traces "Lorenz-like" curves in the export/preference-margin space.[3]. As a reference, suppose that each product had a preferential access proportional to its share in total exports on the X-axis. Then the solid unadjusted line would bisect the graph. Hence, once the products are sorted in decreasing order (in terms of export value), the more convex is the curve below the diagonal, the more preferential access is biased towards products with small export shares to the EU or the US. Annex 2 gives more details on the construction of the curves and shows the corresponding curves for Bangladesh.

[2] Annex 2 gives the details on the formula and on the partners that are assumed to benefit from duty-free access to the EU or US market. Note that even if one could argue that costs associated with proving origin would in effect give less effective preferential access to countries competing with LDCs in the EU and US markets, as detailed in annex 3, the rules of origin faced by the LDCs in the EU and US markets are as stringent (and most of the time the same) as those facing FTA partners (e.g. Mexico in the US market or Morocco in the EU market).

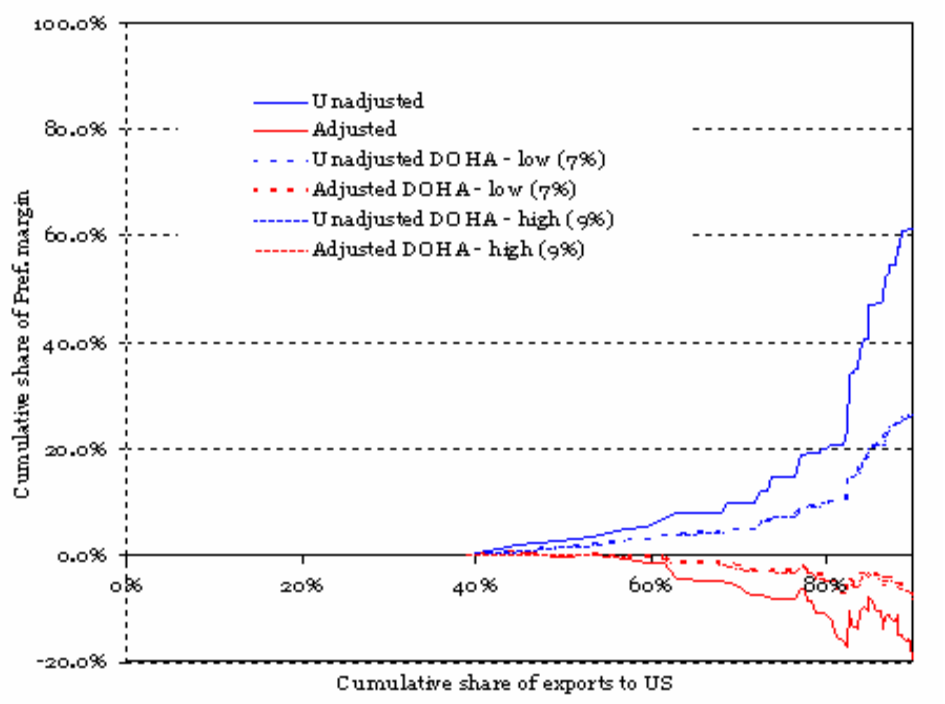
[3] Strictly speaking, the curves, are not Lorenz curves. First: the cumulative export shares do not add up to the same total so that the slopes of the curves are not strictly comparable. Second, the shares on the horizontal axis are not the same (e.g. quintiles or deciles)

Figure 4
Cumulative exports against Cumulative Preferences
(Top 100 exporter products, 2004)

4a. to the EU27



4b. to the US



Source: Authors calculation

Figure 4 is aggregated over all LDCs so it gives a synthetic measure of how the LDC group fares in the market considered. Drawn on the same principle, the two curves are comparable. Consider first the unadjusted preferential curves. They are both

quite steep in the upper portions corresponding to products with small market shares, but the US curve (figure 4b) is much flatter indicating less preferential margin for the top 100 products. Since both curves plot the top 100 products which account for close to 90% of total sales in both markets, both curves indicate that that no preferences are granted for the top 45% (40%) of sales in the EU (US) market. In the case of the EU, the big vertical jump around 62% is for sugar which receives a 66% unadjusted preferential margin (see table 4a).

Next, observe a common pattern in both graphs: the steepness of the curves as one approaches the last 25 products or so. These are the products that would gain the most preferential access but they are also currently negligible in the export basket, never reaching 1/10 of one percent of export value. This means that the LDCs get preferences in markets where either they do not compete or in markets where they do not export much. This steep curve reflects several factors. The most important is that LDCs have a comparative advantage raw materials and primary products which, largely for political economy reasons, face low tariffs in developed countries.[4] Second, non-participation in the reciprocal reduction in protection negotiated multilaterally under the GATT auspices means that LDCs have not secured market access for some products in which they would have comparative advantage. Also later on we give evidence that restrictive RoO are among the contributing factors to small export shares in markets with high preferential margins (table 7 displays the positive correlation between high preference margin and the restrictiveness of rules of origin).

[4] A key insight of the political-economy literature on trade policy is that producers of intermediates never get much protection because they face the lobbying activities of downstream industries. Also, for many of these products, there are no producers in the OECD markets.

Table 4. LDC's Top 25 exported products: Adjusted Market access pre and post Doha round
Table 4a: To the EU-27

