



**INTERNATIONAL FOOD
POLICY RESEARCH INSTITUTE**
sustainable solutions for ending hunger and poverty
Supported by the CGIAR

IFPRI Discussion Paper 00859

April 2009

Preferential Trade Agreements between the Monetary Community of Central Africa and the European Union

Stumbling or Building Blocks?

A General Equilibrium Approach

Guyslain K. Ngeleza

Andrew Muhammad

Development Strategy and Governance Division

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

The International Food Policy Research Institute (IFPRI) was established in 1975. IFPRI is one of 15 agricultural research centers that receive principal funding from governments, private foundations, and international and regional organizations, most of which are members of the Consultative Group on International Agricultural Research (CGIAR).

FINANCIAL CONTRIBUTORS AND PARTNERS

IFPRI's research, capacity strengthening, and communications work is made possible by its financial contributors and partners. IFPRI gratefully acknowledges generous unrestricted funding from Australia, Canada, China, Denmark, Finland, France, Germany, India, Ireland, Italy, Japan, the Netherlands, Norway, the Philippines, Sweden, Switzerland, the United Kingdom, the United States, and the World Bank.

AUTHORS

Guyslain K. Ngeleza, International Food Policy Research Institute
Postdoctoral Fellow, Development Strategy and Governance Division
Email: G.ngeleza@cgiar.org

Andrew Muhammad, Mississippi State University
Department of Agricultural Economics
Email: muhammad@agecon.msstate.edu

Notices

¹ Effective January 2007, the Discussion Paper series within each division and the Director General's Office of IFPRI were merged into one IFPRI-wide Discussion Paper series. The new series begins with number 00689, reflecting the prior publication of 688 discussion papers within the dispersed series. The earlier series are available on IFPRI's website at www.ifpri.org/pubs/otherpubs.htm#dp.

² IFPRI Discussion Papers contain preliminary material and research results, and have been peer reviewed by at least two reviewers—internal and/or external. They are circulated in order to stimulate discussion and critical comment.

Contents

Acknowledgments	v
Abstract	vi
1. Introduction	1
2. Overview of CEMAC	3
3. Trade Liberalization in CEMAC	5
4. Model and Data	7
5. Simulation Results	8
6. Conclusion	15
Appendix	16
References	19

List of Tables

1.	Economic statistics for CEMAC member states (2005)	3
2.	CEMAC key exports: oil and diamonds	4
3.	CEMAC exports by country	4
4.	Regional welfare impacts: FTA with multilateral trade agreement	8
5.	Decomposition of welfare changes	8
6.	Impact of the FTA with multilateral liberalization on exports and imports	9
7.	Regional welfare impacts of the FTA (without multilateral liberalization)	11
8.	Decomposition of welfare changes	11
9.	Impact of the FTA without multilateral liberalization on exports and imports	12
A.1.	Aggregation of regions	16
A.2.	Aggregation of commodities	17
A.3.	CEMAC and WAEMU most favored nation import tariff rates by sector	18

List of Figures

1.	Regional economic integration in Central Africa	1
2.	Changes in outputs by sector	10
3.	Changes in the balance of payments for the Democratic Republic of the Congo	12
4.	Changes in the balance of payments for Cameroon	13
5.	Changes in the balance of payments for the rest of CEMAC	14

ACKNOWLEDGMENTS

The authors are grateful to the Global Trade Analysis Project for research support. Authors also thank you Thomas Hertel, William Masters, Terrie Walmsley, and Badri Narayanan for suggestions and comments.

ABSTRACT

This paper uses a computable general equilibrium approach to simulate two opposing views describing regional trade agreements either as building blocks for or stumbling blocks to multilateral trade liberalization. This study focuses on the free trade agreement (FTA) between the Economic and Monetary Community of Central Africa (CEMAC) and the European Union (EU). Results show that although a regional trade agreement may slightly raise welfare among the members of the agreement, the cost to nonmembers can be high. In this paper we argue that multilateral liberalization and a regional free trade agreement between the EU and CEMAC are not mutually exclusive. Regional trade agreements should be complementary and consistent with a multilateral agreement, not an attempt to replace it. The regional breakdown in our design considers 14 regions, allowing for country-specific analysis for one least-developed country (Democratic Republic of Congo) and one non-least-developed country (Cameroon). Multilateral liberalization amplifies welfare gain for Cameroon. The Democratic Republic of Congo, with its weaker institutional capacity, is affected negatively. An EU-CEMAC FTA without multilateralism produces gains for both Cameroon and the Democratic Republic of Congo. The gain for Cameroon is, however, moderate compared with that achieved when the EU-CEMAC FTA is accompanied with a multilateral agreement.

