Global Trade Analysis Project
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This paper is from the
GTAP Annual Conference on Global Economic Analysis
https://www.gtap.agecon.purdue.edu/events/conferences/default.asp

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

Fatou CISSE
Consortium pour la Recherche Economique et Sociale (CRES)
Dakar, Senegal

Ismael FOFANA
International Food Policy Research Institute (IFPRI)
West and Central Africa Office (WCAO)
Dakar, Senegal

March 2012

Abstract

The Cotonou Agreement concluded in June 2000 between African, Caribbean and Pacific group of States and the European Union (EU) ended successive Lomé regimes and paved the way for the conclusion of an Economic Partnership Agreement (EPA) consistent with the World Trade Organization rules. The EPA aims to create a Free Trade Area (FTA) between the EU and West Africa (WA); thus economies in the later region are expected to open their domestic market to almost all EU products over a period of 25 years. A multicountry economywide framework is developed to assess the growth and poverty impact of WA's market liberalization to the EU products. The study simulates three realistic scenarios of market access offer by the WA to the EU merchandises. The scenarios involve 65 and 70 percent liberalizations of imports from EU over a period of 25 years. The simulation results indicate that liberalizing 65 percent of imports from the EU boosts growth and contributes to reduce poverty in WA. On the other hand, the WA economy faces more pressure when the liberalization reaches 70 percent of imports, leading to a slower growth rate and an increase of poverty compared to the non-FTA scenario. 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.

Key words: Trade, growth, poverty, West Africa, economywide model.

JEL Codes: F43, I35, O5

1. Introduction

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) rules.[1] The EPA aims to create a Free Trade Area (FTA) between West Africa (WA) and the European Union (EU). Thus, countries in the subregion are expected to open their domestic market to almost all EU products over a period of 25 years.[2]

The liberalization scheme proposed by The Economic Community of West African States (ECOWAS)[3] 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.

The EPA will be a major challenge that must be addressed by governments of the WA States. Even if they can benefit from a greater guarantee for access to EU markets, the removal of customs duties on goods from the EU would have significant impacts on Government revenue, competition between local and European products, purchasing power and living standard of the populations in the subregion. 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. Thus, the aim of this study is to 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.

The rest of the document is structured into four sections. Next section presents the macroeconomic background of the West Africa's economies. It is followed by the description of the methodology in section 3. Finally, the main findings are then discussed in section 4 before we conclude the paper with a summary of the main lesson learned.

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[1] Non reciprocal trade agreements which form the basis of EU and ACP trade relations were 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.

[2] 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.

[3] We interchangeably use the terms West Africa (WA), Economic Community of West African States (ECOWAS), and subregion to designate the same geographical space constituted by fifteen countries.
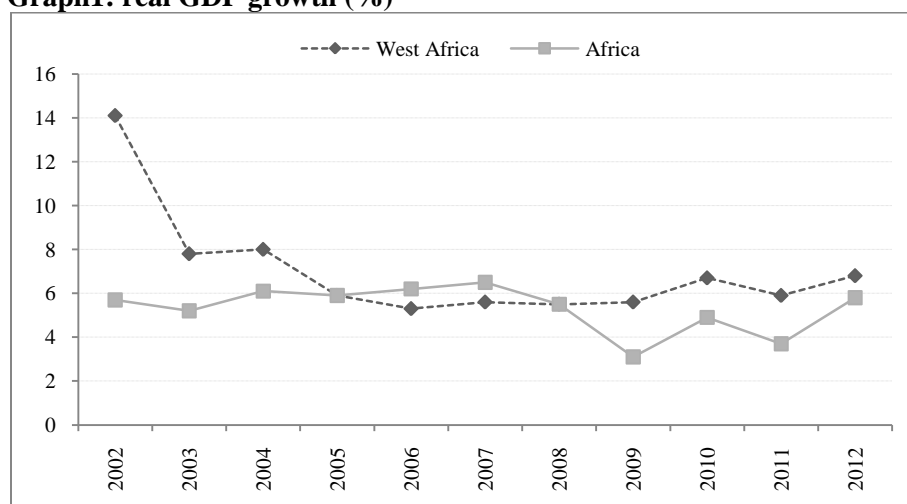
2. The West African Economy

