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How to Balance the Outcomes of the Economic Partnership Agreements for Sub-Saharan African Economies?

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1. INTRODUCTION

IN 2000, the European Union (EU) committed itself to ensure its preference schemes with African, Caribbean and Pacific (ACP) countries complied with World Trade Organisation (WTO) rules by 1 January, 2008.[1] The only option retained in the Cotonou agreement[2] is the transformation of the existing preferences to a free trade arrangement (FTA) between the EU and six Regional Economic Communities[3] (RECs) representing ACP countries. As a result, ACP countries will keep the benefits of the previous Lomé scheme, but will have to reciprocate the preferences on 'substantially' all their imports from the EU.[4] Furthermore, the envisaged Economic Partnership Agreements (EPAs) should help ACP countries to foster their integration in international trade. By giving a contractual

[1] This commitment conditioned the waiver granted by the WTO members in 2000 to preserve the Lomé scheme until 2008.
[2] The Cotonou agreement, which was signed in June 2000 by the EU and ACP countries, opened the way to the reform of the Lomé scheme.
[3] The Economic Community of Western African States (ECOWAS), the Common Market for the Eastern and Southern Africa (COMESA), the Southern African Development Community (SADC) and the *Communauté Economique et Monétaire de l'Afrique Centrale* (CEMAC) represent the Western, Eastern, Southern and Central African states in the EPA's negotiations.
[4] The Lomé preferences will then conform to Article 24 of the GATT, which permits reciprocal preferences under the condition 'separate tariffs or other regulations of commerce are maintained for a substantial part of the trade of such territory with other territories'.

basis to the Lomé preferences, they should reinforce the predictability of ACP economies, and the credibility of ACP governments' commitment to economic reforms through the agreement. In the meantime, the cuts in domestic tariffs in ACP economies are expected to pave the way for trade liberalisation to the benefit of ACP consumers, who will enjoy price cuts, as well as the most efficient ACP firms, which may improve their integration in the global supply chain.

However, the creation of FTAs between the EU and ACP countries raises some concern for African economies. First, Sub-Saharan African exporters already enjoy quasi-duty-free access to the European markets.[5] While European exporters are likely to significantly increase their sales in the African markets, a key question is whether ACP exporters will be able to do the same in the European markets. Market access issues are not major obstacles for African producers on the European markets, but these producers face high transaction costs and supply-side rigidities. Furthermore, if the gains of the EPAs for African exporters are limited, the costs of the agreement could be high. Local and regional producers may lose significant market share to the benefit of their European counterparts, resulting in a decline in output and shrinkage in intra-African trade. The adjustment costs of the EPAs would be even more unbearable given the inevitable loss of customs revenues currently being derived from European imports. Hence, the EPAs may not 'lock-in' economic reforms, nor reinforce economic certainties and governmental credibility if they are associated with major negative economic and social effects.

In this regard, the global implications of these agreements are rather uncertain. One issue for Sub-Saharan economies is to determine the optimal equilibrium in the EPAs. In particular, the question of the level of reciprocity these countries have to respect could prove crucial for the future of these agreements. Therefore, this paper aims at estimating the impact of the EPAs on Sub-Saharan African economies, considering different levels of commitment in African tariff eliminations. Based on a general equilibrium modelling, the analysis focuses on the changes in trade, welfare, industrial structures and prices, and fiscal revenues. Different levels of asymmetry between ACP and European commitments are tested to figure out whether modulating reciprocity could help in optimising the effects of the EPAs on the Sub-Saharan African economies.

The paper is organised as follows. After literature review on the assessment of the EPAs in the second part of the paper, attention is drawn in Section 3 on methodological issues associated with EPA modelling under general equilibrium analysis. Section 4 gives the main results of the EPA simulations, while the

[5] Through the Lomé scheme for non-LDCs ACP exporters, and via the Everything But Arms (EBA) initiative for LDCs.

sensitivity of these results to the level of reciprocity is examined in Section 5. The paper concludes in Section 6.

2. ANALYTICAL AND EMPIRICAL EVIDENCE ON POTENTIAL IMPACTS OF EPAs ON AFRICA

a. EPAs to Exacerbate Strain on Fiscal Systems in Africa

Most ACP countries have expressed their concern over the fiscal implications of the EPAs. The possibility of major fiscal losses appear all the more challenging and unwelcome given that ACP countries need the public resources currently available to finance social and industrial adjustment reforms that could be induced by the EPAs, as well as finance different programmes required to help these countries reach the Millennium Development Goals (MDGs) by 2015. In that respect, quantifying the revenue impacts of the EPAs has been one of the preoccupations of the studies undertaken to assess them.

COMESA (2003) examined the broad issues that its member countries would have to contend with in the EPA negotiations. The study concludes that the costs of EPAs would include the loss of revenue to governments and the associated adjustment costs of developing alternative sources of government revenue. The broad findings, on the basis of trade statistics for 2000, was that if all EU imports were duty-free, governments in the COMESA region would lose about 25 per cent of their trade taxes, and about six per cent of their total tax revenue. The COMESA study, like other studies, notes that while a loss of six per cent of tax revenue may not seem to be a huge amount to make up over an extended period, the precarious fiscal situation that most COMESA countries find themselves in would present major adjustment difficulties. Tekere and Ndlela (2003), in addressing the EPAs question for SADC, reach the same conclusion for this sub-region, showing that countries like Tanzania and Namibia could experience public revenue losses of 37 and 24 per cent respectively.

