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**Disentangling Market Access Effects for ASEAN Members  
under an ASEAN-EU FTA**

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Abstract

The paper develops two synthetic measures at the HS-10 level to depict effective market access for a country receiving preferential access and applies these to the market access ASEAN members would receive on impact following the implementation of an FTA with the EU. These measures reveal quite a different picture than one that would be gleaned from the more usual ex-ante aggregate approaches. First, the measures show that current effective market access for ASEAN EBA members is cut in half by the preferences granted by the EU to countries that compete with these countries in the EU markets. Second, the small value of preferences is reflected in the pattern of preferential margins, the “significant” preferential margins almost always being for products that account for less than 1/10 of 1 percent of exports at the HS-10 level. Third the measures show that about one quarter of the preferential margin under the proposed FTA for EBA members would be lost as a result of preferential access granted to ASEAN GSP members. Fifth, disaggregated calculations on the restrictiveness of rules of origin not only confirm that rules are more restrictive for products with higher preferential margins, but also that, for a given preferential margin in the EU market, due to the product composition of their exports to the EU, ASEAN countries usually face tougher rules of origin in the EU

**JEL classification:** F13, F15

**Keywords:** Market Access, Rules of Origin, preferential trade agreements, ASEAN

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## **1 Introduction**

In May 2007, the Association of South East Asian Nations (ASEAN) Economic Ministers and the European Union Commission agreed to enter into free trade area (FTA) negotiations on a region-to-region instead of a bilateral approach that would take into account the different levels of development of ASEAN members. These negotiations were launched against a backdrop of falling trade shares between the two regions (according to the ASEAN statistical yearbook, the EU share of the ASEAN-6 exports fell from 15.3% in 2001 to 13.2 in 2004 while the corresponding ASEAN import shares fell from 12.6% to 11.3%)<sup>1</sup>. If there is more to the FTA signing than market access, trading on a preferential basis with one's main trading partners remains among the main objectives on both sides and this was clearly mentioned when negotiations were launched. In brief, one of the intents of the EU and ASEAN in their FTA negotiations is to level the playing field and exchange market access at the expense of other trading partners.

Like the majority of countries around the world ASEAN members are actively participating in several preferential trading arrangements. They also belong to the World Trade Organization (except for Laos—see table 1). Most ASEAN members also receive non-preferential market access under the Generalized System of Preferences scheme from Canada, the European Union (EU), Japan and the United-States. In all these instances, benefiting from market access requires proving origin which itself is costly and reduces the benefits from that market access. In their negotiations with the EU, from the point of view of expected penetration to the EU market, the key issue facing ASEAN members is how much access can they expect from entering a FTA? This will depend on several dimensions of EU trade policy, including their tariff policy and Rules of origin, whose effects can be quantified.

Ex-ante, partial or general equilibrium analysis in a multi-country setting is the preferred tool to measure the extent of market access resulting from trade policy changes. For example, in their evaluation of the likely effects on market access and welfare of an ASEAN-EU FTA, CEPII –CIREM (2006), use a general equilibrium world model with 12 regions and 33

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<sup>1</sup> The Association of South East Asian Nations (ASEAN) was established in 1967 by five founding members (Indonesia, Malaysia, the Philippines, Singapore and Thailand). It currently has 10 members (dates of membership in parenthesis): Brunei Darussalam (1984), Cambodia (1999) Lao (1997), Myanmar (1997) and Vietnam (1995). It has a population of 560 million which is slightly larger than the 460 million for the European Union (EU-25). Valued at market exchange rates of 2006 and adjusted for Purchasing Price Parity (PPP), the respective GDP of ASEAN and EU-25 were 2 800 billion and 12,000 billion US\$ respectively.

sectors. On the basis of a carefully calibrated model in which trade restrictions (other than NTBs on trade in goods) are aggregated from detailed data at the HS6-level into average tariff equivalents (AVE) that incorporate the effects of specific tariffs and tariff-rate quotas, the study concludes that all ASEAN countries would gain in terms of welfare from the FTA, notably because of the differential market structure assumed across sectors. With increasing returns to scale assumed for industry and constant returns to scale in other sectors, trade integration with the EU would lead to a shift of resources towards industry resulting in increased in scale efficiency.<sup>2</sup>

While useful, the level of aggregation in these studies masks the differential impact of similar preferential access across partners. Considering that, on average each country around the world is engaged in 5 preferential agreements and that the extent of multi-country membership is increasing rapidly with up to 20% of positive MFN tariffs covered by preferential trading agreements (World Bank 2005), it is useful to develop measures that capture the impact of preferential schemes on market access. This is the objective of this paper.

The paper develops two synthetic measures to depict effective market access for a country receiving preferential access and applies these to the market access ASEAN members would receive on impact (i.e. before adjustment takes place in product and factor markets) following the implementation of an FTA with the EU . First we use a more complete measure of preferential access by taking into account that trading partners grant market access to many other partners as well (especially in the case of the EU but also for other developed countries) so that the effective market access is less than the difference between the MFN and the preferential tariff. Second, we rely on recent work measuring the restrictiveness of requirements to establish origin (i.e. Rules of Origin) to qualify further the extent of actual market access under a preferential market arrangement. Key to the contribution is that these measures are constructed at the most disaggregated level possible, i.e. HS-10 for EU tariffs and HS-6 level for EU Rules of Origin (RoO). While this high level of disaggregation remains descriptive analysis, it minimizes biases resulting from aggregation and serves as a complement to the other approaches used to measure preferential market access. The paper thus concentrates on developing ways to condense and convey that disaggregated information.

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<sup>2</sup> Changes in model closure can of course isolate the importance of such built-in market structure effects. Also some simulations models have incorporated the effects of RoO in the model (see e.g. Francois, Hoekman and Manchin (2006) Gravity models are also used routinely used to quantify market access ex-post, with dummy variables used to control for membership in a PTA (e.g. Carrère, 2006) sometimes augmented by an index for the severity of rules of origin (e.g. Augier et al., 2005).

When applied to the proposed ASEAN-EU FTA, these measures reveal quite a different picture than one that would be gleaned from the more aggregate approaches mentioned above. To summarize, our impact measures show that current effective market access for ASEAN EBA members is cut in half by the preferences granted by the EU to countries that compete with these countries in the EU markets. We also show that the proposed FTA to the EU would lead to gains in access for some partners and to losses for others within the ASEAN, that “significant” preferential margins are almost always for products that account for less than 1/10 of 1 percent of exports (at the HS-10 level), and that about one quarter of the preferential margin under the proposed FTA for EBA members would be lost as a result of preferential access granted to ASEAN GSP members. Disaggregated calculations on the restrictiveness of rules of origin not only confirm that rules are more restrictive for products with higher preferential margins, but also that, for a given preferential margin in the EU market, due to the product composition of their exports to the EU, ASEAN countries usually face tougher rules of origin in the EU

The paper is organized as follows. Section 2 summarizes the situation of the different ASEAN members in the trading system. Section 3 introduces the preferential access measures that are applied at the Hs-10 level in section 4. Section 5 brings in rules of origin and section 6 concludes