ECOWAS is a subregional integration space comprising fifteen countries.[4] 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,[5] 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 (%)

Source: African Economic Outlook - http://www.africaneconomicoutlook.org/en/data-statistics

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

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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.
[5] African Statistical Yearbook 2011- http://www.afdb.org/en/documents/publications/african-statistical-yearbook

2009 (Table 1). It is followed by Cote d'Ivoire, Ghana, Nigeria, and Senegal showing per capita GDPs above USD 1,000 in 2009. Liberia, Niger, Serra 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

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

Sources: African Economic Outlook - http://www.africaneconomicoutlook.org/en/data-statistics; and African Statistical Yearbook 2011- http://www.afdb.org/en/documents/publications/african-statistical-yearbook

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, Cote 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, Cote 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 Cote d'Ivoire. On the other hand, Nigeria, Ghana, and Togo show relatively low specific tariff rates.

3. Methodology

In the literature, there are two methodological approaches used to analyze the impact of a FTA. The first approach is that of partial equilibrium (Fontagné, Laborde, and Mtaritonna, 2010; Busse, Borrmann, and Großmann, 2004) that focuses on sector impacts. The second approach is that of general equilibrium which 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 model in 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[6] linked mainly by their trade in goods and services: the intra-regional trade. Country submodels 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 peculiarities 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 – import and 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.

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.

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[6] Decaluwé et al. (2008) explicitly included eleven countries.

Graph 2: Schematic Representation of the intraregional trade of commodities
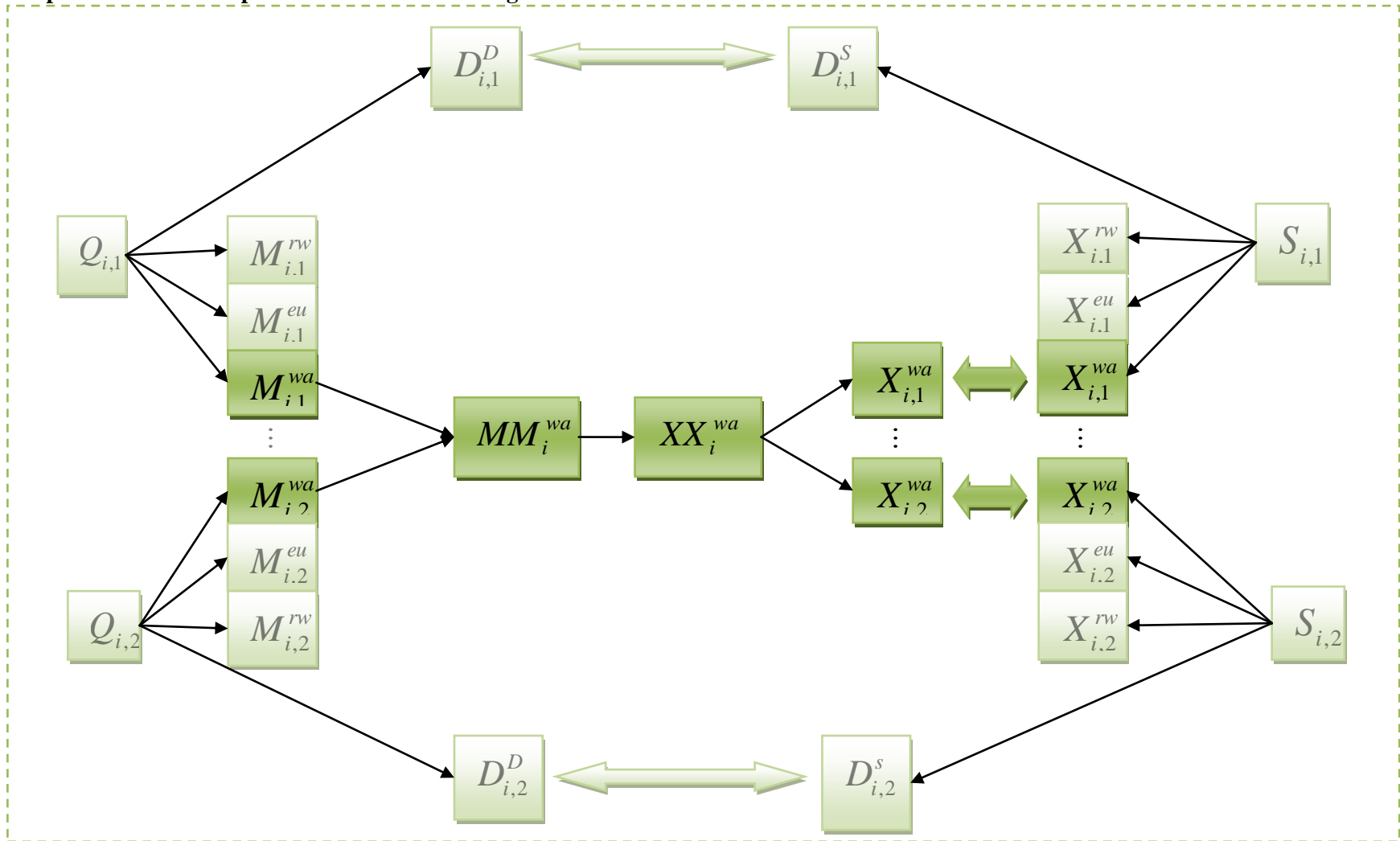
Source: Authors

