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The Growth and Poverty Impact of the West African Free Trade Agreement with the European Union

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The Growth and Poverty Impact on West African Countries of the ECOWAS/European Union Free Trade Agreement

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Abstract

The Cotonou Agreement concluded in June 2000 between the European Union (EU) and African, Caribbean and Pacific (ACP) ended successive Lome regimes and paved the way for an Economic Partnership Agreement (EPA) consistent with the World Trade Organization (WTO) rules. Non reciprocal trade agreements which form the basis of EU and ACP trade relations are contrary to the Most Favored Nation (MFN) principle under the WTO. The aim of the EPA is to make EU and ACP trade relations consistent with WTO legal requirements. The EPA aims to create a Free Trade Area (FTA) between West Africa (WA) and the European Union (EU). Thus, countries in the sub-region are expected to open their domestic market to 75% of the EU products over a period of 20 years. Apart from the gradual removal of barriers to trade, EU and ECOWAS agreed within the framework of EPA to design development programs to enable the region to adapt to the new trade environment created by the liberalization of trade with Europe. In our paper, the impact on West Africa of the Free Trade Agreement between EU and ECOWAS is analyzed against a baseline scenario where west african economies have already adopted the ECOWAS Common External Tariff. Compared to previous studies, our methodology adds value by combining a dynamic macro- micro multicountry model to assess the short, medium and long term impacts of the FTAs on fiscal revenues, trade balance, growth, and poverty. We simulate three realistic scenarios of 65 percent and 70 percent of market access over a period of 25 years. The first scenario involved a 70 percent liberalization of imports from EU over a period of 25 years, with 45 percent over the first 15 years. The second scenario assumes 70 percent of liberalization of imports from EU over a period of 25 years, with 64 percent during the first 15 years. Finally, the third scenario concerns 65 percent liberalization of imports from EU over a 25 years period, with 45 percent during the first 15 years.

Using Social Accounting Matrices (SAM) as accounting framework for basic data, our study uses a dynamic multi-country Computable General Equilibrium (CGE) model that takes into consideration the structure of each of the economies as well as all interactions existing between countries within the subregion. To address the poverty impact, we develop a poverty module for ten countries for which survey data was available and link it to the CGE modeling a top-down fashion. The simulation results indicate that, without any accompanying program, liberalizing 65 percent of imports from the EU boosts growth and contributes to reduce poverty in WA. However, WA faces more pressure when the liberalization reaches 70 percent of imports, leading to a slower growth rate and an increase of poverty. The deterioration of the trade balance and the loss of Government revenue come out as the main cause of the economic slowdown under the simulated FTA scenarios. This general picture of the growth impact of the FTA scenarios hides significant disparities among economies in the subregion. The growth rate accelerates in four countries: Côte d’Ivoire, Ghana, Niger, and Benin; it slowdowns in five other countries: Nigeria, Senegal, Togo, Cape Verde, and Guinea-Bissau; and finally a stagnation of the growth rate is observed in the remaining countries considered in the study: Burkina Faso, Mali, and Guinea. Nigeria’s economy paid the highest price for a greater opening up of the WA’s market to the EU products, i.e. from 65 to 70 percent of liberalization. A faster pace of tariff reductions - from 45 to 65 percent during the first 15 years - widens disparities among economies in the subregion. With a accompanying policies program of producing energy and transport infrastructure, the simulations indicate better impacts of the FTA in terms of growth rate and poverty reduction in all the countries. Our findings indicate also that, implementing the FTAs would lead to a trade diversion in favor of the EU at the expense of other trading partners. The simulations show that the FTA have little impact of the interregional trade as it remains relatively constant. The findings show that accompanying programs to boost competitiveness of the west african firms during the liberalisation processes must be taken place.

Key words: Trade, growth, poverty, West Africa, economy wide model.

JEL Codes:F43, I35, O5

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1. Introduction
In principle, Free Trade Agreement (FTA) is welfare improving according to the international economics. This positive outcome of FTA hold under the assumption that its members are major trade partners and the agreement is reciprocal. Therefore, as a reciprocal agreement, FTA is both import-liberalization and export-liberalization policies and is expected to induce a general equilibrium effect through the reallocation of resources between imports competing towards export-oriented industries. As a preferential trading agreement, FTA is not necessary welfare improving. To increase the likelihood of positive aggregate effect two conditions need to be respected: first, the trade creation should dominate the trade diversion; second, import prices should not increase (Krishna 2003; Panagariya 2000). The time horizon of the analysis also gives different perspectives on the welfare impact of the free trade agreement. Analysis FTA should clearly identify the time horizon in order to distinguish the short-run adjustment costs from the long-run efficiency gains. Ideally, the impact analysis of FTA should integrate both time dimension to eliminate the bias introduce when looking at only one side of the story (Trefler, 2004).

Studies on the well-covered Canada-United States FTA shed light on the likely raise of the aggregate welfare as more trade has been created than diverted, and import prices have fell according to Trefler (2004). The two countries are major trades as they exchange considerable quantities of merchandises. The agreement was reciprocal, i.e. affecting both importers and exports. The study highlighted the short run adjustment cost and the long run efficiency gain related to the FTA as a major contribution to the debate. Susanto, Rosson, and Adcock (2007) also found that US-Mexico trade agreement under NAFTA has created more trade than diverted trade. Caliendo and Parro (2009) analyses of the intermediate inputs, sectorial linkages, and sectoral productivity analysis concluded that the NAFTA has been largely beneficial to Mexico while United State and Canada benefit more with the trade liberalization with the rest of the world. Firms in Mexico have directly benefited from the lower cost of intermediate inputs with tariffs reduction under NAFTA according to the authors. The welfare effect of a FTA can differ significantly across countries and across sector within a country according to the importance of the imported intermediate inputs in the production system. “Finally, understanding the interrelation across sectors is important for correctly assessing welfare. The impact of tariffs in one sector has effects over all other sectors. This is also the case in non-tradable goods that rely on intermediate tradable inputs for their production. These non-tradable goods are consumed by agents, and if we do not consider this channel we could under-predict the welfare gains from tariff reductions.” (Caliendo and Parro, 2009).

Are the Economic Community of West African States (ECOWAS)\(^2\) and the European Union (EU) major trading partners?

The analysis of the trade flows between the two regions shows that EU is a major trade partner for ECOWAS while the opposite is not necessary true. Indeed, EU accounts for 22.8% and 23.5% of ECOWAS total imports and exports respectively. On the other hand, trade flows with the ECOWAS countries represent only 0.5% of the EU total imports and exports. Thus, the FTA

\(^2\) We interchangeably use the terms Economic Community of West African States (ECOWAS), West Africa (WA), and subregion to designate the same geographical space constituted by the following fifteen countries: Benin, Burkina Faso, Cape Verde, Cote d’Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo.
matters more for ECOWAS than EU in terms of trade flows. The trade relationship between ECOWAS and EU is discussed further in the coming sections.