	HS-10	description of HS-6	Exports			Tariff (%)		Current preferential margin (%)		Preferential margin with DOHA - high (9%)		Gain in preferential margin with DOHA - high (9%)		RoO index
			Value (in thousand euros)	Share (in Total exports)	Cumulative export share	MFN	Applied	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	
1	27090090	Mineral Fuels, Mineral Oils / other Natural gas condensates	1,665,966	25.6%	25.6%	0	0	0.0	0.0	0.0	0.0	0.0	0.0	2
2	89019010	Other vessels for the transport of goods	621,858	9.6%	35.1%	0	0	0.0	0.0	0.0	0.0	0.0	0.0	5
3	71081200	Base metals clad with silver/Non-monetary -Other unwrought forms	411,511	6.3%	41.5%	0	0	0.0	0.0	0.0	0.0	0.0	0.0	5
4	26060000	Aluminium ores and concentrates	233,802	3.6%	45.1%	0	0	0.0	0.0	0.0	0.0	0.0	0.0	4
5	61103099	Articles of Apparel and Clothing Accessories, Knitted Or Crocheted	138,883	2.1%	47.2%	12.4	0	12.4	11.5	5.2	5.1	-7.2	-6.3	7
6	26050000	Cobalt ores and concentrates	125,553	1.9%	49.1%	0	0	0.0	0.0	0.0	0.0	0.0	0.0	4
7	61091000	Articles of Apparel and Clothing Accessories, Knitted Or Crocheted	118,459	1.8%	50.9%	12	0	12.0	10.5	5.1	4.9	-6.9	-5.6	7
8	76011000	Aluminium, not alloyed	106,388	1.6%	52.6%	6	0	6.0	4.3	3.6	2.6	-2.4	-1.7	6
9	3061350	Frozen Shrimps and prawns	102,864	1.6%	54.2%	12	0	12.0	4.0	5.1	3.8	-6.9	-0.3	1
10	9011100	Coffee, not roasted -- Not decaffeinated	98,480	1.5%	55.7%	0	0	0.0	0.0	0.0	0.0	0.0	0.0	1
11	52010090	Cotton -other	85,862	1.3%	57.0%	0	0	0.0	0.0	0.0	0.0	0.0	0.0	1
12	26011100	Iron ores and concentrates, other than roasted iron pyrites	85,338	1.3%	58.3%	0	0	0.0	0.0	0.0	0.0	0.0	0.0	4
13	61102099	Articles of Apparel and Clothing Accessories, Knitted Or Crocheted	80,062	1.2%	59.5%	12.4	0	12.4	11.2	5.2	5.0	-7.2	-6.2	7
14	62052000	Articles of Apparel and Clothing Accessories, Not Knitted Or Crocheted	78,571	1.2%	60.7%	12	0	12.0	10.9	5.1	5.0	-6.9	-5.8	7
15	27112100	Liquefied -- Propane	74,453	1.1%	61.9%	0.7	0	0.7	0.6	0.6	0.5	-0.1	0.0	2
16	17011110	Raw sugar n - Cane sugar	62,865	1.0%	62.8%	66	0	66.0	1.1	7.9	0.3	-58.1	-0.8	5
17	8109030	amarinds, cashew apples, lychees, jackfruit, sapodillo plums	58,697	0.9%	63.8%	0	0	0.0	0.0	0.0	0.0	0.0	0.0	6
18	62034235	Articles of Apparel and Clothing Accessories, Not Knitted Or Crocheted	58,331	0.9%	64.6%	12.4	0	12.4	11.3	5.2	5.2	-7.2	-6.1	7
19	3061380	Frozen Shrimps and prawns - others	52,684	0.8%	65.5%	12	0	12.0	4.3	5.1	3.9	-6.9	-0.4	1
20	62034231	Articles of Apparel and Clothing Accessories, Not Knitted Or Crocheted	50,724	0.8%	66.2%	12.4	0	12.4	11.1	5.2	5.1	-7.2	-6.0	7
21	62046239	Articles of Apparel and Clothing Accessories, Not Knitted Or Crocheted	50,097	0.8%	67.0%	12.4	0	12.4	11.4	5.2	5.2	-7.2	-6.2	6
22	13012000	Gum Arabic	48,589	0.7%	67.8%	0	0	0.0	0.0	0.0	0.0	0.0	0.0	4
23	62046318	Articles of Apparel and Clothing Accessories, Not Knitted Or Crocheted	43,752	0.7%	68.4%	12.4	0	12.4	11.5	5.2	5.2	-7.2	-6.3	6
24	18010000	Cocoa beans, whole or broken, raw or roasted	42,056	0.6%	69.1%	0	0	0.0	0.0	0.0	0.0	0.0	0.0	6
25	76012091	Aluminium alloys -- Secondary	41,925	0.6%	69.7%	6	0	6.0	5.1	3.6	3.1	-2.4	-2.1	6

Source: Authors calculation

Table 4. LDC's Top 25 exported products : Adjusted Market access pre and post Doha round
Table 4b: To the US

	HS-10	description of HS-6	Exports			Tariff (%)		Current preferential margin (%)		Preferential margin with DOHA - high (9%)		Gain in preferential margin with DOHA - high (9%)		RoO index
			Value (in million $)	Share (in Total exports)	Cumulative export share	MFN	Applied	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	
1	270900	Mineral Fuels, Mineral Oils / other Natural gas condensates	4,465	39.0%	39.0%	0.0%	0.0%	0.00	0.00	0.00	0.00	+0.00	+0.00	6
2	611020	Articles of Apparel and Clothing Accessories, Knitted Or Crocheted	634	5.5%	44.6%	11.0%	8.2%	2.60	0.91	1.22	0.43	-1.38	-0.48	7
3	620462	Articles of Apparel and Clothing Accessories, Not Knitted Or Crocheted	527	4.6%	49.2%	8.0%	6.3%	1.60	-1.35	0.87	-0.64	-0.73	+0.71	7
4	271000	Petroleum oils and oils obtained from bituminous minerals, other than c	480	4.2%	53.4%	1.0%	0.0%	1.00	0.64	0.90	0.57	-0.10	-0.06	4
5	620342	Articles of Apparel and Clothing Accessories, Not Knitted Or Crocheted	428	3.7%	57.1%	9.0%	6.7%	2.18	-1.46	1.12	-0.75	-1.05	+0.71	7
6	620520	Articles of Apparel and Clothing Accessories, Not Knitted Or Crocheted	293	2.6%	59.7%	14.0%	13.7%	0.22	-1.11	0.09	-0.39	-0.13	+0.73	7
7	611030	Articles of Apparel and Clothing Accessories, Knitted Or Crocheted	205	1.8%	61.5%	15.0%	12.3%	2.41	0.17	0.97	0.11	-1.44	-0.06	7
8	610910	Articles of Apparel and Clothing Accessories, Knitted Or Crocheted	163	1.4%	62.9%	17.0%	14.7%	1.99	-4.38	0.75	-1.64	-1.24	+2.73	7
9	90500	Vanilla	146	1.3%	64.2%	0.0%	0.0%	0.00	0.00	0.00	0.00	+0.00	+0.00	6
10	620630	Articles of Apparel and Clothing Accessories, Not Knitted Or Crocheted	145	1.3%	65.5%	9.0%	9.0%	0.04	-0.25	0.02	-0.11	-0.02	+0.14	7
11	620193	Articles of Apparel and Clothing Accessories, Not Knitted Or Crocheted	140	1.2%	66.7%	1.0%	1.0%	0.00	-0.05	0.00	-0.04	-0.00	+0.00	7
12	30613	Frozen Shrimps and prawns	135	1.2%	67.9%	0.0%	0.0%	0.00	0.00	0.00	0.00	+0.00	+0.00	6
13	610510	Articles of Apparel and Clothing Accessories, Knitted Or Crocheted	108	0.9%	68.8%	20.0%	17.1%	2.52	-0.55	0.87	-0.11	-1.65	+0.43	7
14	620452	Articles of Apparel and Clothing Accessories, Not Knitted Or Crocheted	103	0.9%	69.7%	8.0%	7.9%	0.13	-0.85	0.07	-0.40	-0.06	+0.44	7
15	610821	Articles of Apparel and Clothing Accessories, Knitted Or Crocheted	95	0.8%	70.5%	8.0%	7.9%	0.06	-1.40	0.03	-0.77	-0.03	+0.63	7
16	610839	Articles of Apparel and Clothing Accessories, Knitted Or Crocheted	83	0.7%	71.3%	4.0%	4.0%	0.00	-1.12	0.00	-0.66	+0.00	+0.47	7
17	620343	Articles of Apparel and Clothing Accessories, Not Knitted Or Crocheted	82	0.7%	72.0%	0.0%	0.0%	0.00	0.00	0.00	0.00	+0.00	+0.00	7
18	290511	Saturated monohydric alcohols:-- Methanol (methyl alcohol)	75	0.7%	72.6%	3.0%	0.0%	3.00	0.04	2.25	0.03	-0.75	-0.01	6
19	610831	Articles of Apparel and Clothing Accessories, Knitted Or Crocheted	73	0.6%	73.3%	9.0%	8.9%	0.12	-0.64	0.06	-0.33	-0.06	+0.31	7
20	610610	Articles of Apparel and Clothing Accessories, Knitted Or Crocheted	70	0.6%	73.9%	20.0%	15.8%	3.62	-0.70	1.24	-0.14	-2.38	+0.56	7
21	710231	Natural Or Cultured Pearls, Precious Or Semi-precious Stones	67	0.6%	74.5%	0.0%	0.0%	0.00	0.00	0.00	0.00	+0.00	+0.00	6
22	650590	Headgear and Parts Thereof	63	0.6%	75.0%	1.0%	1.0%	0.00	-0.10	0.00	-0.09	-0.00	+0.01	4
23	620293	Articles of Apparel and Clothing Accessories, Not Knitted Or Crocheted	60	0.5%	75.6%	0.0%	0.0%	0.00	0.00	0.00	0.00	+0.00	+0.00	7
24	400110	Natural rubber latex, whether or not pre-vulcanised	57	0.5%	76.1%	0.0%	0.0%	0.00	0.00	0.00	0.00	+0.00	+0.00	6
25	260600	Aluminium ores and concentrates	56	0.5%	76.6%	0.0%	0.0%	0.00	0.00	0.00	0.00	+0.00	+0.00	6