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.

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.[7] 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.

4. 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 scenarios are compared to that of the scenario without a free trade agreement or the **reference scenario**.[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.

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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.
[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.

Graph 3: Change in the effective customs tariff rates applied to EU products, in percentage point to the reference scenario
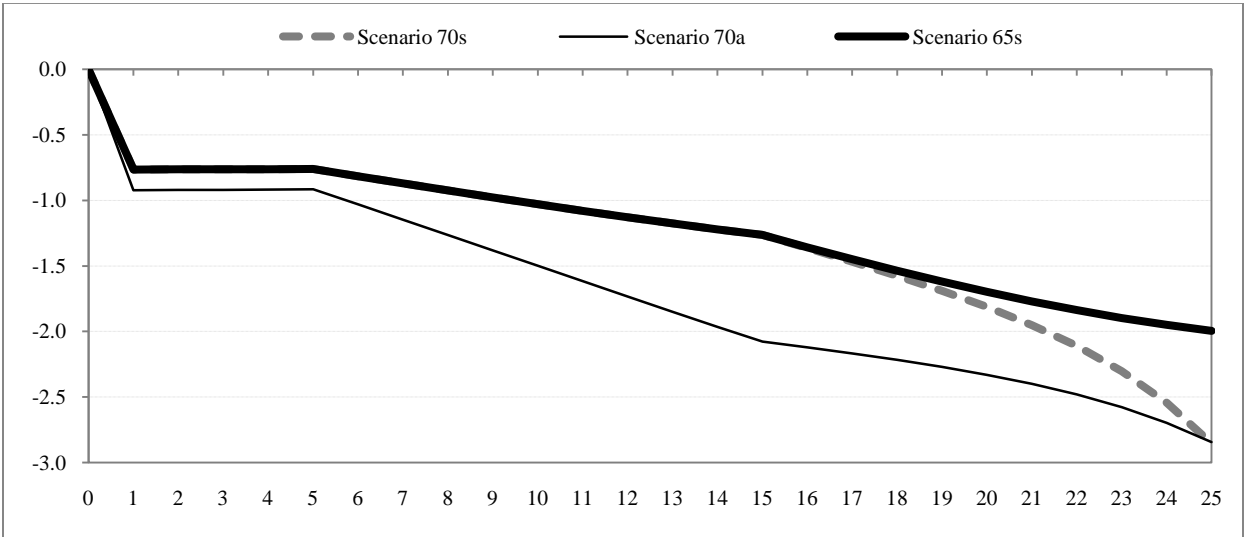
The effective tariff rates applied to European goods[9] falls between 0.8 and 0.9 percentage point in phase 1 with a small difference in the pace of liberalization among the three scenarios. Phase 2 is marked by an increasing gap in the pace of tariff reduction between the slow pace scenarios (70s and 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 70a but remained quite important. Phase 3 is marked by the liberalization of group C products 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.[10] 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.