## **2. ASEAN countries in the EU trading system**

As shown in table 1 (Columns 4, 5 and 6), except for Singapore, all ASEAN members get some preferential access to developed-country markets. In terms of preferential access, it would appear that the EU is the most generous since it gives the Generalized System of Preferences (GSP) and free-trade status (with the “Everything but Arms” –EBA –scheme) to the three low-income countries, Cambodia, Lao and Myanmar. Indeed, EU trade policy has largely been its foreign policy and this is reflected in the fact that with the exception of industrialized countries, the EU has trade agreements with virtually all countries in the world. These agreements fall under three layers (number of countries in parenthesis) [ASEAN members in brackets]

**Table.1: ASEAN in the World Trading System**

	WTO Status (LDC in parenthesis)	Binding coverage, [final bound] (applied)	Simple Average, [Max. ad Valorem] peaks{}*	EU Non- reciprocal Status	US non- reciprocal status	Japan non- reciprocal Status (Australia)
Column	1	2	3	4	5	6
Brunei Darussalam	Y(N)	95.3 [24.3] (2.6)	2.6 [200] {13.7}	GSP	N	N(N)
Cambodia	Y(Y)	100 [18.4] (16.4)	16.4 [120] 0.2	GSP and EBA	GSP	GSP(GSP)
Indonesia	Y(N)	96.1 [35.6] (6.7)	6.9 [170] {0.9}	GSP	GSP	GSP(N)
Lao	N(Y)		9.6 [40] {7.5}	GSP and EBA	N	GSP(GSP)
Malaysia	Y(N)	81.2 [14.9] (9.1)	7.3 [300] {10.3}	GSP	N	GSP(N)
Myanmar	Y(Y)	17.3 [83.6] (4.8)	5.5 [40] {5.2}	GSP and EBA	N	GSP(GSP)
Philippines	Y(N)	61.8 [23.4] (5.8)	4.7 [50] {2.9}	GSP	GSP	GSP(N)
Singapore	Y(N)	64.5 [6.3] (0.0)	0 [0] {0}	N	N	N(N)
Thailand	Y(N)	70.9 [24.2] (13.1)	16.1 [80] {2.6}	GSP	GSP	GSP(N)
Vietnam	Y(N)	[N.A.] (13.7)	16.4 [100] {10.4}	GSP	N	GSP(N)

Note: Vietnam became a WTO member in 2007.

\* Tariff data from WTO World Trade Report (2004). Tariff peaks are number of HS-duties at least three times the national average divided by the respective total number of HS-6 subheadings.

Source : authors' computations.

**The most preferred group.** This group benefits from a trade agreement that is superior to the standard GSP(92). It includes not only Cotonou (21) and (non-Cotonou) EBA(9) [Cambodia, Lao, Myanmar], but also the EU's regional and bilateral trade agreements with its neighbors, Turkey, EUROMED countries, and countries further away like South Africa, Chile, and Mexico. Finally, the EPA negotiations covering ACP countries and scheduled for completion by end 2007 also belong to this group.

**The middle group.** This is the GSP(92) [Brunei, Indonesia, Malaysia, Philippines, Thailand and Vietnam] group that is party to the standard GSP preferences but of no other regime. As shown in table 2, these preferences are less than those accruing to the "inner circle" above.

**The least preferred group.** This group comprises the industrialized countries [Singapore] that trades with the EU on a MFN basis.

This categorization of EU preferences into "three circles" shows that ASEAN countries belong in each group and therefore have heterogeneous differential access to the EU market under the current trade regime. It is thus clear that the proposed FTA with the EU will erode preferences for the low-income countries in ASEAN vis-à-vis other ASEAN members. In relative terms at least, it is to be expected that there will be effective gain in market access for the ASEAN partners that do not get EBA status.<sup>3</sup>

The ASEAN group is heterogeneous both in terms of economic size and level of development. This diversity is reflected in their exports to the EU. For one group of countries including Brunei, Cambodia, Lao, Philippines and Singapore exports to the EU are quite concentrated with the top 50 products at the HS-10 level accounting for close to  $\frac{3}{4}$  of the export share (see table 2, last column). The other group including Indonesia, Malaysia, Thailand and Vietnam is more diversified with the top 50 products accounting for less than 50% of their export share to the EU. The next-to-last column indicates the number of tariff lines at which each ASEAN country had positive exports (for the applied tariffs data available) to the EU in 2004 (the EU has 12,145 tariff lines at the HS-10 tariff level).

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<sup>3</sup> Note also from Table 1 column 3, there is scope for tariff reductions since, except for Singapore, there are quite a few tariff peaks (e.g. Malaysia and Vietnam have tariff peaks for 10% of their tariff lines), but this aspect of the proposed EU-ASEAN FTA is not examined further in this paper.

**Table 2: Distribution of EU applied tariff, HS-10, 2004**

	Nber of HS-10 lines with an applied tariff of							Total Nber of tariff lines	Cumulative share of the Top 50
	0	]0-5]	]5-10]	]10-25]	]25-50]	]50-100]	>100		
Overall / EU market	2172	4201	3476	1768	278	175	75	12145	
<i>MFN status</i>									
Singapore	864	1867	740	406	9	7	2	3895	77,4%
	43,5%	8,0%	47,6%	0,9%	0,0%	0,0%	0,0%		
<i>GSP status</i>									
Brunei	105	3	37	0	0	0	0	145	99,2%
	33,7%	63,3%	2,9%						
Indonesia	2081	759	984	76	6	2	0	3908	54,5%
	62,9%	11,9%	22,2%	3,0%	0,0%	0,0%			
Malaysia	2449	552	509	374	5	3	0	3892	58,5%
	81,0%	8,4%	8,1%	2,5%	0,0%	0,0%			
Philippines	1725	347	565	71	4	1	0	2713	81,2%
	92,6%	1,8%	5,0%	0,6%	0,0%	0,0%			
Thailand	2436	826	887	822	22	11	3	5007	46,7%
	57,8%	13,0%	13,9%	14,3%	0,1%	0,0%	0,9%		
Vietnam	1351	416	669	92	5	1	0	2534	56,9%
	40,4%	25,3%	18,7%	15,5%	0,0%	0,1%			
<i>EBA status</i>									
Cambodia	407	0	0	0	0	0	0	407	88,2%
	100,0%								
Laos	259	0	0	0	0	0	0	259	88,1%
	100,0%								
Myanmar	485	0	0	0	0	0	0	485	84,5%
	100,0%								

*Source : authors' computations.*

It is already clear from table 2 that the potential market access to be gained is unevenly distributed across the ASEAN group. For example, Thailand exports to 822 tariff lines for which the applied tariff is above 10 percent ad-valorem, while for Indonesia the corresponding number is only 76. However, as mentioned above, this perception of market access is complicated by the fact that the EU grants preferential access to many partners. These aspects need to be taken into account. The measures introduced below take this into account.