Busse et al. (2004) studied the potential impact of the EPAs on ECOWAS countries. Their study focused on trade and budget effects. Applying a partial equilibrium methodology that follows the Viner model, Busse et al. examined implications of different tariff elimination scenarios. They found that in absolute terms, decline in import duties would range from USD 2.2 million in Guinea-Bissau to USD 487.8 million in Nigeria. Cape Verde and The Gambia will be particularly affected, as total government revenue shortfalls could amount to 20 and 22 per cent. Assuming no adjustment is required from the expenditure side, budget deficits in these countries will worsen by 4.1 and 3.5 per cent of GDP respectively.

The United Nations Economic Commission for Africa (UNECA, 2004), which conducted an exhaustive evaluation of the impact of the EPAs on African countries using the partial equilibrium model SMART,[6] estimated that the complete elimination of the tariffs on European imports would induce public revenue losses in Africa amounting to USD 2.9 billion. UNECA's work is particularly startling for the ECOWAS sub-region where the fiscal loss amounts to USD 980 million.[7]

b. Undiversified Economic Structures in Africa to Face Unprecedented Challenges

Busse et al. (2004) quantified the potential trade effects of the EPAs, clearly bringing out the trade diversion elements of an EPA between EU and ECOWAS countries. Overall, the study found that trade creation effects in ECOWAS will far outweigh trade diversion. However, at a more highly disaggregated level, some trade diversion effects were found to exceed trade creation effects, for example, with petroleum oils in Ghana. The study also established that a few product categories, such as apparels and clothing, footwear, light manufacturing in general, and sugar and cereals are sensitive in almost all ECOWAS countries with respect to trade flows.

In a similar way, the UNECA study sheds more light on the trade and industrial implications of the EPAs. The study estimated that European exports could grow by more than USD 4 billion in Africa, inducing USD 0.8 billion of trade displacement, while it focused on the analysis of the sensitive products for each sub-region. It also estimated the impact of the EPAs on regional trade, revealing that USD 48 million of regional trade could be replaced by European imports.

Tekere et al. (2003) emphasised that the EPAs are likely to have a dramatic effect on the weak and sensitive economic sectors of SADC countries. The concentration of SADC economies in primary and extractive sectors and low-technology processing industries will present great difficulties to these countries in restructuring their economies. Cereals, food processing, dairy products, textile and clothing were identified as sub-sectors that would be potentially adversely affected by the EPAs in SADC. Tekere et al. (2003) also cited evidence that African exporters will lose market share on the SADC markets to the benefit of the EU, and to the detriment of regional integration.

Similar findings with respect to sectoral impacts were reached analytically in the COMESA (2003) study. The study identified price and quality competition from EU-based industries to local manufacturers, especially given the lack of

[6] The exposition of the WITS/SMART theory is presented in Laird and Yeats (1986). Trade creation captures the trade-expanding aspects of liberalisation that leads to the displacement of inefficient producers in a given preferential trading area (a free-trade area for instance). It is assumed that there is full transmission of price changes when tariff or non-tariff distortions (*ad valorem* equivalents) are reduced or eliminated.

[7] These results are very close to the results (USD 853–943 million depending on the scenario) obtained by Busse et al. (2004), for this sub-region.

economies of scale and access to the latest technologies for the latter, as a challenging aspect of the EPAs. COMESA (2003), unlike other studies, is optimistic on the effects of the EPAs on the performance of key sectors. Despite identifying the lack of economies of scale as a hindering factor, the study sees the exposure of local industries to competition as positive. Another positive aspect of the EPAs identified by COMESA is the dynamic effects of the EPAs given the non-reversal nature of the policies that will be locked-into the agreements. However, this study does not quantify these potential positive effects, or the sectoral losses induced by the EPAs.

c. Will African Consumers be the Major Beneficiaries of the EPAs?

Intuitively, tariff reductions on European imports should contribute to improving welfare, since African consumers would be better able to access products that are less expensive and often of higher quality, and African firms would become more competitive as they buy cheaper European imports. However, this tariff dismantlement may give non-economic advantages to imports from the EU over other parts of the world. As a result, the EPAs could lead to the replacement of an efficient producer from the rest of the world by a less efficient European exporter. This trade diversion phenomenon, as noted by Busse et al. (2004), is welfare decreasing. Furthermore, these tariff reductions may not induce a decrease in prices on the ACP markets. As underlined by Hinkle et al. (2004), the narrowness of ACP markets and high transaction costs limit the substitutability among import sources, and may actually induce European exporters to increase their margins rather than cut their prices.

However, since trade creation effects have a general tendency to exceed the trade diversion effects in most partial equilibrium studies, these studies inevitably conclude that the EPAs between the EU and African countries are likely to be welfare improving, as underlined by Busse et al. (2004). Tekere et al. (2003) drew similar conclusions from their analysis on the SADC region. UNECA (2004) also forecasted significant improvements for consumers for all RECs, ranging from USD 26 million in SADC to USD 240 million in ECOWAS. The results of these studies were consistent with the findings of earlier studies commissioned by the European Union and summarised by McQueen (1999).