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[9] The term "European products" refers to products from the European Union.
[10] The results are confirmed by sensitivity analyses with liberalization of 60 and 75 percent of imports from the EU.

Graph 4: Change in ECOWAS GDP, compared to the reference scenario (%)
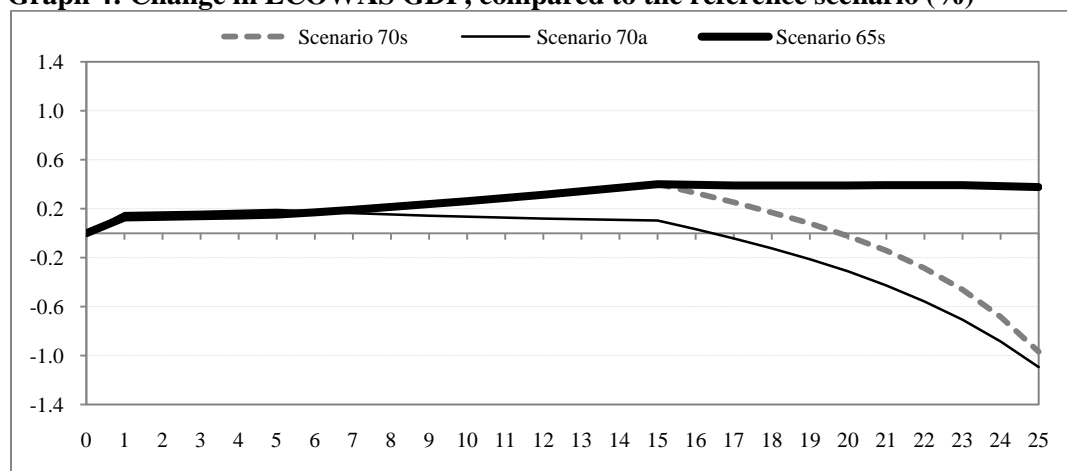
Source: Authors from the simulation results.

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 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 leaser 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 (%)**
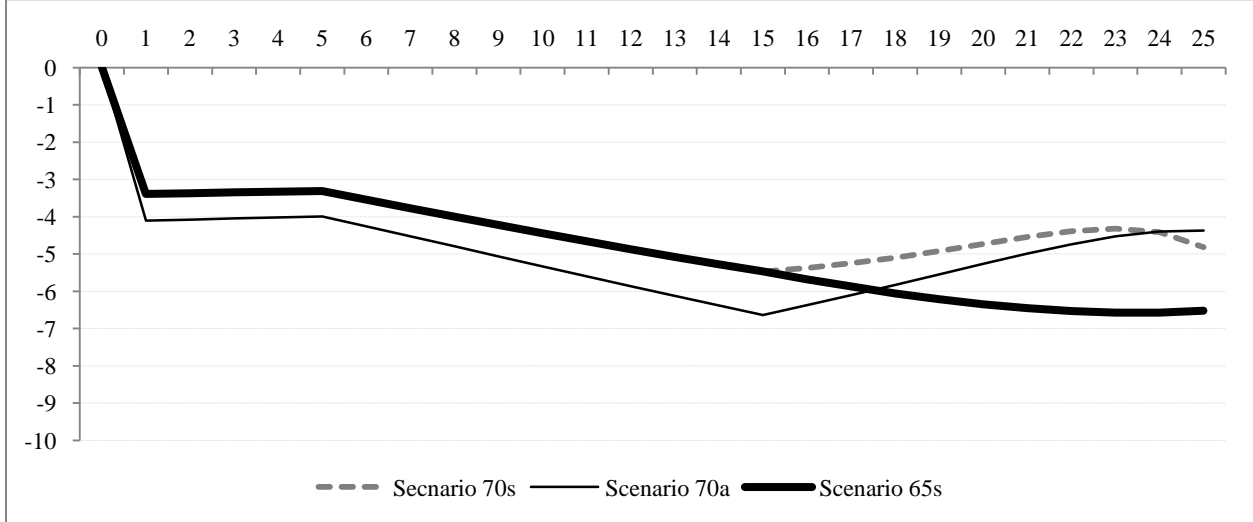
Source: Authors' calculation from the simulation results