### 3 Measuring Market Access

Start first with a measure of preferential access for an individual HS-10 level product not taking into account preferences granted to other partners. Call this measure the *unadjusted preferential access measure*,  $\tau_i$  and express it as a percentage of the tariff inclusive price (for country  $k$ ) as:

$$\tau_i^k = \frac{t_i^{MFN,k} - t_i^{PREF,k}}{1 + t_i^{PREF,k}} \quad (1)$$

$t_i$  being the ad-valorem MFN or Preferential tariff (in %) on product  $i$  exported by country  $k$  to the EU market.

As computed in (1), preferential access is measured as the difference (expressed in %) between the tariff faced by an MFN exporter and the tariff faced by an ASEAN member when it exports to the EU. According to expression(1), as it should be, the preferential margin is zero for products with zero MFN tariffs. Thus, on average, countries facing exporting products with low MFN tariffs and many zero tariff lines (such as Philippines or Malaysia) are unlikely to get much additional preferential market access from an FTA, although the FTA could lead to new products being exported. This is a more meaningful measure of market access than alternative measures such as the percentage change in the tariff faced by ASEAN members or the simple difference in the tariff rate which does not take into account the height of the MFN tariff of the preference-granting trade partner. <sup>4</sup>

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<sup>4</sup> To see the difference consider product A where the MFN tariff is 2% and product B where the tariff is 50%. In both cases, suppose that the ASEAN country is faced with a tariff that is half the MFN tariff rate. Computing preferential access, as the percentage difference in tariffs would yield a 50% preferential margin. However, according to(1), for product A, the preferential margin is less than 2% while for product B it is evaluated as a 20% preferential margin. Computing the preferential margin as the simple difference between MFN and partner tariffs would give a similar measure for preferential access when tariff rates are small, though in the case here for product B, the difference is smaller.

However, as first pointed out by Low et al. (2005), for countries like the EU that extend preferential access to many trading partners, one should measure the preferential access against the effective tariff paid by all other exporters to the EU at that tariff line level. Call this measure for a country  $k$  and product  $i$ , the *adjusted preferential access measure*  $\tilde{\tau}_i^k$ , (Low et al. call it the “competition-based preferential access” measure):

$$\tilde{\tau}_i^k = \frac{t_i^{EFF,k} - t_i^{PREF,k}}{1 + t_i^{PREF,k}};$$

$$t_i^{EFF,k} = \sum_j \left( \theta_{MFN} t_i^{MFN} + \sum_j \theta_{j,PREF} t_j^{PREF} \right); \quad (2)$$

$$\theta_{MFN} \equiv M_{MFN} / M_T; j \neq k; \left( \theta_{MFN} + \sum_j \theta_{j,PREF} \right) = 1$$

$M$  being the import value to EU

Expression (2) recognizes that when computing preferential margins for country  $k$  and product  $i$ , the margin should be computed on the basis of the effective tariff paid on the corresponding tariff line  $i$  which is the MFN tariff less the EU import share-weighted imports from other preferential beneficiaries,  $j$  ( $j \neq k$ ). These are approximated by the market shares received by ACP, EBA and other beneficiaries of bilateral FTAs with the EU (e.g. EuroMed, Chile, South-Africa).

According to this formula, adapted from Low et al. (2005), a country like Singapore that pays the MFN tariff receives less preferential access than competing exporters to the EU and gets a negative preferential margin, unless all other countries selling to the EU for that tariff line are also MFN. If there is some differentiation, then there is competition among recipients of preferences. If however, at this very disaggregated level, one considers that goods from different origin are near homogeneous, then as long as the EU market is not saturated, then there would be no competition among preference receivers and the adjustment proposed by the formula would not be necessary or would represent an overstatement of the extent of market access loss.

Finally, to compare the change in preferential market access from implementing a FTA with the EU, we aggregate up across products and compare the extent of access on the EU market across ASEAN countries. For each country the aggregate gain  $G^k$  is computed at the HS-10 level  $i$  and then averaged at the country level  $k$ , using as weight the *current* export value according to:

$$G^k = \sum_i \theta_i^k (\tilde{\tau}_{iFTA}^k - \tilde{\tau}_i^k) \quad (3)$$

where all gains are expressed in percentage points and :

$\theta_i^k$  : share of the product  $i$  export in total export value of country  $k$ ;

$\tilde{\tau}_i^k$  : Adjusted preferential access for product  $i$  and country  $k$  (see equation(2));

$\tilde{\tau}_{iFTA}^k$  : Adjusted preferential access for product  $i$  and country  $k$  under the ASEAN-EU FTA assumption (i.e. assuming a zero applied for the 10 ASEAN countries).

Expressions (1)-(3) will now be evaluated for each ASEAN country's sales to the EU in 2004. These expressions are evaluated twice, first to measure current market access, then to measure the change in market that would result from the proposed ASEAN-EU FTA. In computing the adjusted market access, we assume that the EU already has FTAs with Mexico, Chile, South-Africa, Turkey and the EuroMed countries, all of which are assumed to pay zero tariffs (in reality some products are excluded, but so will some product lines be excluded from the ASEAN-EU FTA).

#### **4. Market Access under an ASEAN-EU FTA**

Table 3 reports the aggregate value of the measures of actual and potential market access by ASEAN members in the EU market computed in the paper. Leaving aside for now, the interpretation of the RoO index in column 6, column 1 computes the so-called "value" of preferential access often used in the literature (e.g. Brenton (2003) under the twin assumptions of full utilization of preferences and that the unadjusted preferential margin is the correct measure of preferential access. The estimates are low, reflecting the low average protection rates for MFN suppliers in the products exported by GSP and EBA beneficiaries (around 3.5% percent).

**Table 3:**  
**Preferential Margins, adjusted and Unadjusted under Different**  
**Preferential Schemes**  
**(Weighted by the export value at the HS-10 level)**

	Value of Pref. (millions euros) a/	Current average Pref. Margin		Gain/Loss in Pref. margin from implementing an ASEAN-EU FTA		RoO index
		Unadj.	Adj.	Unadj.	Adj.	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>MFN status</i>						
Singapore	0.0	0.0	-0.3	3.5	0.9	3.9
<i>GSP status</i>						
Brunei	0.0	0.1	-1.1	2.2	1.5	4.4
Indonesia	29.5	1.0	-0.4	2.7	1.7	4.0
Malaysia	21.6	0.7	0.0	1.2	0.6	4.1
Philippines	8.2	0.5	0.0	0.6	0.4	4.3
Thailand	21.2	0.9	-0.6	4.8	2.1	4.4
Vietnam	28.6	2.6	0.2	4.7	3.1	3.3
<i>EBA status</i>						
Cambodia	17.2	12.0	5.5	0.0	-1.4	6.0
Lao	3.5	10.9	5.3	0.0	-1.2	5.8
Myanmar	0.1	10.6	4.8	0.0	-1.0	6.0

Notes: Estimates in percentage points for 2004 (margins weighted by exports)

a/ Value of actual preferences:  $\sum_k (t_i^{MFN,k} - t_i^{PREF,k}) M_i^{PREF,k}$ ,  $M_i^{PREF}$  being the import value to EU that actually enters under preferential status.

Source : authors' computations.