Given the existing economic literature on the EPAs, a general equilibrium analysis could provide us with complementary results. It would shed some light on their industrial consequences, the changes in prices as well as their 'second-round' effects such as changes in welfare. Before the release of Version 6.0 of the Global Trade Analysis Project (GTAP) database, which includes preferential tariffs, the global general equilibrium model was often an imprecise method of measuring the effects of this kind of asymmetrical free-trade agreement. The latest version of the database has opened new perspectives for the analysis of the EPAs.

d. The Alternatives to the EPAs

Given the uncertainties regarding asymmetrical free-trade agreements between African countries and their developed partners, alternatives to these agreements have been proposed. Among these alternatives, the 'GSP option', whereby African countries switch from specific preferential schemes to the Generalised System of Preferences, would be the easiest way to conform to WTO regulations. This option does not imply any commitment from developed countries and can be chosen unilaterally by African governments. The extended GSP option is another alternative that could be more favourable as the updated GSP schemes would better cover African-sensitive products. However, it suffers from two major limitations, as it relies on the goodwill of developed countries and it implies that other developing countries capture part of the GSP extension.[8]

In this perspective, Perez (2006) shows that switching from the Cotonou preferences to the Generalised System of Preferences (GSP) and the Everything But Arms initiative would be less costly for most ACP countries than adopting the EPAs. Perez (2006) demonstrates that a marginally extended GSP would indeed be the optimum choice for ACP countries. Based on CGE analysis, Perez also estimates that these options would dramatically reduce the industrial, fiscal and social burdens of the EPAs, as summarised in Table 1.

TABLE 1
The 'Standard' EPA Proposal versus GSP and GSP+ Alternatives

		'Standard' EPA Proposal	*GSP Option*	*GSP + Option*
ACP	Welfare	−851	−459	−51
	Real GDP	−183	−79	−9
	Trade balance	−1,223	234	26
	Fiscal imbalance (Per cent of GDP)	−0.7	0	0
	Regional trade	−407	60	7
EU27	Welfare	1,638	376	49
	Real GDP	71	33	9
RoW	Welfare	−1,050	50	3
	Real GDP	−147	15	1
Total World Welfare		−263	−31	1

Source: Perez (2006).

[8] However, Perez (2006) argues that the graduation mechanism could enable developed countries not to grant this extended GSP option to all developing countries.

3. METHODOLOGY

a. The GTAP Model

Trade policy analysis involves analysing implications of trade policy instruments on the production structure of economies at the national and global level. Trade policy instruments such as tariffs and quotas have direct and indirect effects on the relative prices of commodities produced in a given country. As the mix of goods and services produced changes, the demand for factors of production also changes. Consequently, in any given economy, it is difficult to conceive a situation where the change in trade policy would affect only one sector. Due to the forward and backward linkages and their related strengths existing in a particular economy, the result is always one in which the relative mix of sectoral outputs change. The general equilibrium methodology provides an analytical framework that allows these inter- and intra-sectoral changes in output mix and by extension the demand for different factors of production to be captured.

The GTAP model is a multi-region computable general equilibrium (CGE) model designed for comparative-static analysis of trade policy issues (Adams et al., 1997). It can be used to capture effects on output mix, factor usage, trade effects and resultant welfare distribution between countries as a result of changing trade policies at the country, bilateral, regional and multilateral levels. Since the GTAP model puts emphasis on resource reallocation across economic sectors, it is a good instrument for identifying the winning and losing countries and sectors under policy changes involving the trade aspects of the EPAs. However, as with any 'Armington model', the results of the simulations on terms of trade have to be analysed cautiously, as they tend to be magnified by the structure of the model. Zhang (2006) hence shows that Armington elasticities, which differentiate commodities by their country of origin considering them as imperfect substitutes, that the terms of trade effect of a tariff in CGE models is strongly related to value of these elasticities. Therefore, it is important to bear in mind that the results derived from the simulations in this study, like in other CGE model applications, also depend on the magnitudes of the various parameters, including the Armington elasticities chosen. In the case of a single country CGE model, Karingi and Siriwardana (forthcoming, 2007) show through some sensitivity analysis of Armington elasticities among other parameters that the magnitudes of the results are symmetrical or proportional to the elasticities values. These sensitivity results apply to this study.

There is abundant literature discussing the underlying theory of the GTAP modelling framework. The theory of the GTAP model is documented in Hertel (1997), and graphically exposed in Brockmeier (2001). Essentially, it is captured in two types of equations. The key drivers of the model are the behavioural equations, which are based on microeconomic theory. There are behavioural equations for consumers, producers and international trade (exports and imports). The behavioural equations capture the behaviour of the optimising agents, such as consumers and producers, which allow the derivation of the demand functions for commodities and production factors respectively. The second type of equation is the accounting relationships. These are essential to ensure that the behavioural equation solution occurs within a consistent macroeconomic framework. Thus, the accounting relationships ensure that the receipts and expenditures of all agents (consumers, producers, government and rest-of-the-world) are balanced.

The GTAP model is used together with the GTAP database. Version 6 of the database is utilised for the purposes of this study. It recognises 87 regions, as well as 57 sectors and five factors of production. The base year for this version is 2001. Not all countries are individually captured in GTAP; however, all the world economies are part of the database, as they could be part of a given composite region or included as part of the rest of the world. Thus, global macroeconomic consistency holds. Unfortunately, only a small proportion of African countries are individually disaggregated in Version 6 of the database. The majority of African countries are captured through regional composites,[9] which limits the accuracy and detail of the simulation's results, but still permits us to picture the broad lines of the economic effects of the EPAs. The bilateral trade data used to put together the GTAP database are provided by the United Nations COMTRADE database, while the protection data are sourced from the MacMaps database.[10] Besides the improvements in the MacMaps database in capturing the preference schemes, it is worth emphasising that in the simulations carried out in this study, starting tariff lines are the applied tariffs. Unlike in multilateral trade negotiations whose simulations are concerned with bound tariffs, the use of the GTAP tariff database in a bilateral trade agreement negotiations such as the EPAs does not overstate the tariff elimination impacts on the concerned economies as the negotiations are about applied tariffs. However, it is recognised that duty exemptions in many African countries could lead to an overstatement of the fiscal revenue losses, and this must be put into perspective in considering the revenue implications of the EPAs.

b. Closure, Baseline and Aggregation of the GTAP Model and Database

In the simulations analysed and reported in this paper, the standard hypothesis of the model is applied, which implies constant returns to scale, and pure and

[9] The regional composites do not contain original data. This means that the results representing a particular regional composite would be biased based on the structure of the representative economy whose data were used to derive the composite in the first place.

