

From unilateral preferences to Reciprocity: Impact of the ACP – EU EPA on ESA countries

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Abstract

This paper attempts to analyze the welfare impact of the creation of the EU-ESA Economic Partnership Agreement, on ESA members against a benchmarked scenario which is the multilateral liberalization scenario. Ten regions by ten sectors aggregation of the GTAP model is used. The sector aggregation takes care of sensitive products which ESA countries decided not to liberalise for obvious reasons. While the EPAs is implemented as from 2008 and all the data, including the protection data, in the GTAP database version 6.1 has the common reference year of 2001, the dataset is updated to reflect (i) the EU enlargement and (ii) the phase out of the Multi Fibre Agreement. Four different experiments are simulated. Results show that (i) although under all scenarios welfare effect increase, Uganda and Madagascar tend to benefit the least and (ii) for some countries, such as Madagascar, Malawi and Zimbabwe, the required overall structural adjustment is low.

Introduction

Trade, between ACP countries and the EU countries, has, for more than half a decade, been characterised by non-reciprocity. As noted in section 2.2.3.2 of this thesis, the successive non-reciprocity trade agreements under the Yaoundé and the subsequent Lomé Convention that granted duty free and quota free access to the EU market has played an important role in shaping the success of ACP countries through the generation of export revenue, creation of employment, diversification from traditional raw material and their derivatives to non-traditional exports, and stimulation of agro-based industrial activities.

However, this non-reciprocal system goes against the principles of trading under the WTO. These Lomé trade provisions include two specific trade instruments that

potentially constitute violation to MFN Article 1. The first is the trade preference arrangements in the form of tariff rates that differed not only from the MFN rates to

Box 8.1. The EPA regions		
West Africa: Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Togo.		
Central Africa: Cameroon, Central African Republic, Chad, Congo, Equatorial Guinea, Gabon, Sao Tome and Principe.		
East and Southern Africa: Burundi, Comoros, Democratic Republic of Congo, Djibouti, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Sudan, Uganda, Zambia, Zimbabwe.		
Southern Africa Development Community: Angola, Botswana, Lesotho, Mozambique, Namibia, Swaziland, Tanzania.		
Caribbean: Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, St Kitts and Nevis, St Lucia, St Vincent and the Grenadines, Surinam, Trinidad and Tobago.		
Pacific: Cook Islands, Federation of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu		
Note: Somalia and Timor Leste are not listed.		
Source:	European Commission	website
http://europa.eu.int/comm/trade/issues/bilateral/regions/acp/plcg_en.htm		

GATT contracting parties, but as well differed from the GSP rates that were available to other non-ACP developing countries. The second is in relation to the Commodity Protocols of the Lomé Conventions. The Cotonou Partnership Agreement (CPA) was signed in the year 2000, time at which Lomé IV expired, to revisit the trading system in an attempt to render trade between EU and ACP countries WTO compatible. This CPA which establishes a

comprehensive framework for the ACP-EU relations, called for fundamental changes in their long-standing relationship, to reflect changes taking place in the process of globalization, as well.

The Cotonou Agreement committed signatories to replace by 2008 the trade regime that had governed exports from the ACP group to the EU for the last quarter of the twentieth century. In order to justify, within the WTO, the continuation of preferences for ACP exporters, the EU has expressed strongly that the form that this new agreement has to take should be in the form of an Economic Partnership Agreement (EPA). To achieve this they must be framed in such a way as to fulfil the requirements of WTO Article XXIV in relation to goods and the analogous GATS Article V in relation to services. These are the WTO provisions that allow members to discriminate in favour of each other (and, hence, against others) provided that they are creating a customs union or free trade area (FTA). Because they would involve reciprocal tariff cuts, the EU claims that EPAs would pass the Article XXIV test. This, it argues, will allow Europe to continue discriminating in favour of the ACP in its trade policy. In return, the ACP will have to discriminate in favour of the EU as far as their own trade policy is concerned. Under Lomé and Cotonou the ACP were required merely to treat the EU no less favourably than any other industrialised trade partner. In complete contrast, the new EPAs will offer duty-free access for

‘substantially all’ EU exports to the ACP. In the jargon, the ACP is expected to offer ‘reciprocity’. Trade liberalization in ACP would be gradual, with the speed of liberalization varying according to the level of development of the ACP states. The EPA also contains flexibility to exclude sensitive products from ACP states, depending on their levels of development. Negotiations on a successor regime began formally in 2002, but it was towards the end of 2007 that signatories began to address the details of what might be in EPAs between the EU and the countries in the six sub-ACP regions posted on the European Commission’s website (see Box 8.1). The negotiations between ACP and EU countries were to be concluded by 1 January 2008, until which date non-reciprocal preferences under the Cotonou Agreement will be preserved. However, the negotiations have taken slightly longer than expected but are well in place towards finalisation. As of 31st July 2009, the status of countries having initialled the Interim Agreement and having subsequently signed the agreement is shown in table 8.1. As depicted, EU has initialled an interim or a full EPA with 36 of the ACP countries out of the 77 ACP states. Following the expiry of the WTO waiver regarding the non-reciprocal EC trade regime under the CPA, the remaining 44 countries fall under the ‘everything But Arms’ (EBA) status or the ‘Generalised System of Preferences’ (GSP) scheme¹.

Table 8.1 Number of Countries initialled and Signed the Interim Agreement, as at 31st July 2009

Region	Number of Countries Initialled	Number of Countries Signed
CARICOM	15	14
CEMAC	1	1
ECOWAS	2	1
SADC	5	4
Pacific	2	2
ESA	6	-

¹ See section 2.2.3.1 for details of the GSP schemes

EAC	5	-
Total	36	22

In this paper, we analyse the impact of the creation of the EU-ESA EPA. The ESA group comprises of eligible members of the Common Market for Eastern and Southern Africa (COMESA), with the exception of certain Southern African Development Community (SADC), which have overlapping memberships. As seen from box 8.1 above, the ESA group has 17 members and is made up of diverse groups including Indian Ocean Islands (Comoros, Madagascar, Mauritius and Seychelles), countries from the Horn of Africa (Djibouti, Ethiopia, Eritrea and Sudan) and some countries of Southern Africa (Malawi, Zambia and Zimbabwe).