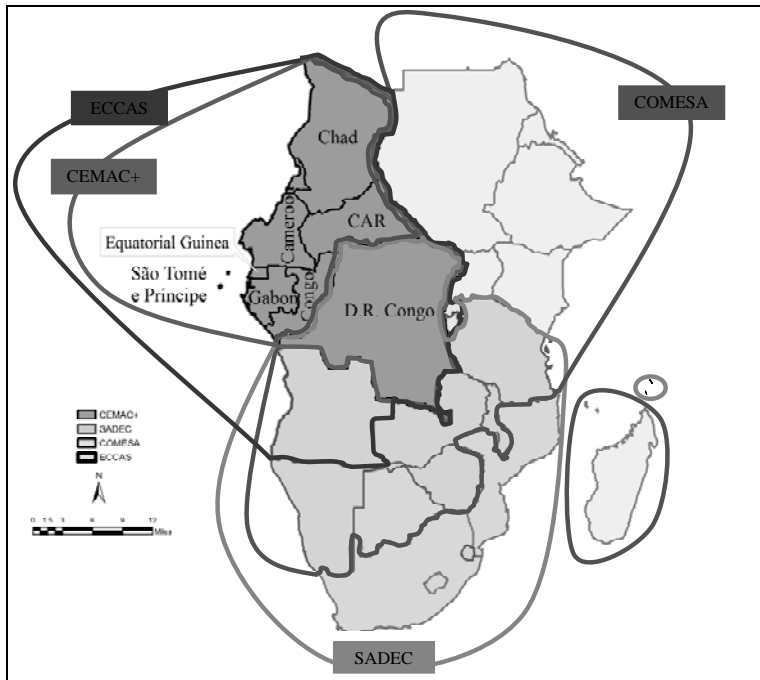
Keywords: Central Africa, EU, regional trade, multilateral trade, computable general equilibrium model

JEL codes: F13, F53, C68

1. INTRODUCTION

With the surge in regional trading arrangements (see Figure 1) in recent years, Central African countries are often confronted with the challenge of prioritizing their trade policies among competing demands on unilateral, regional, and multilateral fronts. In a static model, there are sound reasons for believing that a multilateral approach to trade liberalization is superior, at least in terms of maximizing welfare gain. This has been verified in Bhagwati and Panagariya (1996); Levy (1997); Bagwell and Staiger (2001); Krishna (1998); Bhagwati, Greenaway, and Panagariya (1998); and Panagariya (1999 and 2000). The principle of most favored nation (MFN) liberalization in the World Trade Organization (WTO) says that a country that grants trade concessions to one party of the agreement must grant the same concessions to all signatories of the agreement. Under conditions of perfect competition, this multilateral principle will always lead to a welfare gain (Lamy 2002; Fink and Jansen 2007). Regionalism, in contrast, is discriminatory. It applies the MFN principle only to countries within a given region. The exclusion of nonpartner countries from MFN status can lead to both trade diversion and trade creation and, thus, reduce welfare when trade diversion is greater than trade creation (Vinter 1950). Supporters of multilateralism argue that regional trade agreements produce limited benefits or even losses for their participants and are likely to undermine the multilateral trade system and, ultimately, slow global trade liberalization (Gupta and Yang, 2005).

Figure 1. Regional economic integration in Central Africa



Proponents of regionalism, however, argue that the trade diversion effects due to regional trade agreements tend to be smaller than their trade creation effects. When removing the assumption of perfect competition, for instance, there might be positive benefits of scale effects from regional trade agreements (Delorme and van der Mensbrugge 1990; Lamy 2002).¹ For a developing country, in particular, removing nontariff barriers under imperfect competition may have strong positive effects due to

¹ There are, however, more meaningful positive benefits of scale effects only when reduction of tariffs in the trade agreement is accompanied with a substantial reduction of nontariff barriers.

increasing returns to scale at the firm level and differentiated markets (Lamy 2002). In addition to achieving cost reduction as a result of increasing returns to scale, regional trade agreements may successfully erode the market power of dominant firms in the member countries by encouraging market entry of competing firms from other member countries and, thereby, contribute to lowering prices (Smith and Venables 1988). They may also increase opportunity for investment and growth. This would be the case when, for instance, by increasing market size, countries in the regional free trade agreement (FTA) increase their returns on capital and thereby the level of foreign direct investment (Lamy 2002; Gupta et al. 2005). Supporters of preferential agreements also argue that the multilateral system is cumbersome and that a growing number of preferential agreements could accelerate global trade liberalization.