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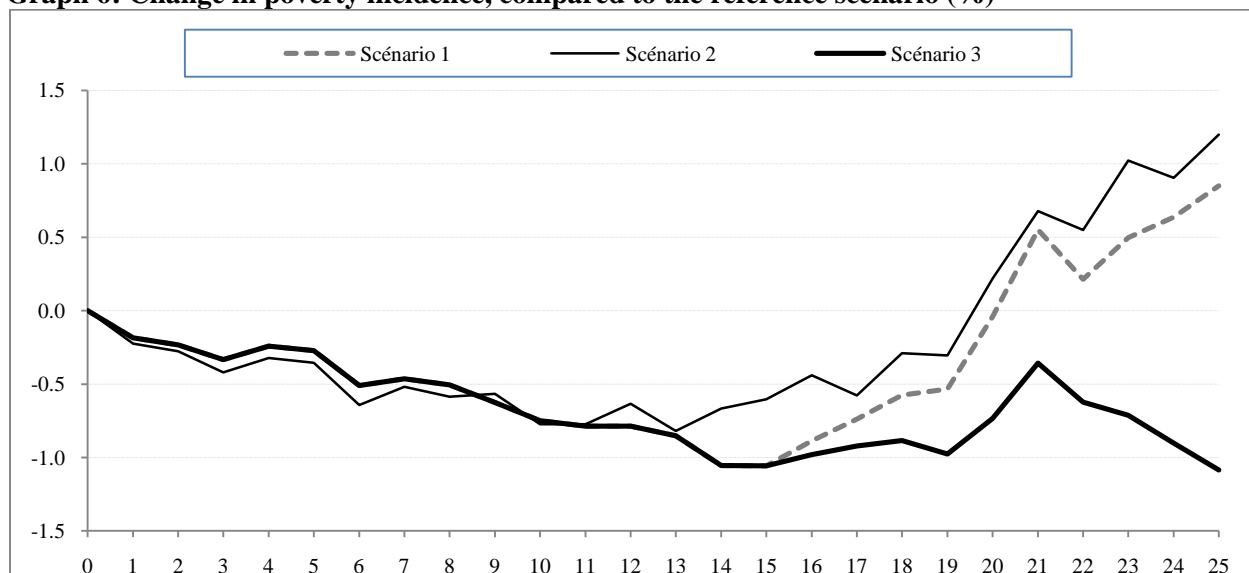
The combined revenue and price effects determined the ultimate impact on poverty. Liberalization up to 65 percent of imports from the EU benefits consumers through an increase in their purchasing power. Beyond this threshold, the positive impact becomes negative when the competition with European goods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