The six member states, which initialled the interim EPA are: Comoros, Madagascar, Mauritius, Seychelles, Zambia and Zimbabwe. This deal is the stepping-stone towards a full EPA and remains open to other countries of the group to join in at a later stage. All of these countries have agreed to liberalise more than 80% of their import from EU but have decided to exclude some sensitive products from the liberalisation process, as shown in table 8.2².

Table 8.2: Products excluded from liberalization

Country	Main exclusion from Liberalization
Comoros	Meat, Milk, Vegetables, flour, tobacco, motor vehicles
Madagascar	Meat, milk and cheese, fisheries, vegetables, cereals, oils and fats, edible preparations, sugar, cocoa, beverages, tobacco, chemicals, plastic and paper, articles, textiles, metal articles, furniture
Mauritius	Live animals and meat, edible products of animal origin, fats, edible preparations and beverages, chemicals, plastic and rubber articles of leather and fur skins, iron and steel and consumer electronic goods
Seychelles	Meat, fisheries, beverages, tobacco, leather articles, glass and ceramic products and vehicles

² More precisely the percentage of imports liberalized from EU are as follows: Comoros 81%; Seychelles 98%; Madagascar 81%; Zambia 80%; Mauritius 96%; Zimbabwe 80%.

Zambia	Meat, milk and cheese, vegetables, cereals, oils and fats, edible preparations, sugar, chemicals, plastic and rubber articles, scratch cards, textiles, ceramic products, metal articles, machinery, vehicles and furniture
Zimbabwe	Products of animal origin, cereals, beverages, paper, plastic and rubber, textiles and clothing, footwear, glass and ceramics, consumer electronic and vehicles

In this chapter we attempt to estimate the effects of an FTA between the EU and ESA countries on ESA members and this EPA scenario is then compared to the multilateral liberalization scenario. The rest of this chapter is organised as follows: section 8.2 provides a description of the data and modelling strategy, section 8.3 provides some descriptive statistics, section 8.4 describes the policy scenarios and the results and section 8.5 concludes the chapter.

Data and Modelling Strategy

The data and the model used in this paper draws from the GTAP model (Hertel, 1997) with the version 6.1 GTAP database (Dimaranan and McDougall, 2005). This version of the database includes 92 regions, 57 sectors and 5 factors of production (natural resources, land, unskilled labour, skilled labour and capital). Given that one of the assumptions used in this CGE model is the Armington elasticity to model intra-industry trade, it becomes important to remember that the results of any simulation is driven by terms of trade changes and therefore will be sensitive to both substitution elasticities and trade shares. For the purpose of this study, a 10 regions 10 sectors aggregation is used. In what follows, we provide a description of the specific regional and sectoral specification adopted in this paper.

Country aggregation

Out of all the countries in the ESA group, the GTAP version-6.1 database includes Madagascar, Malawi, Mauritius, Uganda, Zambia and Zimbabwe. The rest of the ESA countries do not form part of that version. Except from Angola, the SADC group is well detailed in the database. While the composite “Rest of SACU” region represents Lesotho, Namibia and Swaziland, Botswana, Tanzania and Mozambique are individually included. It should be noted that since trade and development cooperation between South Africa and EU is already governed by a trade cooperation and

development agreement (TDCA), South Africa does not form part of the SADC region in the EPA negotiation with the EU. All twelve countries that have acceded to the EU in and after May 2004 as well as the original fifteen EU members are detailed separately in the database, but have been aggregated into the EU27. The NAFTA region has been singled out, as the USA is a very important trading partner for the sub-Saharan African countries. Finally, the rest of the world is aggregated into ROW. Table 1 shows the ten-region aggregation that has been used in this study.

Table 1: The ten-region aggregation

EU27	EU countries, including countries that recently accessed the EU
SADC	Botswana, Rest of SACU (Lesotho, Namibia and Swaziland), Tanzania and Mozambique
UGA	Uganda
MWI	Malawi
ZMB	Zambia
ZWE	Zimbabwe
MUS	Mauritius
MDG	Madagascar
NAFTA	Mexico, Canada, USA
ROW	All other countries

Sector aggregation

The fifty-two sectors have been mapped onto ten sectors. While this ten-commodity grouping may be regarded as a fairly high level of aggregation, it captures the most important sectoral impacts of different policy scenarios. The sectors have been grouped in such a way that animal products, food products, manufactures and services are separated from each other. Within the commodities groupings, sensitive products (as claimed by the ESA countries that initialled the EPA agreement and reported in the introduction section of this paper) have been separated from the groupings so as to make the policy scenarios more realistic and the results more acceptable to policy makers. Table 2 shows the ten-sector aggregation that has been used in this study.

Table 2: The ten-sector aggregation

AniAgr	Animal Agriculture: Cattle, Sheep, Goats, Horses, Wool, Silkworms Cacoons
SenAniAgr	Sensitive Animal Agriculture: Raw Milk, Animal Products nec., Meat: Cattle Sheep Goats Horses, Meat Products nec.