[10] The inclusion of the MacMaps database in the latest version of GTAP has been a sharp improvement, as it takes into account preferential tariffs as well as non-*ad-valorem* tariffs. The details of this database are given by Bouët et al. (2004).

perfect competition. The baseline has been updated to take into account the enlargement of the EU to 25 members, as well as the phasing-out of the multi-fibre agreement. The geographical and sectoral aggregations are presented in Annexes 1 and 2.

c. Scenarios

Scenario 1: Genuine FTA, with a complete elimination of the tariffs on ACP-EU trade

According to the Cotonou Agreement, the EPAs aim at creating an asymmetrical free-trade area between ACP countries and the EU. Hence, the first and second scenarios, which correspond to symmetrical arrangements, do not correspond to EPAs. They constitute a baseline to identify the mechanisms associated with trade liberalisation between Africa and the EU as well as estimate the impact of the other four scenarios.

Scenario 2: ACP countries align their tariffs at the current level of European tariffs

Many uncertainties remain regarding the level of commitment of the EU on the one hand, and ACP countries on the other. After the tariff cuts applied in the framework of the Lomé/Cotonou agreements, and the quasi-tariff elimination on the imports of least developed countries (LDCs),[11] one may wonder whether the EU is willing to reduce its tariffs further. Consequently, we consider a second scenario where the EU's tariffs remain unchanged, while ACP countries align their tariffs with those of the EU.

Scenario 3: Deepened regional integration of ACP countries

All intra-REC tariffs are eliminated, fostering the regional integration of ACP countries as recommended by the Cotonou Agreement.

Scenario 4: Genuine FTA between the EU and ACP countries, with the compensation of customs revenue losses by a consumption tax increase in ACP countries

This scenario is similar to Scenario 1, except that the closure of the model has been changed, so that the level of public revenues as a proportion of GDP remains unchanged after the EPA's implementation. The loss in customs revenues is offset by a growth in domestic consumption taxes.

[11] In 2001, the 'Everything But Arms' initiative was launched by the EU to the profit of the LDCs. It grants duty-free access to all the exports from the LDCs, except arms and, temporarily, sugar, beef and rice.

Scenarios 5 and 6: Asymmetrical EPAs, whereby ACP countries reciprocate tariff elimination on only 80 per cent (Scenario 5) and 60 per cent (Scenario 6) of their European imports

The WTO rules open the possibility of a partial liberalisation of trade to the benefit of developing countries in the context of a free-trade agreement. Under the requirement that 'substantially'[12] all trade concerned by the agreement is liberalised, developing country partners may open fewer tariff lines than their developed partners. This principle justified the asymmetry of the European Union and South African commitments in the Trade, Development and Cooperation Agreement they signed in 1999.[13] It could be utilised in a similar way by the EU and ACP countries, such that the EU commits to a high level of openness while ACP countries keep a significant amount of their tariff lines unchanged. In this perspective, we have tested two alternative scenarios whereby the EU eliminates 100 per cent of its tariff lines, and ACP countries only 80 per cent (Scenario 5) and 60 per cent (Scenario 6).

To determine the list of sensitive products to be excluded, tariffs have been sorted in descending order. The lowest tariffs corresponding to 80 per cent of ACP imports from the EU (Scenario 5) and 60 per cent (Scenario 6) have been eliminated. This calculation has been applied to ACP Sub-Saharan African, SADC, Pacific and Caribbean countries. The initial GTAP tariff structures were then shocked to reflect the new arrangements.

4. THE GLOOMY PERSPECTIVES OF THE EPA FOR ACP AFRICAN COUNTRIES

a. Asymmetrical Gains for Sub-Saharan African Countries and the European Union

A free-trade agreement aims at fostering the trade integration of its member states. It is expected to boost exports within the free-trade zone, and lead to a rationalisation of production. Yet, the gains realised by these countries may differ greatly. For instance, the exporters of Country A would have little interest in obtaining privileged access to the markets of Country B if they are supply-side constrained, while Country B may already be very open to the imports originating from Country A. If Country A, on the contrary, imposes high tariffs on its imports, and the exporters of Country B are efficient, then Country B may have much to

[12] See footnote 2.
[13] The EU and South Africa reached an agreement in 1999, planning the installation of a free-trade area by 2012. The Trade Development and Cooperation Agreement will lead to the elimination of 94 per cent of the European tariff lines on the imports from South Africa, and 86 per cent of the South African tariff lines on the imports from the EU.

gain from a free-trade arrangement with Country A, and the gains realised between these two countries are likely to be unequal. In addition to the initial conditions as represented by the tariff structure it is worth pointing out that the welfare changes in GTAP can be decomposed according to their various sources. Allocative efficiency, terms of trade and investment-saving balance effects are the three main contributors of welfare changes. The simulation results discussed in the six scenarios in this study can therefore be easily decomposed to these three components. But it is the terms of trade and allocative efficiency effects that explain the largest share of the welfare effects reported.

While this theoretical analysis may appear simplistic, it seems to explain quite well the results indicated in Table 2 of the simulation of a free-trade agreement between the EU and ACP African countries (Scenario 1). Due to asymmetrical initial tariff protections and economic efficiencies, the trade gains captured by these two groups of countries differ significantly. The EU increases its exports to ACP African countries by USD 17.6 billion, while in return, ACP African countries raise their exports to the EU by only USD 5.5 billion. The growth in European exports induces a slump in sales by local and regional producers on ACP markets, and a regional trade shrinkage amounting to USD 2.8 billion in Sub-Saharan Africa.