The effects of bilateral and/or preferential trade agreements on multilateral trade agreements have been considered in a number of studies. Since Bhagwati (1991) posed the issue of preferential agreements either encouraging or discouraging multilateralism, a number of studies have followed. Hadjiyiannis (2004) theoretically showed that the impact of regionalism on multilateral trade liberalization depends critically on which countries engage in regionalism. Limao (2006a) noted that recent empirical research suggested that the U.S. and European Union (EU) preferential agreements were a stumbling block to the Uruguay Round, and using data on U.S. multilateral tariffs, Limao (2006b) provided the first systematic evidence that preferential agreements hindered multilateralism. More recently, Karacaovali and Limao (2008) developed a model showing that preferential agreements hinder multilateralism unless they entail accession to a customs union with internal transfers.

This paper uses the most recent Global Trade Analysis Project (GTAP) database to simulate these two opposing views regarding regional preferential agreements: Are they building blocks for, or stumbling blocks to, multilateral trade liberalization? The focus of this study is the FTA between the Economic and Monetary Community of Central Africa (CEMAC) and the EU. Using the GTAP model (Hertel 1997), we compare the impacts of a regional FTA between CEMAC and the EU when happening simultaneously with multilateral liberalization, with the impacts when happening without multilateral liberalization. We simulate the effects at the CEMAC regional level, but we also focus on one least-developed country in the region (Democratic Republic of Congo) and one non-least-developed country (Cameroon).

The following hypotheses are tested in this study: (1) Multilateral liberalization under the Doha Development Agenda and an FTA between the EU and Central African countries under an economic partnership agreement (EPA) are not mutually exclusive. (2) If preferential agreements are complemented with multilateral integration, the trade creation effects of the agreements would dominate the trade diversion effects. If, however, the preferential agreements are implemented in the absence of multilateralism, they could run the risk of leading to costly trade diversion and a decrease in welfare. (3) An FTA alone between the EU and Central African countries under an EPA is unlikely to substantially benefit Central African countries.

In this paper we argue that multilateral liberalization and a regional FTA between the EU and CEMAC are not exclusive (see Bhagwati 1993; Bhagwati and Panagariya 1996). Regional trade agreements should be complementary and consistent with a multilateral arrangement, not an attempt to replace it (United Nations 2004). A prodevelopment multilateral liberalization would amplify the benefits of an EU-CEMAC FTA as envisioned by the EPA. The most difficult issues in trade negotiation under the EPA, those related to agriculture for instance, could find solutions in a multilateral arrangement. Hence, it would be desirable for the FTA between the EU and CEMAC to happen simultaneously with multilateral liberalization (Hinkle and Schiff 2004).

The remainder of this paper is organized as follows. Section 2 describes CEMAC and São Tomé and Príncipe within the regional economic communities in Central Africa. Section 3 examines the basic arrangements proposed by the EU-CEMAC FTA. In Section 4, the data and model used for the analyses are described. The policy experiments and results are reported in Section 5. Section 6 concludes the paper.

2. OVERVIEW OF CEMAC

The CEMAC customs union was created in 1994 between Cameroon, Chad, Central African Republic, Republic of Congo, Equatorial Guinea, and Gabon. The original CEMAC was created to replace the Union Douanière des Etats d’Afrique Centrale with the objective of furthering regional integration and policy effectiveness. The 1994 reforms that created CEMAC introduced: (1) a common external tariff; (2) the gradual removal of tariffs on intraregional trade (completed in 1998); (3) the harmonization of indirect taxation (with the introduction of a Value added tax in 1999); and (4) the replacement of import barriers with temporary import surcharges (Tsangarides and Martijn 2007). The union was later joined by São Tomé and Príncipe and the Democratic Republic of Congo (DR Congo) in 2004 and 2005, respectively.