Source: Authors calculation

Next consider the adjusted curves (the solid red curves). By construction, they are everywhere below the unadjusted curves, the height between the two curves showing how much preferential access is lost from the granting of preferences by the EU and the US to competitors. A comparison of the two curves shows that the LDCs lose relatively more in the US than in the EU market. Second, and most importantly, the adjusted preferential margin turns negative, and remains so, meaning that, where they receive preferential margins, the LDCs usually receive less preference on average than their competitors (i.e. non-LDCs like Mexico, engaged in an FTA with the US). Thus, cumulating over the top 100 products (which account for 93% of the value of their total exports to the US, the LDCs receive a less favorable treatment than their competitors.

Figure 4 also draws the curves that would result from a "successful" tariff reduction in DOHA. It is clear from the vertical distance between the two curves that if much preferential access would be lost, it would be mostly for the products that count little in total export value. This pattern reflects the application of the Swiss formula which reduces proportionately more the high tariffs. Finally table 4 lists the 25 most important products sold by the LDCs in the EU and US market respectively (tables A3.2.1 and A3.2 give the corresponding information for the top 25 products that would lose in market access from DOHA tariff reduction).

4. Potential Export Growth from a 97% QFDF in the US Market

Since the EU grants DFQF access to the LDCs in their market, unless there is a relaxation on RoO, market access for the LDC group will erode in the future, for example if the DOHA round leads to a Swiss formula-type reduction for the GATT-bound tariffs. Table A3.2 lists in decreasing order the products that would lose the most in preferential access from such a reduction in tariffs. So in the EU market, the only increase in market access that the LDCs can hope for is a simplification of EU rules of origin notably for fish and T&A, both of which sectors with high preferential margins and restrictive RoO. This could well be the case since a drastic simplification of RoO has been negotiated for these two sectors in the context of the recent interim EPA negotiations and there is hope that this simplification would be applied at least to all LDCs if not to all GSP beneficiaries (see discussion below and Carrère and de Melo, 2008 for further discussion).

On the other hand, in the US market there is room for gain in market access if, as proposed, the US preferentially eliminates tariffs on 97% of its tariffs for LDC imports. The issue then is how the 97% selection take place. We already know from figure 2b that about 40% of US tariff lines at the HS-6 level are duty-free. We assume that the selection of tariff lines is at the HS6-level.[5] Since the zero-tariffs lines are bound at this level, these cannot be raised, so the issue is how to choose the 57% tariffs to be set to zero. As explained in annex 2.3, we presume that exclusion of the tariff lines will be largely based on two criteria: (i) those with the highest tariff rates and; (ii) those that weigh the most heavily in the political economy considerations entering in the decision process. This second criterion is approximated here by the tariff revenue at the tariff line level (there is no data on production at the HS6-level) from LDCs. The results of ranking tariff lines for exclusion following this two-step procedure is shown in figure 5 (also see annex 2.3).

Figure 5 gives the distribution of tariff lines excluded from zero-duty status for LDCs by the above selection criterion. The distribution of tariff lines excluded from zero-

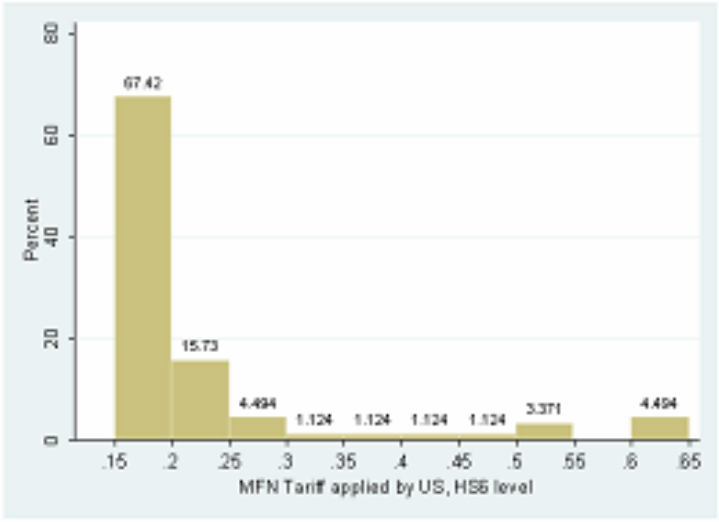
[5] We do not have more disaggregated data with similar-quality tariff and import data to check if there would be much difference if the selection was at a more disaggregated level, thereby giving more discretion to the US. At the HS-8 level, there are 10502 MFN tariff lines instead of 5113 at the HS6-level with 37% that are currently duty free (from TRAINS, 2005).

duty status for LDCs (89 lines) is given in figures 5a and 5c. The bulk (67%) of excluded tariff lines faces a tariff in the 15-20% range and another 15% in the 20-25% range. However, figure 5c shows that the LDCs face less than the MFN tariffs for these lines since 44% of these 89 tariff lines face a tariff less than 15% in the US market while the corresponding MFN tariff is in the 15-20% range. Finally figure 5e shows the distribution of exports to the US that fall in each tariff range that would be excluded from duty-free status according to this selection rule.