FoodPr	Food Products: Paddy Rice, Wheat, Oil Seeds, Sugar Cane, Sugar Beet, Crops nec., Dairy products, Processed Rice, Sugar, Food Products nec.
SenFoodPr	Sensitive Food Products: Cereal Grains nec., Vegetables, Friuts, Nuts, Vegetable and Oil Fats, Beverages & Tobacco Products
FuelMin	Fuel and Minerals: Coal, Oil, Gas, Minerals nec.
TexClo	Textile and Clothing: Plant-based Fibres, Textiles, Wearing Apparels, Leather Products
HMnfcs	Heavy Manufacturing: Wood Products, Paper Products, Publishing, petroleum, coal products, Ferrous Metals, Metals nec., Metal Products
LMnfcs	Light Manufacturing: Forestry, Fishing, transport equipment nec., Electric Equipment, Machinery Equipment, Manufactures
SenMnfcs	Sensitive Manufacturing: Chemicals, Rubber, Plastic Products
Svces	Services, i.e. electricity; gas manufacture, distribution; water; construction; trade; transport nec; sea transport; air transport; communication; financial services nec; insurance; business services nec; recreation and other services; public administration, defence, health, education; dwellings

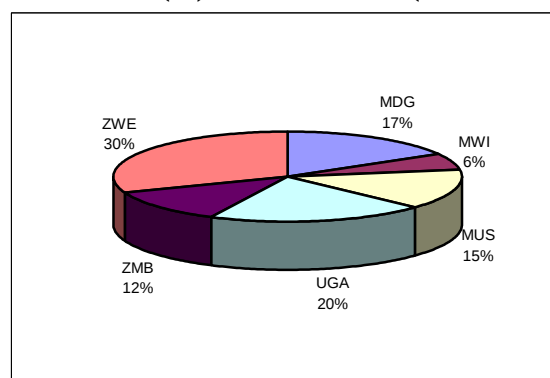
Descriptive Statistics

In this section of the study, we provide some statistics that would inform the readers about the different characteristics and similarities of the countries under study.

Total Output and Production Structure

An analysis of output data shows that ESA countries are quite heterogeneous in terms of both size and specialization patterns. It is therefore legitimate to expect that EPAs have different effects across countries. Charts 8.1 and 8.2 provide cross-country comparisons of the relative size and patterns, respectively, of reported ESA economies.

Chart 1: Relative size (%) of ESA countries (based on value added)

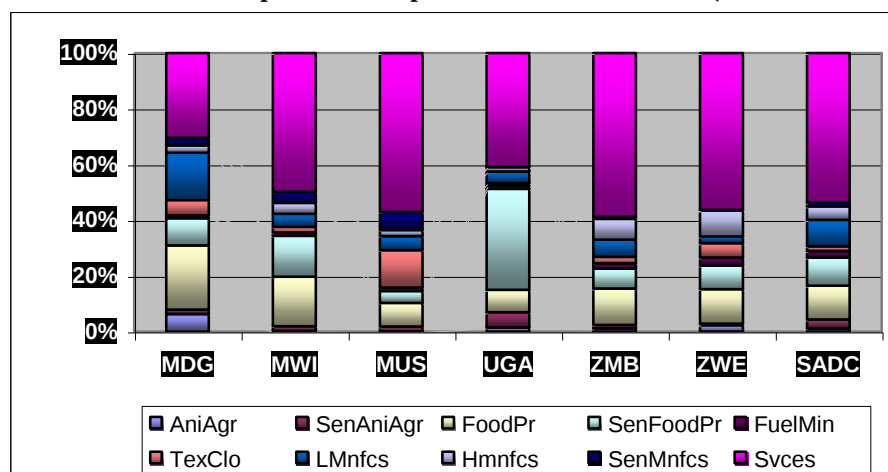


Source: GTAP 6.1 database

Like many SADC countries, the share of value added for most ESA countries is

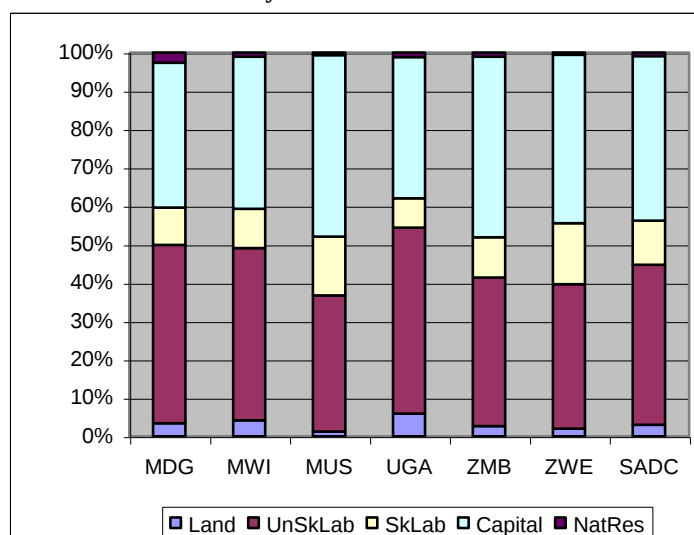
constituted with more than 50% in services (except Madagascar and Uganda). Food production is the second most important sector for all ESA countries, except for Mauritius for which the textile and clothing sector has the largest share after services. A few interesting sectoral characteristics that may be hidden in the aggregated data should be kept in mind, in particular: in Zimbabwe meat and meat products represent about three quarters of output in the animal agriculture sector, in Mauritius, the food products sector includes a significant share of sugar production, and in Zambia and Zimbabwe, mining activities account for more than 50 per cent of output in the heavy manufactures and metals sector.

Chart 2: Specialization patterns of ESA countries (based on value added)



Unskilled labour and capital represent the most important factor of production for the ESA countries (chart 8.3). Returns to capital appear to have a high proportion partially because in the GTAP database, remunerations for self-employed workers appear in this category. For many developing countries, a high proportion of capital is likely to reflect the importance of own employment.

Chart 3: Value Added by Factor of Production for ESA countries



Trade Patters

Table 3 reports the total value of exports and imports by sector, by destination. As a region, the ESA region imports are concentrated in the light and heavy manufacturing sectors as well as services. Some countries also feature significant imports of textiles and clothing. Exports are more differentiated across ESA countries. The most exported goods for the region are food products. However, Madagascar and Mauritius' exports are more concentrated in Textile and clothing, while Zambia's exports are more concentrated in heavy manufacturing. All the ESA countries are net importers of light manufacturing products.

