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April 2007

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This draft: April 2007

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I. Introduction

Since the establishment of the European Economic Community in 1957 and the decolonisation process, the European Union (EU), and the group of the African, Caribbean and Pacific (ACP) countries have established a privileged relationship among themselves. Under the Yaoundé agreements (1963-1969; and 1969-1975), and four successive Lomé Conventions (1975-2000), such a relationship has been further fostered. Under these agreements, the EU has granted, on a non-reciprocal basis, a preferential market access to ACP imports (almost free market access on most of the imports into EU from ACP countries). This has also been accompanied by a substantial development (aid) component. In 2000, with the signing of the Cotonou Agreement – the successor to Lomé IV Convention – the ACP countries (six ACP regions: Central Africa, East and Southern Africa, Southern Africa, West Africa, the Caribbean and the Pacific) and the EU agreed to enter into a new phase of negotiations, namely economic partnership agreements (EPAs). EPAs are envisaged to establish free trade agreements (FTAs) between the EU and ACP regions. EPA negotiations started in September 2002 and should come into force by 1 January, 2008. One of the major objectives of the EPAs is to harmonize the trade integration process of the region with replacing the non-reciprocity rules of the Lomé Agreement by reciprocal arrangements in compliance with the WTO rules.

Concerns have, however, been expressed whether EPA would be beneficial for the ACP countries on grounds of several reasons. Firstly, since the ACP countries were already enjoying trade preferences to the EU, reciprocal arrangements under the EPA could imply surges in EU exports into the region triggering adjustment costs for a range of local industries. Many ACP members are also critically dependent on trade taxes for government revenues. Since 'reciprocity' is intended to be a feature of an EPA, requiring ACP countries to remove their tariffs on 'substantially all' imports from the EU, the new arrangement could result in considerable loss in government revenues in the absence of any new fiscal measure thereby jeopardizing the provisioning some critical public services.

Secondly, an important issue in the on-going EPA negotiations is the need for addressing the concerns of the least developed countries (LDCs). There are concerns that EPA outcomes would reduce the current preferences enjoyed by these countries on the one hand, and result in their reciprocating with trade preferences to EU suppliers on the other. At present under the *Everything But Arms* (EBA) arrangement all LDCs are eligible to duty-free quota-free market access to EU market without needing them to reciprocate. Therefore, if, under the EPA, the participating countries are required to reciprocate, in terms of market access, LDCs will likely to be better-off with the existing mechanism of EBA, since Commission negotiators have not confirmed that the EPA will provide at least the benefits of EBA. That is why some suggest that additional benefits must be provided to make EPAs attractive to LDCs. The issue of additional incentives is often linked to the demand for introducing the development dimensions into the EPAs, which would be beneficial to LDC and non-LDC participating members.

Furthermore, there are concerns about the impact of EPA on the currently existing regional integration schemes, particularly in Africa. Both parties negotiating EPAs – the EU and the ACP – appear to agree that regional integration in ACP is desirable. Currently, the ACP countries give a lot of emphasis on their regional schemes as these are sometimes viewed as 'stepping stones' towards a successful global integration process. The negotiating arrangements and views subscribed by the EU negotiators seem to suggest that EPA outcomes are being foreseen as beneficial to internal trade amongst the African countries within the regional trading blocs. However, there are concerns about EPA's impact on regional trade.

In the above backdrop, the present study assesses economic impacts of the trade liberalisation aspects of the proposed EPAs between the EU and ACP countries. While a number of issues make the task of impact assessment of any kind of partnership arrangement very complicated, a quantitative assessment of the likely implications of EPAs establishing FTAs between the EU and the ACP countries would be very useful. In this context, the present study, using a global database and a global general equilibrium modelling technique, explores the possible outcomes of different scenarios of EPAs, and analyses relevant policy implications of the EPA negotiations.

II. Empirical Studies on EPA

Reduced government tariff revenue is one of the significant concerns of the developing and less developed countries of Africa. COMESA (2002) concluded that the costs of EPAs would be in terms of loss of revenue to government and the associated adjustment costs of developing alternative sources of government revenue. The broad finding was that if all the EU imports came in free of duty, on the basis of trade statistics for 2000, the governments in the COMESA region would lose about a quarter (25 percent) of their trade taxes and about six percent of their total tax revenue. The COMESA study notes that while a loss of a maximum of six percent of tax revenue may not seem to be a huge amount of money to make up over an extended period, the precarious situation in which most of the fiscal systems in COMESA countries are would present major adjustment difficulties. Reforming the tax administrations in the COMESA countries with a view to establishing elastic and buoyant tax systems would have considerable adjustment costs for these countries.

Tekere and Ndlela (2003) in addressing the EPAs question for SADC examined the trade aspects of the Cotonou Agreement for the Southern African countries. Based on a partial equilibrium modelling framework, the study showed that EPAs would result in significant reduction in revenues for the Southern African Developing Countries. Due to the significant imports from the EU, all the countries under consideration would experience revenue shortfalls immediately with the process of tariffs dismantlement under the reciprocation process. In this process, Tanzania is estimated to experience at least 37 percent decline in tariff revenues, while that for Namibia is 24 percent.

EUROSTEP (2004) provides some estimates based on five case studies. Three of the countries are African: Cameroon, Benin and Ghana. The study estimated that between 20-30 percent of the Cameroonian government revenue would be lost following a reciprocal free trade with the EU. Also, would result in accumulated job losses, tax shortfalls and lower growth rates. Ghana on the other part would experience 20 percent reduction in cocoa exports revenues, considering the fact that cocoa is the largest export to the EU from Ghana making up to 37 percent of Ghanaian exports. In addition, this study estimated that only 25 percent of

Ghanaian industries would survive without tariff protection following implementation of free trade with the EU.

Busse *et al*. (2004) studied the potential impacts of EPAs on ECOWAS countries with a partial equilibrium methodology focused on the trade and budget effects. The study examined the implications of the complete elimination of tariff barriers for EU goods in ECOWAS countries. The direct effect of the shock would result in a decline in import duties ranging from as high as US$487.8 million in Nigeria to US$2.2 million in Guinea-Bissau. Countries with similar conditions were supposed to experience increased budget deficit assuming constant government expenditure and the magnitude is estimated to be as high as 4.1 and 3.5 percent of GDP respectively. Moreover, the study established that a few light manufacturing product categories including apparel and clothing, footwear, sugar and related products, cereals and cereal products were sensitive in almost all ECOWAS countries with respect to import flows.

A more analytical study rather than empirical, by Meyn (2004) focuses on Botswana, Mauritius and Mozambique and presents arguments in favour of regional integration within ACP countries compared to EU-ACP partnerships under EPA. The study envisaged that the later would result in more trade diversion than trade creation and the ACP countries will experience deindustrialization if regional integration among them was not fostered. Another study on African countries came out with completely opposite results that trade creation effects will be far more than trade diversion effects in majority of the countries that are able to access cheaper imports of both intermediate and final products from EU (UNECA, 2005). Cheaper imports have their direct impact on consumer welfare that ultimately results in overall welfare improvement. However, deindustrialization and thereby factory closures may not be welcomed by the consumers and can wipe out the welfare improvements. Additionally, though study findings of most of the partial equilibrium analysis reveals that trade creation implications will be higher than trade diversion effects of EPA and EPA will therefore be welfare enhancing, in most of the cases the welfare gain is not compared with the loss in producer surplus and government revenue shortfalls (Busse et al. 2004).

Milner (2005) identified four broad categories of adjustment assistance support costs, namely: fiscal adjustment costs, trade facilitation and export development costs, production and employment adjustment costs and skill development and productivity enhancement costs. His estimates showed that the overall cost of adjustment assistance for the ACP (at 2005 equivalent prices) to be €9.1 billion, with a breakdown of €3.3 billion for fiscal adjustment support, €2.1 billion for trade facilitation/export development support, €1.5 billion for production and employment adjustment assistance, and €2.3 billion for skills and productivity enhancement support. He further pointed out that the fiscal adjustment costs were predominantly related to legislative and administrative reforms in the public sector (tax administration reforms and development), while the other categories would involve a mixture of disbursement to the public and private sectors in the ACP.

III. Methodology applied in the Present Study

Most of the studies on EPA have been descriptive in nature. While these studies gather data growth. Studies based on descriptive approaches do collect and analyse a large body of information about the nature of trade flows and policy regimes from which qualitative assessments are made about the consequences of policy changes. However, the main disadvantage of this approach is its inability to test a theoretical model to validate the claims

made empirically. To overcome the problem of descriptive studies, a number of attempts have been made to conduct empirical assessments of potential implications arising from possible negotiation outcomes. These studies are particularly appealing to the policy makers and trade negotiators as they aim to provide *ex ante* impact analyses. Empirical studies however require suitable data – most often on a wide variety of activities and sector – that are not available for a large number of ACP countries. In the case of the availability of limited data, some compromise with regard to the choice of empirical methodologies becomes inevitable.

Most of the aforementioned studies have been based on partial equilibrium models and therefore, provide a partial perspective on these effects due to methodological limitations. These studies fail to provide important insights regarding the impact of the EPAs on trade (at the individual country level and regional and world levels), GDP, terms-of-trade, employment, and welfare.

As an exception to this, the study by UNECA (2005) used both general equilibrium and partial equilibrium analysis and found that for overall welfare enhancement of the ACP region EPA should concentrate more on regional integration within the ACP countries than free trade areas with EU. This study also suggests that EPA, to have development concerns, needs to consider appropriate measures to tackle macroeconomic imbalances that may arise from the revenue shortfall impacts. Perez (2006) also applied a general equilibrium method to explore different EPA scenarios. The studies by UNECA (2005) and Perez (2006) provide some very useful insights about the possible impacts of different EPA scenarios. However, there are few problems with these two studies. Firstly, UNECA (2005) used the version 5 of the GTAP database which has 1997 as the base year. It appears that both the structure of the economy and the level of protection of the ACP countries have undergone significant changes since 1997. Therefore, any meaningful analysis of EPA should be based on an updated database. Secondly, though Perez (2006) used a more updated database (version 6 of GTAP), the study did not provide any impact analysis of EPA for the disaggregated ACP countries. In his analysis, all the ACP countries are divided into five groups: SSA, Rest of SADC, South Africa, ACPPacific and ACPCARICOM. However, there is a need to examine the impact of EPA at the individual ACP country level as much as possible. Because, the welfare effects of EPA are likely to differ across ACP countries, and this may have different implications for the ACP LDCs and the ACP non-LDCs. The very recent GTAP database (version 6.22) helps to do such an analysis for 14 ACP African countries/regions of which 7 are LDCs.

The present study applies the general equilibrium approach in order to examine the possible effects of EPA on the economies of ACP countries. A global computable general equilibrium (CGE) modelling framework, namely the GTAP model (Hertel, 1997), is the best possible way for the *ex ante* analysis of the economic and trade consequences of comprehensive multilateral or bilateral trade agreements. Annex 1 demonstrates some of the basic characteristics of the GTAP model.