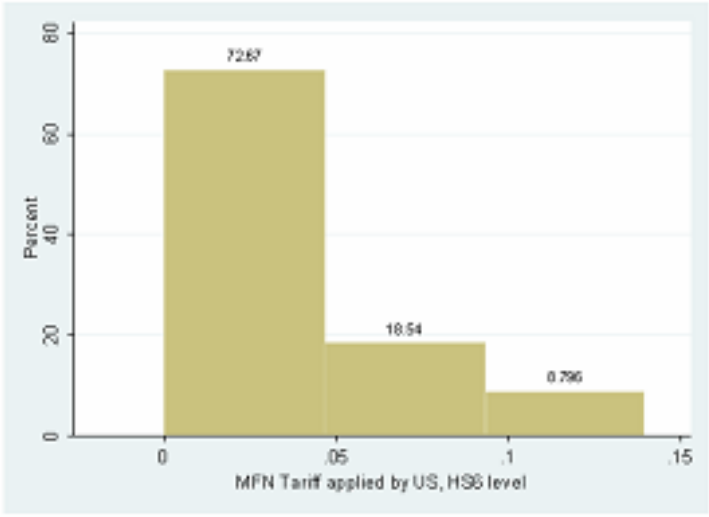
Figure 5b shows the distribution of MFN tariffs on the 1694 tariff lines that would be set to zero by the 97% proposal (of these only 510 currently have a positive MFN tariff-see table 5). The corresponding distribution of tariffs applied on LDC exports is given in figure 5d. The difference between the two distributions captures the effects of AGOA which results in lower applied tariffs on LDC exports. Since these are trade-weighted estimates, one can see that AGOA may matter because it applies to many countries but, because these countries have little weight in total imports to the US, the difference between the two distributions is rather small. Finally, figure 5f gives the current distribution of imports that would be under duty-free status according to this selection rule.

Figures 5: US tariff structure for LDC products with positive exports to US (HS6 lines)

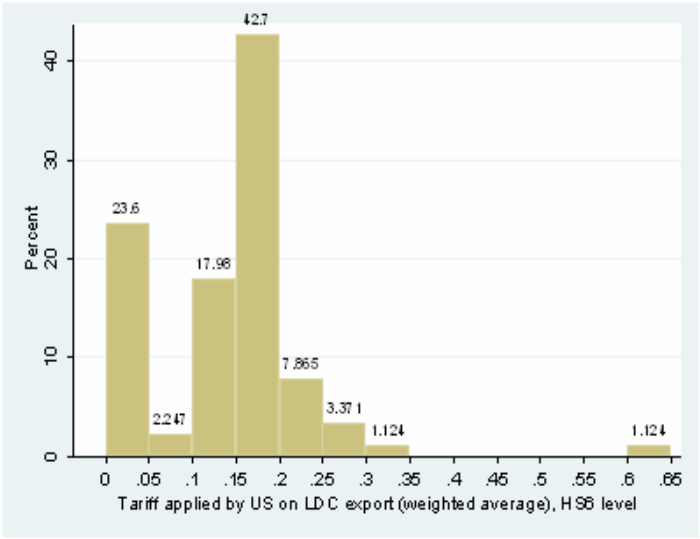
a. Distribution of US MFN tariff on excluded lines (89 lines)



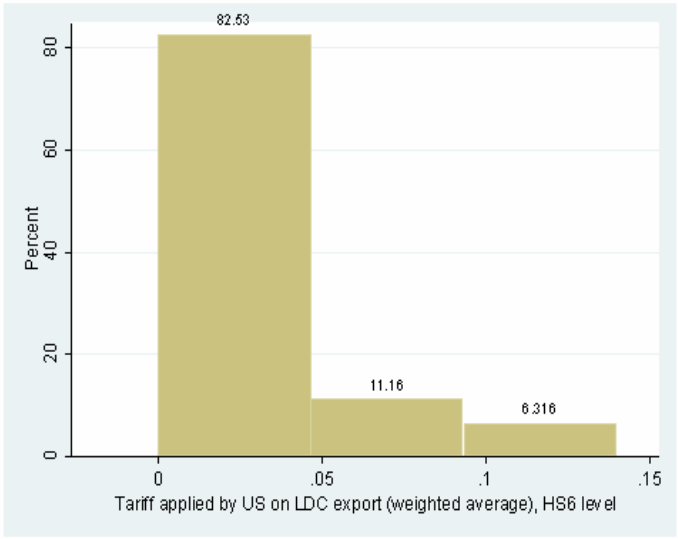
b. Distribution of US MFN tariff on non excluded lines (1694 lines)



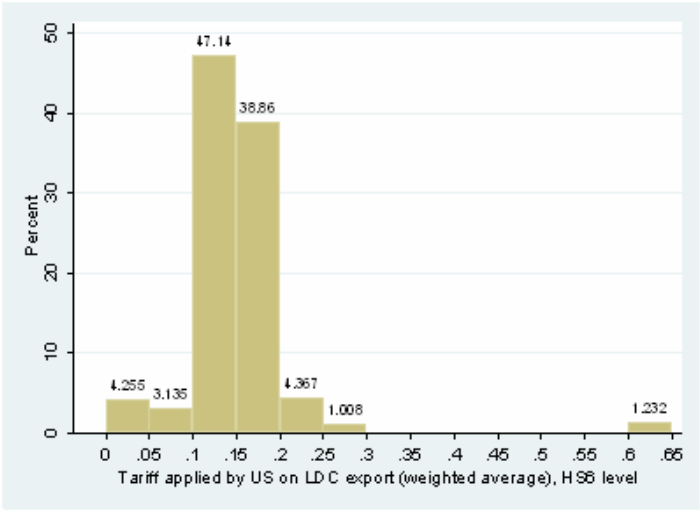
c. Distribution of US applied tariff on LDC exports (trade weighted) - excluded lines (89 lines)