This process should be associated with a switch of European sales from the intra-European markets (–USD 8 billion), and the rest of the world (–USD 2.3 billion) to ACP markets (+USD 23.1 billion). This switch of sales from European markets would be to the profit of the EU's non-ACP partners, which boosts their exports on these markets by USD 9 billion, while the switch of European sales from the non-ACP markets boost the exports of ACP African countries (+USD 0.8 billion). Overall, the balance of trade of ACP African countries deteriorates by USD 1.8 billion after the implementation of this EPAs scenario.

The trade effects of the EPAs would affect African economies with a drop in GDP volume and welfare by –0.2 per cent and –USD 0.6 billion respectively.

TABLE 2
The Trade Impact of a Complete Free-trade Area (Scenario 1)

Exports to: *From:*	*ACP Africa*	*South Africa*	*EU*	*Rest of the World*	*Total*
ACP Africa	–787	–175	**5,531**	824	**5,393**
South Africa	–1,657	0	581	949	–126
EU	**17,605**	–305	–8,035	–2,326	**6,939**
Rest of the world	–7,737	–216	8,966	–313	701
Total	**7,424**	–696	**7,043**	–865	12,906

Source: GTAP 6.0 and authors' computations.

While the SADC countries would benefit from an increase of welfare by USD 0.9 billion due to an improvement of their terms of trade, the non-SADC African ACP countries would experience a welfare loss of USD 1.5 billion, in addition to a decline in GDP of 3.4 per cent.

These effects could be worsened in the case where the EU does not modify its tariffs on its imports from ACP countries as shown in Table 3, while these countries align their tariffs on the European counterparts (Scenario 2). Although tariff cuts by ACP African countries are smaller than in Scenario 1, the results in terms of trade impacts for the EU and these countries are more contrasted. The EU increases its exports to ACP African countries by USD 14.6 billion, while ACP African countries raise their exports to the EU by only USD 2.4 billion. This latest increase results mostly from the European switch of sales from intra-European and non-ACP markets, as observed in Scenario 1.

Thus, Scenario 2 provides the most unfavourable results for Africa, as seen in Table 4, since it leads to a drop in Sub-Saharan GDP volume equivalent to 0.3 per cent, and a plummet in welfare of USD 1.6 billion. The negative impact

TABLE 3
The Trade Impact of a Free-trade Area (Scenario 2)

	ACP Africa	*South Africa*	*EU*	*Rest of the World*	*Total*
ACP Africa	–559	122	**2,410**	1,884	**3,857**
South Africa	–1,672	0	642	954	–76
EU	**14,582**	–387	–4,965	–6,510	**2,720**
Rest of the world	–7,915	–298	7,498	1,019	304
Total	**4,436**	–564	**5,586**	–2,652	6,805

Source: GTAP 6.0 and authors' computations.

TABLE 4
Main Macroeconomic Results from Scenarios 1 and 2

	Scenario 1		*Scenario 2*	
	ACP Africa	*EU*	*ACP Africa*	*EU*
Welfare (USD million)	–584	2,683	–1,629	3,001
GDP volume (Per cent change)	–0.20	0.02	–0.27	0.00
Terms of trade (Per cent change)	0.14	0.05	–1.04	0.10
Balance of trade (USD million)	–1,841	73	–1,373	–491

Source: GTAP 6.0 and authors' computations.

of aligning ACP tariffs to similar ones on the European markets is largely due to the deterioration of African terms of trade. These results emphasise the importance of tariff concessions by the EU in an EPA framework. Of particular significance, most of the gains associated with these concessions should be captured by non-LDC countries, as LDC countries already benefit from a quasi-duty-free access to the European markets.

b. The Industrial Aftermath of the EPAs

The creation of a free-trade area between the EU and ACP Africa will require the dismantlement of the tariffs that European exports face in these countries. The current tariff structure in the ACP African countries, as presented in Table 5, highlights that the industrial sectors are among the most protected in Africa.

Thus, if a genuine free-trade agreement were signed (Scenario 1), ACP African industrial output would decline on average by 2.9 per cent, and by 8.8 per cent for heavy industrial production. Some agricultural products, like crops and agro-processed goods, would be particularly favoured. The EPAs would reinforce African agricultural specialisation, and among the different industrial sectors would lead to the transfer of activity from heavy and light manufacturing to the agro-processing sectors. This reallocation of activities should induce a reallocation of endowments, with a significant movement of workers from light and heavy industries to agricultural and agro-processing activities. The capital endowment is reallocated in the same way (see Table 6). As industrial output represents less than one-quarter of the total Sub-Saharan African output in the GTAP database, the effective reallocation of endowments would yet remain limited.

TABLE 5
Tariff Structure Faced by EU Exporters in the African ACP Countries

SADC	*Per Cent*	*Rest of ACP Sub-Saharan Africa*	*Per Cent*
Livestock	44	**Agro-processed**	23
Agro-processed	38	Vegetables	22
Light manufactures	21	Sugar	21
Oilseeds	21	**Light manufactures**	21
Industry	15	Livestock	15
Cereals	8	**Industry**	13
Other crops	8	Oilseeds	11
Vegetables	7	Other crops	10
Natural resources	2	Cotton	9
Cotton	1	Natural resources	7
Sugar	0	Cereals	6

Source: GTAP 6.0.