This study uses the version 6.22 of the GTAP database which has updated national, economic and trade data, and more importantly protection data from a new source.[1] The new GTAP database has lower tariffs than the earlier versions as a result of the reform efforts in the recent years, which includes, for example, China's progress towards WTO accession and

[1] The source of the new protection data is the MAcMaps, a product of the joint CEPII (Paris)/ITC(Geneva) project, which has a detailed database on bilateral tariff protection that integrates trade preferences, specific tariffs and a partial evaluation of non-tariff barriers (NTBs).

continued implementation of the Uruguay Round Agreement, and the inclusion of bilateral trade preferences. The GTAP database has been further adjusted to incorporate the phasing out of the Multi Fibre Agreement (MFA) in 2005, the enlargement of the EU to 27 members and the removal of export subsidies in agriculture. It was agreed in the Hong Kong Ministerial that the export subsidies on agriculture would be eliminated by 2013. Since full implementation of EPA will take place by 2018, such adjustments are done in the benchmark database.

Data on regions and commodities are aggregated to meet the objectives of this study. The version 6.22 of GTAP database covers 57 commodities, 96 regions/countries, and 5 factors of production. The current study has aggregated 57 commodities into 15, and 96 regions into 19 as shown in table 1 and 2 below. In the GTAP database, each industry produces one commodity. So, there is a one to one relation between industries and commodities.

Table 1: Commodity Aggregation in the GTAP model

Constructed broad sectors	Commodities included
Cereal	Paddy rice; Wheat; Cereal grains nec.
Vegetables	Vegetables, fruit, nuts.
Oil seeds	Oil seeds.
Sugar	Sugar cane, sugar beet.
Cotton	Plant-based fibers.
Other crops	Crops nec.
Livestock	Cattle, sheep, goats, horses; Animal products nec; Raw milk; Wool, silk-worm cocoons.
Natural resources	Forestry; Fishing; Coal; Oil; Gas; Minerals nec.
Agro processing	Meat: cattle, sheep, goats, horse; Meat products nec; Vegetable oils and fats; Dairy products; Processed rice; Sugar; Food products nec; Beverages and tobacco products.
Textile	Textiles.
Wearing apparels	Wearing apparel.
Light manufacturing	Leather products; Wood products; Paper products, publishing.
Industry	Petroleum, coal products; Chemical, rubber, plastic prods; Mineral products nec; Ferrous metals; Metals nec; Metal products; Motor vehicles and parts; Transport equipment nec; Electronic equipment; Machinery and equipment nec; Manufactures nec.
Services	Electricity; Gas manufacture, distribution; Water; Construction; Communication; Financial services nec; Insurance; Business services nec; Recreation and other services; PubAdmin/Defence/Health/Educat; Dwellings.
Trade	Trade; Transport nec; Sea transport; Air transport.

Table 2: Regional aggregation in the GTAP Model

Aggregated regions	**Comprising countries/regions**
EU	Austria, Belgium, Denmark, Finland, France, Germany, United Kingdom, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, Croatia, Cyprus, Czech Republic, Hungary, Malta, Poland, Romania, Slovakia, Slovenia, Estonia, Latvia, and Lithuania
Malawi	Malawi
Mozambique	Mozambique
Tanzania	Tanzania
Uganda	Uganda
Zambia	Zambia

Madagascar	Madagascar
Senegal	Senegal
South Africa	South Africa and the rest of South African Customs Union and the rest of Southern African Development Community
Botswana	Botswana
Mauritius	Mauritius
Zimbabwe	Zimbabwe
Nigeria	Nigeria
Rest of SSA	Rest of Sub-Saharan Africa
Caribbean	Rest of the Caribbean
Pacific	Rest of Oceania
All other regions	Australia, New Zealand, China, Hong Kong, Japan, Korea, Taiwan, Rest of East Asia, Cambodia, Indonesia, Malaysia, Philippines, Singapore, Thailand, Viet Nam, Rest of Southeast Asia, Bangladesh, India, Pakistan, Sri Lanka, Rest of South Asia, Canada, United States of America, Mexico, Rest of North America, Bolivia, Colombia, Ecuador, Peru, Venezuela, Argentina, Brazil, Chile, Paraguay, Uruguay, Rest of South America, Central America, Rest of Free Trade Area of Americas , Switzerland, the rest of EFTA, the rest of Europe, Albania, Bulgaria, Russian Federation, the rest of the Former Soviet Union, Turkey, Iran, the rest of the Middle East, Egypt, Morocco, Tunisia, and the Rest of North Africa.

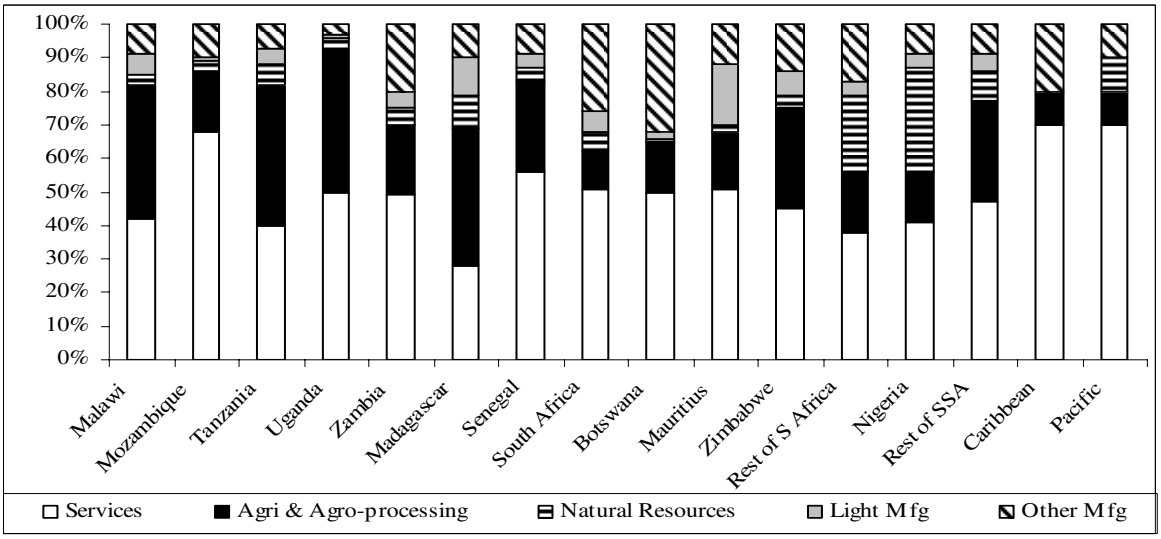
IV. ACP Economies: Structure of Production, Trade and Protection

Production and protection structures of an economy are principal determinants of potential outcomes arising from changes in the trade-related conditions, including unilateral liberalisation, regional integration and shifts in global trading circumstances such as price shocks. Therefore, understanding these structures will be a very important starting point for the examination of the potential implications of EPA for the ACP countries. It also needs to be pointed out that the empirical outcomes will be conditional upon the data used in the exercise, and as such the derived results will have to be evaluated against the information available at the time of the construction of the database. There is often a lag between the prevailing situation and the data period, emanating mainly from the time required updating the database to reflect the changes in the trade policy regimes of different countries. Consequently, the interpretation of results should be provided with some caution. For the present paper, the GTAP database is used and the following provides a snapshot of the base production, protection and trade situations of various country and country groups.

4.1. Structure of Production

Figure 1 exhibits the structure of production in ACP countries. Amongst the African countries while agriculture constitutes more than 40 percent of GDP in Malawi, Tanzania, Uganda, Madagascar, Nigeria and rest of Southern Africa, for Botswana the dependence on the sector is the lowest, with only 16 percent of its GDP coming from the sector. The Caribbean and the Pacific countries have also low shares of agriculture in GDP. According to the data, apart from Madagascar, ACP countries have high shares of services in GDP. On the other hand, the contribution of manufacturing sector in the economy is generally low for the ACP countries, with Uganda having the lowest figure of 4 percent. Only in three countries, viz., Botswana, Mauritius and South Africa, manufacturing activities comprise 30 percent or more of the national output. For the Caribbean region as a whole manufacturing contributed to 20 percent of GDP while for the Pacific countries the comparable figure is only about 10 percent.

Figure 1: Production Structure in ACP Countries



4.2. Structure of Exports and Imports

Figure 2 portrays the structure ACP exports. For Malawai, Uganda, Zimbabwe and Tanzania, the dependence on agriculture and agro-processing for export earning is excessively high, with the corresponding shares being 76, 57, 49 and 41 percent, respectively. In Madagascar and Senegal, more than one-third of the export-receipts is due to this sector alone. Amongst the ACP countries, Botswana has the highest of manufacturing in total exports (87 percent), followed by Zambia (78 percent), South Africa (67 percent), and Madagascar (53 percent). However, ACP countries in general and for such countries/region as Zambia, Madagascar, and the Caribbean in particular, the small size of the merchandise export volume hardly makes the manufacturing share in total exports anything significant.

Figure 2: Export Structures in ACP Countries

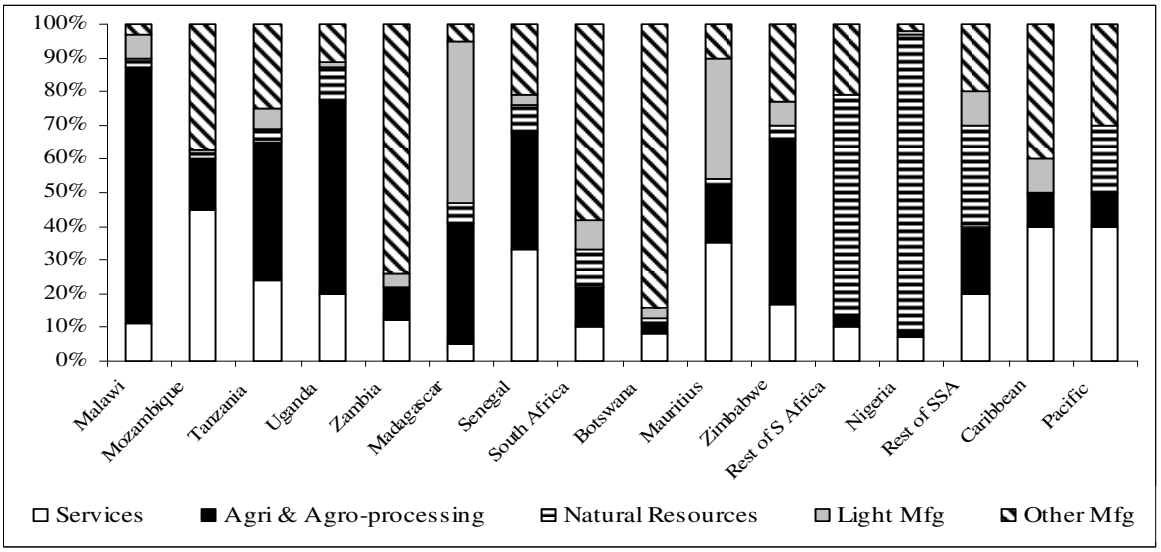
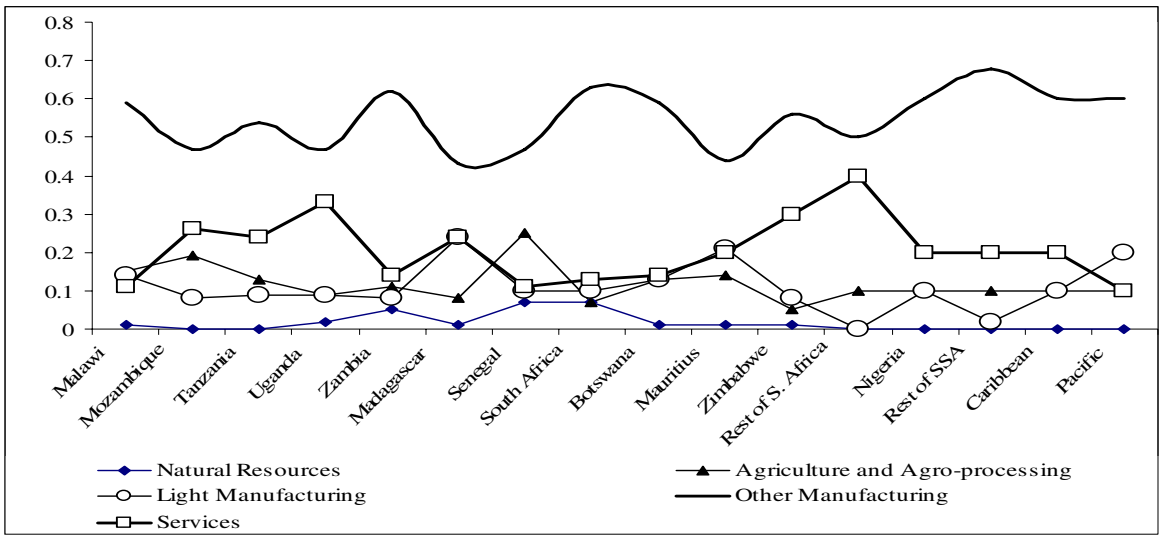