Turning to the actual preferential margins in columns 2 and 3 several informative patterns emerge from the comparison of unadjusted and adjusted margins. First, only the EBA group really has substantial preferential access, and that preferential margin is halved once one takes into account that the EU is also granting preferences to other exporters that are competing with ASEAN countries in the EU market. Thus the unadjusted 11% preferential margin is reduced to around 5% when factoring in the preferences that are also granted to competing countries. Second, a different pattern emerges for the GSP group (Brunei, Indonesia, Malaysia, Philippines, Thailand and Vietnam). While the unadjusted preference margin ranges from 0.1% (Brunei) to 2.6% (Vietnam), the adjusted one is always null or negative, ranging from 0 (Malaysia, Philippines) to -1.1% (Brunei). Thus, the GSP group is in effect penalized by the current system of EU preferences. Third, Singapore's market access is little affected by the EU's preferential

policies. This is because almost half of Singapore's exports face a zero MFN tariff in the EU.

Columns 4 and 5 quantify how preferential access would be affected by the implementation of the proposed ASEAN-EU FTA. The largest beneficiaries are Vietnam and Thailand, both in the GSP group, the large gains in market access reflecting the fact that a small share of their exports face zero MFN tariffs in the EU (see table 2). On the other hand, the small gain for Indonesia and Malaysia reflects a concentration of their exports on zero-MFN tariff lines. The comparison of unadjusted and adjusted columns shows the extent of preference erosion that takes place from the EU granting access to other countries (including other ASEAN members). Market access gains are estimated to be cut in half or more for several countries.

The EBA group is the least affected since the unadjusted preferential margin is strictly identical with or without the FTA as they already benefit from zero tariffs on their exports to the EU. However, to the extent that they compete with non-EBA ASEAN members, they incur a loss of market access. Comparing columns 3 and 5 indicates that EBA members lose about  $\frac{1}{4}$  of their preferential margin to GSP ASEAN members.

But negotiators would likely want to know more about the first-round impact of this change in market access since a high preferential margin on products that count little, reflects a small "value" for these preferences. They might also want to know if the change in market access resulting from the FTA mostly affects HS-10 products with negligible market share (nothing can be surmised about developments at the extensive margin from an impact analysis based on current market shares). Or they might want to know if products that are candidates for exemption from preferences during the negotiation, count a lot.

To answer these questions, the most disaggregated data is necessary since it is at this level that exemptions are negotiated. Figure 1 proposes a "new" representation of the distribution of preferential access across products. It reports the cumulative preferential margins (unadjusted and adjusted) for the top 100 products ranked by decreasing shares in total exports for each ASEAN country's sales to the EU in 2004.

More precisely, figure 1 reports for each export line  $k$  of the Top 100 export HS-10 digit items to the EU25 in 2004 according to:

$$\left[ T_n^{Unadj} = \frac{\sum_{n=1}^k \tau^n}{\sum_{n=1}^{100} \tau_i^n} \text{ or } T_n^{Adj} = \frac{\sum_{n=1}^k \tilde{\tau}^n}{\sum_{n=1}^{100} \tau_i^n}; X_k = \frac{\sum_{n=1}^k x_n}{\sum_{n=1}^N x_n} \right]; 0 < T_n^{Unadj} < 1; T_n^{Adj} < 1 \text{ (0.4)}$$

with cumulative export shares ranked in decreasing order, i.e.  $x_k > x_{k+1}$  and N is the total number of product exported towards the EU. Note that  $T_k^{Unadj}$  is normalized so as to fall in the range [0; 100%] over the top 100 export HS-10 digit items. To ease the comparison,  $T_k^{adj}$  is also normalized by the cumulative *unadjusted* preferential margins of the Top 100 export.<sup>5</sup> Hence, as indicated in (0.4),  $T_k^{adj}$  is bounded between 0 and 1 on the up side but not bounded on the down side.

Given that the sum of the value of exports for the top 100 products is very close to total exports (except for 3 GSP countries and Singapore)<sup>6</sup>, and our selection of normalization, in effect, figure 1 traces “Lorenz-like” curves in the export/preference-margin space. Thus, just like a standard Lorenz curve depicting the extent of income inequality, the more convex the curves, the more skewed preferences are towards products that count little in the total value of exports. The curves, however, 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, and the shares on the horizontal axis are not the same (e.g. quintiles or deciles).

As a reference, suppose that each product had a preferential access proportional to its share in export value. Then the solid unadjusted blue line would bisect the graph (i.e. correspond to the 45° for the countries where the top 100 products exhaust all exports to the EU) Hence, once the products are sorted in decreasing order (in terms of export value), the more convex is the solid blue curve below the diagonal, the more preferential access is biased towards products with small export shares to the EU.

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<sup>5</sup>  $T_k^{Unadj}$  cannot be itself normalized in the 0-100 range since  $\tilde{\tau}^n$  can be positive or negative.

<sup>6</sup> We have chosen not to normalize on the sum of the top 100 exports so as to show how much of total exports to the EU are covered by the top 100 products for each country. Thus on the horizontal axis, the cumulative share of the top 100 exported product value to EU is normalized on *total* exports.

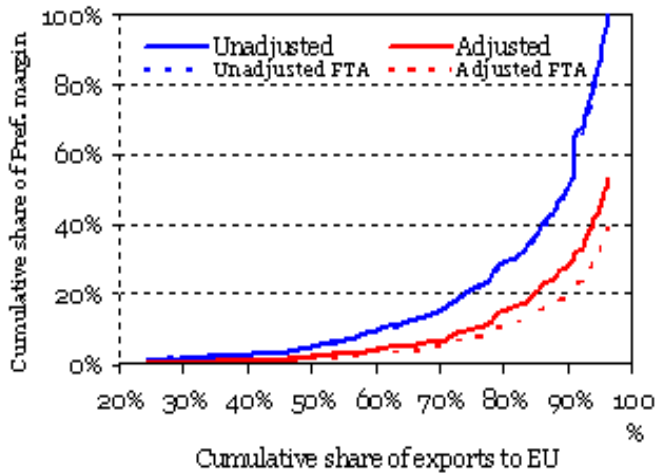
Following the presentation in table 3, figure 1 is broken down into two groups: EBA (and Singapore for contrast) in figure 1.a and the GSP group in figure 1.b In each graph, the solid lines depict the export-preferential-margin relation under the current EU preferential regime while the dashed lines trace the corresponding export-preferential-margin relation under the counterfactual regime with an ASEAN-EU FTA.

Before comparing the curves across countries and across preferential regimes, observe a common pattern in all graphs: the steepness of the curves as one approaches the last 10 products or so. Those 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. Indeed, if one excludes Brunei and Singapore, only Thailand and Vietnam would get non-negligible preferential access for current top 5 products (meat and motor vehicles for Thailand, and bicycles and men's cotton shirts for Vietnam).