**Is there a reciprocal agreement in the ECOWAS-EU FTA?**

ECOWAS countries have unilateral access privileges to EU market since 1975. Under this non-reciprocal preferential agreement, most ECOWAS goods already enter into the European market free of duty. Therefore, the FTA is more an import-liberalization policy for ECOWAS and an export-liberalization policy for EU. While import competing industries within ECOWAS face higher competition with products from EU, opportunities for the reallocation of resources towards export-oriented industries is expected to be limited.

The Cotonou Agreement concluded in June 2000 between the European Union (EU) and African, Caribbean and Pacific (ACP) group of States ended successive Lome regimes and paved the way for the conclusion by 31 December 2007 of an Economic Partnership Agreement (EPA) consistent with the World Trade Organization (WTO) trading rules in the sense of GATT Article XXIX. Non reciprocal trade agreements which form the basis of EU and ACP trade relations are contrary to the Most Favored Nation (MFN) principle under the WTO. Among the fifteen countries making up the West Africa subregion, four are classified as developing countries and eleven as Least Developed Countries. For the developing countries, the trade concessions they enjoyed in previous agreements are in contradiction with the MFN principle of the WTO. According to this principle, advantages granted to a country must be extended to all developing countries or must be within the logic of reciprocity between the two countries or regions within the framework of a regional trade agreement. In Doha in 2001, EU and ACP countries obtained a derogation to maintain the preference until 2007. The aim of the EPA is to make EU and ACP trade relations consistent with WTO legal requirements. The EPA aims to create a Free Trade Area (FTA) between West Africa (WA) and the European Union (EU). Thus, countries in the sub-region are expected to open their domestic market to almost all EU products over a period of 25 years. Apart from the gradual removal of barriers to trade, EU and ECOWAS agreed within the framework of EPA to design development programs to enable the region to adapt to the new trade environment created by the liberalization of trade with Europe.

The liberalization scheme proposed by The Economic Community of West African States (ECOWAS) was established by distinguishing four groups of products: products to be liberalized immediately or very quickly after signing the agreement (Group A); products to be liberalized over a period of ten years after a partial moratorium of five years (Group B); products to be liberalized over a period of 10 years at the end of the Group B process (Group C); and finally, sensitive products excluded from the liberalization (Group D). For each group of products, the pace of tariff removal is differentiated based on the capacity to deal with competition and level of initial customs duties. The pace of tariff removal is designed by taking into account three criteria: the level of initial customs duties (20, 10 or 5%); the necessary phasing between external trade liberalization and adaptation of productive sectors to competition; and simplicity, i.e. reduction of five points every 5 years in order to facilitate understanding by operators and implementation by customs services.

Even the EPAs can benefit from a greater guarantee for access to EU markets, they raise several concerns amongst West African countries. Firstly, West African countries fear that giving preferential access to EU products, under a reciprocal arrangement, would put their producers in
numerous sectors at risk of increased competition. Secondly, they fear that cutting tariffs for EU products would result in a sizeable loss of tariff revenue that would hurt their public budgets and then the social expenditures. Thirdly, they claim that numerous modalities still to be precisely consider. For example what will be the appropriate level and composition of the Market Access Offer. Which products will be considered to be sensitive for ECOWAS region and thus excluded from liberalisation? How will integration inside the region be linked with ECOWAS-EU liberalisation? Therefore, it is at the benefit of ECOWAS countries to assess the impact of the liberalization of their domestic markets and explore possible policy options. To contribute to address these concerns, we assess the short, medium and long terms impacts for WA of the Free Trade Agreement (FTA) between the subregion and the EU on economic growth, external trade, public finance and poverty.

Fontagne, Laborde, and Mitaritonna (2012) analyzing the trade related impact of the EPA shows an increase of EU imports to the ECOWAS countries by 15.1% and ECOWAS exports to the EU by 4.7%. The analysis sheds light on the substantial loss of import tax revenues by the ACP due to FTA with the ECOWAS region being the most affected. Studies by the “Centre d’Analyse des Politiques Economiques” on UEMOA in 2002 and by Busse, Borrmann, Großmann across the ECOWAS countries in 2004 also found negative trade and fiscal impacts of the FTA between the ECOWAS and the EU.

Using a partial equilibrium model, Zouhon-Bi, Simplice G. and Nielsen, L 2007 assess the likely impact of EPA tariff changes on trade and the subsequent fiscal revenue changes. They find that, under standard import price and substitution elasticity assumptions, eliminating tariffs on all imports from the EU would increase ECOWAS’ imports from the EU by 10.5–11.5 percent for selected ECOWAS countries, namely Cape Verde, Ghana, Nigeria and Senegal. This increase in imports from the EU would be accompanied by a 2.4–5.6 percent decrease in total government revenues. Tariff revenue losses should represent 1.0 percent of GDP in Nigeria, 1.7 percent in Ghana, 2.0 percent in Senegal and 3.6 percent in Cape Verde.

Using a multiregional general equilibrium model, Decaluwe, Laborde, Robichaud, and Maisonnave (2008) also witness a substantial increase of imports of European products into the ECOWAS countries. Moreover, the study shed light on the trade diversion effect of the EPA. Indeed, imports among the ECOWAS countries fall with the increase of imports from the EU. The trade diversion effect is also witnessed with the rest of the world. The study found that EPA between the two regions has also a strong negative fiscal impact for the ECOWAS region. Beyond the trade and the fiscal impacts, the study by Decaluwe, Laborde, Robichaud, and Maisonnave (2008) also shows a slowdown of the ECOWAS economies under the FTA, in general.

In view of economic interdependence and retroactive effects of behaviors of economic agents, the analysis of EPA impacts perfectly forms part of a general equilibrium context which takes into account on one hand, the structure of the economy as a whole, and on the other hand, interrelations between various economic agents. The general equilibrium modeling uses by Decaluwe, Laborde, Robichaud, and Maisonnave (2008) offers a number of advantages in analyzing the impacts of EPAs.

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3 ECOWAS, CEMAC+, COMESA, SADC, CARIFORUM and Pacific.
Moreover, the elimination of tariffs and implementation of the EPA agreement will be done gradually over a period of 25 years. Consequently, the impacts will be felt not only in the short term but also in the medium to long term. Taking advantage of the dynamic modeling framework, general equilibrium analysis allows assessing the short and long term effects of the EPA agreement.

The particularity of our study as compared to the study by Decaluwe, Laborde, Robichaud, and Maisonnave (2008) is the simulation of realistic scenarios of market access offers by ECOWAS. The first scenario involved a 70% liberalization of imports from EU over a period of 25 years, with 45% over the first 15 years. The second scenario assumes 70% liberalization of imports from EU over a period of 25 years, with 64% during the first 15 years. Finally, the third scenario concerns 65% liberalization of imports from EU over a 25 year period, with 45% during the first 15 years. Furthermore our analysis integrates the 15 economies within the ECOWAS space for which macroeconomic information have been gathered as well as microeconomic data to perform country-specific poverty analyses.