Pays	Scenario 70s			Scenario 70a			Scenario 65s		
	Year 5	Year 15	Year 25	Year 5	Year 15	Year 25	Year 5	Year 15	Year 25
Nigeria	0.0	-0.1	-2.8	0.0	-0.8	-3.2	0.0	-0.1	-0.9
Ghana	0.3	1.0	3.2	0.4	2.2	3.5	0.3	1.0	3.1
Cote d'Ivoire	1.2	2.9	8.0	1.6	4.6	8.8	1.2	2.9	7.7
Senegal	0.1	-0.8	-2.8	0.1	-1.0	-3.6	0.1	-0.8	-2.7
Burkina Faso	0.0	0.0	-0.4	0.0	0.0	-0.3	0.0	0.0	-0.3
Mali	0.0	-0.1	-0.3	0.0	-0.1	-0.4	0.0	-0.1	-0.2
Benin	0.2	0.3	2.1	0.2	0.4	2.1	0.2	0.3	1.7
Guinea	0.0	-0.1	-0.3	0.0	-0.1	-0.5	0.0	-0.1	-0.3
Niger	2.6	10.8	35.8	3.0	13.8	43.5	2.6	10.8	35.3
Togo	0.1	-0.2	-1.0	0.1	-0.2	-1.6	0.1	-0.2	-1.1
Cape Verde	0.2	-0.2	-0.9	0.2	-0.1	-1.6	0.2	-0.2	-0.9
Guinea-Bissau	0.1	-0.3	-1.1	0.1	-0.3	-1.6	0.1	-0.3	-1.1
All countries	**0.2**	**0.4**	**-1.0**	**0.2**	**0.1**	**-1.1**	**0.2**	**0.4**	**0.4**

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.

5. 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 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' 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 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 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 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 remains relatively constant. This indicates that we would have come up to similar results using simply country-specific models. Although multicountry models remain important in analysis the issue of FTA, the underestimation of regional trade flows could affect the results of the study. This calls for a sensitivity analysis of the intraregional trade flows. In the same vein, the study assumes fixed commercial margins and small impact of a greater liberalization on the adoption of more efficient technologies and its consequence on the productivity. Further simulations should be carried out to address these issues.

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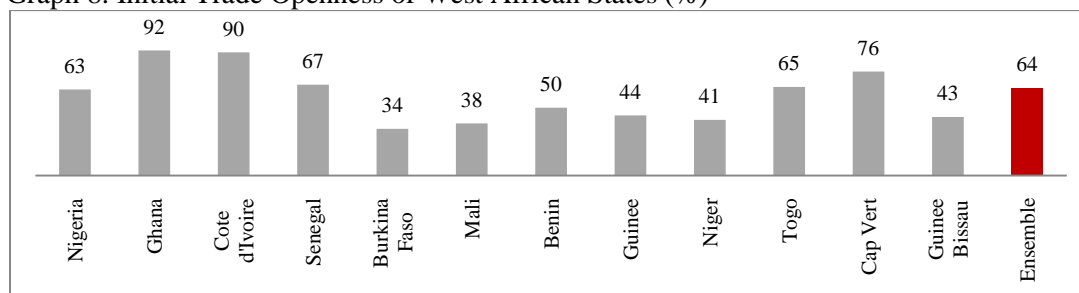
Appendix