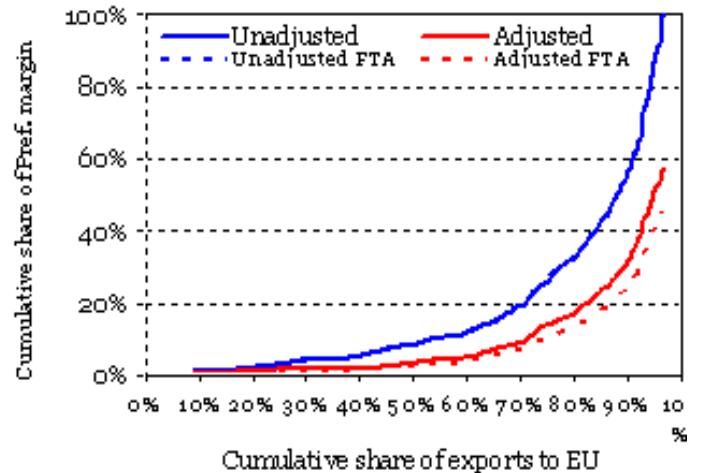
Although the magnitudes are striking, this pattern of results is to be expected since the political-economy of rent transfers resulting from tariffs and tariff preferences are largely determined by pressure groups reflected in lobbying activities in the developed countries. Developed countries, including the EU, are only likely to grant tariff preferences to sectors and products in which they face little competition, i.e. usually to sectors and products that export negligible amounts to the EU.

Figure 1.a: EBA group <sup>a/</sup> and Singapore  
 Cumulative Exports Against Cumulative Preferences <sup>b/</sup>  
 Top 100 export HS-10 digit items to the EU25 in 2004

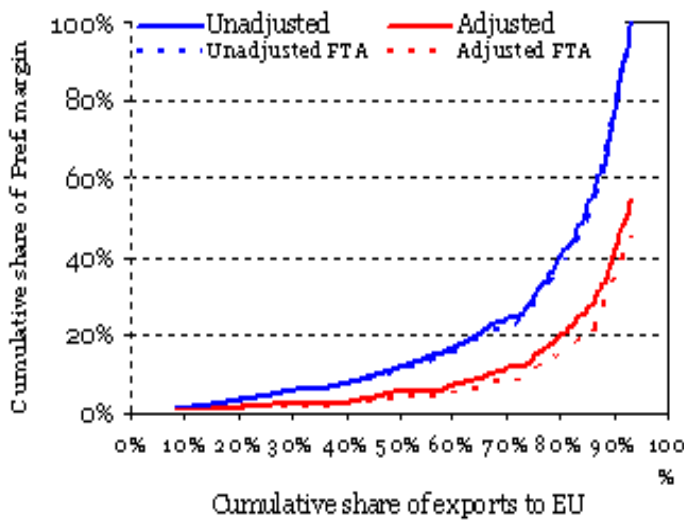
Cambodia



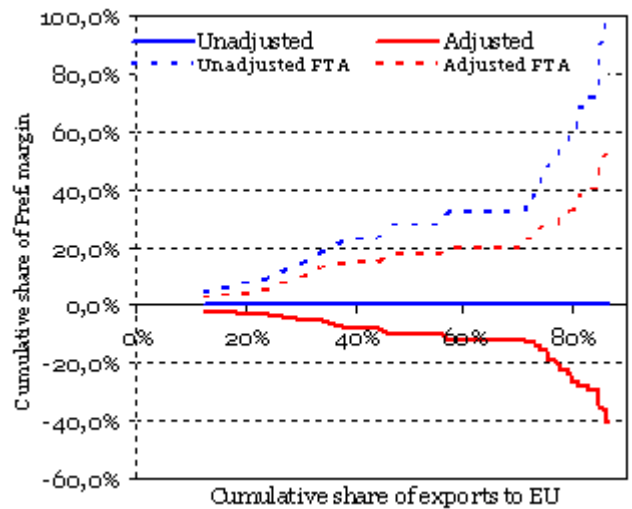
Lao



Myanmar



Singapore (MFN)



Notes:

a/ For the EBA group, current unadjusted and unadjusted FTA curves coincide. See table 3, col. 5.

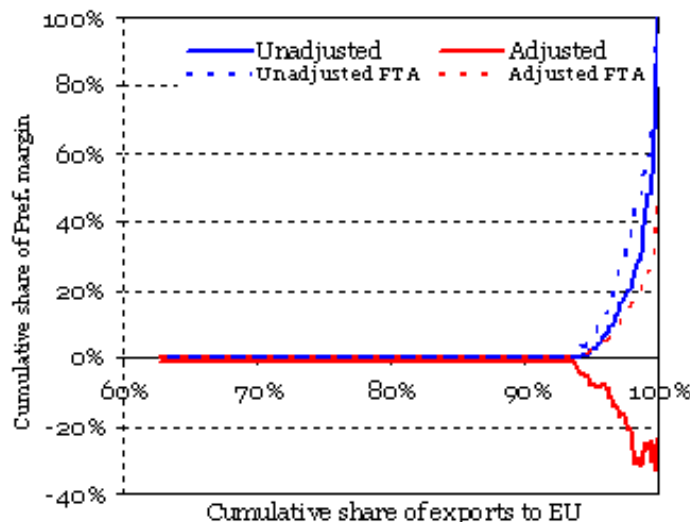
b/ the pref. margins are normalized so that the cumulative unadjusted preferential margin *under EU-ASEAN FTA* is 100% for the top 100 products. Solid (dashed) lines correspond to unadjusted (adjusted) export-preferential-margin relations. Blue lines correspond to current situation; red lines to those under the proposed ASEAN-EU FTA

Source : authors' computations.

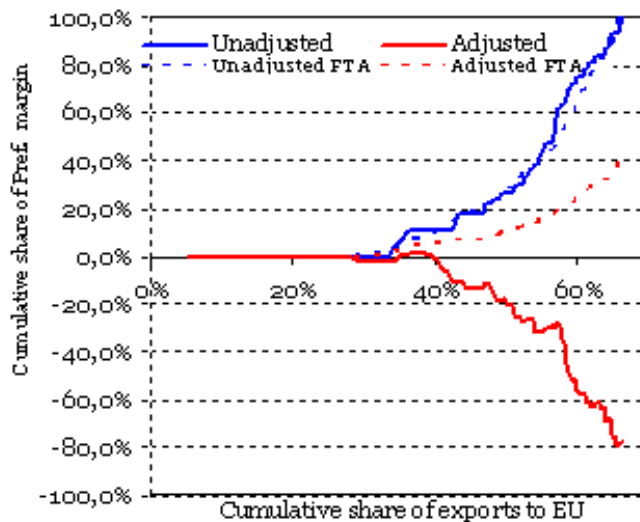


Figure 1.b: GSP group  
 Cumulative Exports Against Cumulative Preferences <sup>a/</sup>  
 Top 100 export HS-10 digit items to the EU25 in 2004