Figure 3: ACP Import Structures



The structure of imports into the ACP countries is captured in Figure 3. As expected, manufacturing is the most dominant imports in all ACP countries. Like in many developing countries in other parts of the world, imports of machineries and industrial raw materials are very important for economic development in the ACP region. For Malawi, Zambia, South Africa, Botswana, Nigeria, other Sub-Saharan Africa, the Caribbean and Pacific, the manufacturing imports, considering both light and heaving manufacturing taken together, account for more than 70 percent of total merchandise imports.

4.3 Structure of Protection

Table 1 shows the average applied tariffs on goods imported into ACP countries from the EU, as shown in the GTAP database. It is found that the existing ACP tariffs on a wide range of imports from EU are quite high. Particularly, imports of agro-processed goods, textile, wearing apparels and light manufactures are subject to moderate to high tariffs in most countries. These import tariffs can be seen as part of the industrial policy in these countries.

Table 1: Ad Valorem Tariff Rates (%) on EU Imports into ACP Countries

	Malawi	Mozambique	Tanzania	Uganda	Zambia	Madagascar	Senegal	South Africa & SACU	Botswana	Mauritius	Zimbabwe	Nigeria	Rest of SSA	Caribbean	Pacific
Cereal	0.0	2.3	20.0	2.6	5.0	0.2	5.0	16.1	0.0	0.0	15.0	5.0	6.3	0.6	0.0
Vegetables	0.0	21.9	14.1	14.6	14.0	8.7	19.5	6.7	0.0	4.3	16.3	77.0	21.2	19.4	0.9
Oil seeds	0.0	0.0	24.9	7.0	0.0	0.0	0.0	6.7	0.0	0.0	5.0	19.6	10.7	9.5	0.0
Sugar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.4	0.0	0.0
Cotton	10.0	2.3	3.8	0.0	14.6	0.0	5.0	12.4	0.0	0.0	0.0	12.3	7.3	0.0	0.0
Other crops	13.4	2.8	4.9	9.2	9.6	5.5	5.6	3.7	0.7	11.5	21.2	23.2	9.0	8.7	27.2
Livestock	8.9	0.0	19.0	6.7	6.7	1.6	9.3	0.5	0.6	6.0	7.3	24.1	13.1	11.4	0.0
Natural resources	4.1	5.2	5.4	4.1	4.3	0.1	5.0	0.1	0.0	0.6	4.4	13.4	7.0	5.8	0.2
Agro processing	13.6	17.5	22.1	13.0	16.2	4.2	13.2	14.5	6.3	20.2	41.5	35.9	19.0	20.5	35.0
Textile	20.9	17.1	20.1	12.3	17.6	6.0	19.0	14.0	17.1	2.4	16.8	40.1	19.7	5.7	15.2
Wearing apparels	23.6	24.0	20.5	13.8	24.5	16.3	20.0	37.4	26.4	72.3	55.4	52.1	27.5	21.1	14.1
Light manufacturing	3.8	15.6	14.8	8.1	14.2	4.2	11.7	7.6	4.9	30.4	12.8	24.6	17.9	11.4	10.4
Industry	9.9	8.6	12.7	4.7	7.8	4.1	9.2	6.7	7.9	18.3	13.8	19.6	11.7	9.1	11.6
Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Figure 4: Average Tariffs on Imports from the EU

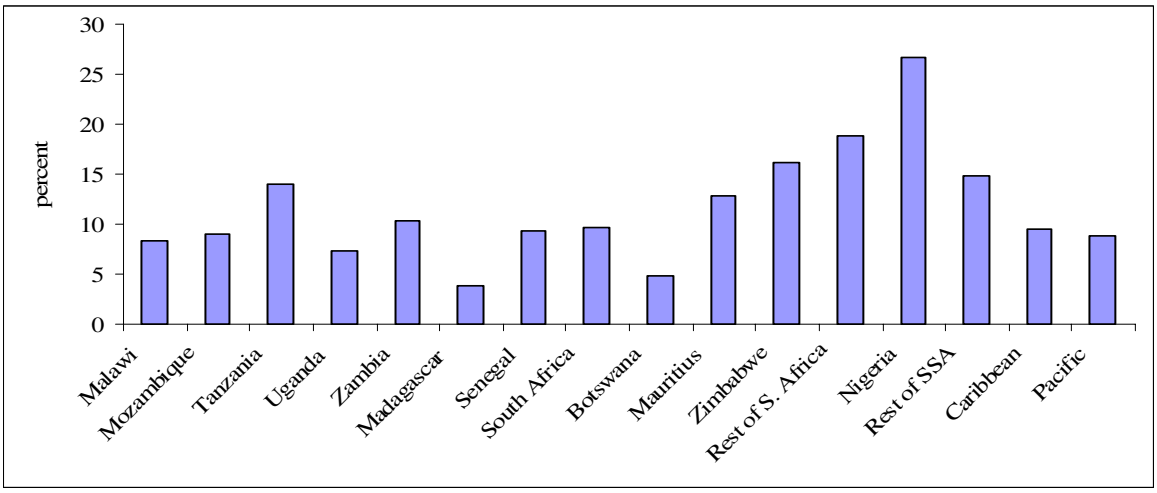


Figure 4 provides the average tariffs on EU imports from individual ACP countries/regions, where it found that the simple average duty rate varies from as low as 4 percent in Madagascar to as high as 27 percent in Nigeria. Tanzania, Zambia, Mauritius, Zimbabwe, rest of Southern Africa, and the rest of sub-Saharan Africa also have average tariffs of more than 10 percent. The comparable average tariffs for the Caribbean and the Pacific are 9.5 percent and 8.8 percent, respectively.

Table 2: Ad Valorem Tariff Rates (%) on Imports from ACP into EU

	Malawi	Mozambique	Tanzania	Uganda	Zambia	Madagascar	Senegal	South Africa & SACU	Botswana	Mauritius	Zimbabwe	Nigeria	Rest of SSA	Caribbean	Pacific
Cereal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	12.7	0.0	1.5	2.4	0.0
Vegetables	0.0	0.0	0.0	2.6	0.0	0.3	0.0	10.6	1.4	4.2	4.0	1.6	13.6	30.5	4.8
Oil seeds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4	0.0	0.0	0.0	6.4	2.3	17.1	0.0
Cotton	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other crops	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Livestock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	1.1	0.0
Nat resources	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Agro processing	91.6	0.3	4.7	0.0	85.4	1.2	0.0	31.8	71.7	77.4	96.5	0.1	2.0	44.4	77.4
Textile	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	2.3
Wearing apparels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	1.3
Light manufacturing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: Malawi, Mozambique, Tanzania, Uganda, Zambia, Madagascar and Senegal are the LDCs.

The average applied tariff rates on imports from the ACP countries into the EU are given in Table 2. It is confirmed that for the ACP LDCs the EU provides duty-free access in almost all product categories. The EU also grants either zero or low tariff access for most of product categories originating in non-LDC ACP countries as well. The only major exception to the very favourable market access granted is the EU imports of agro-processing products that are faced with excessively high tariffs in general. It then follows that as the ACP countries are already receiving either zero or very low tariffs in most sectors, major expansions of ACP exports to the EU in the aftermath of an EPA-FTA will likely to be concentrated in a few sectors. On the other hand, it also becomes obvious that cessation of the preferences granted

so far could lead to substantial rise in EU tariffs in most sectors, particularly for non-LDC ACP members.[2]

Table 3 contains information on average tariffs on intra-African trade by individual countries and regions, which might be useful in understanding the possible trade displacement effects of EPA. However, compared to the tariff rates faced by the ACP countries in EU the intra-ACP tariff rates are pretty high for many of the product categories. Since under EPA, in addition to the question of reciprocity to EU, some of these intra-African tariffs will have to be eliminated amongst members within a trading group, this may accentuate concerns regarding de-industrialisation and revenue shortfalls in majority of the countries. Table 4 presents figures on average commodity tariffs in the ACP countries. It appears that most of the tariff protections with respect to intra-African trade is on agro-processing, textile, wearing apparels and light manufactures. It can be anticipated that in the absence of reciprocity with the EU, there is a potential for trade creation in the ACP trade if these tariff barriers were to be eliminated. However, with reciprocity, trade creation for most efficient African producers is not likely to be maximised because of the competitive advantage of the EU producers.