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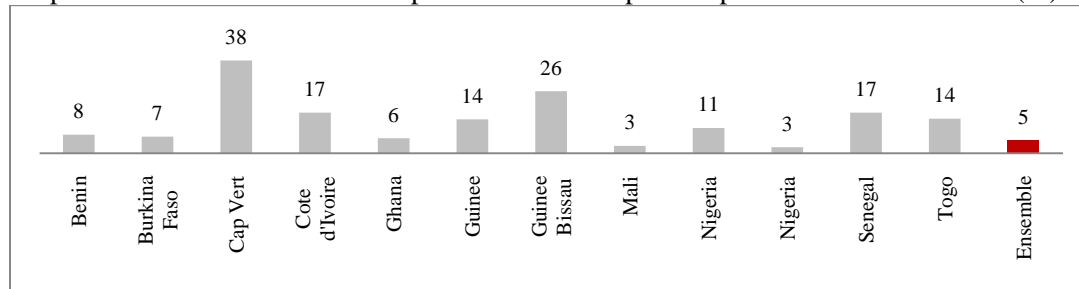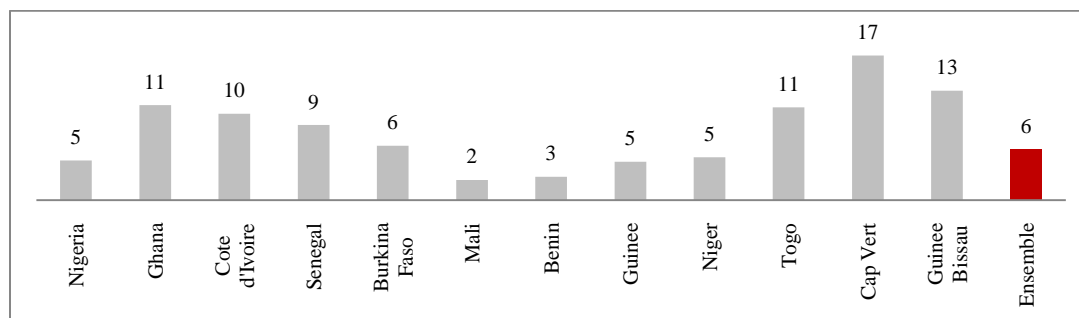

Source: Authors' calculation from the countries' social accounting matrices.

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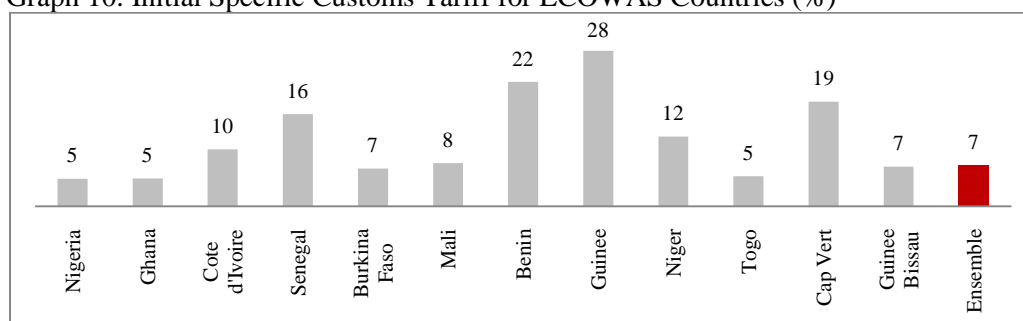

Source: Authors' calculation from the countries' social accounting matrices.

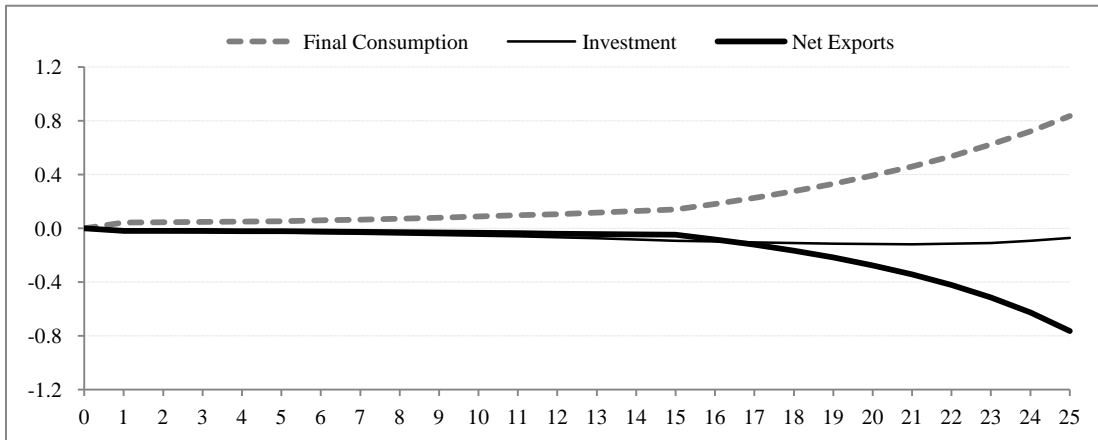Graph 9: Penetration Rates of the EU Products (%)