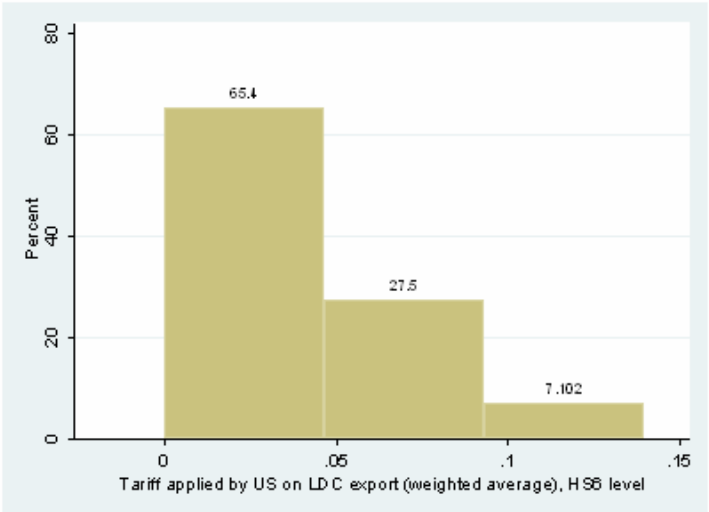
d. Distribution of US applied tariff on LDC exports (trade weighted) – non excluded lines (1694 lines)



e. Distribution of US imports value from LDC by applied tariff - excluded lines (89 lines)



f. Distribution of US imports value from LDC by applied tariff – non excluded lines (1694 lines)



Note: we select as excluded lines 513 out of 5113 but here we report only the excluded and non excluded lines with positive LDC exports so respectively 89 and 1694 lines (see table 5).

Table 5 gives the same information from the point of view of the count of tariff lines selected by the formula. Thus the 3% benchmark would exclude 153 lines of which 89 have positive LDC exports. As to the remaining lines with duty-free status, 95% would have positive LDC exports. The last three columns show the status of LDC exports after applying the proposal: 12% of tariff lines would still face positive tariffs because the proposal applies to some tariff lines for which LDCs have zero exports to the US. This point deserves emphasis, since the "97% proposal" implies that less than 97% of the lines in which the LDCs export to the US will face duty-free status. The last column shows that the proposal would still result in an average (trade-weighted) tariff of 15% on the tariff lines with positive tariffs.

Table 5: Selection of US Tariff lines for exclusion from duty-free status for LDC (HS6 level)

	All US HS6 lines		Tariff Lines with positive LDC exports		Tariff Lines with positive LDC exports and positive applied tariff			
	Nber	% of total lines	Nber	% of total lines	Nber	% of total lines	% of total LDC exports to US	Trade weighted applied tariff
Excluded ***a)***	153	3%	89	5%	71	12.2%	7.7%	15.65%
Non Excluded ***b)***	4960	97%	1694	95%	510	87.8%	38.4%	7.29%
Total	5113	100%	1783	100%	581	100.0%	46.1%	8.69%

Source: authors' computations.
Notes:
a) Excluded: see annex A.2.3 for description of exclusion from duty-free status for LDC;
b) Non Excluded: lines with zero tariff for US imports from LDCs.

How much market access could one expect from implementing this proposal? For now suppose that meeting origin requirements would not be an obstacle to increasing exports to the US. Assume in addition that the LDCs have a sufficiently small share of US imports that supply response (i.e. output contraction in the US) can be neglected. Then, an estimate can be obtained by applying the standard partial equilibrium version of a trade model with product differentiation. Removing tariffs on LDC exports will lower the average price of imports in the US leading to an expansion of US imports at the product line level. In addition, there will be a substitution effect away from non-LDC suppliers towards LDCs because they receive this "97% duty-free" proposal. And within the LDC group, there will be a substitution away from those that receive duty-free access towards those LDCs now benefiting from the "97% duty-free" proposal.

Table 6: LDC Export expansion from "97%" duty-free status proposal

Elasticities *a)*	**1. 97% duty Free** Total Change in LDC's exports to US *b)* *% of total initial LDC exports*		**2. 100% duty Free** Total Change in LDC's exports to US *c)* *% of total initial LDC exports*	
	(1a)	(1b)	(2a)	(2b)
Export supply	∞	10	∞	10
central	+15.6%	+10.9%	+22.3%	+15.5%
low	+5.6%	+4.9%	+8.0%	+7.0%
high	+26.9%	+16.0%	+38.4%	+22.6%

Source: authors' computations.

Note:
Increase from total initial LDC exports to the US (US$ 11,433 million – see table 3)
a) Elasticity values are aggregate import elasticity (ε) followed by elasticity of substitution between sources (σ), i.e. LDC and non-LDC exports to the US:

"central": $\varepsilon_{g,c} = -1$ and $\sigma_{g,c,\neq c} = -6$

"low": $\varepsilon_{g,c} = -0.5$ and $\sigma_{g,c,\neq c} = -2$

"high": $\varepsilon_{g,c} = -2$ and $\sigma_{g,c,\neq c} = -10$

see Carrère and De Melo (2008) for exact formula.
b) the simulation concerned only the 510 non excluded lines (see table 5) with positive exports and positive applied tariff, i.e. 38.4% of the LDCs export with an average (trade weighted) applied tariff of 5.8% (7.3%).
c) the simulation concerned only the 581 lines (see table 5) with positive exports and positive applied tariff.

A range of resulting export expansion estimates for the "97%" proposal is given in table 6, cols. 1a and 1b. The more extreme estimates result from the (unrealistic) assumption of an infinite export supply elasticity (up to 26% increase in exports over the initial value). The more realistic central elasticity estimates in cols 1b (and 2b) suggest that exports could expand by 11% from the base value (and by 8% had we assumed an export supply of 5 instead of 10). Going all the way to duty free-status (cols. 2a and 2b) would yield about an additional third more expansion to about 15% (col. 2b). Given the aggregate initial exports of $1.4 billion to the US, application o of the "97% rule" would increase exports to the US by about $1 billion and by $1.5 billion from a full DFQF access to the US market.

5. Other Barriers to Market Access: Rules of Origin

The QUAD and other OECD countries use rules of origin to confer originating status for preference-receiving countries. The RoO are necessary to prevent trade deflection (i.e. importing from the low-tariff partner and then exporting to other countries in the preferential zone) for any PTA short of a CU. RoO also apply to the non-reciprocal preferences granted under the GSP and EBA. RoO are elaborate: they include regime-wide rules of origin and product-specific-rules of origin (PSRO). Both are complex, particularly PSRO. Regime-wide rules include (i) a *de-minimis* (or tolerance) rule; (ii) cumulation; (iii) absorption (or roll up); (iv) duty-drawback provisions or their elimination; (v) origin certification procedures. PSRO are even more complex.