Table 3: Average Ad Valorem Tariffs on Intra-ACP Trade (%)

		TO														
		Malawi	Mozambique	Tanzania	Uganda	Zambia	Madagascar	Senegal	South Africa & SACU	Botswana	Mauritius	Zimbabwe	Nigeria	Rest of SSA	Caribbean	Pacific
FROM	Malawi	0.0	5.9	10.0	0.6	0.0	0.0	0.3	9.2	8.5	0.0	0.0	10.4	3.1	1.9	1.1
	Mozambique	5.2	0.0	0.5	0.0	2.8	0.0	0.0	7.5	0.2	9.3	9.8	0.0	3.0	1.5	0.0
	Tanzania	7.8	6.4	0.0	7.5	10.7	1.1	0.6	3.6	3.5	2.5	13.5	0.6	13.2	5.3	0.0
	Uganda	0.7	1.4	10.5	0.0	0.8	0.0	0.9	6.4	0.3	0.7	0.5	2.6	4.1	5.1	4.0
	Zambia	0.0	2.0	13.7	0.9	0.0	0.0	1.6	5.6	8.3	0.0	0.0	0.0	15.6	0.0	0.2
	Madagascar	0.0	1.1	0.4	0.0	0.0	0.0	1.8	7.0	0.0	0.0	0.0	0.0	3.1	4.3	0.0
	Senegal	3.3	0.9	5.2	0.5	1.5	0.6	0.0	5.8	0.0	1.0	1.0	7.6	7.1	0.3	0.0
	S. Africa &	8.1	9.6	13.6	7.7	10.0	3.6	6.7	0.0	0.0	5.8	19.0	23.4	14.3	9.6	5.7
	Botswana	5.9	0.3	3.8	0.9	11.6	0.0	0.0	0.0	0.0	1.4	12.7	0.7	2.9	0.8	0.0
	Mauritius	0.0	3.8	4.5	0.5	0.0	0.0	2.8	5.0	3.8	0.0	0.0	7.2	0.6	3.3	0.0
	Zimbabwe	0.0	6.1	13.4	0.9	0.0	0.0	2.8	8.1	10.2	0.0	0.0	0.3	4.4	12.0	0.0
	Rest of Soutn Afri	0.7	6.5	3.7	1.7	1.7	0.0	0.3	3.4	0.0	3.8	3.0	0.0	7.4	0.9	0.0
	Nigeria	7.1	1.1	5.4	3.1	4.7	0.0	5.7	4.3	3.6	6.2	6.7	0.0	12.2	2.9	0.0
	Rest of SSA	0.3	2.4	15.4	1.6	1.5	1.7	1.6	6.7	6.6	0.8	0.8	31.7	6.4	7.0	1.0
	Caribbean	1.5	2.0	4.3	0.9	8.6	0.1	3.4	4.9	0.0	4.2	4.0	2.8	13.1	0.4	14.0
	Pacific	1.9	0.6	5.1	0.2	0.2	0.2	0.1	5.9	0.0	5.3	0.0	0.0	8.8	6.1	15.5

Table 4: Average Commodity Tariffs in ACP Countries (%)

	Malawi	Mozambique	Tanzania	Uganda	Zambia	Madagascar	Senegal	South Africa & SACU	Botswana	Mauritius	Zimbabwe	Nigeria	Rest of SSA	Caribbean	Pacific
Cereal	0.0	1.2	7.2	1.2	2.1	0.	0.8	3.7	2.3	0.0	1.8	2.5	7.0	0.4	0.7
Vegetables	3.0	4.5	6.3	3.1	5.4	0.	4.0	2.5	1.9	1.7	5.9	15.5	12.8	8.9	6.7
Oil seeds	0.0	0.7	9.2	1.5	2.7	0.	0.4	0.9	0.0	0.0	2.1	2.6	5.4	1.8	0.5
Sugar	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.9	0.0	0.0	0.0	2.2	1.4	0.0
Cotton	1.1	0.1	0.8	0.6	2.1	0.	0.5	4.8	0.0	0.0	0.4	1.1	2.2	0.0	0.0
Other crops	5.5	2.5	3.6	1.9	5.0	0.	4.4	5.6	4.3	6.1	10.1	6.7	8.5	8.5	7.9
Livestock	1.5	0.9	9.7	2.1	2.3	0.	1.0	0.1	0.0	0.6	2.8	5.7	6.3	1.6	2.4
Nat resources	0.4	0.9	3.5	1.0	1.1	0.	1.1	0.6	0.0	0.3	1.7	2.8	6.6	1.0	0.1

[2] Under the Everything But Arms (EBA) initiative, the EU has already been duty-free and quota-free market access to a virtually all products originated in LDCs with the exception of a few agricultural goods. Therefore, even in the absence of EPAs, ACP LDCs can take advantage of the EBA arrangement.

Agro processing	5.9	6.2	14.	4.0	6.5	1.	3.5	11.3	14.1	9.1	10.5	16.1	12.9	14.9	9.3
Textile	6.8	7.7	12.	3.6	6.2	1.	7.5	16.0	9.5	4.7	9.8	14.3	13.5	2.8	6.3
Wearing apparels	8.8	12.7	15.	4.2	10.	3.	4.3	31.8	13.8	11.2	20.2	13.9	19.1	11.8	7.2
Light manufacturing	7.6	7.5	12.	3.9	10.	1.	4.3	6.3	2.0	7.5	8.2	11.8	13.4	5.9	6.0
Industry	7.4	8.0	12.	4.3	5.4	1.	6.6	3.2	2.5	10.8	7.1	14.9	9.4	8.6	2.6
Services	0.0	0.0	0.1	0.0	0.0	0.	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
Trade	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4.4 Sources of Imports and the Possibility of Trade Diversion

The welfare effects of any RTA are analysed using two concepts: trade creation and trade diversion (see Box 1). The effect of the protectionist element of integration is called trade diversion, while the outcome of the true liberalisation element is considered as trade creation. The net welfare effects of economic integration are ambiguous and require case-by-case assessments. The reason is that integration is both a policy of protection and a move toward free trade. If trade creation dominates, the formation of an RTA will enhance welfare. Note that, if member countries are the low-cost producers (relative to the rest of the world suppliers) of the traded goods, there will be no trade diversion and integration will unambiguously increase welfare. To examine the possibility of trade creation and trade diversion effects of EPA it is necessary to have a look at the base year sources of imports for the ACP countries.

Box.1: Trade Creation and Trade Diversion

	Country A	Country B	Country C
Supply price	50	40	30

Case – Alpha: If A imposes a tariff of 100% on both B and C, only A's own producers will supply in its domestic market.

Case – Beta: If A imposes a tariff of 50% on both B and C, only C will be the supplying country in A's market.

Case – Gamma: If A forms customs union with B by eliminating all tariffs on imports from B, but retains the 50% duty on C. B will be the supplying country in A.

If Alpha was the initial condition, moving to Gamma will be considered as trade creation, enhancing welfare for A. On the other hand, if Beta was the initial condition, moving to Gamma is an example of trade diversion with adverse consequences on welfare of A.

Figure 5: Sources of Imports

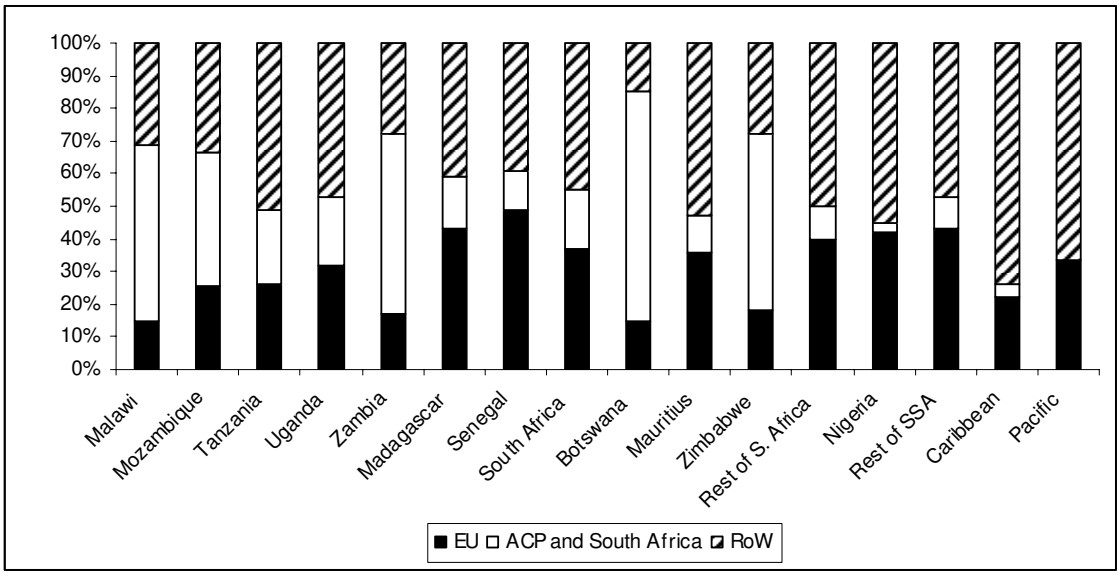


Figure 5 presents the sources of imports for the ACP countries. It appears that for each of the country/country groups the EU is an important source of imports, with Senegal sourcing a highest of 49 percent of its imports from the EU alone. Figure 5 clearly shows that the critical significance of the rest of the world (RoW) and the ACP region including South Africa as the sources of imports for most of the ACP countries. It would, therefore, be important to know whether and, if yes, to what extent EPA will lead to the changes in the sources of imports for the ACP countries. If, taking advantage of the reciprocity, EU exporters manage to replace the imports from the initially low-cost suppliers, trade diversion will take place.

V. Simulation Design and Results

To fulfil the study objectives, this paper explores the impacts of the four scenarios, as listed in Table 5. The first simulation experiment looks into the effects of a textbook-type free trade area in which the partner countries eliminate all tariffs involving trade amongst them. The next two scenarios attempt to analyse the potential implications arising out of the less-than-full reciprocity principle, thereby allowing ACP countries some flexibility as against of complete elimination of tariffs on imports from the EU. This could also be not entirely inconsistent given the ambiguities associated with the GATT Article XXIV calling RTA member countries to exchange preferences involving 'substantially all trade'. Simulation 3 therefore seeks to find out what happens when ACP countries eliminate their tariffs by 75 percent and in Simulation 4 by 50 percent as against of complete elimination of all EU tariffs on imports from ACP countries in both cases. If EPA negotiations fail, the worst situation for the ACP states would be to access EU market under existing preferential schemes such as the Generalised System of Preferences (GSP) or Everything but Arms (EBA), which are unilateral but reversible concessions by the EU. Since the more generous EBA preferences are meant for the LDCs, ACP LDCs will opt for the EBA scheme in the absence of a successful EPA outcome, while ACP non-LDC member will be considered for GSP preferences. Simulation 4 depicts this particular situation in the event of unsuccessful EPA negotiations.

Table 5: Simulations

Simulation Design	Explanation
Simulation 1	The formation of an FTA between the EU and ACP countries in which all tariffs on the EU-ACP trade are eliminated.
Simulation 2	ACP countries eliminate their tariff by 75 percent on all imports from the EU, while the EU grants 100 percent duty-free access to ACP products to its market.
Simulation 3	This is similar to scenario 2, except that ACP countries now reciprocate tariff elimination by only 50 percent on all imports from the EU.
Simulation 4	GSP Option – the ACP countries leave their tariffs unchanged, while the EU increases its tariffs on imports from the ACP non-LDC countries to the level of the GSP.

VI. Results of the Simulation Exercises

6.1. Simulation 1: FTA between EU and ACP Countries: Complete Elimination of Tariffs

The aggregate welfare effects of an FTA between EU and ACP countries based on complete elimination of tariffs and full reciprocity are given in Figure 6.[3] Complete elimination of EU-

[3] The welfare effects are measured by the equivalent variation (EV). It is measured by the difference between the expenditure required to obtain the new level of utility (resulting from a shock) at initial prices and the expenditure to be incurred for the same level of utility before the shock. Thus, the EV uses the current prices as

ACP tariffs leads huge welfare gains (US$ 2.3 billion) for the EU. These gains are driven primarily by the allocative efficiency as well as by the favourable terms of trade. The allocative efficiency gains are to be attributable to reallocation of resources away from relatively inefficient sectors to the more efficient ones, triggered by tariff liberalisation measures. On the other hand, the favourable terms of trade effects generated by tariff concessions received in the ACP market vis-à-vis all other suppliers.