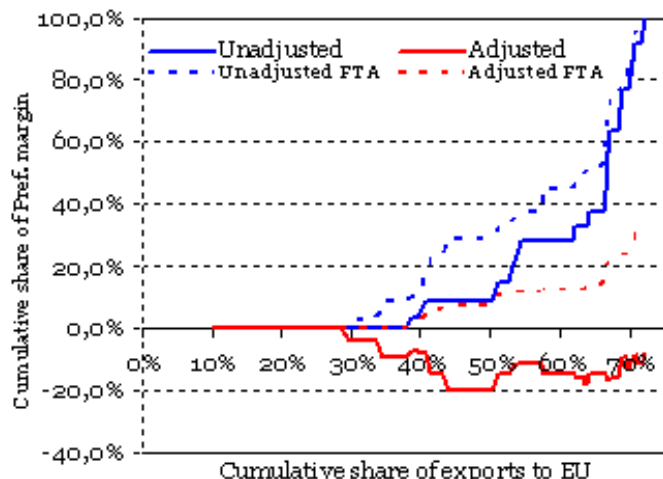
Brunei



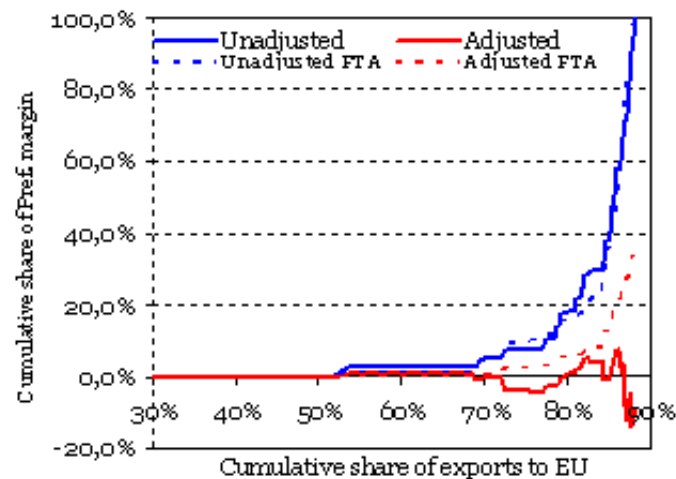
Indonesia



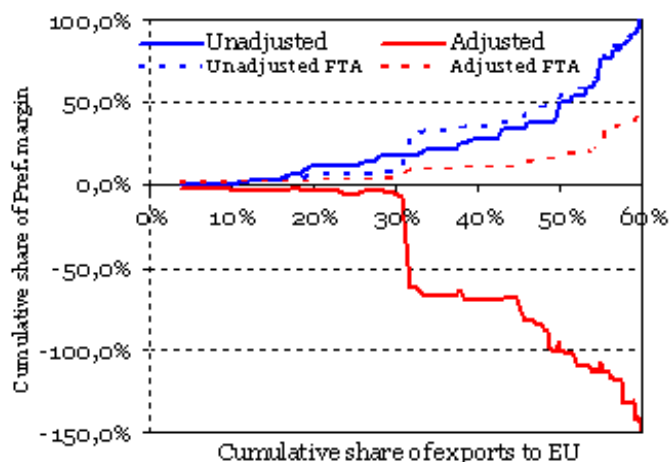
Malaysia



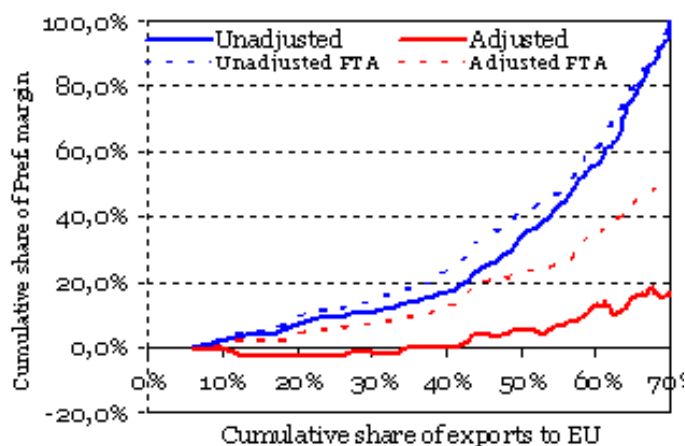
Philippines



Thailand



Vietnam



Source : authors' computations.

Notes: a/ Preferential margins are normalized so that the cumulative unadjusted preferential margin under EU-ASEAN FTA is 100% for the top 100 products. Solid (dashed) lines correspond to unadjusted (adjusted) export-preferential-margin relations Blue lines correspond to current situation; red lines to those under the proposed ASEAN-EU FTA

Turn now to the different patterns. Start with the current situation, i.e. the “solid” red and blue lines. As an example, take Cambodia, the first country in the EBA group (figure 1.a). The curve is very convex indicating that the most important exports do not receive any preferences. Indeed, the most important product (Jerseys, pullovers, cardigan and waistcoats) exported by Cambodia represents 24.2% of its total exports to EU. Note also that the curves usually trace a continuous smooth line with no clear horizontal “steps”, reflecting the fact that (in contrast with Singapore) EBA countries, only export a few tariff lines with zero MFN tariffs (i.e. zero preferential margins).<sup>7</sup> The short length of the horizontal lines indicates that the corresponding export shares with zero MFN tariffs are small. Overall, the shape of the curves for the EBA group stands in sharp contrast with the corresponding ones for the GSP countries depicted in figure 1.b. For instance, in the case of Cambodia, only the 12<sup>th</sup> exported product has a zero preferential margin and this product represents only 1.5% of total export value.

Compare next these unadjusted curves with the corresponding (red) adjusted curves. The adjusted export/preferential-margin curves are always lower, the distance between the two indicating the extent of erosion due to competition by other preference-receiving countries. The adjusted curves however are still positive for the EBA group, reflecting the aggregate estimates in table 3. Except for the relative importance of the most important export product, the shapes of the figures for Cambodia, Lao and Myanmar are remarkably similar. In sum, the patterns described in the figure reveal that the ASEAN-EBA group is quite homogeneous in terms of preferential access to the EU. This group competes strongly with ASEAN GSP beneficiaries. This is indicated by the convex broken line in figure 1a which captures the loss of preferential access coming from preferences granted to other the GSP ASEAN members under the proposed ASEAN-EU FTA.

Finally, note the striking contrast with the only MFN country (Singapore) shown in the bottom right of the figure. First, the adjusted preferential margin is always negative since it is an MFN exporter. However, interestingly, the adjusted preferential margin curve has several long horizontal strips. This is because the negative adjusted preferential margins occurs for the 5 most important products (representing 40% of the total export value) and then only for products in the range beyond the 38<sup>th</sup> product. Between these two product ranges (corresponding to around 33% of the export value ranging from 40 to 73%), Singapore’s exports to the EU face a zero MFN tariff.