Table 3: Total value of imports and exports at market prices by sector (2001 \$ million)

Sector	Imports (by destination)							Exports (by source)						
	MDG	MWI	MUS	UGA	ZMB	ZWE	SADC	MDG	MWI	MUS	UGA	ZMB	ZWE	SADC
AniAgr	0	0	12	0	0	0	11	0	0	4	1	1	4	49
SenAniAgr	14	3	33	16	5	13	101	6	1	15	21	6	39	221
FoodPr	81	58	243	92	74	63	856	313	485	432	326	106	826	1084
SenFoodPr	24	40	72	35	65	52	370	29	14	32	39	18	77	237
FuelMin	8	4	11	23	68	12	62	54	19	49	65	3	81	258
TexClo	285	53	503	67	62	91	644	495	46	1012	33	59	259	620
LMnfcs	267	169	677	256	460	406	2229	42	8	215	25	71	55	3292
Hmnfcs	221	143	393	304	232	495	1946	20	7	60	53	1028	454	1272
SenMnfcs	164	149	327	227	334	439	1803	14	13	36	9	13	46	349
Svces	334	80	597	496	214	668	1968	45	73	1020	158	173	390	1647
Total	1398	701	2868	1518	1514	2239	9989	1017	666	2876	730	1478	2230	9030

Source: GTAP 6.1 database

The EU is the main destination for products and services sourced from the ESA region, as shown in table 4. The African countries have since decades enjoyed trade preferential treatment in the EU market under the Lomé, the GSP and the EBA. The EU is also an important source from which the ESA countries import their products. Although not specifically shown here, South Africa is the most important source of imports for Zimbabwe and Zambia. The NAFTA region plays an important role, second to EU, for products originated in the ESA region. This is mainly because of the AGOA trade preferential arrangement in place between USA and the SSA countries.

Table 4: Bilateral imports at market prices by import source and destination (2001 \$ million)

Destination	NAFTA	EU27	MDG	MWI	MUS	UGA	ZMB	ZWE	SADC	ROW
Source										
NAFTA	589179	321545	134	60	190	145	93	207	959	478663
EU27	378763	1675012	597	98	1045	483	253	380	1894	763098
MDG	283	584	0	0	25	0	0	0	0	211
MWI	171	276	0	0	1	0	12	6	33	280
MUS	626	1961	123	0	0	1	9	14	11	570
UGA	67	381	0	1	0	0	28	0	11	302
ZMB	30	717	0	11	3	1	0	17	25	790
ZWE	263	1033	0	30	5	2	90	0	81	1044

SADC	885	5575	4	36	15	16	33	157	75	3012
ROW	753343	807379	538	465	1583	869	996	1458	6899	1569358

Source: GTAP 6.1 database

Tariff Profile

The implementation of a free trade area would largely be dominated by tariff cuts as a first phase, then augmented to policy changes to liberalise trade in services. Therefore, it is important to understand the tariff rates faced by the negotiating partners in the market of the trading partner.³ Table 5 shows the tariff rates faced by the EU27 in each of the ESA countries, by sectors. The EU faces the highest tariff in food products (reaching 55 and 39 per cent in Mauritius and Zimbabwe) followed by textile and clothing (reaching 21 and 22 per cent in Zambia and Zimbabwe). It is legitimate therefore to believe that, as a consequence of the reciprocity requirement in the Cotonou Agreement, these sectors would be subject to the largest cuts in the EU-ESA EPA. However, the highest tariff rated food products have been classified as sensitive in the interim EPA agreement and therefore are excluded from tariff cuts, at least in the initial stage. The same argument has been used even in animal agriculture products whereby the highest tariff-rated products have been classified as sensitive. In selected countries, like Mauritius and Zimbabwe, the EU also faces high tariffs in light and heavy manufactures. On the whole, EU faces the lowest tariff in Madagascar.

Table 5: Tariff rates on imports from the EU by sector and destination (per cent)

	MDG	MWI	MUS	UGA	ZMB	ZWE	SADC
AniAgr	0	10	1	0	0	0	17
SenAniAgr	4	11	33	12	15	9	12

³ The GTAP 6 database uses trade-weighted preferential rates data on *ad valorem* tariffs (including tariff rate quotas) plus the *ad valorem* equivalents (AVEs) of specific tariffs.

FoodPr	3	12	9	12	12	22	24
SenFoodPr	10	20	55	11	20	39	19
FuelMin	0	2	0	1	4	5	3
TexClo	7	19	10	13	21	22	21
LMnfcs	5	12	17	4	6	12	8
Hmnfcs	3	6	25	8	12	14	13
SenMnfcs	4	7	19	5	11	16	11

The ESA region, being a subset of the COMESA region enjoys a FTA status and as such tariff rates on trade within countries in ESA are zero, except for the case of Uganda, which imposes a low tariff level on some imports from the ESA region (table 6a). The ESA LDCs enjoy duty free exports status under the EBA initiative in the EU market, except for some countries in agriculture and food products. Table 6b shows the tariff faced by Malawi on imports by the EU and other ESA countries. Although Malawi is an LDC, yet it faces a high tariff on its exports of food products to the EU (18 per cent). The situation is similar for Zambia (16 per cent) and Zimbabwe (10 per cent). Zimbabwe, a middle-income country, faces a 77 per cent tariff equivalent in the EU in the animal agriculture sector, mostly due to meat and meat products. This shows that there are upside potential for further liberalization in the EU market for ESA countries in some agriculture and food sectors.

Table 6a: Tariff rates on imports from Uganda by sector and destination (per cent)

Sector/Destination	EU27	MDG	MWI	MUS	UGA	ZMB	ZWE
AniAgr	0	0	0	0	0	0	0
SenAniAgr	0	0	0	0	0	0	0
FoodPr	1	0	0	3	0	0	2
SenFoodPr	2	0	0	0	0	1	0
FuelMin	0	0	0	0	0	0	0
TexClo	0	0	5	0	0	4	0
LMnfcs	0	0	1	4	0	3	9
Hmnfcs	0	0	3	0	0	2	3
SenMnfcs	0	0	2	0	0	1	4

Table 6b: Tariff rates on imports from Malawi by sector and destination (per cent)