The rest of the document is structured into five sections. Discussions on the ECOWAS unilateral access privileges to the EU market and its inconsistency with the WTO rule of Most Favored Nation (MFN) help understanding the basis of the FTA. It is followed by an overview of the macroeconomic background of the West Africa’s economies and its trade profile. The section 4 provide a synthetic description of the methodology. Finally, the main findings are then discussed in section 5 before we conclude the paper with a summary of the main lesson learned.

2. Unilateral Access Privileges, WTO rules, and the basis of the ECOWAS-EU FTA

2.1. From the Lomé Conventions to the Cotonou Partnership Agreement

The European Union began a cooperation policy with the African, Caribbean and Pacific (ACP) states as a whole in 1975. Until 2000 these relations were governed by the regularly updated Lomé Conventions. The conventions were based on equal partnership as a cornerstone for cooperation, thus investing ACP countries with the “ownership” of their own development. They focused on two key elements: a) economic and commercial cooperation and b) development cooperation. The economic cooperation, implemented through a system of trade preferences, ensured that manufactured and agricultural products could enter the European Community without being subject to customs duties or quantitative restrictions. This access was on a non-reciprocal basis, in the sense that ACP states were merely requested to apply the most favoured nation clause to the Union and to refrain from discriminating between countries of the Union. Specific regimes were applied to products of extreme importance for ACP states such as sugar, beef and veal, rum and bananas. Development cooperation was assured through specific actions in various sectors such as health, education and environment.

In the years running up to the expiration of the IV Lomé convention, ACP-EU cooperation faced pressures on several fronts. ACP countries felt that the principle of “equal partnership” had been eroded and replaced by a relationship based on “conditionality”. For example, respect for human rights, democratic principles and the rule of law became “essential elements”, whose violation could lead to partial or total suspension of development aid. Moreover, despite preferential access to EU markets, ACP export performance was deteriorating over time. Finally, with the emergence of the World Trade Organization, the non reciprocal preferential trade regime provided by the Lomé convention was increasingly seen as unacceptable and “incompatible”
with international trade rules, in the sense of GATT”s Article XXIV. All these arguments highlighted the need for a re-appraisal of development cooperation in general and of ACP-EU cooperation and its trade elements in particular.

The new Cotonou Partnership Agreement signed between the ACP countries and the European Union, on 23 June 2000 in Cotonou was concluded for a twenty-year period from March 2000 to February 2020 with a clause for a mid-term review every five years. The Cotonou Agreement contains ambitious objectives such as poverty eradication, sustainable development and the gradual integration of the ACP countries into the world economy. These objectives are to be achieved through political dialogue, development cooperation and closer economic and trade relations. Major changes from the Lomé Conventions include the strengthening of the political dimensions of the partnership, the deepening of the regional integration process between ACP countries, the preparation of a new WTO compatible trade policy and a more rationalised performance-based aid management.

2.2. Towards WTO-compatible arrangements: main alternatives

The driving force behind the EU”s search for new trading arrangements was the need to ensure that future ACP-EU trade relations were compatible with the requirements of the World Trade Organization (WTO), specifically, GATT article XXIV.21 At the Fourth WTO ministerial conference in Doha in 2001, the EU was granted the most recent waiver for the Lomé conventions, allowing it to maintain the current non reciprocal tariff preferences for ACP countries until 31 December 2007. Negotiations for the so-called new Economic Partnership Agreements (EPAs), started in September 2002 and should be completed by 2007, to comply with the requirements of the waiver.

Not all ACP countries face the same choices. ACP-least developed countries (LDCs) will still benefit from the Everything But Arms (EBA) initiative whatever they decide to do. This initiative, part of the GSP scheme, grants them full access to the EU without having to reciprocate. However there may still be an incentive for these countries to join an EPA, as other issues are also at stake. LDCs need to compare alternatives including “variables” other than applied duties. The main problem arises with the non-LDCs ACP countries which are not in a position to enter an EPA and for whom “alternative trade arrangements” have to be provided by 2008, once the Doha waiver for the current market access arrangements lapses. The main alternative available is that non-LDCs ACP countries avail of their access to the Generalized System of Preferences (GSP). Currently they already have access to the general scheme available to all developing countries (although rarely used as Cotonou preferences are usually more generous). A more attractive alternative would be the GSP-plus scheme, which provides improved market access to “vulnerable” countries which show commitment to a sustainable approach to development by ratifying and implementing a series of international conventions. Both the GSP and GSP plus provide for a less favourable treatment. All regions will suffer, but the impact varies depending on the number of LDCs in the group and the structure of exports. Even for ECOWAS, which export mainly raw products that tend to have low or zero MFN tariffs (oil, cocoa, cotton), the effects are still visible. ECOWAS move from an average tariff of close to zero to 1.7% respectively (Fontagne, Laborde, and Mitaritonna, 2012).
3. The ECOWAS Economies and Trade Profiles

ECOWAS is a subregional integration space comprising fifteen countries. The economy generally depends mainly on agriculture with high level of staple grains production (millet, rice, maize, etc.) as well as fruits and vegetables with a significant proportion exported (mangoes, banana, pineapple, etc.). With an average Gross Domestic Product (GDP) per capita below USD 933 in 2009, ECOWAS countries are mostly classified as least developed countries. The majority of the population lives under the national poverty lines. In the last decade, the economy of the subregion was marked by the rapid development of the services sector fuelled by the telecommunication business. However, this situation hides significant disparities.

Cape Verde, Nigeria, Ghana and Cote d’Ivoire are the richest countries and classified among the non Less Developed Countries. Nigeria is also one of the most populous Nations in the world with over 150 million inhabitants and one of the leading oil producers in the world. Côte d’Ivoire and Ghana are respectively first and third world producers of cocoa notwithstanding their important production of coffee and other agricultural products. Mali and Burkina Faso are leading producers of cotton, and Guinea, Liberia, and Sierra Leone are diamond producers.

Economic growth has been relatively strong within ECOWAS over the last decade; the average real GDP growth rate averages 7.2 percent over the period 2002-10. The growth rate has been around 6 percent since 2005 and is projected at 5.9 and 6.8 percent in 2011 and 2012, respectively (Graph 1). The economic performance of WA is well above the overall African figure of 5.5 percent over 2002-10.

**Graph1: real GDP growth (%)**

![Graph1: real GDP growth (%)](image)


Nigeria dominates the ECOWAS economy with a contribution of 62 percent in 2009 (Table 1). It is followed by Ghana, Côte d’Ivoire, and Senegal with 9.6, 8.7, and 4.7 percent, respectively. Nigeria has been driving the WA growth over the period 2002-10 (Table 1). Its contribution to the subregion’s growth increases substantially over the last decade fueled by surging world oil prices. On the other hand, the contribution of Côte d’Ivoire falls significantly while Ghana and Senegal recorded positive but small contributions. Cape Verde shows the highest per capita GDP within the subregion, with USD 3,113 in 2009 (Table 1). It is followed by Cote d’Ivoire, Ghana,

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4 Benin, Burkina Faso, Cape Verde, Côte d’Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo.