Annex 3, table A3.1 summarizes regime-wide and PSRO for GSP recipients in the QUAD. These rules are very different across GSP granting countries. Given that we have seen that LDCs have similar baskets of goods exported to the different OECD countries, the differences in these rules must be costly since different paper work must be carried to export the same product at different destinations.

An important first observation is that the LDCs which export rather similar products to different OECD countries face different RoO--both regime-wide and PSRO—across destinations. Having to fulfill different requirements for the same product when exporting to different destinations increases the overall costs of exporting when exporting under a preferential trade regime like the GSP or EBA.

How much of the costs necessary to meet origin requirements are unavoidable? There is no quick answer to this question because of the diversity of product characteristics and more generally because the HS was not designed to conform to product characteristics. Hence using the HS system to classify products is not very useful when it comes to identifying whether a product has met the requirement of "sufficient transformation" to qualify for preferential status. Indeed, it is partly for this reason that complex PSRO have been put in place. At the same time, these PSRO are different across partners for a given HS6 product.

Because of their complexity (see the description in annex 3), it is difficult to assess the costs of these RoO. Below we use several measures to illustrate the likely costs for LDC exporters to the EU and US markets. Three conclusions transpire from the summary description and evaluation of the restrictiveness of these rules:

- the rules are complex and vary a lot across sectors
- the rules are generally more stringent for the products with the highest preference margins
- In spite of similar export baskets to the US and the EU and of the fact that face the same set of RoO as other partners, the same set of RoO have different effects across countries.

5.1 Measuring the complexity of Rules of Origin

In the case of the EU, there are more than 500 different Product-Specific Rules of Origin (PSRO). These are described in annex 3.[6] While the US has fewer PSRO than the EU, they too are complex. Here (and elsewhere), the complexity of both systems of PSRO is summarized by an overall restrictiveness "R-index". The index is constructed at the product line level so that increasing values of the index represent a more restrictive PSRO. As explained in the annex, the ordinal index takes values in the range:

$$1 \leq r_i \leq 7$$

so that $(r_i = 1)$ corresponds to a PSRO that is easy to satisfy and $(r_i = 7)$ to one that is difficult to satisfy.[7] This synthetic index is far from an accurate measure of the restrictiveness of the EU and US system of PSRO that apply to preferential imports, including those from the LDCs. Furthermore, as mentioned above, it is a cardinal

[6] As detailed in annex 3, the EU has been contemplating reforming its PSRO and replacing it by a uniform rule (a value-content rule of 30% for LDCs). But this has not happened yet, although promising first steps have taken place with the simplification of the vessel requirement for fishing and the move to a single transformation rule in T&A. These simplifications will be applied to all EPA signatories.

[7] For example a value $(r_i = 4)$ corresponds either to a change of tariff classification at the Heading (HS-4 level) , a VC requirement limiting non-originating inputs to 60% of the ex-works price, or a wholly obtained criterion accompanied by an exclusion and a technical requirement At the lower end $(r_i = 1)$ corresponds to a no change of tariff line heading, or an allowance added to one of the following single criteria: (exclusion, CTC at the sub-heading level, or wholly obtained). At the more restrictive end $(r_i = 7)$ usually the PSRO consists of three requirements including a technical requirement, and the CTC must take place at the Heading or Chapter level.

index so one cannot make quantitative comparisons across different values of the R-index. Yet, the index is useful to check the correlates between the r-index values and the preferential margins. It is also useful to see how countries are affected (in terms of the severity of the overall bundle of RoO) by the same set of PSRO.

5.2 High Preference Margin Products Face Restrictive PSRO in the EU market

If market access were only determined by preferential margins, then as a first approximation, the LDCs should not face tougher RoO requirements on the products for which they have higher preferential margins. Table 7 splits the sample into three categories of tariff lines: those with high, medium and low preference margins. As can be seen, the simple averages show that the average value of the R-index is higher for the tariff lines with high preference margins (i.e. preferential margin peaks). [8]

Table 7: LDC Preferential Margins and the PSRO index [a]

7a: EU

	Nber of lines with positive LDC export	Weighted Average Preference margin	Weighted Average R-Index value
Preferential Margin peaks[b]	570	17.13%	6.08
Low Preferential Margin[b]	824	0.01%	3.19
Total number of tariff lines	3509	4.64%	3.93

Notes:
[a]/LDC as a group
[b]/ the Preferential Margin tariff peaks are defined for tariff lines with preference margins in excess of 12% and low margins for tariff lines below 1% preferential margins.
Source: authors' computations.

7b: US

	Nber of lines with positive LDC export	Weighted Average Preference margin	Weighted Average R-Index value
Preferential Margin peaks[b]	267	8.08%	6.64
Low Preferential Margin[b]	1009	0.002%	6.10
Total number of tariff lines	1783	0.86%	6.33

Notes:
[a]/LDC as a group
[b]/ the Preferential Margin tariff peaks are defined for tariff lines with preference margins in excess of 3% and low margins for tariff lines below 0.05% preferential margins.
Source: authors' computations.