Sector/Destination	EU27	MDG	MWI	MUS	UGA	ZMB	ZWE
AniAgr	0	0	0	0	0	0	0
SenAniAgr	0	0	0	0	3	0	0
FoodPr	18	0	0	0	3	0	0
SenFoodPr	0	0	0	0	0	0	0
FuelMin	0	0	0	0	0	0	0
TexClo	0	0	0	0	0	0	0
LMnfcs	0	0	0	0	0	0	0
Hmnfcs	0	0	0	0	3	0	0
SenMnfcs	0	0	0	0	0	0	0

Policy Experiment

Given that EPAs is implemented as from 2008 and all the data, including the protection data, in the GTAP database version 6.1 has the common reference year of 2001, the dataset is updated to reflect (i) the EU enlargement and (ii) the phase out of the Multi Fibre Agreement. A "pre-experiment" using "Altax" is implemented to capture these changes.⁴ The import tariffs of the 12 additional countries accessing to the EU were brought in accordance to the EU15 rates, from each region and for each sector⁵, and the export tax equivalents⁶ of MFA quotas is set to zero⁷. Then, the updated database has been used as a starting point for the EU ESA EPA policy experiments. The following four experiments are simulated.

1. **EU-ESA:** In the context of the EPA, the policy experiment is a free trade agreement between the EU27 and the ESA. This experiment therefore provides a useful benchmark of the potential economic effects of EPAs on ESA and EU countries in case of full and symmetric reciprocity. Against this reference experiment is benchmarked the other three experiments
2. **EU-ESA Sensitive:** A complete symmetrical removal of import protection is unlikely as commitments are asymmetrical (with the ESA countries wishing to protect some sensitive product categories). A more realistic scenario, in the EPA context, would therefore exclude sensitive product groups from the liberalisation
3. **EU-ESA ESA Sensitive:** This experiment simulates a scenario that together with the realistic EPA scenario (experiment 2) also takes into consideration full liberalisation of the ESA region. This experiment provides an important indication of the extent to which trade diversion from other ESA partners to the EU can be avoided through simultaneous intra-ESA liberalization, compared to the second experiment
4. **EU-ESA ESA:** This is a more hypothetical experiment that simulates full tariff liberalisation among ESA countries together with the benchmarked policy experiment.

The standard GTAP closure on full employment of all resources and perfect factor mobility within regions is modified using an "unemployment" closure, whereby nominal wages for unskilled labour in developing countries are fixed and equilibrium is re-established by changes in the quantity of unskilled labour. In the GTAP framework, fixing the real wage rate for unskilled labour and endogenizing the supply of unskilled labour does this. The unemployment closure is a more realistic set-up for African countries that dispose of a large excess supply of unskilled labour. Hence, increases in unskilled labour lead to a reduction of latent unemployment.

⁴ Altax runs a simulation that shocks tax rates to their desired value. It uses a special closure and a special parameter file to ensure that the rate-changing simulation leaves other cost and sales shares as little changed as possible.

⁵ That is the imports tariff rates into the EU15, from each region and for each sector were recorded the same tariffs were applied to the enlarged EU (EU27). For example, the EU15 import tariff rate on imports of food products (foodpr) from NAFTA was 10.8%, whereas from the new EU member states, the rate was 15.2%. Thus, this rate has been reduced to 10.8% for all EU member states on imports of food products from NAFTA.

⁶ Variables tms and txs in the GTAP system relate to import tariffs and export tax equivalents, respectively.

⁷ That is, the export tax equivalent rate for exports of textile and clothing has been set to zero from any source region to any destination region.

Results

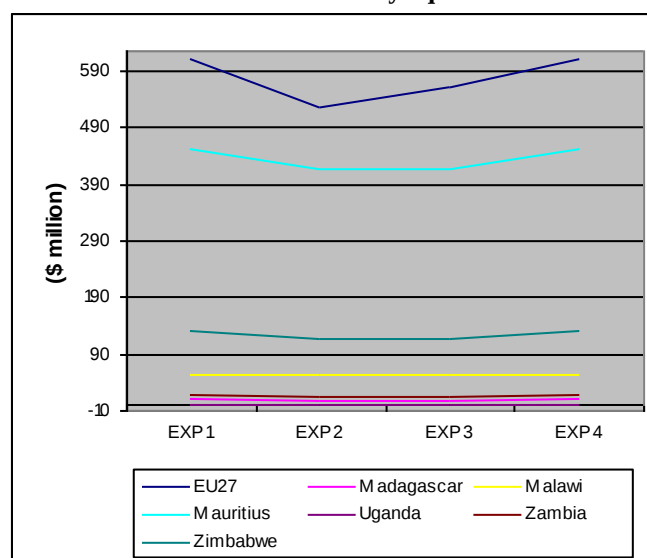
The results of the four experiments described above are elaborated in the four following subsections: (i) the welfare effects for the EU and the ESA countries, (ii) the redistributive effects of liberalization, (iii) the trade patterns and (iv) the rate of unemployment.

Welfare effects

In the GTAP framework, the equivalent variations (EV) variable measures the impact of trade liberalization, and this is measured in terms of income (2001 \$ millions in the GTAP 6 database). It represents the money metric equivalent to the utility change brought about by price changes. It measures the amount of money that one would have to take away from the consumer at initial prices to leave her as well off as after the change in prices. The welfare changes in the GTAP model can be decomposed into the following: (i) allocative efficiency effects through the reallocation of existing resources, (ii) terms of trade effects through changes in imports and exports process (iii) endowment effects through changes in the amount of resource endowments and (iv) technology effects.

The welfare effects of the EU and the ESA members, for all the four experiments simulated, are graphically displayed in Chart 8.4. EU, not surprisingly, is best off under all the liberalisation scenarios for the evident reason that the ESA countries were previously enjoying very generous preferential agreements in the EU market and with the EU ESA free trade area, these preferences are reciprocal and therefore the highest gains go to the EU. The gains to the EU are mainly through allocative efficiency gains, as shown in table 8.7 and particularly driven by import tax on food products.