Nigeria, and Senegal showing per capita GDPs above USD 1,000 in 2009. Liberia, Niger, Sierra Leone, Guinea, and Togo have a per capita GDP below USD 500 for the year.

Table 1: Selected economic and social variables for ECOWAS in 2009

<table>
<thead>
<tr>
<th>Countries</th>
<th>Annual real GDP growth (average over 2002-10)</th>
<th>GDP (Million USD)</th>
<th>Share (%)</th>
<th>Total mid-year population (Thousands)</th>
<th>Share (%)</th>
<th>GDP per capita (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benin</td>
<td>3.6</td>
<td>6907</td>
<td>2.5</td>
<td>8935</td>
<td>3.0</td>
<td>773</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>5.5</td>
<td>8133</td>
<td>3.0</td>
<td>15757</td>
<td>5.3</td>
<td>516</td>
</tr>
<tr>
<td>Cape Verde</td>
<td>6.1</td>
<td>1575</td>
<td>0.6</td>
<td>506</td>
<td>0.2</td>
<td>3113</td>
</tr>
<tr>
<td>Côte d’Ivoire</td>
<td>1.2</td>
<td>23899</td>
<td>8.7</td>
<td>21075</td>
<td>7.1</td>
<td>1134</td>
</tr>
<tr>
<td>Gambia</td>
<td>5.2</td>
<td>931</td>
<td>0.3</td>
<td>1705</td>
<td>0.6</td>
<td>546</td>
</tr>
<tr>
<td>Ghana</td>
<td>5.9</td>
<td>26169</td>
<td>9.5</td>
<td>23837</td>
<td>8.1</td>
<td>1098</td>
</tr>
<tr>
<td>Guinea</td>
<td>2.5</td>
<td>4459</td>
<td>1.6</td>
<td>10069</td>
<td>3.4</td>
<td>443</td>
</tr>
<tr>
<td>Guinea-Bissau</td>
<td>1.5</td>
<td>837</td>
<td>0.3</td>
<td>1611</td>
<td>0.5</td>
<td>520</td>
</tr>
<tr>
<td>Liberia</td>
<td>1.7</td>
<td>856</td>
<td>0.3</td>
<td>3955</td>
<td>1.3</td>
<td>216</td>
</tr>
<tr>
<td>Mali</td>
<td>4.9</td>
<td>8964</td>
<td>3.3</td>
<td>13010</td>
<td>4.4</td>
<td>689</td>
</tr>
<tr>
<td>Niger</td>
<td>4.7</td>
<td>5244</td>
<td>1.9</td>
<td>15290</td>
<td>5.2</td>
<td>343</td>
</tr>
<tr>
<td>Nigeria</td>
<td>9.1</td>
<td>169408</td>
<td>61.5</td>
<td>154729</td>
<td>52.4</td>
<td>1095</td>
</tr>
<tr>
<td>Senegal</td>
<td>3.9</td>
<td>12756</td>
<td>4.6</td>
<td>12534</td>
<td>4.2</td>
<td>1018</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>8.7</td>
<td>2177</td>
<td>0.8</td>
<td>5696</td>
<td>1.9</td>
<td>382</td>
</tr>
<tr>
<td>Togo</td>
<td>2.5</td>
<td>3156</td>
<td>1.1</td>
<td>6619</td>
<td>2.2</td>
<td>477</td>
</tr>
<tr>
<td>All ECOWAS</td>
<td>7.2</td>
<td>275471</td>
<td>100.0</td>
<td>295328</td>
<td>100</td>
<td>933</td>
</tr>
</tbody>
</table>


The share of customs revenues levied on EU products accounts for 5 percent of the overall ECOWAS tax revenues (Annexed Graph 7). However, this global figure hides significant disparities among countries within the subregion. This source of financing is important for a large number of countries: Cape Verde, Guinea-Bissau, Senegal, Côte d’Ivoire, Guinea, and Nigeria. As a consequence, the impact of the WA’s market access offer to European products is expected to be important in these economies compared to countries with low shares.

Trade openness, import penetration rate, and initial specific tariff rate are key elements of the WA’s external trade. The openness measuring the flows of imports and exports per unit of value added appears to be relatively high for six WA economies: Ghana, Côte d’Ivoire, Cape Verde, Senegal, Togo, and Nigeria (Annexed Graph 8). The initial openness rates for these countries range between 63 to 92 percent. The rate of openness is much lower for the rest of the West African countries, between 34 and 50 percent.

The penetration rates of EU products tend to follow the trend observed with the openness with exceptions of Nigeria and Guinea-Bissau (Annexed Graph 9). Although the Nigerian economy appears to be opened to external trade, the latter is driven by the country’s exports; the penetration rate of EU products is rather low. The opposite is true for Guinea Bissau with a high penetration rate of the EU products and low exports perform.

The specific tariff rate – ratio of customs revenues and import values – applied to imported products was initially estimated at an average of 7 percent for the overall WA States (Annexed Graph 10). The specific tariff rate was well over the subregional average for six countries: Guinea, Benin, Cape-Verde, Senegal, Niger, and Côte d’Ivoire. On the other hand, Nigeria, Ghana, and Togo show relatively low specific tariff rates.
4. Methodology
In the literature, there are two methodological approaches used to analyze the impact of an FTA. The first approach is that of partial equilibrium (Fontagné, Laborde, and Mitaritonna, 2010; Busse, Borrmann and Großmann, 2004) that focuses on sector impacts. The second approach is that of general equilibrium which make an effort to estimate the effects of discriminatory tariff preferences on the economy as a whole, by taking intersectoral linkages into account. The general equilibrium models has the advantage of presenting an overview of the national economy and the transmission channels of the shocks to microeconomic agents whilst considering the macroeconomic constraints under which they operate. However, general equilibrium analyses do not integrate detailed representation of sectors, subsectors, and industries as do partial equilibrium analyses. In view of economic interdependence and retroactive effects of economic agents’ behavior, the analysis of the FTA bet EU and WA fit perfectly into a general equilibrium context which takes into account the structure of the economy as a whole and interrelations between various economic agents. General equilibrium modeling offers a number of advantages in analyzing the impacts of FTAs.

First, the signing of a FTA, when compared to the regime in force before Cotonou, will have a direct impact on import prices and external trade flows and will put pressure on the balance of payments. Meanwhile, a change in customs tariffs will have multiple direct repercussions on public finance, competitiveness of the economy, employment and household living standard. It is therefore essential to use a methodology which allows the consideration of all these interactions when assessing the overall impact of the FTA.

Second, FTAs concern all ACP countries and aim at a general reorientation of trade relations between these countries and EU. In the case of West Africa, concerned countries do not have the same economic structure. As a result, the scope of macroeconomic and microeconomic impacts may vary from one country to the other. As growth and poverty reduction trajectories of countries evolve, there is the need to know those that will be adversely affected by the policy change and those that will rather benefit from it.