Figure 6: Aggregate Welfare Gains the FTA Based on Complete Elimination of Tariffs and Full Reciprocity

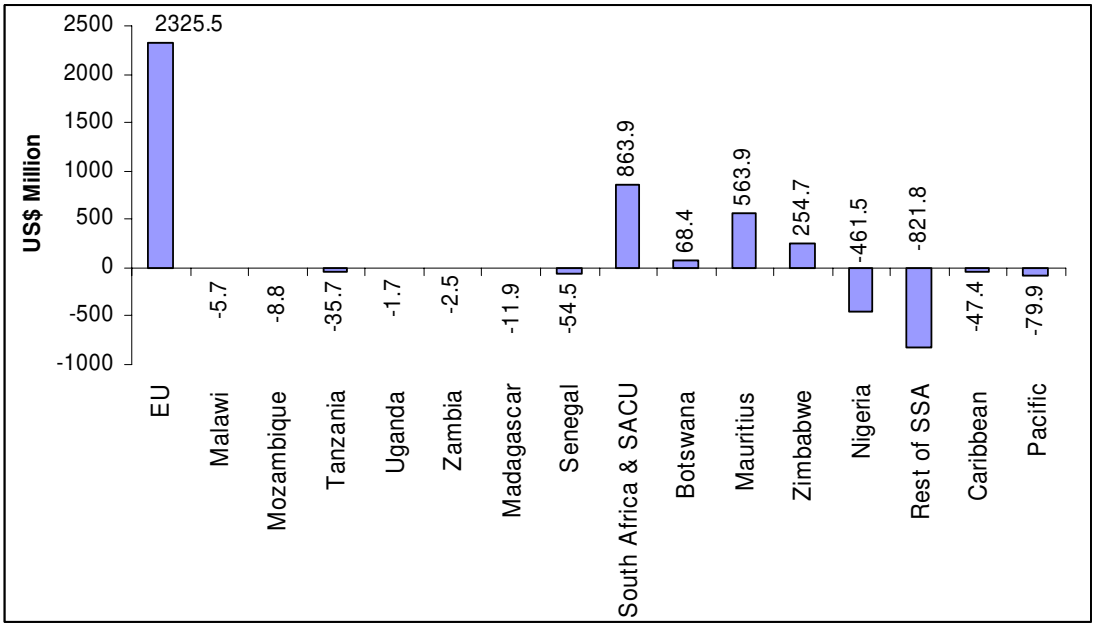


Table 5: Impact on Welfare: Full FTA between EU and ACP countries (Million US$)

	Decomposition of welfare			Total welfare
	Allocative efficiency	TOT effect	Investment-Savings effect	
EU	1755.3	533.8	36.4	2325.5
Malawi	1.5	-9.4	2.2	-5.7
Mozambique	3.6	-11.4	-1.0	-8.8
Tanzania	-4.9	-7.8	-23.0	-35.7
Uganda	-2.4	2.9	-2.2	-1.7
Zambia	-6.1	1.6	2.0	-2.5
Madagascar	1.1	-11.2	-1.8	-11.9
Senegal	3.1	-16.3	-41.2	-54.5
South Africa and Rest of South African Customs	189.0	703.1	-28.2	863.9
Botswana	16.7	66.4	-14.8	68.4
Mauritius	56.5	506.2	1.2	563.9
Zimbabwe	24.7	231.9	-1.8	254.7
Nigeria	-410.7	-118.1	67.3	-461.5
Rest of SSA	-166.6	-327.4	-327.8	-821.8
Caribbean	-34.1	-0.9	-12.4	-47.4
Pacific	-20.2	-51.6	-8.1	-79.9

Source: Authors' estimates based on simulation results

the base and asks what income change at the current prices would be equivalent to the resultant changes in terms of its impact on utility.

The impacts on the ACP countries are rather mixed, although all the 7 ACP LDCs stand to lose with Tanzania enduring the largest welfare loss (US$ -35.7 million). The largest gain of US$864 million occurs to South Africa (including the rest of South African Customs Union) followed by Mauritius (US$564 million), Zimbabwe (US$ 254 million), and Botswana (US$ 68.4 million). The positive gains of South Africa, Mauritius, Botswana and Zimbabwe are dominated by favourable terms of trade effects. Previously it was highlighted that EU tariffs on agro-processing products were very high in most cases and the removal of these tariffs would induce enhanced export response from these countries to the EU. Our results show that the exports of agro-processing products from South Africa, Zimbabwe, Mauritius and Botswana increase by respectively, US$1,858 million, US$868 million, US$853 million and US$515 million.

On the other hand, a number of other SSA countries experience welfare loss. The largest loss is for the rest of SSA followed by Nigeria. For Nigeria the loss in allocative efficiency turns out to be the major cause of welfare loss. Nigeria's such a high loss in allocative efficiency is largely due to the loss in import revenue. After FTA, imports into Nigeria from EU increases by large margin, while from all other regions decline (see box 2). The decline in the imports from the rest of the world (which are subject to high tariffs) causes large loss in import revenue.

Box 2: Change in Imports into Nigeria from all regions due to FTA (Million US$)

EU	4208.70
Malawi	-0.18
Mozambique	-0.06
Tanzania	-0.23
Uganda	-0.29
Zambia	-0.03
Madagascar	-0.01
Senegal	-2.58
South Africa and Rest of South African Customs	-129.83
Botswana	-0.81
Mauritius	-1.20
Zimbabwe	-1.44
Rest of Southern Africa	0.03
Nigeria	0.00
Rest of SSA	-36.28
Caribbean	-2.55
Pacific	-1.71
ROW	-2908.24
Total	1123.30

Source: Authors' estimates based on simulation results.

The welfare loss of Rest of Sub-Saharan Africa is dominated both by investment-savings effect and the negative terms of trade effect. As, the Rest of SSA countries are the net receivers of investment from abroad, these countries, following a negative shock, will loose from a rise in the prices of investment goods, relative to those of domestic savings goods.

Both the Pacific and Caribbean regions experience welfare loss. Welfare loss of the Caribbean region is mainly driven by the loss in allocative efficiency, while that of the Pacific region is dominated by the loss due to unfavourable terms of trade effect.

The macroeconomic impacts of the FTA between the EU and the ACP countries are depicted in Table 6. It is observed that FTA would have small and mixed effects on real GDP of the ACP countries. Uganda, Madagascar, Rest of SSA and Caribbean do not experience any change in their real GDP. Rest of Southern Africa experience a rise by 1 percent and Nigeria encounters a fall by 0.7 percent. All other African ACP countries/regions have GDP changes, whether positive or negative, between 0.1 and 0.3 percent. The GDP of the Pacific region increases by 0.5 percent.

Table 6: Macroeconomic Impact: FTA between EU and ACP countries (Scenario 1)

	Real GDP (% change from the base run)	Import (% change from the base run)	Export (% change from the base run)	TOT (% change from the base run)	BOT (Million US$)
Malawi	-0.1	9.5	4.7	-0.8	-143.1
Mozambique	-0.1	5.2	4.2	-0.7	-31.0
Tanzania	-0.1	8.6	12.0	-0.4	-28.0
Uganda	0.0	2.0	2.3	0.4	-8.4
Zambia	-0.2	9.8	5.6	0.4	-43.3
Madagascar	0.0	1.4	2.7	-0.9	-2.7
Senegal	-0.1	4.5	8.5	-1.4	-20.1
South Africa and Rest of South African Customs	0.2	10.9	2.6	1.6	-1772.1
Botswana	0.3	3.6	1.7	1.6	9.7
Mauritius	0.2	27.1	3.8	17.4	-71.2
Zimbabwe	0.3	40.8	8.6	10.0	-388.0
Rest of Southern Africa	1.0	12.6	9.1	-1.7	-343.3
Nigeria	-0.7	8.5	4.3	-0.7	-655.2
Rest of SSA	0.0	9.5	9.4	-0.7	-1018.6
Caribbean	0.0	6.0	3.9	-0.3	-471.4
Pacific	0.5	24.2	8.7	-0.1	-778.0

Source: Authors' estimates based on simulation results
Note TOT= Terms of Trade; BOT = Balance of Trade

All the ACP countries experience increases in import volumes after FTA. Among the African ACP countries Zimbabwe experiences the largest rise in volume of imports (by 40.8 percent), followed by Mauritius (27 percent). The Pacific region experiences import volume increase by 24 percent, while for the Caribbean region the corresponding figure is 6 percent.

All the ACP regions register increases in volume of exports. Among the African ACP countries, Tanzania has the highest percent increase (12 percent). The Pacific and the Caribbean region experience increase in exports by 8.7 and 3.9 percents respectively.

Apart from Mauritius, Zimbabwe, South Africa and the rest of South African Customs, Botswana, Uganda and Zambia, all other ACP countries/regions listed in table 12 suffer from deterioration in their terms of trade. Also, balance of trade situation deteriorate for all ACP countries (except Botswana) under consideration. The largest fall in the balance of trade is for

South Africa and Rest of South African Customs (US$1772 million) followed by the Rest of SSA (US$ 1018 million US$).

Table 7 provides the figures of the possible preference erosion of the ACP LDCs' in terms of losing their export market in the EU because of full FTA under EPA. It appears that all the 7 ACP LDCs suffer from preference erosion on most of the commodities they export to the EU market. However, some LDCs have been able to increase their exports of agro-processing products to EU because of FTA, as EU do not provide any duty-free market access on the agro-processing products.

Table 7: Preference Erosion of the ACP LDCs in the EU: Changes in Exports from ACP LDCs to EU (Million US$)

	Malawi	Mozambique	Tanzania	Uganda	Zambia	Madagascar	Senegal
Cereal	-0.4	-0.1	-0.2	-0.1	-0.1	0.0	-0.1
Vegetables	-0.6	-0.1	-0.1	-0.9	-1.3	-0.4	-1.1
Oil seeds	-0.1	0.0	0.0	0.0	0.0	0.0	-0.3
Sugar	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Cotton	-0.2	-0.1	-0.5	0.3	0.0	0.0	-0.3
Other crops	-55.6	-0.5	-4.0	-6.6	-6.0	-0.2	-0.5
Livestock	-0.2	0.0	0.1	0.1	-0.1	0.0	-0.8
Nat resources	-1.4	-0.3	1.0	0.8	-0.2	-0.3	4.5
Agro processing	82.1	-4.0	32.4	-0.1	138.9	3.3	26.0
Textile	-0.3	0.0	-1.0	-0.3	-1.8	3.4	-0.9
Wearing apparels	-0.2	0.0	-0.6	0.0	0.0	-3.0	-0.2
Light manufacturing	-0.3	0.0	-0.4	0.1	-0.1	0.3	-3.1
Industry	-3.6	-1.6	30.1	1.4	-40.6	1.9	-8.7
Services	-4.5	-0.3	-1.4	-1.1	-0.5	-0.2	10.9
Trade	-3.3	-0.3	-3.2	1.7	-0.7	-0.1	6.8

Note: Malawi, Mozambique, Tanzania, Uganda, Zambia, Madagascar and Senegal are the LDCs

6.2. Comparing the Results of Simulations 1, 2, 3 and 4

Simulation 2 and 3 entail tariff liberalisation between the EU and the ACP countries, not among the ACP countries. Simulation 4 is about the GSP option. Table 8 compares the welfare results of the second, third and fourth simulations with those of simulation one. The welfare effects of simulation 2 and 3 are very similar to those under simulation 1, though the extents of welfare losses are smaller in magnitudes. It also appears that moving from simulation 1 to 2 and from 2 to 3 the magnitudes of the welfare losses become smaller. Simulation 4 generates some very interesting results. All the 7 ACP LDCs and the rest of SSA gain because of increased preferences in the EU market. On the other hand, the ACP non-LDCs suffer from some welfare losses due to the preference erosion as a result of the increased tariffs in the EU.