Chart 8.4: Welfare measured by equivalent Variation



Uganda and Madagascar tend to benefit the least, and only marginally, with these liberalisations, although global welfare increases in all scenarios. Uganda, in fact

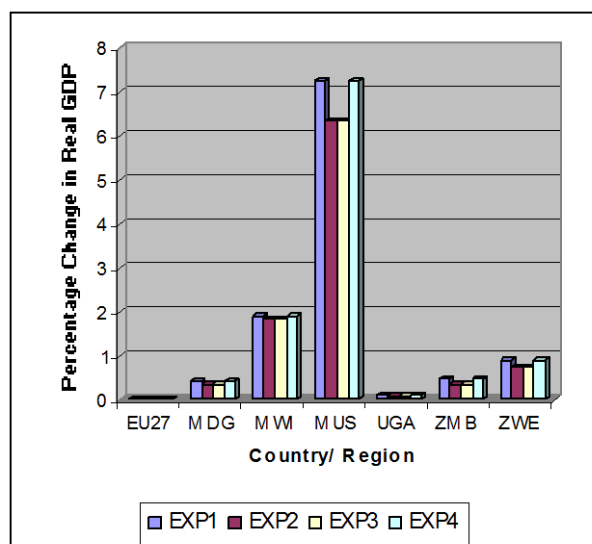
tends to lose in terms of welfare under the most realistic scenarios. Among the ESA countries, the biggest gain goes to Mauritius mainly due to endowment effect through unskilled labour. In this country, the large terms of trade effect and the larger allocative efficiency effect reinforces the much larger endowment effects such that the welfare gains are substantial. The welfare gains appears to be larger with experiments 1 and 4, that's is when full liberalisation takes place including liberalisation of the sensitive products as well. It would therefore be in the benefit of the ESA countries to liberalise fully rather than include sensitive products in the liberalisation list. However, again the immediate gains will be larger for the EU than the ESA countries.

Table 7: Welfare Decomposition (2001 \$ million)

	EXP1			EXP2			EXP3			EXP4		
	Allocative Efficiency Effect	Endowment Effect	Terms of Trade Effect	Allocative Efficiency Effect	Endowment Effect	Terms of Trade Effect	Allocative Efficiency Effect	Endowment Effect	Terms of Trade Effect	Allocative Efficiency Effect	Endowment Effect	Terms of Trade Effect
EU27	665	0	-53	648	0	-85	648	0	-85	665	0	-53
MDG	4	15	-7	3	13	-7	3	13	-7	4	15	-7
MWI	18	16	20	17	15	21	17	15	21	18	16	20
MUS	121	205	119	100	186	127	100	186	127	121	206	119
UGA	2	4	-3	1	3	-2	1	3	-2	2	5	-3
ZMB	4	13	2	3	10	2	3	11	2	4	13	2
ZWE	30	51	52	24	43	53	24	43	53	30	51	52

The money-metric expression of consumer utility may not be a very good indicator to the policy makers. The latter would be more interested to take cognisance of the impact on changes in real output, in the simulated scenarios. We, therefore, focus in the next Subsection on real GDP growth resulting from allocative efficiency gains in the four scenarios. From Chart 5, it can be seen that all ESA countries and the EU register positive growth in real GDP under all the scenarios. Moreover, for all regions of the model, full trade liberalization results in the highest real GDP increases (with a maximum 7.26 per cent for Mauritius followed by 1.9 per cent in Malawi region). It should also be noted that none of the countries/ regions face real GDP reductions in any scenario, though the gains are relatively small for the EU (0.01 per cent) and Uganda (0.11 per cent), especially in comparison to the increases achieved by Mauritius.

Chart 5: Real GDP growth rates by country, (per cent)



Source: Authors' simulations.

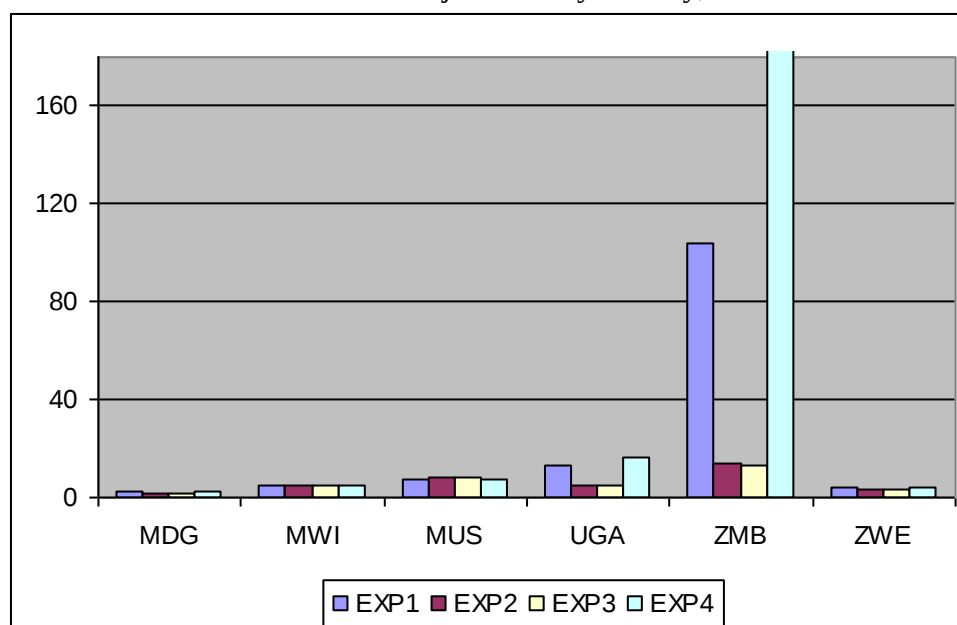
Reallocation of resources

The results presented above compare the steady-state outcome post liberalisation with the steady-state pre-liberalization outcome, as the framework used in this analysis is a static GTAP framework. However, due to the simulation exercises, a number of processes took place among the variables and parameters defined in this model to reach the outcomes. The adjustments that occurred could be changes in prices, changes in volumes, resource shifts towards commodities with increased productions, amongst others. The changes in the variables that occur can be traced in the GTAP framework and as such the adjustment costs can be deduced. Chart 6 compares the adjustment costs, in terms of resource reallocation and income redistribution, across all the scenarios experimented in this study.