Third, the elimination of tariffs and implementation of the new economic partnership agreement will be done gradually over a period of 25 years. Consequently, the impacts will be felt not only in the short term but also in the medium to long term. One of the advantages in using a general equilibrium framework is the possibility of generating a growth path that allows comparisons with the underlying scenario at each stage of the process to assess the effects of the agreements on economic growth, sectors’ performance, public finance, and the living standard of the population.

Using Social Accounting Matrices (SAM) as accounting framework for basic data, our study uses a multi-country Computable General Equilibrium (CGE) model that takes into consideration the structure of each of the economies as well as all interactions existing between countries within the subregion. The model is run over 25 years in a recursive manner. To our knowledge, only one study (Decaluwé, Laborde, Robichaud, and Maisonnave, 2008) has used a multi-country CGE approach to assess the economic impact of WA-EU FTA. However, the study was conducted well ahead finalizing the list of liberalized products and, therefore, do account for the current market access offer (MAO) under the FTA in the definition of their scenarios. In contrast, we simulate three realistic scenarios of market access offers by ECOWAS reflecting the content of negotiations between the EU and the WA.
CGE models do not include disaggregated information on households’ incomes and expenses to permit a poverty assessment. To address this shortcoming, we develop a poverty module for ten countries for which survey data was available and link it to the CGE modeling a top-down fashion. Therefore, the poverty impact assessment of the FTA is another significant contribution of our analysis as compared to Decaluwé et al. (2008). Further discussion of the poverty module is presented later after an overview of the multicountry CGE model and a highlight of the intra-regional transaction flows.

The Multicountry CGE Model

Our CGE model is an integration of twelve country-specific models linked mainly by their trade in goods and services: the intra-regional trade. Country sub models are tailored to national economies through the use of country-specific Social Accounting Matrices (SAM).

The country modules follow the standard structure of CGE models based on the neoclassical theory of general equilibrium. Producers maximize their profit for given technologies and prices. Consumers maximize their well-being for given preferences and prices. Competitive markets determine prices which ensure a balance between producers’ supply and consumers’ demand.

This theoretical formulation is completed with some structural particularities of the economies. Labor is assumed to be constrained at the demand side that is its supply is perfectly elastic. As a consequence, real wage rates are fixed, that is the wage rate is indexed to the consumer price. Capital is activity-specific; its demand and supply are exogenous. The balance of the current account of external trade is keep at its initial level to ensure equilibrium through the real exchange rate. The economic growth is triggered by capital accumulation and the growth of labor force. Capital accumulation follows the neoclassical specification presented by Thorbecke and Junk (2003). Labor is supposed to grow at a fixed rate. Government expenditures growth at the population growth rate as we are assuming for a fixed per capita public expenses. With endogenous revenues, Government budget balances through private savings - crowding out effect.

Modeling the Intra-Regional Flows

The twelve models developed in this study are interrelated through the intra-regional trade in goods and services. Each country has trade relations – important exports – with three distinct geographical entities: other WA States, the European Union (EU), and the rest of the world (ROW).

Graph 2 depicts the intraregional trade of commodities. On the import side, domestic consumers are assumed to imperfectly substitute products from the three regions. Thus, competition between products from WA, EU, and ROW mainly occurs at the demand level. The overall import from WA States is equal to the overall demand for export directed to the subregion. Therefore, export supply towards WA is constrained by export demand from the subregion. Then, relative prices determined the demand for exports addressed to a country in accordance with imperfect substitution. Finally, a given country satisfies the export demand from the subregion first; the remaining supply of products is shared among the domestic, EU, and ROW markets according to an imperfect transformation.

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6 Decaluwé et al. (2008) explicitly included eleven countries.
Graph 2: Schematic Representation of the intraregional trade of commodities

Source: Authors

Legend: Q = Global demand; D\(^D\) = Local demand; D\(^S\) = Local supply; M = Imports; X = Exports; rw = Rest of the world, eu=European Union; wa = West Africa; i= Category of products; 1 and 2 = regions 1 and 2.
The supply of products to the EU and the ROW is assumed to have perfect demand elastic, and therefore their export border prices are exogenous reflecting preferential agreements between WA States and these regions. In other words, WA’s products are easily exported to the EU and the ROW; thus, exports are mainly constrained by the supply side. Unlike the exogenous export prices of the EU and the ROW, the prices of exported products towards the subregion are endogenous. They are estimated at the average domestic prices weighted by the shares of country’s export in the subregion.

There is no specific treatment of the intra-regional flows of factors. The assumption of an abundance of labor in every country and, therefore, unconstrained (or perfect elasticity of) labor supply makes the analysis of infra-regional mobility of labor less relevant. We argue that the new comers swell the significant mass of unemployed and underemployed pool of active individuals in the host country. The probability of the new comers to find job is relatively low compared to the indigenes, thus the economic consequence of inter-regional mobility is relatively weak.

With regard to capital, the analysis shows that endogenous savings of residents is mainly invested in the country of origin. On the other hand, the variation in foreign investments is closely linked to the economic performance of the country.

The Poverty Module

The standard CGE model generally covers a limited number of categories of households thus restricting its use in the analysis of poverty and distribution of revenue. More and more analysts choose to establish a link between the CGE model and data from a nationally representative household survey to analyze the microeconomic impacts of macroeconomic policies and shocks. Our analysis uses a top-down micro-accounting approach which proved more appropriate in the case of this study, given the difficulty in reconciling micro-households data with those of the SAMs.

For each country, we replicated the monetary poverty profile for the base year while taking into consideration the national poverty line. After each simulation, the change in consumption expenditures is computed from the CGE model and used to estimate new expenditures of real households in the survey. The poverty thresholds are also updated through a change in consumer price indexes generated from the CGE model. Then, new poverty rates are estimated for various scenarios.

5. Simulation Results and Discussion

The study simulates three market access offer scenarios. First, the liberalization of 70 percent of imports from the EU over a period of 25 years, with 45 percent during the first 15 years (named “Scenario 70s” hereafter). Second, the liberalization of 70 percent of imports from the EU over a period of 25 years, with 64 percent over the first 15 years (named “Scenario 70a” hereafter). Third, the liberalization of 65 percent of imports from the EU over a period of 25 years with 45 percent during the first 15 years (named “Scenario 65s” hereafter). The outcomes of the three

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7 Davies (2009) provides an exhaustive review of the literature regarding the techniques of reconciling the macro-modeling with poverty and inequality analysis.
scenarios are compared to that of the scenario without a free trade agreement or the reference scenario.\textsuperscript{8}

The specific customs tariff – ratio of custom revenues and import values – applied to imported products was initially estimated at an average of 7.3 percent in the subregion ( Annexed Graph 10 ). The liberalization process is presented in three phases corresponding to the pace of liberalization of Groups A, B and C products ( Graph 3 ). If the tariff removal is carried out from year 1 to year 25, Group A products will be liberalized by January year 1 and four year moratorium will be observed (Phase 1). From January year 5, Group B products will be gradually liberalized over a ten-year period (Phase 2). Group C products liberalization will take place gradually in January year 15 for another ten-year period (Phase 3). The gradual liberalization will lead to a regular reduction in customs duties all along the 25-year period.