Table 8: Comparison of Welfare Effects of four Simulations (EV in Million US$)

	Sim1	**Sim2**	**Sim3**	**Sim 4**
EU	2325.5	1681.4	738.6	-213.2
Malawi	-5.7	-4.4	-3.3	21.3
Mozambique	-8.8	-5.1	-4.2	23.4

Tanzania	-35.7	-20.7	-5.6	33.6
Uganda	-1.7	-1.1	-0.8	51.7
Zambia	-2.5	-1.8	-1.3	30.9
Madagascar	-11.9	-9.3	-7.3	26.9
Senegal	-54.5	-63.5	-40.1	39.4
South Africa and Rest of South African Customs	863.9	487.0	571.7	-43.2
Botswana	68.4	71.7	65.9	-9.2
Mauritius	563.9	575.0	578.2	-33.7
Zimbabwe	254.7	242.5	247.6	-3.2
Rest of Southern Africa	33.9	11.4	28.1	-1.1
Nigeria	-461.5	-232.0	-86.8	7.6
Rest of SSA	-821.8	-417.2	-138.4	19.8
Caribbean	-47.4	-85.7	-64.1	23.5
Pacific	-79.9	-74.9	-44.3	17.2

Source: Authors' estimates based on simulation results

A comparison of the four simulations with respect to the impact on real GDP is presented in Table 9. It also appears that simulation 2 and 3 generates better impacts on real GDP than in simulation 1. Simulation 4, on the other hand, results in no change in real GDP for most of the ACP countries. However, few ACP non-LDCs suffer from some negative changes in their real GDP.

Table 9: Real GDP (% change from the base run)

	Sim1	**Sim2**	**Sim3**	**Sim 4**
Malawi	-0.1	0.0	0.1	0.0
Mozambique	-0.1	0.0	0.1	0.0
Tanzania	-0.1	0.0	0.0	0.0
Uganda	0.0	0.1	0.0	0.0
Zambia	-0.2	0.0	0.1	0.1
Madagascar	0.0	0.0	0.0	0.0
Senegal	-0.1	0.0	0.0	0.0
South Africa and Rest of South African Customs	0.2	0.2	0.3	-0.1
Botswana	0.3	0.5	0.7	-0.1
Mauritius	0.2	0.2	1.6	0.0
Zimbabwe	0.3	0.4	0.3	-0.1
Rest of Southern Africa	1.0	1.2	1.4	-0.2
Nigeria	-0.7	0.0	0.1	0.0
Rest of SSA	0.0	0.1	0.1	0.1
Caribbean	0.0	0.1	0.1	0.1
Pacific	0.5	0.0	1.7	0.0

Source: Authors' estimates based on simulation results

Table 10 suggests that among the four simulations the highest increase in imports, in general, occurred under simulation 1. As ACP countries, opt for less liberalisation of their tariffs under simulation 2 and 3, they experience lesser increase in imports compared to the FTA scenario under simulation 1. Under simulation 4, the impact on import growth is rather low for most of the ACP countries.

Table 10: Imports (% change from the base run)

	Sim1	**Sim2**	**Sim3**	**Sim 4**
Malawi	9.5	7.5	6.7	0.2
Mozambique	5.2	0.4	-0.1	0.1
Tanzania	8.6	2.8	1.9	-0.1

Uganda	2.0	0.1	0.1	0.2
Zambia	9.8	1.3	0.6	0.3
Madagascar	1.4	0.3	-0.3	1.2
Senegal	4.5	0.9	0.4	0.6
South Africa and Rest of South African Customs	10.9	6.1	5.0	2.3
Botswana	3.6	2.5	2.0	1.1
Mauritius	27.1	23.2	20.9	3.6
Zimbabwe	40.8	25.0	23.4	2.9
Rest of Southern Africa	12.6	6.3	3.6	1.7
Nigeria	8.5	4.8	2.8	1.9
Rest of SSA	9.5	4.7	3.1	0.3
Caribbean	6.0	4.6	3.8	0.0
Pacific	24.2	20.5	19.1	0.4

Source: Authors' estimates based on simulation results

Table 11 suggests that the export performances of the ACP countries are better under the full FTA scenario. Under simulation 4 the ACP LDCs, rest of SSA, Caribbean and the Pacific countries manage to increase their exports while the ACP non-LDCs suffer from negative growth. Table 12 indicates that the terms of trade position of the ACP countries improve as we move from simulation 1 to 2 and from 2 to 3. By gaining preferences in the EU market under simulation 4 the ACP LDCs, rest of the SSA, Caribbean and the Pacific countries experience favourable terms of trade effect, while most of the ACP non-LDCs face unfavourable terms of trade effect.

Table 11: Exports (% change from the base run)

	Sim1	**Sim2**	**Sim3**	**Sim 4**
Malawi	4.7	3.7	3.3	3.8
Mozambique	4.2	0.2	-0.1	3.3
Tanzania	12.0	4.0	2.3	6.2
Uganda	2.3	1.1	0.6	1.5
Zambia	5.6	0.1	-0.3	3.9
Madagascar	2.7	1.3	0.4	1.8
Senegal	8.5	5.5	3.4	4.3
South Africa and Rest of South African Customs	2.6	1.3	0.7	-2.3
Botswana	1.7	0.6	0.5	-1.9
Mauritius	3.8	2.0	0.9	-2.9
Zimbabwe	8.6	2.0	1.0	-5.2
Rest of Southern Africa	9.1	4.5	2.5	-5.9
Nigeria	4.3	2.5	1.4	-1.7
Rest of SSA	9.4	5.0	3.0	6.2
Caribbean	3.9	2.7	1.8	1.5
Pacific	8.7	4.9	3.0	2.6

Source: Authors' estimates based on simulation results

Table 12: Terms of Trade (% change from the base run)

	Sim1	**Sim2**	**Sim3**	**Sim 4**
Malawi	-0.8	-0.1	0.0	0.5
Mozambique	-0.7	-0.2	-0.2	1.2
Tanzania	-0.4	-0.3	0.0	1.1
Uganda	0.4	-0.3	-0.1	0.9
Zambia	0.4	0.9	0.9	1.3
Madagascar	-0.9	-0.7	-0.6	1.5
Senegal	-1.4	-2.1	-1.4	0.8
South Africa and Rest of South African Customs	1.6	0.7	1.0	-0.5

Botswana	1.6	2.3	2.2	-1.3
Mauritius	17.4	17.8	18.1	-3.2
Zimbabwe	10.0	10.8	10.9	-2.3
Rest of Southern Africa	-1.7	-0.8	-0.5	-0.2
Nigeria	-0.7	-0.5	-0.2	-0.2
Rest of SSA	-0.7	-0.7	-0.2	1.3
Caribbean	-0.3	-0.2	-0.1	0.1
Pacific	-0.1	-0.1	0.0	0.3

Source: Authors' estimates based on simulation results

Table 13 suggests that the balance of trade improves under simulation 2 and 3 compared to those in simulation 1. There has been no significant impact on the balance of trade of the ACP countries under simulation 4.

Table 13: Change in the Balance of Trade (Million US$)

	Sim1	**Sim2**	**Sim3**	**Sim 4**
Malawi	-143.1	-117.1	-115.1	-2.1
Mozambique	-31.0	-6.5	-3.8	-1.3
Tanzania	-28.0	-9.6	-8.4	0.2
Uganda	-8.4	4.6	2.5	0.7
Zambia	-43.3	-2.2	1.7	1.3
Madagascar	-2.7	-1.0	0.0	-1.8
Senegal	-20.1	18.2	13.4	0.9
South Africa and Rest of South African Customs	-1772.1	-1121.0	-907.2	-20.5
Botswana	9.7	11.9	15.5	-2.3
Mauritius	-71.2	-21.7	10.2	-1.2
Zimbabwe	-388.0	-289.4	-279.8	-0.5
Rest of Southern Africa	-343.3	-170.6	-99.9	0.9
Nigeria	-655.2	-383.4	-219.8	0.6
Rest of SSA	-1018.6	-490.4	-357.0	-11.9
Caribbean	-471.4	-358.0	-288.5	-0.9
Pacific	-778.0	-709.7	-697.5	-0.3

Source: Authors' estimates based on simulation results

6.3. Changes in the Sources of Imports and the Possibility of Trade Diversion

Looking at the figures in Table 14 it appears that the imports from the EU to the ACP countries increase considerably due to the FTA (simulation 1).[4] In fact, EU becomes the dominant source of imports for most of the ACP countries. The share of the ROW decreases for almost all ACP countries. Almost similar pattern, though in lesser magnitudes, holds for simulation 2 and 3. This is likely to generate important trade diversion effects for most of the ACP countries. Simulation 4 does not have any impact on the structure of the sources of imports.

[4] The sources of imports from disaggerated ACP countries under simulation 1 are reported in Annex 2.