One of the effect of liberalization is that within the national boundaries, there is a tendency for resources to be shifted to more productive uses as countries increases production of goods and services in which they have comparative advantages compared to their trading partners. Since factors of production are neither homogeneous (except man-made factors), nor perfectly substitutable, changes in the production structure calls for re-training of labour and adaptation/innovation of machines and as such induce re-structuring costs. We follow Keck and Piermartini (2005) to calculate the adjustment cost that a country faces after liberalisation. The cost of the variability of the production structure is measured by the standard deviations of the variation in value added, and to make comparison across countries, this variability is standardized using the mean. In essence, we are making use of the Coefficient of Variation. Chart 6 reports the coefficients of variation for the changes in value added across sectors by country for all the four policy experiments. It appears that for some countries, such as Madagascar, Malawi and Zimbabwe, the required overall structural adjustment is low. In addition, for some other countries, such as Uganda and Zambia, the required structural adjustment under the multilateral

liberalization scenario is quite high (but far higher in Zambia). Also the high structural adjustment cost is more pronounced with experiments 1 and 4, i.e. in the free trade scenarios not taking into consideration sensitive products to exclude from liberalization.

Chart 6: The extent of structural adjustment by country, selected scenarios (%)



Source: Authors' simulations.

Table 8 shows sectoral changes (percentage) in value added that are likely to occur at the country level, in the hypothetical experiment that simulates full tariff liberalisation among ESA countries together with the benchmarked policy experiment. It appears that Malawi and Zimbabwe have a large incentive to shift resources towards agriculture and food products. Beyond this, Mauritius tends to move resources towards food production. In general, the model predicts that ESA countries will move resources away from the manufacturing sectors towards agriculture and food products and to limited extent towards services. The patterns of change are similar in the case of all other experiments although the magnitude of the change differs slightly.

Table 8: Changes in sectoral value added by country and sector, EU-ESA ESA (per cent)

	MDG	MWI	MUS	UGA	ZMB	ZWE
AniAgr	0	43	-193	0	1	46
SenAniAgr	0	25	-72	0	0	121
FoodPr	0	26	1321	0	4	19
SenFoodPr	0	2	110	0	0	3
FuelMin	0	1	5	0	1	1
TexClo	0	-59	-93	0	-1	-19
LMnfcs	0	-5	-142	0	0	-23
Hmnfcs	0	-8	-42	0	-1	-11
SenMnfcs	0	-14	-85	0	-2	-19
Svces	0	7	13	0	0	3

With changes in sectoral production, resources used in the production process also changes, as mentioned above. In fact, resources shift across sectors towards comparative advantaged sectors increasing demand for resources in those sectors and ultimately remuneration of the factors in intense demand. As a result of the specialization in agriculture, real remunerations for landowners and unskilled workers increased in Malawi, Mauritius and Zimbabwe. The highest increase in remuneration of skilled labour goes to Mauritius and this is consistent with tendency of this country to specialize more in the provision of services.

Changes in trade patterns

As highlighted in table 9, which compares the variations in the total volume of trade across scenarios, for all ESA countries, the highest increases in exports take place in the case of full free trade agreement between the EU and the ESA countries together with intra ESA full free trade. For several ESA countries like Uganda, Zambia and Zimbabwe, liberalization among ESA countries, as well, can be seen as a component positively influencing the overall export performance, although not to a very large extent. The volume of exports of the ESA countries do not increase to a very large extent as the ESA countries already benefited from unilateral trade preferences in the EU market prior to the EU-ESA FTA. On the import side, total imports under EU-ESAFTA or the EU-ESA FTA increase for all ESA countries when compared to scenarios when sensitive products are not liberalised. It is clear from this analysis that liberalisation eventually increase the flow of goods, both imports and exports.

Table 9: Changes in trade volumes by country (per cent)

	EXP1	EXP2	EXP3	EXP4
Volume of Exports (per cent change)				
MDG	3.33	2.63	2.63	3.33
MWI	1.84	1.60	1.60	1.84
MUS	6.68	5.00	5.00	6.68
UGA	1.36	1.24	1.24	1.37
ZMB	0.68	0.61	0.62	0.69
ZWE	-0.02	-0.08	-0.08	-0.02
Volume of Imports (per cent change)				
MDG	2.34	1.75	1.75	2.34
MWI	10.30	9.90	9.91	10.31
MUS	16.98	14.95	14.95	16.98
UGA	0.68	0.51	0.53	0.70
ZMB	1.66	1.38	1.40	1.67
ZWE	7.08	6.57	6.58	7.09

Source: Authors' simulations

Tables 10 and 11 provide the percentage variations in trade patterns following the EU-ESA FTA, without liberalising sensitive products (scenario 1), at the sectoral level for exports and imports, respectively. Exports of processed food products appear to be extremely high for Mauritius and in animal agriculture for Zimbabwe. The largest export losses are recorded in Mauritius in sensate agricultural products. With

respect to imports, the largest increases are recorded for Mauritius in almost all products.

Table 10: Change in commodity exports by country and sector, EU-ESA FTA (per cent)

	AniAgr	SenAniAgr	FoodPr	SenFoodPr	FuelMin	TexClo	LMnfcs	Hmnfcs	SenMnfcs
MDG	1.56	1.73	4.3	1.91	0.38	3.51	2.39	0.71	3.03
MWI	-31.35	-27.18	8.43	-10.92	-2.12	-23.64	-21.52	-15.91	-20.39
MUS	-26.99	-39.38	145.07	-25.7	-5.64	-15.4	-22.88	-6.39	-33.45
UGA	1.82	1.86	1.3	3.17	0.07	2.1	2.29	2.45	3.62
ZMB	-4.95	-0.13	25.38	-1.03	1.9	-1.8	-2.05	-1.02	-2.86
ZWE	-16.62	171.93	10.23	0.76	-9.08	-14.98	-17.51	-11.79	-6.73