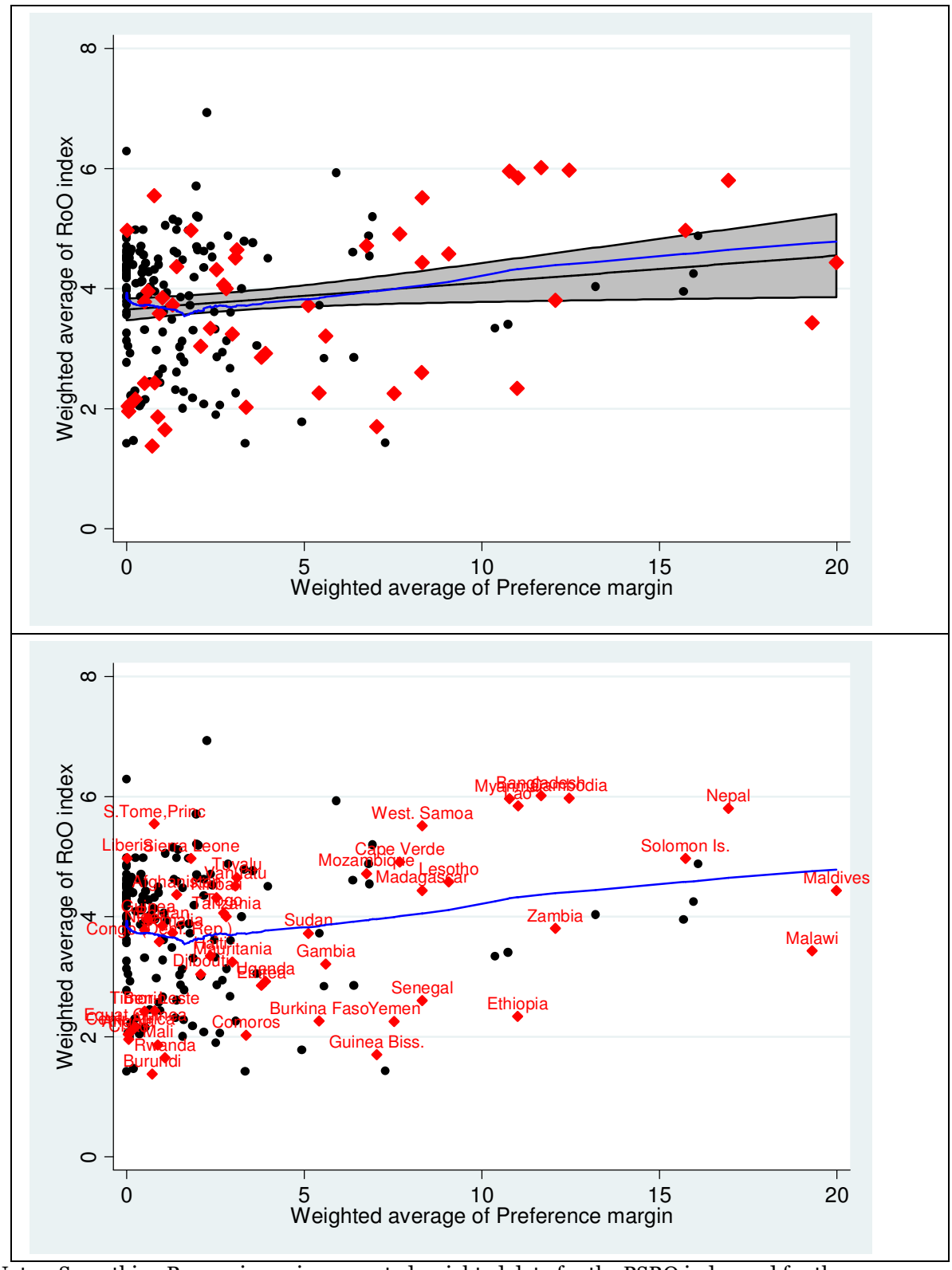
[8] When available, an alternative is to study the correlates of utilization rates, an approach taken in several studies where utilization rates of preferences are available. These cross-sectional studies show that after controlling for the level of preferential access, utilization rates are lower for tariff lines with higher values for the PSRO index.

A second exercise is to try and detect whether, because of the products they export to the EU and the US, the LDCs face tougher RoO for a given preference level. Figure 6 plots a linear fit (with the corresponding 95% confidence interval) and smoothing regression results for 2004 over the countries exporting to the EU and the US under preferential status and hence facing PSRO.[9] LDCs are emphasized in red in the scatter plot. These countries appear to be significantly above and below the regression line. This reflects the heterogeneity among the LDCs in terms of export composition to EU. For LDCs above the line (e.g. Nepal, Myanmar, Cambodia, Bangladesh, Cape Verde, Mozambique or Madagascar), they are facing more restrictive RoO than the average preferential-receiving country of the sample.

Should the EU or US simplify its current PSRO, it would most likely do so for all preferential trading partners. The estimates here suggest that the LDCs above the line would gain relatively more than other GSP or ACP beneficiaries and hence should push for a simplification of the current complex system of requirements necessary to establish origin under preferential access

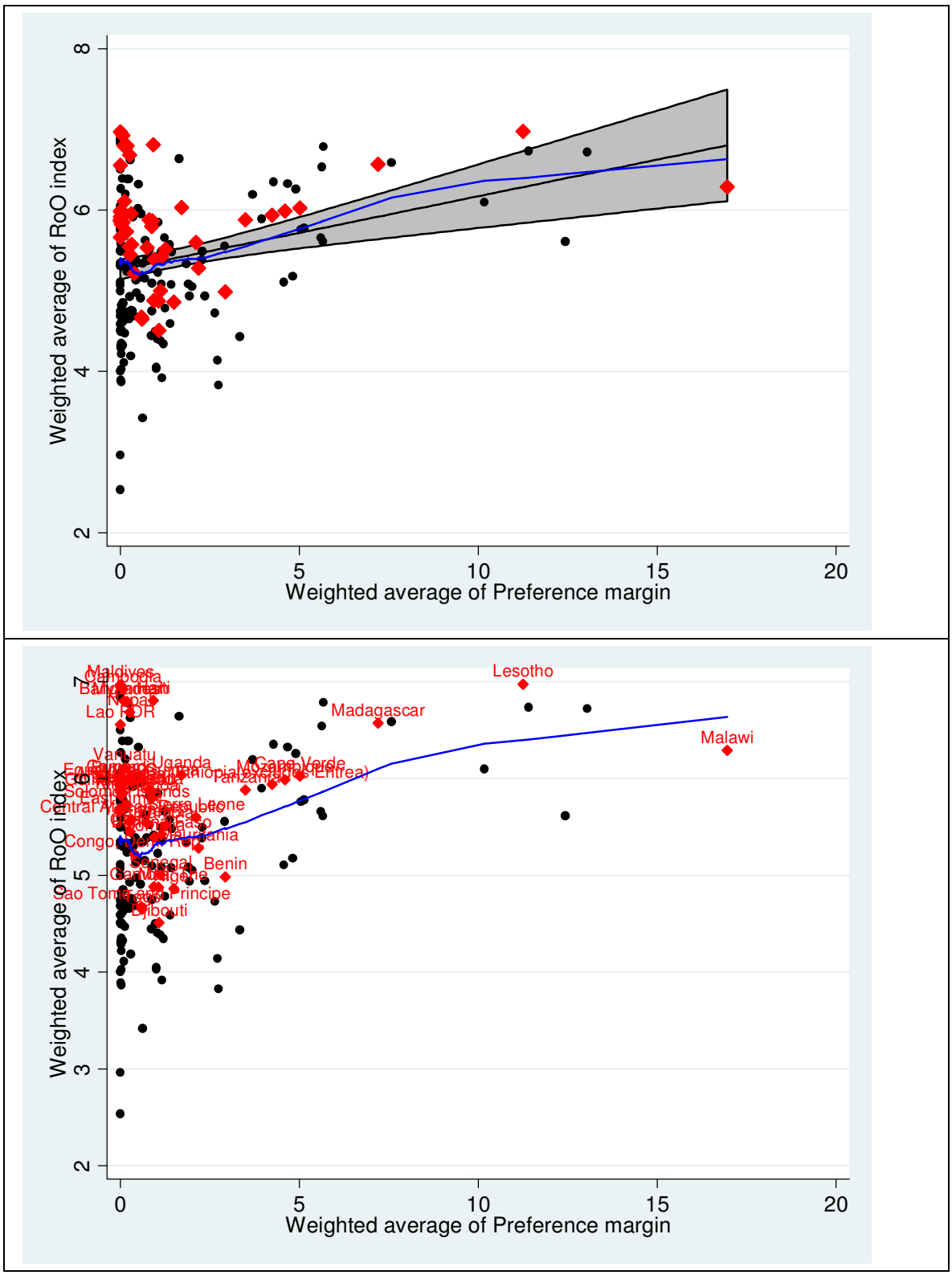
[9] Note that in practice, countries do not face identical PSRO, so the assumption here that all countries face the same RoO is not strictly correct, but only approximately the case.