TABLE 6
Production Structure Changes after the EPAs Implementation in the ACP African Economies (Scenario 1)

	Output Per Cent	*Unskilled Labour Per Cent*	*Skilled Labour Per Cent*	*Capital Per Cent*
Agriculture	1.1	0.7	0.0	0.4
All industries	*–2.9*			
Agro-process	4.8	0.4	0.3	0.6
Light and heavy industries	–8.6	–1.1	–0.6	–1.1

Source: GTAP 6.0 and authors' computations.

c. The EPA Would Hamper the Regional Integration through Intra-African Trade

Regional integration is a pillar of the EPA negotiations and of Africa's long-term development strategy. The European Union, which has been funding the main regional economic communities (RECs) over the last few decades, emphasises the crucial role of the regional integration process in African development. Hence, the negotiations between the EU and ACP countries are taking place at the sub-regional level, with every ACP country being represented through an REC. This should strengthen the integration of the regional institutions of the ACP group.

Using the same aggregation and modelling as in previous scenarios, it is possible to quantify the potential benefits of regional integration on the ACP African region (see Table 7). These benefits seem to be real, although they are unlikely to fully offset the negative consequences of the EPAs where they arise, particularly on the welfare of ACP African countries.

Furthermore, the trade component of the EPA negotiations does not offer favourable prospects for the African regional integration process. Theoretically, a free-trade agreement between ACP countries and the EU could have an ambivalent

TABLE 7
The Impact of Deepening Regional Integration (Scenario 3)

	Full Regional Integration
Welfare (USD million)	270
GDP volume (Per cent change)	0
GDP value (Per cent change)	0.4
Terms of trade (Per cent change)	0.3
Intra-regional trade (USD million)	2,383
Balance of trade (USD million)	−491

Source: GTAP 6.0 and authors' computations.

TABLE 8
Intra-regional Trade Shrinkage Induced by the EPAs

	Scenario 1	
	USD	*Per Cent**
Intra-African trade diverted (ACP Africa only)	−787	−18
Intra-African trade diverted (all Sub-Saharan Africa)	−2,619	−16

Note:
* Percentage of the current intra-regional trade.

impact on regional integration. On the one hand, it should strengthen the African supply capacity through greater market access to the EU, which in return promotes African regional markets. On the other hand, it may displace African regional trade to the benefit of European exporters. As tariffs on European exports will be reduced, European products should become more competitive compared to local products. In a nutshell, the more integrated ACP African countries are with the EU, the less integrated they will be at the continental level.

As reflected in Table 8, the second effect clearly outweighs the first in the empirical estimations of the EPAs. Intra-ACP African trade could shrink by 18 per cent according to the results of the first scenario. Additionally, this trade shrinkage would not only concern ACP African countries, but Sub-Saharan Africa as a whole as trade between South Africa and the rest of Africa will also be impacted by the EPAs.

d. The EPAs Would Require a Major Reform of the African Fiscal Systems

The European Union is the main source of imports to Sub-Saharan African countries. Hence, imports from Europe are the main source of customs revenue for these countries.[14] Given that customs revenues are an essential source of fiscal revenue in many of these countries, the potential impact of the EPAs could be high. According to the results of Scenario 1, this could amount to USD 3.5 billion, or 1.7 per cent, of GDP in ACP Africa. As indicated above, the exemptions granted to some importers are not captured in the GTAP database. The results also assume 100 per cent compliance by the importers. However, the results do indicate that even though some of the African countries could already be forgoing some of the import revenues through exemptions, the fiscal conditions of these countries will be strained by the EPAs reciprocity.

[14] The custom revenues stood for 27 per cent of the public revenues in Sub-Saharan Africa in 1995, according to the *World Development Indicators* of the World Bank (2005).

TABLE 9
The Effects of Tax Replacement on the Results of the First Scenario

	Changes in the Results of the First Scenario After Tax Replacement
GDP volume (Per cent change)	–0.04
Welfare (USD million)	–33
Balance of trade (USD million)	341

Source: GTAP 6.0 and authors' computations.

These significant fiscal losses may be offset by an increase in aid from the EU as a short-term measure. However, ACP African countries will have to deal with the structural reforms necessary in their fiscal systems in the long run if their spending programmes are to be sustained with the level of ambition required to address the development challenges in each of the countries. As a possible option for some countries, the study added to the first scenario the hypothesis of a replacement of customs taxes through a consumption tax, so that the level of public resources out of GDP remains unchanged.[15]

The economic effects of consumption taxes have been largely debated in the recent economic literature.[16] Tariff replacement through consumption taxes has uncertain consequences for global welfare, but is likely to be welfare-decreasing for national producers as they face a higher level of taxation. However, Scenario 4 demonstrates that the deterioration of national output and welfare are not significant after the change in the GTAP closure to include tax replacement, as can be seen in the results summarised in Table 9. Furthermore, the slight depreciation in GDP volume contributes to the reduction in imports and softens the impact of the EPAs on the balance of trade of African ACP economies.

5. FEWER COMMITMENTS OF ACP AFRICAN COUNTRIES WOULD SOFTEN THE IMPACT OF THE EPAs ON THEIR ECONOMIES

a. Mitigating Trade Asymmetries

The unfavourable results of the EPA simulations are linked to the inequality in the sharing of the trade gains likely to be derived from this agreement. If

[15] This new hypothesis can be criticised in the sense that a consumption tax tends to be more regressive compared to import taxes, meaning that the incidence of its burden is heavier for the poorest people, who consume fewer imported goods than the upper classes. But this hypothesis, given the methodology being applied, seems to be a realistic way to introduce a replacement tax.

[16] See, for instance, Emran and Stiglitz (2005) on the impact of tariff replacement in a largely informal economy.