Table 811: Change in commodity imports by country and sector, EU-ESA FTA (per cent)

	AniAgr	SenAniAgr	FoodPr	SenFoodPr	FuelMin	TexClo	LMnfcs	Hmnfcs	SenMnfcs
MDG	0.55	0.02	0.33	0.6	-0.35	1.61	7.32	1.54	3.85
MWI	34.8	15.51	9.76	7.12	-0.53	7.5	13.57	8.02	11.45
MUS	-0.63	28.25	49.27	33.41	1.29	-6.87	23.94	7.11	25.04
UGA	-0.49	2.16	4.48	1.74	-0.08	0.69	1.27	0.64	0.4
ZMB	-2.12	7.25	0.64	0.86	-0.11	6.22	2.54	1.31	0.92
ZWE	15.56	10.89	12.24	10.19	2.35	11.81	12.58	5.9	3.79

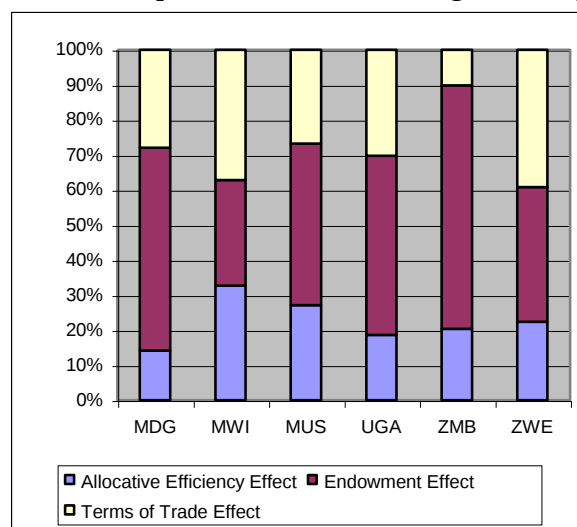
Source: Authors' simulations.

Employment effects

As mentioned above, to make the experiments more realistic, in this chapter, the standard GTAP model, which assumes full employment of resources, has been modified and an alternative closure that allows for unemployment in the unskilled labour force in the ESA region has been used. The standard GTAP closure has been changed such that the wage rate for unskilled labour is fixed and the quantity supplied is allowed to adjust to changed market conditions post-liberalization. This alteration has been used because it more accurately reflects labour market conditions especially in ESA countries, where typically an excess supply of unskilled labour is prevalent, which can be employed by industry at the going wage rate in the event of an expansion of production.

In Chart 7, welfare effects are decomposed by the relative importance of allocative efficiency, terms of trade and endowment effects (i.e. employment increases of unskilled labour) for the ESA countries for EU ESA FTA experiment. It is worthwhile noting that with the unemployment closure, the effect of endowment effects clearly dominates although allocative efficiency gains have also expanded. In Malawi, for instance, they are about as important as endowment effects under this closure. Again, this Chart highlights that for Madagascar and Zambia an EU-ESA FTA even more worthwhile the higher the degree of latent unemployment and the more sticky wages turn out to be in reality.

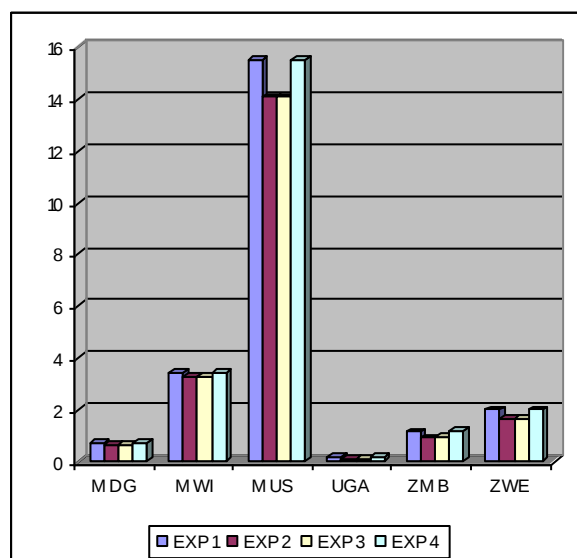
Chart 7: Welfare by relative importance of contributing factors (per cent)



Source: Authors' simulations.

Chart 8 portrays the changes in the employment of unskilled labour under all the four scenarios simulated. With the exception of Uganda, employment creation for unskilled labour in ESA countries is quite significant, in particular in Mauritius, Zimbabwe, and Malawi with about 15, 2 and 3 per cent increases respectively. And this applies to all the different scenarios simulated, with minor differences across scenarios.

Chart 8: Changes in employment of unskilled labour by country (per cent)



Source: Authors' simulations.

Employment effects by sector are not uniform for all the ESA countries. In fact the effects are aligned to the effects on value addition or production at sector level. For instance in Zimbabwe, animal agriculture absorbs a very high proportion of the existing employment of unskilled labour in that sector, but other sectors also attract

unskilled labour, most notably the processed food. The sectors that lose unskilled labour due to this re-adjustment process are mostly light manufacturing and textiles

Conclusions

The objective of this paper was to develop a general equilibrium framework that focuses on the potential impact of EPAs with the EU on ESA countries. The benchmarked experiment is the full EU ESA FTA, against which other scenarios like EU ESA FTA with sensitive products and/or intra ESA FTA has been simulated. The results of this study, in terms of the impact of the scenarios on welfare and macro indicators may provide useful guidance to policy-makers in ESA countries. The following conclusions are worthwhile noting:

- Although all the scenarios show that welfare effect of liberalization increase, Uganda and Madagascar tend to benefit the least from these increases.
- Full EU ESA liberalisation simulation show higher increases of the welfare gains.
- All ESA countries, as well as the EU register positive growth in real GDP under all the scenarios.
- It appears that for some countries, such as Madagascar, Malawi and Zimbabwe, the required overall structural adjustment is low.
- For several ESA countries like Uganda, Zambia and Zimbabwe, liberalization among ESA countries, as well, can be seen as a component positively influencing the overall export performance, although not to a very large extent.