Table 14: Sources of Imports in the Base year and under different Simulations

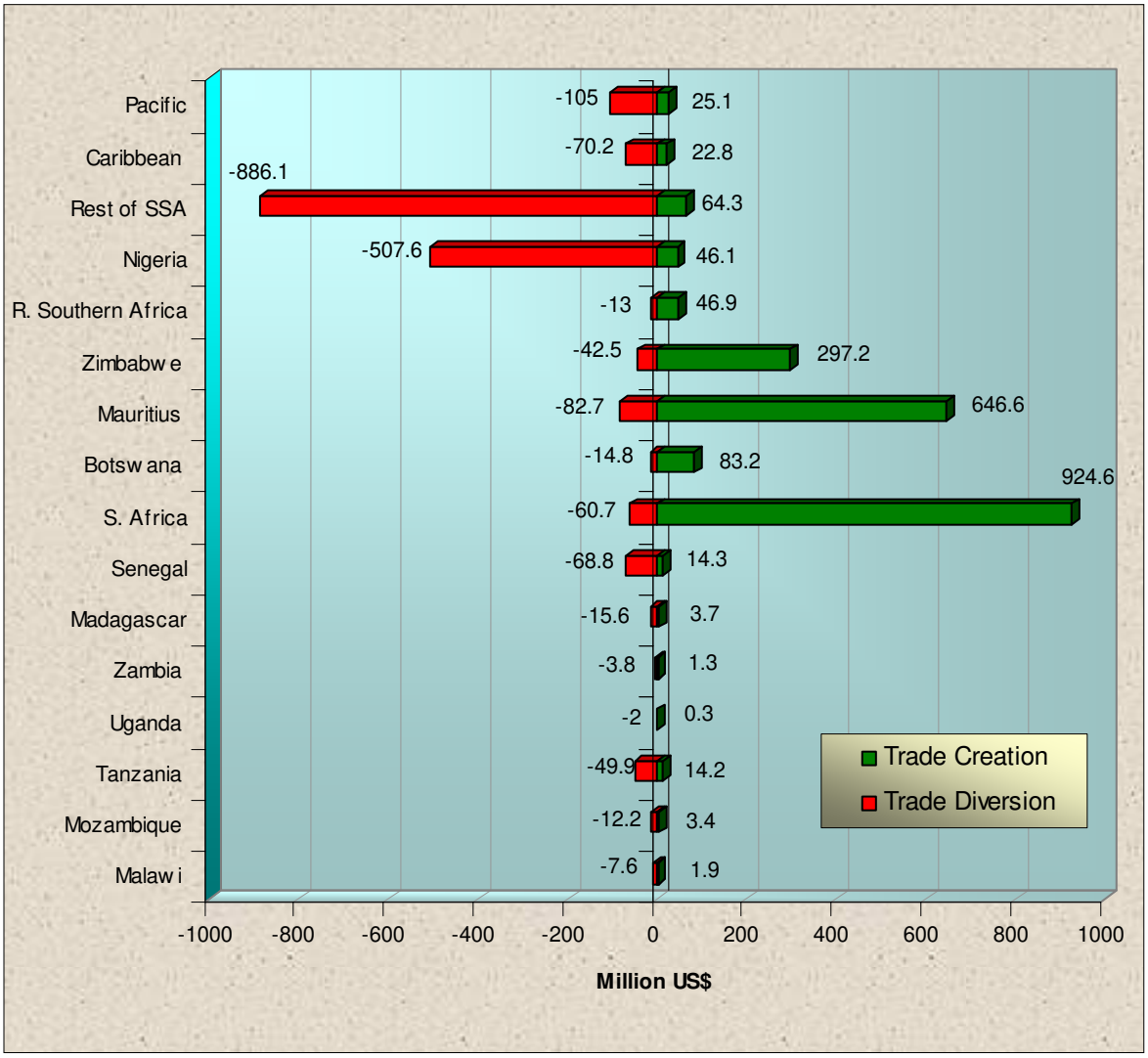
		Malawi	Mozambique	Tanzania	Uganda	Zambia	Madagascar	Senegal	South Africa and rest of S. African custom	Botswana	Mauritius	Zimbabwe	Rest of Southern Africa	Nigeria	Rest of SSA	Caribbean	Pacific
Base Year	EU	0.15	0.23	0.29	0.32	0.17	0.43	0.49	0.37	0.15	0.36	0.18	0.40	0.42	0.43	0.22	0.33
	ACP	0.54	0.46	0.12	0.21	0.56	0.16	0.11	0.18	0.70	0.11	0.56	0.09	0.03	0.08	0.04	0.02
	ROW	0.31	0.30	0.56	0.47	0.28	0.41	0.39	0.45	0.15	0.53	0.28	0.50	0.55	0.47	0.74	0.65
	TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sim 1	EU	0.16	0.24	0.35	0.33	0.18	0.48	0.58	0.45	0.20	0.50	0.19	0.49	0.57	0.53	0.28	0.43
	ACP	0.61	0.50	0.20	0.22	0.60	0.12	0.10	0.15	0.63	0.11	0.59	0.16	0.07	0.10	0.03	0.03
	ROW	0.25	0.25	0.43	0.43	0.22	0.39	0.31	0.39	0.15	0.38	0.20	0.34	0.33	0.34	0.67	0.51
	TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sim 2	EU	0.18	0.27	0.36	0.34	0.21	0.47	0.56	0.43	0.18	0.48	0.24	0.52	0.56	0.52	0.26	0.41
	ACP	0.49	0.42	0.11	0.19	0.52	0.12	0.10	0.15	0.66	0.09	0.50	0.07	0.02	0.08	0.03	0.01
	ROW	0.31	0.29	0.50	0.45	0.27	0.40	0.33	0.41	0.15	0.42	0.26	0.40	0.40	0.39	0.70	0.57
	TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sim 3	EU	0.17	0.25	0.33	0.33	0.19	0.46	0.54	0.41	0.17	0.44	0.22	0.48	0.50	0.48	0.24	0.37
	ACP	0.50	0.43	0.11	0.20	0.53	0.12	0.10	0.15	0.67	0.10	0.51	0.08	0.02	0.08	0.03	0.01
	ROW	0.32	0.29	0.53	0.46	0.28	0.41	0.35	0.43	0.15	0.45	0.27	0.43	0.46	0.42	0.72	0.60
	TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sim 4	EU	0.14	0.23	0.29	0.31	0.17	0.43	0.49	0.37	0.15	0.36	0.18	0.40	0.42	0.43	0.21	0.33
	ACP	0.55	0.46	0.12	0.22	0.56	0.16	0.11	0.18	0.69	0.11	0.56	0.10	0.03	0.08	0.04	0.02
	ROW	0.31	0.30	0.56	0.47	0.27	0.41	0.39	0.45	0.16	0.53	0.28	0.50	0.55	0.47	0.75	0.65
	TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Source: Authors' estimates based on simulation results

6.4. Decomposing the Welfare Effects into Trade Creation and Trade Diversion

It should, however, be noted that the original GTAP framework does not provide any estimates of trade creation and trade diversion aspects of the total welfare effects. In order to estimate these two effects we have made some adjustments in the GTAP model. The GTAP model provides a net welfare estimate of the simulation which is a sum of trade creation and trade diversion. With a view to separate the trade creation effect from the total welfare effect a separate simulation is run where we make necessary adjustments in the GTAP closure so that the imports to all the ACP countries from all over the world (except from the EU) are held fixed. The welfare effects from this scenario are nothing but the trade creation effects for individual ACP countries. This trade creation effect is then deducted from the welfare effect in the original simulation to get the estimate of the trade diversion effect. The results of this exercise for simulation 1 are presented in Figure 7.

Figure 7: Trade Creation and Trade Diversion Effects of Simulation 1 (Million US$)



Source: Authors' estimates based on simulation results

It appears from Figure 7 that a large number ACP country will suffer from trade diversion if full FTA takes place between EU and the ACP countries. The largest trade diversion is for the rest of SSA (886.1 Million US$) followed by Nigeria (507.6 Million US$). On the other hand, the largest trade creation effect is for South Africa and the rest of South African Customs (924.6 Million US$) followed by Mauritius (646.6 Million US$)

6.5. Revenue Loss

As have been mentioned in the introductory sections of this paper that there are serious concerns about the possibility of revenue loss because tariff liberalisation under EPA. We made an investigation, using the results from the GTAP exercises, to the extent of revenue losses for the ACP countries under four simulations. It appears from Table 15 that under full FTA (simulation 1), there is a mixed result. Some countries suffer from revenue loss (i.e., Malawi, Mozambique, Tanzania, Uganda, Senegal, Nigeria, Rest of SSA, Caribbean and the Pacific), whereas some experience increase in government revenue (i.e, Zambia, Madagascar, South Africa, Botswana, Mauritius, Zimbabwe and Rest of Southern Africa). The largest revenue loss is incurred by Nigeria by 431.8 million US$ (the explanation has been provided in box 2 of this paper). On the other hand, the largest revenue gain is by Mauritius (35.1 million US$). In general, the loss in revenue is the highest under simulation 1 among all four simulations, as far as the ACP countries altogether is concerned. Simulation 4 does not have any significant impacts on the changes in the import revenues for the ACP countries.

Table 15: Change in Import Revenue (US$ million)

	Sim 1	Sim 2	Sim 3	Sim 4
Malawi	-0.8	-0.5	0.2	0.0
Mozambique	-4.6	-2.2	-0.9	0.1
Tanzania	-13.4	-4.3	-0.1	0.3
Uganda	-2.3	-1.2	-0.5	0.1
Zambia	0.6	2.4	3.3	-0.2
Madagascar	0.9	1.5	1.7	0.0
Senegal	-7.4	-2.6	-0.1	-0.1
South Africa and Rest of South African Customs	33.5	81.2	101.2	-1.2
Botswana	1.4	1.8	1.6	-2.3
Mauritius	35.1	51.7	59.1	-0.2
Zimbabwe	27.2	37.7	42.7	1.1
Rest of Southern Africa	25.5	54.8	53.5	0.0
Nigeria	-431.8	-221.1	-85.7	-0.3
Rest of SSA	-179.7	-34.5	44.9	0.0
Caribbean	-22.43	-18.4	-13.7	1.0
Pacific	-15.17	-11.1	-9.9	0.6

Source: Authors' estimates based on simulation results.

VII. Policy Implications

The analysis of the results of different simulation exercises reported in section VI lead a number of policy implications on EPAs. It appears that mere FTA between the EU and the ACP

countries, as envisaged by the EPA negotiations, is not welfare enhancing for a number of ACP countries. Therefore, a number of issues need to be considered while designing an effective EPA between the EU and the ACP countries. These are discussed below.

7.1. The issue of development dimension in the EPA

Economic Partnership Agreements (EPAs) are supposed to bring in significant trade and development shifts for the African, Caribbean and Pacific (ACP) countries through symmetric trading arrangements among asymmetric economies. Especially for the LDCs and to some extent, for the developing countries of the region, there leaves room for weighting the benefits of EPA against the existing trading agreements. However, it appears from our analyses that a number of ACP countries may suffer from welfare losses due to EPA. To reap the benefits, countries with difficulties may, therefore, require support measures and there can be an adjustment lag. Therefore, EPAs to be effectively development conducive need to incorporate a broader development agenda rather than being part of simple trade negotiations.

Initially the negotiations regarding EPAs were to concentrate only on trade matters leaving development adjustments and domestic reforms along with political dialogue arrangements under Cotonou Partnership Agreement (CPA). With negotiation progress, development assistance in terms of Aid for Trade (AfT) has been incorporated to extend the umbrella of EPA though others are still beyond EPA considerations. In recent times almost all EU Free Trade Agreements (FTAs) (with non-ACP countries) cover development dimensions whereas for the African, Latin American and Asian countries, the agreements are split over multiple regional arrangements. There arises a confusion regarding whether to include non-trade development agenda for EU-ACP within EPA or the regional ACP-EU partnership arrangements in this dimension will remain as it is even after the expiry of CPA in 2020.

In this line, considerations regarding some of the conditionalities are crucial. First of all, the far reaching domestic reforms are subject to the strong political will and commitment of the ACP countries. Even if there is the will, there should be the expertise for designing and implementation of the comprehensive development agenda. And finally, the involvement, response and support from EU are necessary for effective initiatives against the capacity constraints.

7.2. Alternatives to EPAs?

The trade negotiation arrangements of EPA, specially the full reciprocal trade liberalisation provision, should be under scrutiny for the possible asymmetric implications over partner countries. Findings from our general equilibrium analyses reveal that a full reciprocal trade liberalisation will result in increased EU trade with major industrial shifts for ACP countries and further reduction in the already insignificant intra-ACP trade. To be more specific, ACP exporters already enjoy duty free market access in EU under Generalized System of Preference (GSP) and Everything But Arms (EBA) provisions and therefore, EPA agreements are supposed to exert positive impacts over EU exports to ACP countries, not the reverse. On the other hand,

shift of incentives will result in a structural adjustment of the ACP economies and therefore, unemployment and social difficulties will be the immediate adverse effects.

Considerations, therefore, regarding alternative EPAs or alternatives to EPAs are gaining importance to ensure compatibility with development promises of EPAs. Our research shows that even if 50 percent reciprocation has been done under EPA, losses of a number of the ACP countries would come out to be significant. As an alternative to EPA, the GSP option seems to be welfare enhancing. However, if EU imposes stringent rules for the countries that are not joining EPA, the impacts will be changed. Thus, the seemingly attractive alternatives to EPA need to be assessed carefully.