TABLE 10
Bilateral Trade Changes (Scenario 5) (USD million)

	ACP Africa	*South Africa*	*EU*	*Rest of the World*	*Total*
ACP Africa	−532	−293	**3,501**	−457	**2,219**
South Africa	−927	0	285	489	−153
EU	**11,144**	−127	−4,957	113	**6,174**
Rest of the world	−4,812	−69	5,786	−710	196
Total	**4,874**	−488	**4,615**	−564	8,436

African ACP countries were to have lower reductions in their tariffs, the trade gains realised by the EU and ACP African countries could be more balanced. This principle of asymmetry, which is recognised in the Cotonou Agreement as a cornerstone of the current negotiations on the EPAs, has been tested in the fifth and sixth scenarios.

In the first asymmetrical liberalisation simulation, ACP African countries are allowed to keep 20 per cent of their tariff lines unchanged (Scenario 5). The effect of the EPA on trade gains as seen in Table 10 would be more balanced between the EU and ACP African countries. However, the global trade balance induced by this scenario amounts to USD 1.8 billion, which is equivalent to the trade imbalance observed in the first scenario, whereby ACP African countries eliminate all their tariffs on European imports. In terms of volume of production, ACP Africa experiences a decline of 0.1 per cent, particularly in the industrial sectors.

The price implications resulting from this scenario are of particular significance for ACP countries. As noted earlier, the highest tariff rates of ACP African countries are applied on industrial imports. Thus, these countries are likely to keep most of the protection on their industrial imports unchanged in this scenario, and cut their tariffs on the agricultural imports.[17] As a result, the price of raw agricultural products like sugar (+0.21 per cent), oilseeds (+0.14 per cent), livestock (+0.06 per cent) and cotton (+0.03 per cent) would grow while prices on industrial products drop slightly. The terms of trade in most ACP African countries, being exporters of these agricultural products, improve by 0.9 per cent. This price effect more than offsets the volume changes in ACP countries, particularly in the SADC sub-region, as they record welfare gains of USD 0.2 billion. However, the results in ACP African countries that do not belong to the SADC remain unfavourable, even at an asymmetry level of 80 per cent, with a deterioration in welfare of USD 0.7 billion, fuelled by a worsening of their terms

[17] See Annex 3, the changes in ACP tariffs as a result of the different ACP proposals.

of trade (–0.35 per cent) and a trade imbalance of USD 1.1 billion. Hence, these countries are likely to face significant adjustment costs as a result of the EPA implementation.

b. Out of the WTO Framework?

The European Union and ACP countries are committed to 'substantially liberalise' all trade to conform to Article 24 of the GATT. This article does not precisely mention the percentage of trade that is required to be fully liberalised. The interpretation of this article by the international trade community seems to converge on the 90 per cent ratio, which permits asymmetrical commitments, but limits the maximum flexibility to which ACP countries are entitled to 80 per cent.[18] In this last scenario, we consider the case where ACP countries would have to eliminate their tariffs on 60 per cent of European imports. Given the relative ambiguity regarding the interpretation of Article 24 of the GATT, we assume that the international trade community could agree[19] on an increased flexibility in favour of a highly asymmetrical FTA between developed and developing countries, among them LDCs. In taking this assumption, we note that increased asymmetry both in the depth of liberalisation and the transition periods in favour of developing countries could constitute developmental aspects of the EPAs. This would be in line with the EU's pronouncement that the EPAs will be used as developmental tools for ACP economies.

If one considers this larger asymmetry level, with ACP African countries allowed to keep their tariff lines unchanged on 40 per cent of their European imports while the EU opens up all its tariff lines to ACP African imports (Scenario 6), the results as shown in Table 11 are much more favourable for African countries, even though the external imbalances induced by the EPAs remain of concern. The asymmetry between the African and European gains is significantly reduced compared to the previous scenarios. African exports increase (+USD 3 billion) representing roughly 42 per cent of the growth in European exports (+USD 7 billion), versus only 17 per cent in the second scenario, for instance. Associated with an improvement of their terms of trade (+1.2 per cent), the more balanced trade impact of the EPA enables ACP African countries to keep their volume of output practically unchanged, and enjoy a growth in the value of this output by 1.1 per cent. In the meantime, the fiscal losses of ACP countries would be

[18] This is under the assumption that the EU eliminates the tariffs on 100 per cent of its imports from ACP countries.

[19] Paragraph 29 of the Doha Declaration gave mandate for negotiations under the current Doha Round which will have direct implications for regional trade agreements such as the envisaged EPAs. It is possible that the new disciplines to govern RTAs could include developmental aspects as called for in the Doha Declaration and further recognised in Annex D related to Paragraph 28 of the Declaration at the 6th WTO Ministerial Conference in Hong Kong.

TABLE 11
Main Macroeconomic Results of the Asymmetry Assumptions under Scenarios 5 and 6

	Scenario 5		*Scenario 6*	
	ACP Africa	*EU*	*ACP Africa*	*EU*
Welfare (USD million)	211	1,491	759	586
GDP volume (Per cent change)	–0.11	0.02	0.04	0.02
Terms of trade (Per cent change)	0.93	0.00	1.18	–0.03
Balance of trade (USD million)	−1,816	724	−1,433	869
Fiscal losses (USD million)	−2,103		−1,038	
Fiscal losses (Per cent GDP)	−1		−0.5	

Source: GTAP 6.0 and authors' computations.