**Graph 3: Change in the effective customs tariff rates applied to EU products, in percentage point to the reference scenario**

![Graph showing the effective customs tariff rates applied to EU products](image)

Source: Authors from the simulation results.

The effective tariff rates applied to European goods\textsuperscript{9} falls between 0.8 and 0.9 percentage point in phase 1 with a small difference in the pace of liberalization among the three scenarios. Phase2 is marked by an increasing gap in the pace of tariff reduction between the slow paces cenarios (70s and 65s) and the accelerated pace scenario (70a). Let us recall that 45 and 64 percent of imports from the EU is expected to be liberalized under the slow pace (70s and 65s) and the accelerated pace (70a) scenarios, respectively, during the first 15 years of the process. This gap in the customs tariffs removal scheme widens among the three scenarios as we move towards phase 3. The liberalization pace accelerates under scenario 70s and remain moderately important under scenario 65s. On the other hand, the pace of liberalization slowdowns under scenario 70abut remained quite important. Phase3 is marked by the liberalization of group C products.

\textsuperscript{8} The reference scenario shows average growth rates of national economies similar to those observed over the period 1996-2005, except for Cote d’Ivoire for which we consider the average growth rate of the 1990s. In the latter country, the 2000s coincided with an internal crisis that contributed to slowdown the national economy. Also, we exclude the second half of the 2000s for other economies as it coincided with successive global crises - energy, food, financial, and economic - that affected the economies of the subregion.

\textsuperscript{9} The term “European products” refers to products from the European Union.
which are more protected than those of group A and B, and account largely for imports of the subregion.

a. Growth Impact

The liberalization of the subregional market to EU merchandises shows mixed results as depicted by Graph 4. The liberalization of a maximum of 65 percent of imports form EU accelerates slightly economic growth in the region. Beyond this threshold, a significant reduction of growth is observed at the end of the liberalization period. The liberalization of Group A and B products contributes to the acceleration of economic growth in the subregion; on the other hand, that of Group C products leads to a slowdown of economic growth.

Graph 4: Change in ECOWAS GDP, compared to the reference scenario (%)

Source: Authors from the simulation results.

A marginal increase by 0.2 percent in the overall subregional GDP is observed in phase 1, corresponding to the liberalization of Group A products (Graph 4). Indeed, local products in this group do not currently compete directly with the European products and remain mostly unprotected. Consequently, their liberalization is beneficial to the economies through the price effect.

The GDP is still on an upward trend under phase 2 when group B products start to be liberalized (Graph 4). Once again, the results reflect the low competition of local products with European products that have been liberalized so far. The negative fiscal impact is still lower than the positive cost saving implications of the shock. The subregion’s GDP grows more under the free trade scenarios than in the reference scenario, reaching an additional 0.4 percent in year 15 of liberalization under scenario 70s and 65s, and 0.1 percent under scenario 70a during the same period. In the latter scenario, the pace of removal is more important than in the first two scenarios.

The results are confirmed by sensitivity analyses with liberalization of 60 and 75 percent of imports from the EU.
The liberalization of Group C products start under phase 3, that is after year 15. Products in this group are more protected than those of Group A and B, and account for a great proportion of imports and tax revenues for the subregion. Besides, local products belonging to Group C are in direct competition with European imports. In phase 3, a significant reduction in GDP by 1.0% and 1.5% is observed under scenario 70s and 70a, respectively (Graph 4). A greater pace of tariff removal and its related budget loss, on the one hand, and the increase in competition between locally-produced and imported products, on the other, led to a slowdown of the subregion’s growth rate. In contrast, a slower pace of removal increases slightly the growth rate by 0.4% as compared to the reference scenario.

The next section attempts to better understand these results by exploring the changes in the growth components. The annexed graphs 11, 12, and 13 bring out annual changes in GDP components. These components were firstly measured as a percentage of GDP, then the differences in ratios between the free trade scenarios and the reference scenario is presented. The graphs show a greater decline in net exports which corresponds to an increase in the trade deficit and to a lesser extent a decline in investments following a reduction in domestic savings. The small improvement of growth rate under scenario 65s compared to the reference scenario is essentially attributed to the lesser deterioration of the trade balance as compared to scenarios 70a and 70s. The reduction in investment remained relatively stable from one scenario to another. The final consumption improves under the three simulation scenarios compared to the reference driven by a lower commodities cost after the removal of tariff on European goods.

The worsening of the trade balance is the main cause of the slowdown in growth rate. The increase in imports following a wider opening of the subregional market to European products, especially Group C products, lead to an increase in competition with local products and to a lesser extent with non European imports. Indeed, a wider opening of the WA’s market to European products, especially those under Group C, led to a significant increase in imports from the European Union. Non European imports – rest of ECOWAS and rest of the world – remained relatively constant in all three scenarios. The increase in imports put an upward pressure on the real exchange rates - ratio of external to internal prices - and improves the price-competitiveness of the WA’s economies. As a consequence, exports increase in all scenarios.

The removal of tariffs on imports from the European Union leads to a loss in tax revenues. In contrast, the increase in imports contributes to widen the tax base and, consequently, the government tax revenues. Moreover, countries that apply taxes on their exports benefice from the increase of export volumes. The loss of fiscal revenue from direct, consumption, and production taxes triggered by significant economic slowdown could be as important as that induced by the removal of tariff on imports.

The opening of the WA’s market to European products led to a loss of customs revenue under the three free trade scenarios (Graph 5). During the first 5 years of liberalization, annual loss of customs revenues compared to the reference scenario is about 3 to 4 percent. Beyond this period, government custom revenue loss grows rapidly to reach at 5 to 7 percent. From the year 15, the increase in imports mitigated the fiscal revenue losses to settle at between 4 and 5 percent under the scenarios of 70 percent of liberalization. On the other hand, tax losses continued to increase under the scenario of 65 of liberalization where the upward trend in imports was less intense.
Graph 5: Change in customs revenues, compared to the reference scenario (%) 

Source: Authors’ calculation from the simulation results
b. Poverty Impact

The poverty analysis covers ten West African countries for which we had information on household surveys. The population of these countries is estimated at 295 million inhabitants in 2009, representing 90 percent of the total WA’s population. By considering national poverty thresholds, we reproduced for each country the base year poverty rates. The impact of the FTA scenarios on poverty is analyzed by comparing the number of poor people in the simulation scenarios with that of the reference.

The decreasing trend of the number of people living below the national poverty thresholds as compared to the reference scenario is accelerated over the first 15 years after the implementation of the FTA (Graph 6). This trend persists in the 65 percent liberalization scenario to reach 1.2 percent less people under the national poverty thresholds at the end of the period compared to the reference scenario. On the other hand, under the 70 percent liberalization scenarios, the number of poor increase as compared to the reference scenario from year 20 after the liberalization process started.