Comparing the schedules in figure 1.2b shows that the GSP group is far more heterogeneous, signaling that one might expect very different stances on market access issues during the negotiations. Thus, Brunei’s first 5 export products (the first being “articles of jewelry and parts thereof, of precious metal other than silver which accounts for 94% of total export value receive no preferences. Philippines also gets quasi zero preference up to 68% of the exports to the EU. A similar pattern

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<sup>7</sup> A “vertical jump” in the curve would then reflect a large preference for the corresponding product, and inspection of these “Lorenz” curves can be used to spot “important” product in terms of preferential margins. This is clear for the adjusted market schedule for Thailand in figure 1.b. It registers a large negative “vertical jump” at around 30% of export value. It reflects the large value for the MFN tariff (134% applied tariff for the line “Fresh, chilled, frozen or dried roots and tubers of manioc” (0.9% of total value exports). This leads to a jump in the adjusted preferential margin of -46.6%. Even if this line were excluded, the overall pattern is negative and decreasing.

holds for Malaysia and Indonesia. The situation is more favorable for Thailand and Vietnam, since only the first 10% of exports do not benefit from some preferential access. All countries lose

Comparing the unadjusted and adjusted schedules for EBA and GSP countries suggests that the 3 EBA countries would form a natural negotiating entity with similar interests while this is not the case for the GSP group, even when Brunei is excluded. The very steep curves for the Philippines and Indonesia also suggest that these countries have strong interests in a few products, although these products carry little weight in the export basket.

## 5. Factoring in Rules of Origin

Rules of Origin (RoO) are an integral part of all reciprocal (i.e. FTAs) and non-reciprocal (i.e. GSP) trading arrangements falling short of a Customs Union. Their *raison-d'être* is to prevent trade deflection. In general, they turn out to be complex and modify sensibly market access by the costs that are incurred by exporters having to comply with these rules. The EU applies a so-called “single-list” to all partners trading on a preferential basis with over 500 different product-specific rules of origin (PSRO) defined at the HS-6 level. These rules are complex and they certainly modify the extent of market access resulting from preferences differently across products and partners. Not surprisingly, the ASEAN would wish the negotiations to lead to a set of simple RoO as in e.g. AFTA where originating status is met so long as non-originating value does not exceed 60% of the value of the product value.<sup>8</sup> The question then is how do these RoO modify the extent of market access and how can one summarize their effects.

The complexity of these PSRO has been conveniently summarized by an overall ordinal restrictiveness “R-index” constructed at the product line level so that increasing values of the index represent a more restrictive PSRO. 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.<sup>9</sup> Trade-weighted average values of the index for each ASEAN country are reported in table 3. It is immediately clear that the EBA group benefiting from greater market access face, overall, stricter RoO, and hence are subject to more preference erosion because of the costs associated with compliance.

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<sup>8</sup> ASEAN-EU report (2006) p.10, paragraph 3.15 states that “Negotiations to define, simple, transparent and liberal RoOs rank high on the priority list”

<sup>9</sup> 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 (see Annex A.5 in Volume 2 table A.4 for details). 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. See Cadot et al. 2006 for a description and application of the R-index.

One approach to estimating their restrictiveness is to estimate if, after controlling for the level of preferential access, utilization rates are lower for tariff lines with higher values for the PSRO index. Such correlations carried out by Cadot et al. (2007) for ASEAN and other beneficiaries on preferences in the EU market and show that this is indeed the case. However, because there is so much heterogeneity in the determinants of utilization rates at the tariff line level, it is hard to appreciate how such multiple correlations are affected by omitted variable bias. Hence, to keep in the spirit of descriptive statistics used here, table 4 classifies products into three categories according to the extent of (unadjusted) preferential access to see if there is any correlation between the restrictiveness of RoO and the extent of preferential access. For both ASEAN groups, but especially for the EBA group, preferential margins coincide with tariff lines that have a more restrictive R-index indicating that where margins are substantial, proving origin is difficult in the sense of having to meet multiple requirements, and hence is likely to be costly. High compliance costs for EBA beneficiaries would confirm that the low preference uptake for this group would be due to restrictive RoO.<sup>10</sup>

Table 4: Preferential Margins and the PSRO index

	R-Index value <sup>a</sup>		
	GSP-92 (2.4%) <sup>a</sup>	ASEAN GSP-9(2.9%) <sup>a</sup>	ASEAN EBA(3) (8.8%) <sup>a</sup>
Preferential Margin peaks <sup>b</sup>	4.7 (1,779)	5.8 (990)	6.1 (522)
Low Preferential Margin <sup>b</sup>	3.8(23,253)	4.0 (4,223)	3.9 (343)
Total number of tariff lines <sup>c</sup>	4.3 (99,262)	4.5(19,242)	5.1 (1,148)

Notes:

Number of tariff lines are indicated in parenthesis next to average value of R-index

<sup>a/</sup> Average preferential margin in parenthesis.

<sup>b/</sup> See text for the definition of the R-index

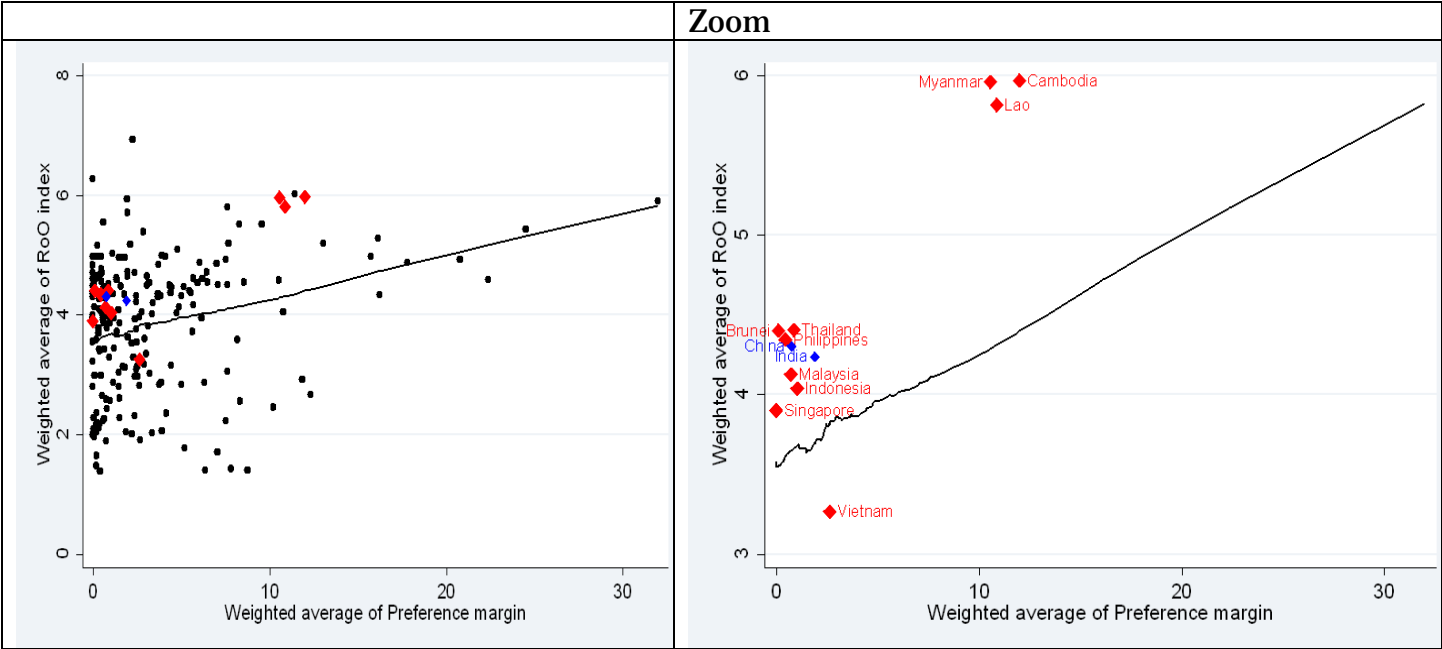
<sup>c/</sup> For the two GSP groups, the tariff peaks are computed for all tariff lines that exceed 3 times (are one third of) the average preferential margin given in parenthesis. For the EBA group, peaks are defined for tariff lines with preference margins in excess of 12% and low margins for tariff lines below 4% preferential margins.