7.3. Argument for increased investment flows into the ACP countries

In order to mitigate the negative effects of EPAs there can be a case for increased flows of Foreign Direct Investment (FDI) into the ACP countries. Besides the access to investable capital, FDI is supposed to provide a country with advanced technological know-how and promote international and regional integration. A significant portion of the overall capital formation of the ACP countries is in the form of FDI, though the amount is insignificant compared to the world total in absolute terms, and most of the FDI comes from EU, the main development partner of ACP countries. Nevertheless, FDI to a country depends on several incentives and the level of economic and infrastructure stability. There are, however, concerns regarding the contribution of EPAs in attracting increased flows of FDI in the ACP countries.

The national policies of most of the ACP countries provide a number of incentives to the foreign investors. Especially the new FDI legislations have liberalized the regime to a large extent. For instance, foreign ownership and control even in the case of land and real estate ownership has been liberalized, capital and profit repatriation provisions has been introduced, liberalisation of foreign exchange regime without any control of the central bank in some of the countries, liberalisation and privatization programs have been initiated allowing the participation of foreign firms and generous tax incentives have been implemented. Some of the ACP countries still have some set investment criteria, whereas others are more liberal. There are export incentives, free trade zones, bilateral investment treaties and provision for avoidance of double taxation, all of which work for FDI inflows to the ACP countries.

For EPAs to effectively incorporate FDI policy, the negotiation should aim at utilization of technology transfer and capacity building of the ACP countries. In addition to export and investment promotion initiatives, export finance and other financial incentives, infrastructure projects and technical assistance and expertise capacity building are of special importance. Negotiation regarding tax incentives from EU, as there exist provisions from USA if invested in developing countries, should be included under the broader framework of EPA.

7.4. Can mode 4 - type of arrangement be considered to increase welfare?

Services trade liberalisation has been estimated to be welfare enhancing for the developing countries and the LDCs especially as a result of both liberalisation of the own market and the increased market access abroad. Results from global general equilibrium models suggest that the gains from services liberalisation are higher than that from goods trade liberalisation and have a more equal distribution over the countries. Services trade liberalisation increases economic efficiency through enhancing both allocative and dynamic efficiency in the sense that with regulatory changes in favour of foreign firms with advanced technology, production cost reduces and removal of barriers work for increased competition. Also, the developing and the least developed countries are likely to acquire significant welfare gains if they are allowed enhanced market accesses in the developed countries for the services categories of their export interest.

Though no differentiation has been done in estimating welfare impacts of services trade liberalisation in terms of four modes of services trade, liberalisation under mode 4 is by definition comparatively advantageous for labour-intensive industries and therefore for the LDCs and developing countries in the ACP region. Negotiations for FDI under EPA with respect to services trade under mode 3, and exporting low-skilled and semi-skilled labour (temporary movement of natural persons) from the ACP countries to the EU under the mode 4 negotiation will be more beneficial for the ACP countries considering their labour endowment and level of economic development. A study estimated that an increased developed country quota for both skilled and unskilled workers would increase global welfare by US$ 156 billion of which gain for Africa would be around US$ 14 billion (Winters, 2002).

7.5. The prospect of increased intra-African trade

As has been pointed out in the introductory section, concerns have been raised regarding the possible impacts of EPA on the currently existing regional integration schemes in Africa. There is a consensus among EU and the ACP countries that EPA should promote regional integration among the ACP countries. There have, however, been conflicting views on the impact of EPA on bolstering regional integration among the ACP countries – some studies have argued that EPA will lower regional trade, while some other studies have argued EPA to be beneficial to internal trade amongst the ACP countries.

Our analysis suggests that full implementation of EPA, in general, did not lead to a reduction in trade among the ACP countries. However, less than full reciprocity scenarios (i.e., simulation 2 and simulation 3), where ACP countries cut their tariffs only on EU imports not on the ACP countries' imports, have negative implications for the regional integration among the ACP countries. Under both these two scenarios, the share of imports from the ACP countries decline for most of the ACP countries. However, under the GSP option scenario (simulation 4) there will be no significant impact on the structure of existing regional trade.

7.6. Adjustment costs of EPAs

With reciprocal trade liberalisation, imports from the EU to ACP countries are supposed to increase substantially with more opening of the later markets. Therefore, there will be a huge

loss of tariff revenue that the governments of the ACP countries need to substitute from non-trade taxes. It, however, appears from our analysis that the revenue implication of EPA is not the same for all ACP countries. There are some large losers like Rest of SSA and Nigeria. Also, Pacific and the Caribbean suffer from revenue losses. Though a number of some other ACP countries suffer from loses, the magnitudes of loses are not that big. Also, some countries experience revenue gain.

Trade liberalisation negotiations under EPAs are supposed to incorporate adjustment costs not only in the form of tariff revenue reduction, but also in the form of resource reallocation from the import-competing industries to the exporting industries, production and employment adjustment costs, skill development costs and finally, negotiations and legislative costs. Box 4 summarises various types of adjustment costs.

Box 4: Adjustment costs of EPAs

Fiscal adjustment costs: In order to replace any tariff revenue losses associated with the EPA an ACP country will need to either revise or reform the structure of taxation from non-trade tax sources in order to increase revenue from these alternative sources.

Trade facilitation and export diversification costs: If the benefits of re-allocating resources (capital, labour, skills and land) away from import-competing towards new export activities (under the stimulus of greater competition on the home market from EU exporters) are to be reaped, actual and potential exporters in ACP countries will need support with developing export products and gaining knowledge about export market opportunities.

Production and employment adjustment costs: The displacement of imports from the pre-EPA regional supplier by EU exports will tend to induce falls in production and employment in the partner ACP country. However, where the home country has a production capability there will be similar displacement to production and employment in the import-competing sector by the growth EU exports to ACP countries. Since the reallocation of displaced resources from current (pre-EPA) activities to export sectors will not be immediate and smooth, then the ACP countries will need assistance with the adjustment experienced by workers (compensation for unemployment, support for relocation and retraining) and by firms (closure, production line restructuring etc).

Skills development and productivity enhancement costs: The costs of adjustment (contraction of import-substitution activities and expansion of export sectors) will be reduced over time and scope for dynamic benefits from export development will be increased over time by increasing productivity levels in ACP countries. Increasing competitiveness and productivity levels in preparation for the full implementation of EPAs requires support; through the enhancement of workers' skills, the improvement of firm's organisation and management structures and through the development of supportive economic policies and infrastructures.

Negotiation and legislative costs: In addition to the direct economic and financial costs that will fall on individuals, and on private and public sector organisations in ACP countries, the ACP countries will need to negotiate and implement EPAs. Indeed some negotiation costs have already been incurred, but more negotiations are required. Once the EPAs are agreed, there will be a need to implement the agreements through legislative reform, administrative change, public sector training and adjustment assistance programme support. These will all involve additional public administrative costs in ACP countries.

Source: Milner (2005)

The adjustment costs regarding the structural shift of the industries from import-competing to export oriented is a matter of special consideration. Going beyond the assumption of perfect labour mobility within industries of the traditional economic theories, the gains from trade liberalisation in the practical context become extremely limited for countries with structural rigidities. Moreover, the advanced theories of endogenous growth cannot guarantee that the country will specialise in activities that contribute to higher economic growth in the presence of market imperfections such as increasing returns to scale. Therefore, the adjustment costs or loss of efficiency due to liberalisation under EPA may come out to be of a significant amount for the ACP states. The amount further increases with the inclusion of production and employment adjustment costs, costs for provision for required training and capacity building, and legislative costs. Considering the above dimensions Milner (2005) estimated the overall cost of EPA adjustment for the ACP countries as about €9.1 billion (at current prices). This is relatively a large figure compared to the welfare gains due to liberalisation and thus provides support for negotiations for financial assistance.

7.7. WTO negotiations on NAMA and Agricultural Liberalisation

There are two major ongoing multilateral negotiations under WTO: the negotiations on NAMA where developed and developing countries will be cutting their MFN tariffs on non-agricultural commodities, and the negotiations on agricultural trade liberalisation where developed and the developing countries will be withdrawing subsidies and domestic support measures, and cutting tariffs on agricultural products. Concerns have, however, been raised regarding the possible impacts of such WTO negotiations on the regional free trade arrangements as envisaged under the EPA. For example, if EU reduces MFN tariff substantially on manufacturing and agricultural products, the benefits from free trade agreements will be withered for the ACP countries. However, the withdrawal of agricultural subsidies and domestic support measures on agriculture will raise the prices of the agricultural products in the world market, and the ACP countries, who are the net exporters of agricultural products, are likely to accrue further gains from such liberalisation process.

VIII. Summary and Conclusions

This paper has evaluated the possible effects of the Economic Partnership Agreement using a global general equilibrium modelling framework, namely the GTAP model. The latest version of the GTAP database (version 6.22) has been employed as a benchmark database. The study has explored the implications of different EPA scenarios (in terms of changes in GDP, exports, and other measures for welfare) for ACP countries (both developing and LDCs), based on the sample of countries in the database. The major findings of the research are as follows:

- Full FTA between EU and the ACP countries (simulation 1) will generate significant welfare losses for a number of ACP countries. Especially the ACP LDCs will suffer from preference erosion in the EU market. There are also significant trade diversion effects for many of the

ACP countries. Many ACP countries also suffer from negative terms of trade shock and decline in their real GDP. However, a few ACP non-LDCs stand to welfare gains.

- Most of the ACP countries seem to be better off with the scenarios depicting less than full reciprocity (simulation 2 and 3) as these two scenarios lead to less welfare losses compared to those under full FTA scenario (simulation1). Although, these two scenarios result in unfavourable effects on terms of trade and on real GDP for many ACP countries, such effects are less prominent compared to those under full FTA scenario.

- The GSP option (simulation 4) favours the ACP LDCs as it increases their preference margins in the EU market, but generates some negative welfare effects for the ACP non-LDCs.

The upshots of the aforementioned discussion point us to the fact that, in comparison to simulation 1 (the full FTA scenario), simulations 2 and 3 (the scenarios depicting less than full reciprocity) generate favourable outcomes for most of ACP countries in terms of the effects on their welfare, real GDP and terms of trade. These findings support the case of less than full reciprocity as opposed to full FTA under the EPA negotiations. Therefore, full FTA scenario under EPA may not be the best option for many ACP countries.

At the end we can argue that several areas of the negotiations of trade liberalisation under EPAs demand careful consideration with respect to the development concerns of many of the ACP countries. As full reciprocity of tariff liberalisation may have negative welfare implications for many LDCs and developing countries in the ACP region, and as EPA has not been able to be envisaged as a better option than the existing GSP or EBA facilities, there is a need for further negotiations. There is no denying that incorporation of the development dimensions in the EPA negotiations, further promotion of intra-ACP trade, providing market access in the EU by liberalising the service sector in the categories which are of export interests of the ACP countries (especially mode 4 liberalisation), providing effective technical and financial assistance under the programme of ‘aid for trade’ to compensate the possible large adjustment costs and allowing a reasonably longer time span for the ACP countries for the full implementation of EPA should be considered with high priorities in order to subside the possible welfare reducing impacts of the ongoing EPA negotiations.

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