**Graph 6: Change in poverty incidence, compared to the reference scenario (%)**

![Graph 6](image-url)

Source: Authors’ calculation from the simulation results

The combined revenue and price effects determined the ultimate impact on poverty. Liberalization up to 65 percent of imports from the EU benefits consumers through an increase in their purchasing power. Beyond this threshold, the positive impact becomes negative when the competition with European goods increases with the liberalization at 70 percent.

Household revenue rise up marginally thanks to accelerate economic growth during the first 15 years of liberalization. It continued on this path under the scenario65s to reach roughly 1 percent at the end of the period of liberalization as compared to the reference scenario. On the other hand, beyond year 15, household revenue falls under the 70 percent liberalization scenarios. The decline continued and became slightly negative at the end of the period.
The price effect of the FTA scenarios is favorable to the WA’s consumers. Prices are lower by 0.3 to 0.7 percent compared to the reference scenario. The drop in prices is twice more important in 70 percent liberalization scenarios as compared to the 65 percent scenario.

c. Distributional Impact across West African Economies

During the first phase of the FTA implementation, corresponding to the liberalization of group A products, economic growth accelerates slightly in WA (Table 2). Although favorable to the subregion as a whole, disparities among countries appear during the second phase of the FTA implementation where group B products are liberalized. The liberalization of Group C products over the third phase leads to a slowdown in economic growth and increases disparities among economies.

Table 2: Comparing Changes in Countries’ GDPs, comparison with the reference scenario (%)

<table>
<thead>
<tr>
<th>Pays</th>
<th>Scenario 70s Year 5</th>
<th>Scenario 70s Year 15</th>
<th>Scenario 70s Year 25</th>
<th>Scenario 70a Year 5</th>
<th>Scenario 70a Year 15</th>
<th>Scenario 70a Year 25</th>
<th>Scenario 65s Year 5</th>
<th>Scenario 65s Year 15</th>
<th>Scenario 65s Year 25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigeria</td>
<td>0.0</td>
<td>-0.1</td>
<td>-2.8</td>
<td>0.0</td>
<td>-0.8</td>
<td>-3.2</td>
<td>0.0</td>
<td>-0.1</td>
<td>-0.9</td>
</tr>
<tr>
<td>Ghana</td>
<td>0.3</td>
<td>1.0</td>
<td>3.2</td>
<td>0.4</td>
<td>2.2</td>
<td>3.5</td>
<td>0.3</td>
<td>1.0</td>
<td>3.1</td>
</tr>
<tr>
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<td>1.2</td>
<td>2.9</td>
<td>8.0</td>
<td>1.6</td>
<td>4.6</td>
<td>8.8</td>
<td>1.2</td>
<td>2.9</td>
<td>7.7</td>
</tr>
<tr>
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<td>-0.8</td>
<td>-2.8</td>
<td>0.1</td>
<td>-1.0</td>
<td>-3.6</td>
<td>0.1</td>
<td>-0.8</td>
<td>-2.7</td>
</tr>
<tr>
<td>Burkina Faso</td>
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<td>-0.4</td>
<td>0.0</td>
<td>0.0</td>
<td>-0.3</td>
<td>0.0</td>
<td>0.0</td>
<td>-0.3</td>
</tr>
<tr>
<td>Mali</td>
<td>0.0</td>
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<td>-0.3</td>
<td>0.0</td>
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<td>-0.4</td>
<td>0.0</td>
<td>-0.1</td>
<td>-0.2</td>
</tr>
<tr>
<td>Benin</td>
<td>0.2</td>
<td>0.3</td>
<td>2.1</td>
<td>0.2</td>
<td>0.4</td>
<td>2.1</td>
<td>0.2</td>
<td>0.3</td>
<td>1.7</td>
</tr>
<tr>
<td>Guinea</td>
<td>0.0</td>
<td>-0.1</td>
<td>-0.3</td>
<td>0.0</td>
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<td>-0.5</td>
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<td>-0.3</td>
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<tr>
<td>Niger</td>
<td>2.6</td>
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<td>35.8</td>
<td>3.0</td>
<td>13.8</td>
<td>43.5</td>
<td>2.6</td>
<td>10.8</td>
<td>35.3</td>
</tr>
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<td>0.1</td>
<td>-0.2</td>
<td>-1.1</td>
</tr>
<tr>
<td>Cape Verde</td>
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<td>-0.2</td>
<td>-0.9</td>
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<td>-0.2</td>
<td>-0.9</td>
</tr>
<tr>
<td>Guinea-Bissau</td>
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<td>-0.3</td>
<td>-1.1</td>
<td>0.1</td>
<td>-0.3</td>
<td>-1.6</td>
<td>0.1</td>
<td>-0.3</td>
<td>-1.1</td>
</tr>
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<td>All countries</td>
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<td>0.4</td>
<td>-1.0</td>
<td>0.2</td>
<td>0.1</td>
<td>-1.1</td>
<td>0.2</td>
<td>0.4</td>
<td>0.4</td>
</tr>
</tbody>
</table>

Source: Authors from the simulation results.

The simulated FTA scenarios have quite diverse growth impacts on West African States. During phase 1 of liberalization - involving Group A products – growth accelerates in all countries as compared to the reference scenario. Growth rates increase slightly for most countries but significantly for Niger and Côte d’Ivoire. The liberalization of Group B products in phase 2, though generally favorable to the region, starts to create disparities among economies. It is mainly favorable to Côte d’Ivoire, Ghana and Niger, while Senegal and Nigeria are the big losers depending on the scenario. Phase 3 that covers Group C products amplifies these disparities with Côte d’Ivoire, Ghana, Niger, and Benin appearing as the winners and Nigeria, Senegal, Togo, Cape Verde, and Guinea-Bissau the losers. Economic growth stagnates in Burkina Faso, Mali, and Guinea.

Nigeria paid a heavy price for a greater opening up of trade with the EU, especially under the scenario of 70 percent of liberalization. It is essentially affected by the increase of competition with the EU imports leading to a decline in growth, tax revenues, incomes, and purchasing power. Consequently, poverty increased in the country compared to the reference situation. However, the negative effect was far less significant under the 65% liberalization scenario compared to that of 70 percent.
The simulated free trade scenarios reduce economic growth and increase poverty in Senegal. The economic slowdown is mainly driven by the loss of customs revenue and its adverse effects on savings and investments in the country. Senegal does not tax exports and the increase of imports is not enough to cover the loss of revenue due to lower taxation of imports from EU. Greater openness - from 65 to 70 percent of liberalization – does not have significant difference in term of growth and poverty reduction impact for Senegal.

Similar to Nigeria, and Senegal, Togo is one of the countries which recorded a low economic performance following the implementation of the FTA scenarios. The slowdown of the economy is triggered by lower tax revenues on imports and a subsequent decline in Government revenue; as a consequence, less saving and investment occurred in the country.