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

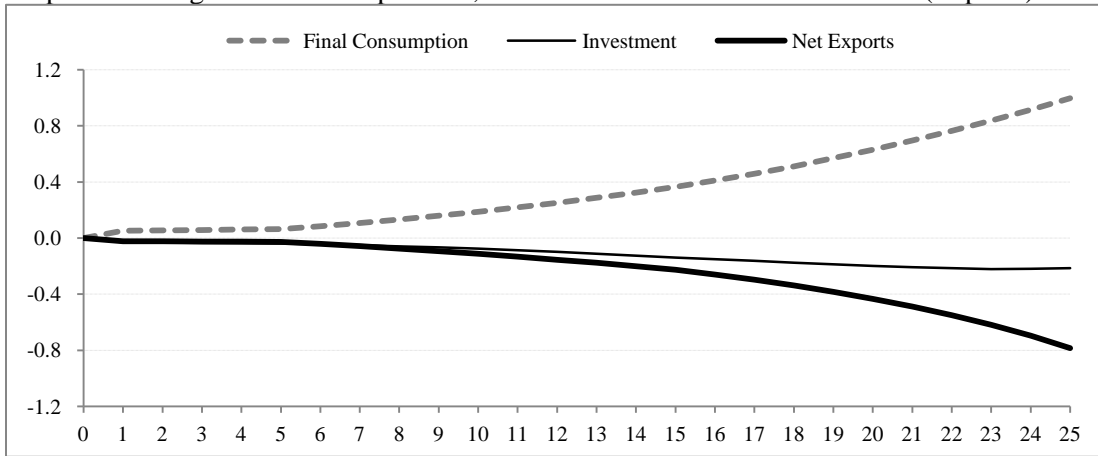Graph 10: Initial Specific Customs Tariff for ECOWAS Countries (%)

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

Graph 11: Change in GDP Composition, Scenario 70s vs. Reference Scenario (% point)
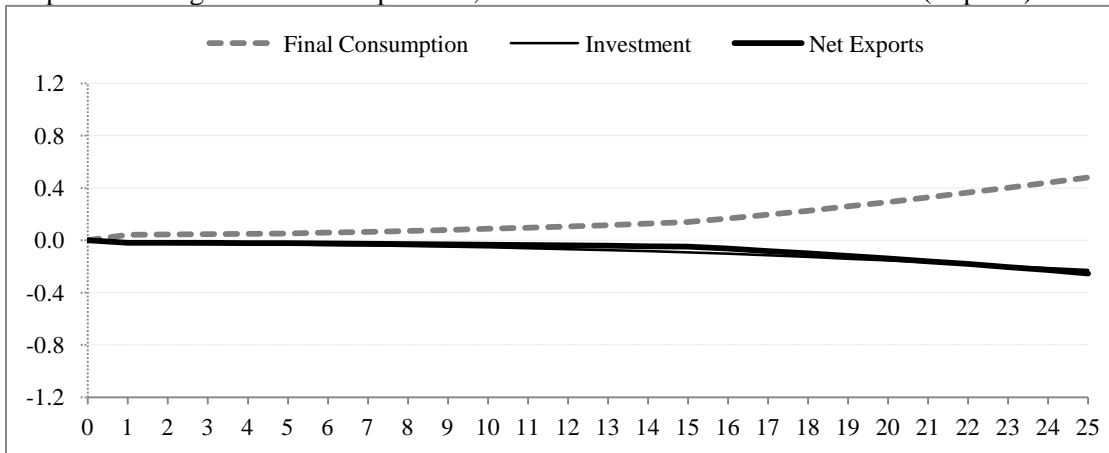

Source: Authors from the simulation results.

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.