*Source : authors' computations.*

<sup>10</sup> For 2004, and for the ASEAN EBA members, the utilization of preferences in the EU market was around 30% for preferential margins above 5% and also for preference margins above 10%. By contrast, the corresponding utilization rates were higher for the GSP group and around 80% (see Carrère et al. (2007), table 3.1). Although the composition of exports differs, this also suggests that compliance costs are higher for EBA than GSP countries.

It is also informative to ask how ASEAN countries would compare under the proposed FTA when lined up against other EU preference-receiving competitors. Figure 2 plots the results of a smoothing regression between the stringency of the RoO index and the preferential margin for 2004 for the 219 beneficiaries of EU preferences subject to RoO.<sup>11</sup> ASEAN countries, as well as India and China, are emphasized in the scatter plot. As expected, the regression line is positive, confirming the results in table 4. Significantly, even though the fit is not very tight, all ASEAN countries appear to be significantly above the regression line (the farthest above the fitted line being the ASEAN-EBA group). This striking pattern indicates that, for their preferential market access to EU, these countries are facing more restrictive RoO than competing countries facing the same preferential access. The two exceptions are Singapore, not significantly different from the sample mean, and Vietnam, significantly lower in terms of RoO restrictiveness given its preferential margin. It is thus not surprising from inspection of figure 2 that, from the point of view of ASEAN, as mentioned above, the protocol for the ASEAN-EU FTA stipulates that simple and transparent RoO should be a priority in the negotiations!

Figure 2: Smoothing regression of the export weighted average of the RoO index on the export weighted average (unadjusted) preferential margin, 219 countries, 2004



Source : authors' computations.

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

<sup>11</sup> Smoothing regression is OLS estimation over moving windows allowing for a potential non-linearity in the relation. See Imbs and Wacziarg (2003) for further description and an application

## **6 Final Thoughts**

The market-access measures in this paper applied to the ASEAN-EU FTA suggest very different market access across the ASEAN group. Given the diversity in ASEAN membership, this is not surprising since at least one member belongs to each one of the three circles characterizing EU trade policy. However, even the EBA beneficiaries' effective market access is cut in half to about 5% once EU preferential access to other partners is taken into account. Taking into account preferences granted to other partners by the EU shows reveals that all the members (except Vietnam) in the GSP group are penalized under the current system of preferences Likewise, moving to FTA status would result in a loss of about  $\frac{1}{4}$  of their preference margin for EBA members to other (i.e. GSP) ASEAN members getting free-trade status in the EU as a result of the FTA. The small aggregate value of preferences is captured by the "Lorenz-like" curves in the export/preference-margin space which show clearly that preferences are always received for products with very small export shares. A comparison of the export share/preference- margin relation across countries shows that the EBA group is quite homogenous, but not so for the GSP group which shows heterogeneity and likely strong conflicts of interests as far as market access issues are concerned.

The paper also develops simple measures to show how market access is further eroded once rules of origin (RoO) necessary to satisfy originating status under any FTA are taken into account. As already shown in other work, products benefitting from maximum access (i.e. entering tariff-free in the EU for product categories with tariff peaks) also face the stiffest compliance rules. As a result, even if the same RoO are applied to all partners, because of differences in the commodity composition of their exports, trading partners are affected differentially by RoO. The estimates in the paper show that, for a given preferential margin, relative to other countries also receiving preferential trading status in the EU, ASEAN members face tougher RoO than other EU preferential trading partners.

In conclusion, it is noteworthy that many ex-ante assessments of the welfare effects of preferential market access tend to show gains from reciprocal preferential tariff reductions. On the other hand, the outcomes of negotiations indicate tensions resulting in many exceptions to full market access. For example, in recognition of the different levels of development among its members, in all its FTA negotiations, ASEAN has individual exception lists. The tensions in the current EPA negotiations also suggest divergence of interests across member countries in the same negotiation group, let alone across negotiation groups. The measures developed here and applied to the proposed ASEAN-EU FTA help understand better why "one size does not fit all" applies to market access aspects of the many current preferential trade negotiations and why tensions are so frequent.

## References

- ASEAN-EU Vision Group Report (2006) "Transregional Partnership for Shared and Sustainable Prosperity", Hanoi, Vietnam.
- Augier, P., M. Gasiorek, and C Tang (2005), "The Impact of Rules of Origin on Trade Flows", *Economic Policy*, 20(43), 567-24
- Brenton, Paul (2003), "Integrating the Least Developed Countries into the World Trading System: The Current Impact of EU Preferences under Everything But Arms", *Journal of World Trade*, Vol. 37, No. 3, pp. 623-646
- Cadot, O., C. Carrère, J. de Melo and B. Tumurchudur (2006) "Product Specific Rules of Origin in EU and US Preferential Trading Arrangements: An Assessment", *World Trade Review*, 199-225
- Cadot, O., J. de Melo and A. Portugal-Perez (2007) "Rules of Origin for Preferential Trading Arrangements: Implications for AFTA of EU and US Experience, *Journal of Economic Integration*, 22(2), 288-319
- Carrère, C. (2006) "Revisiting the Effects of Free Trade Agreements on Trade Flows with the Proper Specification of the Gravity Trade Model" *European Economic Review*, 50(2), 223-47
- Carrère, C., J. de Melo and B. Tumurchudur (2007), "Market Access for ASEAN Members in an ASEAN-EU FTA", mimeo World Bank, December
- CEPII- CIREM (2006) "Economic Impact of a Potential Free Trade Agreement (FTA) Between the European Union and ASEAN", report prepared for the Directorate General of Trade, Commission of the European Union.
- Francois, J, B. Hoekman, and M. Manchin (2006) Preference Erosion and Multilateral Trade Liberalization", *World Bank Economic Review*, 20(2), 197-216.
- Hausmann, R. and D. Rodrik (2003), "Economic Development as Self-Discovery"; *Journal of Development Economics* 72, 603-633.
- Imbs, J and. R. Wacziarg (2003) "Stages of Diversification", *American Economic Review*, 93, 63-86
- Low, P. R. Piermanti, and J. Richetering (2005) "Multilateral Solutions to the Erosions of non-reciprocal Preferences in NAMA", ERSD- 2005-05, WTO
- World Trade Organization, (2004) "Exploring the linkage between the domestic policy environment and international trade", World Trade Report.
- World Bank (2005): "Global Economic Prospects: Trade, Regionalism and Development"