The simulated free trade scenarios benefit Ghana and Cote d’Ivoire in term of economic growth and poverty reduction. Economic growth accelerates in Ghana due to significant drop in domestic prices and, consequently, improvement of the price competitiveness of the economy resulting in a significant increase of exports. The counter performing economies also benefit from this price effect but with an important different that Government in Ghana improves its tax revenue on exports enabling the country to offset the tariff revenue loss. In contrast with Nigeria, significant difference in results does not appear with greater opening of the economy to the EU products - from 65 to 70 percent of liberalization.

Further opening up to products from the EU accelerate growth and poverty reduction in Cote d’Ivoire. The positive performance of the economy is driven by lower prices induced by greater opening to European products; thus, improving the price-competitiveness of the economy and increase significantly exports. Similar to Ghana’s economy, the loss of customs revenue is offset by increase of tax revenues on exports, and thus, more revenues and savings by Government, households, and corporations contribute to increase investment and growth.

Niger’s economy performs better and poverty fall more as compared to the reference scenario with a greater open up of the regional market. Similar to Ghana and Cote d’Ivoire, the country benefits from the increase of the economy’s price-competitiveness generated more export revenues and more export tax revenues to the Government. The improvement of saving and investment in the country impacts positively households.

6. Conclusion

A multicountry economywide framework is developed to assess the growth and poverty impacts of the West Africa (WA)-Union European (EU) Free Trade Agreement (FTA). Interrelated country-specific CGE models are developed to mimic production and consumption activities within each economic entity, as well as trade flows among the WA countries on the one hand, and with their economic partners (e.g., the EU), on the other. Moreover, the study develops country-specific microeconomic modules to assess the poverty impact of the FTA scenarios and simulates realistic scenarios of FTA on goods between the WA and the EU. The model is run recursively over a period of 25 years in order to account for the progressive liberalization scheme under the FTA scenarios.

The study simulates three realistic scenarios of market access offers by the WA. The first scenario involved a 70 percent liberalization of imports from EU over a period of 25 years, with 45 percent over the first 15 years. The second scenario assumes 70 percent liberalization of
imports from EU over a period of 25 years, with 64 percent during the first 15 years. Finally, the third scenario concerns 65 percent liberalization of imports from EU over a 25 year period, with 45 percent during the first 15 years.

The simulation results indicate that without any accompanying program, liberalizing 65 percent of imports from the EU boosts growth and contributes to reduce poverty in WA. On the other hand, WA faces more pressure when the liberalization reaches 70 percent of imports, leading to a slower growth rate and an increase of poverty. The deterioration of the trade balance comes out as the main cause of the economic slowdown under the simulated FTA scenarios. The loss of Government revenue due to a fall in import tax receipts - as well as other tax receipts in case of a deeper growth reduction - also appears as an important contributor of the counter performance of the economies.

This general picture of the growth impact of the FTA scenarios hides significant disparities among economies in the subregion. The growth rate accelerates in four countries: Côte d’Ivoire, Ghana, Niger, and Benin; it slowdowns in five other countries: Nigeria, Senegal, Togo, Cape Verde, and Guinea-Bissau; and finally a stagnation of the growth rate is observed in the remaining countries considered in the study: Burkina Faso, Mali, and Guinea. Nigeria’s economy paid the highest price for a greater opening up of the WA’s market to the EU products, i.e. from 65 to 70 percent of liberalization. A faster pace of tariff reductions - from 45 to 65 percent during the first 15 years - widens disparities among economies in the subregion.

The liberalization of products group A products in phase 1 contributes to a slight acceleration in economic growth and a stronger reduction of poverty compared to the reference scenario. The liberalization of products group B products in phase 2 remained generally favorable for the region in terms of economic growth and poverty reduction but creates disparities among economies. On the other hand, the liberalization of products Group C products in phase 3 lead to significant slowdown of the economies and increase of poverty in WA.

The simulated FTA scenarios have little impact of the interregional trade as they remain relatively constant. This indicates that we would have come up to similar results using simply country-specific models. The findings show that accompanying programs to boost competitiveness of the west African firms during the liberalisation processes must be taken place.
References


Appendix

Graph 7: Shares of Customs Receipts levied on European Imports in Fiscal Revenues (%)

<table>
<thead>
<tr>
<th>Country</th>
<th>Benin</th>
<th>Burkina Faso</th>
<th>Cape Verde</th>
<th>Côte d'Ivoire</th>
<th>Ghana</th>
<th>Guinea</th>
<th>Guinea Bissau</th>
<th>Mali</th>
<th>Nigeria</th>
<th>Niger</th>
<th>Senegal</th>
<th>Togo</th>
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<td>Percentage</td>
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<td>11</td>
<td>3</td>
<td>17</td>
<td>14</td>
<td>5</td>
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</tbody>
</table>

Source: Authors’ calculation from the countries’ social accounting matrices.

Graph 8: Initial Trade Openness of West African States (%)

<table>
<thead>
<tr>
<th>Country</th>
<th>Nigeria</th>
<th>Ghana</th>
<th>Senegal</th>
<th>Côte d’Ivoire</th>
<th>Burkina Faso</th>
<th>Mali</th>
<th>Benin</th>
<th>Guinea</th>
<th>Guinea Bissau</th>
<th>Niger</th>
<th>Togo</th>
<th>Cap Vert</th>
<th>Guinea Bissau</th>
<th>Ensemble</th>
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</thead>
<tbody>
<tr>
<td>Percentage</td>
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<td>92</td>
<td>90</td>
<td>67</td>
<td>34</td>
<td>38</td>
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<td>76</td>
<td>64</td>
<td>43</td>
<td>64</td>
</tr>
</tbody>
</table>

Source: Authors’ calculation from the countries’ social accounting matrices.

Graph 9: Penetration Rates of the EU Products (%)

<table>
<thead>
<tr>
<th>Country</th>
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<th>Senegal</th>
<th>Côte d’Ivoire</th>
<th>Burkina Faso</th>
<th>Mali</th>
<th>Benin</th>
<th>Guinea</th>
<th>Guinea Bissau</th>
<th>Niger</th>
<th>Togo</th>
<th>Cap Vert</th>
<th>Guinea Bissau</th>
<th>Ensemble</th>
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Source: Authors’ calculation from the countries’ social accounting matrices.

Graph 10: Initial Specific Customs Tariff for ECOWAS Countries (%)

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</tbody>
</table>

Source: Authors’ calculation from the countries’ social accounting matrices.
Graph 11: Change in GDP Composition, Scenario 70s vs. Reference Scenario (% point)

Source: Authors from the simulation results.

Graph 12: Change in GDP Composition, Scenario 70a vs. Reference Scenario (% point)

Source: Authors from the simulation results.

Graph 13: Change in GDP Composition, Scenario 65s vs. Reference Scenario (% point)

Source: Authors from the simulation results.
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