TABLE 12
Production Structure Changes after EPA Implementation

	Scenario 1		*Scenario 6*	
	South Africa Per Cent	*ACP Africa Per Cent*	*South Africa Per Cent*	*ACP Africa Per Cent*
Agriculture	0.1	1.1	0.6	1.8
All industries	–1.0	–2.9	–0.6	–0.4
Agro-process	–2.1	4.8	0.8	10.5
Light industry	–1.2	–8.2	1.2	–3.2
Heavy industry	–0.7	–8.8	–1.4	–10.9

Source: GTAP 6.0 and authors' computations.

equivalent to just one-third of the losses in the first scenario, representing only 0.5 per cent of GDP in the case of the sixth scenario (see Table 11).

Introducing asymmetry in the EPAs, as assumed in Scenario 6, tends to reinforce the industrial restructuring observed in Scenario 1 (see Table 12). ACP African countries could experience a drop in industrial output of 11 per cent in heavy industry and three per cent in light industry, but still benefit from a boom in agro-processing activities (+11 per cent). The global impact of the EPAs would be much more favourable for the ACP economies under this scenario, with a global drop in industrial output by 0.4 per cent versus 2.9 per cent in Scenario 1.

Almost all the capital and labour outflow from light and heavy industries would be reallocated to agro-processing activities, which confirms that an asymmetrical scenario would be more favourable in terms of industrialisation than a genuine free-trade arrangement. Yet, as Table 13 demonstrates, the shocks remain significant for light and heavy industry in African countries, even if they reciprocate tariff elimination on only 60 per cent of their European imports.

TABLE 13
Endowments Allocation Changes in ACP African Countries

	Light and Heavy Industry		*Agro-processing*		*Agriculture*		*Services*	
	Scen. 1 Per Cent	*Scen. 6 Per Cent*	*Scen. 1 Per Cent*	*Scen. 6 Per Cent*	*Scen. 1 Per Cent*	*Scen. 6 Per Cent*	*Scen. 1 Per Cent*	*Scen. 6 Per Cent*
Unskilled labour	−1.1	−1.2	0.4	0.7	0.7	0.6	0.0	0.0
Skilled labour	−0.6	−0.7	0.3	0.5	0.0	0.0	0.1	0.1
Capital	−1.1	−1.2	0.6	1.1	0.4	0.1	0.2	0.1

Source: GTAP 6.0 and authors' computation.

These more favourable results, which lead to an improvement of welfare by USD 0.8 billion in the region, must be interpreted with caution for various reasons. First, these results remain uneven and unfavourable in terms of output and welfare for the African ACP countries that do not belong to the SADC region. Additionally, they are still associated with major external imbalances, as ACP African countries could face a deterioration of their balance of trade by USD 1.4 billion as a result of the implementation of Scenario 6. In the final analysis, strong asymmetry only partly protects intra-African trade, and by extension the regional integration efforts, as 10 per cent of ACP African trade could still be wiped out by very asymmetrical EPAs as indicated in Table 14.

6. CONCLUSION

The simulations undertaken with the GTAP modelling underscore that the Economic Partnership Agreements will potentially create highly asymmetrical gains between African and European producers. The former might not have much to gain in trade terms as most already enjoy a quasi-duty-free access to the European markets, and suffer from significant supply-side constraints. The latter could, on the contrary, increase their share on the ACP markets, with tariff barriers still being major obstacles. As a result, the EPAs will lead to large trade imbalances in African economies, as well as substitution of local and regional production by European imports.

The 'standard' European proposal, whereby African countries grant duty-free privilege to 80 per cent of their European imports, would not be enough to leave African output unchanged or limit the trade imbalances induced by the agreement. Only a large level of asymmetry between African and European commitments could reverse these trends. If African countries reciprocate tariff elimination on only 60 per cent of their European imports, the EPA would be neutral in terms

TABLE 14
Intra-African Regional Trade Shrinkage Induced by the EPAs

	Scenario 1		*Scenario 2*		*Scenario 5*		*Scenario 6*	
	USD Million	*Per Cent**	*USD Million*	*Per Cent**	*USD Million*	*Per Cent**	*USD Million*	*Per Cent**
Intra-African trade diverted (ACP Africa only)	–787	–18	–559	–13	–532	–12	–415	–10
Intra-African trade diverted (all Sub-Saharan Africa)	–2,619	–16	–2,109	–13	–1,752	–10	–1,043	–6

Note:
* Percentage of the current intra-regional trade.

of output, and could even increase their welfare thanks to an improvement in their terms of trade. This high asymmetry also limits the fiscal burden of the EPAs, as well as industrial restructuring, the shrinkage of regional trade and the trade imbalances likely to be experienced by ACP African countries.

Given the uncertain outlook of the EPAs for African economies, it is important to reshape the EPA initiatives. First, a large level of asymmetry between the European and African commitments has to be allowed. The WTO has not officially defined what 'substantially' all trade implies in terms of minimum commitments, but the observations presented underscore that the 80 per cent reciprocation could not be enough for Africa to preserve its trade, fiscal and industrial balance. Furthermore, the EU would improve the outcome of the EPAs for the African continent by granting duty-free access to all African imports, including the products from African ACP non-LDCs, as evidenced in the second scenario. In addition, the potential negative impacts induced by the EPAs on the African trade integration processes should be recognised. As a consequence, the integration of the intra-African markets, with the complete elimination of regional tariffs and the constitution of customs unions, is a prerequisite for the implementation of the EPAs.

It could eventually be important for individual countries to further investigate the alternatives to the EPAs through objective benefit and cost analysis. Given the potential cost of the EPAs, they may find it preferable, especially for the African LDCs, to rely on the EBAs preferences if they can be contractualised. For the non-LDCs, the cost of losing part of their preferences by resorting to using the GSP scheme only, *vis-à-vis* opening up their markets for the EU under an EPA, should be weighed carefully. These alternatives will be possible only if they do imply that the ACP economies will lose the non-tariff benefits associated with the Lomé scheme.

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