Figure 6a: Smoothing regression of the export weighted average of the EU RoO index on the export weighted average (unadjusted) preferential margin, 219 countries, 2004



Notes: Smoothing Regression using exported weighted data for the PSRO index and for the (unadjusted) preferential Margin.
Source: authors' computations.

Figure 6b: Smoothing regression of the export weighted average of the US RoO index on the export weighted average (unadjusted) preferential margin, 205 countries, 2004



Notes: Smoothing Regression using exported weighted data for the PSRO index and for the (unadjusted) preferential Margin.
Source: authors'

6. Conclusions

Several findings emerge from this detailed disaggregated investigation of preferences received by LDCs in the EU and US markets, the two largest recipients of LDC exports among OECD countries:

- Preferential access is greater in the EU than the US (where T&A are excluded from preferential status except for AGOA beneficiaries) as LDCs virtually have DFQF access to the EU market
- Taking into account that the EU and the US are both engaged in FTAs with countries that compete with the LDCs substantially diminishes the effective preferential margin received by LDCs to about 3% in the EU market
- Taken as a group, .on a trade-weighted basis, the LDC group is discriminated against in the US market, this in spite of AGOA which gave DFQF access to 22 LDCs from SSA in 2004. Thus, as a group, i.e. if they were considered to be one country, the 50 LDCs are getting less preferential access in the US market than other exporters of the goods exported by the LDCs.
- Should DOHA come to a successful ending in the sense that tariffs are reduced according to a "Swiss formula", effective preferential access to LDCs will be negligible in the EU and still negative in the US.
- If the US were to apply the "97% rule", LDC might increase exports to the US by about 10% or about $1billion.
- RoO applied by the US and the EU to GSP beneficiaries are complicated and different even when defined at the HS-6 line level. This implies that an LDC exporting any product will have to meet different requirements for different destinations thereby adding costs to exporting.
- The PSRO applied by the EU and US are complex. They reduce further the effective market for LDCs in the EU and US markets.

Two conclusions for 'action' emerge.

Two sets of recommendations emerge from the analysis. First, the US should DFQF access to LDCs to level the playing field to avoid giving less market access than to other trade partners with whom they have FTAs. So the first recommendation is that if the OECD countries are "serious" about the development potential of TPFD, they should grant DFQF market access to the LDCs. Presently, for the QUAD, this is only the case for the EU. DFQF access to the LDCs, will only avoid effectively discriminating against them. Such measures should be taken regardless of the observation that the preferential margin received by LDCs, which is already small, will be further reduced via multilateral tariff reductions at the MFN level.

The second area of action relates to Rules of Origin. [10] These are costly for all partners wishing to benefit from preferential status. How costly they are is difficult to ascertain with any degree of precision. Nonetheless, there is growing evidence that these costs, administrative and distortionary alike are sufficiently important, that OECD countries should seek to reduce them.

The first part of the recommendation relates to *harmonization*. If taken seriously, LDCs would face the same RoO at the HS-6 level whichever market they export to. This is currently not the case. Since it is known that compliance costs are higher for small firms, which represents the majority of LDC firms, the LDCs are already at a disadvantage. Given that they sell the similar products across countries, and that each LDC usually exports the same product across the QUAD, having to deal with different RoO across destinations adds to export costs.

The second part of the recommendation is to *simplify* the current system of RoO. This recommendation extends beyond treatment to LDCs, applying to all preferential trading agreements. Such simplification might however end up being most helpful to the LDCs. This would eliminate some of the biases these rules impose on LDCs How to go about it is more difficult to ascertain, but there are several options, some of which, are examined below. One step in the right direction would to establish simple and mutually consistent cumulation rules. The EU has set an example in this regard with the PANEURO system, precisely designed to facilitate cumulation across preferential zones.

[10] Some of the recommendations here were made in Cadot and de Melo (2008).

Another way to simplify the rules would be to use a single, across-the-board rule to foster transparency and mitigate capture. Clearly, technical requirements should be targeted for elimination in priority, being the most opaque, difficult to harmonize, and capture-prone instruments. Leaving aside agricultural products that could still operate under the 'wholly obtained' criterion, and keeping in mind that any uniform rule will affect industries and countries differently, two avenues could be considered: (i) a simple change of tariff classification, say at the subheading (HS 6) level so that it is not too restrictive); (ii) a uniform value-content (VC) rule.

The change of tariff classification has the advantage of simplicity, transparency, and low administrative costs. But the HS tariff nomenclature was designed to collect trade statistics, not to separate products and confer origin, so defining the change of tariff classification at a uniform level would produce erratic results across sectors. This would call for exceptions to uniformity, opening up the Pandora Box of special deals. Moreover, a change of tariff classification would not lend itself easily to differential treatment for LDCs, should that be an objective (see below).

As for a VC rule, notwithstanding its conceptual clarity, it may be less than straightforward to apply in practice. It may increase producer risk due to the sensitivity of costs to exchange-rate, wage and commodity-price fluctuations and is also burdensome to apply for customs officials. However, it is simple to specify, transparent, and allows for differential treatment of LDCs. All told, if specified properly it probably stands out as the best candidate for an across-the-board criterion, ideally in combination, at the exporter's choice, with a change of tariff classification.

The third part of the recommendation is to have *preferential* RoO for LDCs, i.e. to have simpler RoO for the LDCs. Here again, there are several possibilities. A simple first step in the reform would consist of eliminating RoO requirements for tariff lines with preferential margins below 3% or perhaps even 5% for all LDCs (the rate could be agreed upon in the context of multilateral negotiations at the WTO). This would be an all-round winning proposition since resources would be freed for other purposes, especially in developing countries, but also for consumers in developed

countries who would no longer bear part of the increased costs associated with compliance. A second step would be to allow for differential treatment not across sectors, but across beneficiaries, with full cumulation and low VC requirements for LDCs reflecting the empirical observation that the "slices" of value added performed in LDCs in cross-border production networks are generally thin.

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Annexes

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