Economics statistics for CEMAC countries are reported in Table 1. CEMAC member states had a total estimated population of 98.9 million in 2007,² with an annual GDP of US\$32.4 billion and an average growth rate of 4.3 percent.³ Aside from Cameroon, Gabon, and Republic of Congo contributing to more than half of the region’s real GDP (2005 estimates), all other CEMAC members are classified as least-developed countries, where more than half of the population lives below the poverty line (see Table 1).

Table 1. Economic statistics for CEMAC member states (2005)

	Cameroon	Chad	Central African Republic	Congo	Equatorial Guinea	Gabon	São Tomé and Príncipe	DR Congo
Area (sq km)	475,440	1,284,000	622,984	342,000	28,051	267,667	1,001	2,345,410
GDP (US\$million constant 2000)	12,057	2,600	918	3,987	2,203	5,375	56	5,236
GDP per capita (\$ constant 2000)	739	267	227	997	4,387	3,884	357	91
Shares of GDP								
Agriculture	41.10	22.70	53.90	5.60	5.93	7.70	14.90	46.00
Industry	14.10	51.20	21.40	46.40	94.70	57.60	12.60	25.30
Manufacturing	7.20	4.70	9.40	5.50	1.60	4.50	3.00	5.50
Services	44.80	26.10	24.80	48.10	4.18	34.80	72.50	28.70
Population (in thousands)	16,322	9,749	4,038	3,999	5,040	1,384	1,570	57,549

Source:¹Data are from the *World Fact Book*, CIA. <https://www.cia.gov/library/publications/the-orldfactbook/geos/cd.html>

²Development Data Group, The World Bank. 2007. 2007 World Development Indicators Online. Washington, DC: The World Bank. Available at: <http://go.worldbank.org/3ju2ha60d0>

The production and trade structure in CEMAC is characterized by production and exports of natural resources and primary commodities. Over 50 percent of CEMAC’s exports are mineral fuels and extracted oils. Oil exports represent over 90 percent of exports in Chad, Republic of Congo, and Equatorial Guinea. Only the Central African Republic and São Tomé and Príncipe differ from this pattern, but their economies are heavily dependent on diamonds and wood, respectively (Table 2).

Apart from oil and diamonds, agriculture is the only other sector generating substantial export revenues for the region. Cameroon relies on agriculture and timber for its export earnings, with cocoa and rubber production comprising the major subsectors of its economy. Timber is Gabon’s second largest

² Calculated from data published by World Population Prospects: The 2004 Revision. Available online at <http://www.un.org/esa/population>.

³ Development Data Group, The World Bank. 2007. 2007 World Development Indicators Online. Available at: <http://go.worldbank.org/3ju2ha60d0>.

export. Overall, agriculture is limited, and over 50 percent of the region's food needs are satisfied by imports.

Table 2. CEMAC key exports: oil and diamonds

Country	Oil exports as a share of total exports	Diamond exports as a share of total exports
Cameroon	49.60%	-
Chad	93.31%	-
Central African Republic	0.38%	50.83%
Congo	90.26%	-
Equatorial Guinea	94.20%	-
Gabon	76.24%	-
São Tomé and Príncipe	-	49.89%
DR Congo	17.16%	45.00%

Table 3 presents the major CEMAC exports for each member state. The region's total merchandised exports were valued at approximately \$23 billion in 2005. The United States, EU and China are the major import markets for the region, accounting for over 95 percent of total CEMAC exports. This is especially the case for crude oil products, which account for 64 percent of exports from Congo, 45 percent from Equatorial Guinea, 69 percent from Gabon, and more than 80 percent from Chad. EU imports from Central Africa are mostly agro-based merchandise.

Table 3. CEMAC exports by country

Country	Exports
Cameroon	Crude oil, petroleum products, timber, cocoa, aluminum, coffee, cotton
Chad	Cotton, oil, livestock, textiles
Central African Republic	Diamonds, timber, cotton, coffee, tobacco
Congo	Oil, timber, plywood, sugar, cocoa, coffee, diamonds
Equatorial Guinea	Petroleum, timber, cocoa
Gabon	Crude oil, timber, manganese, uranium
São Tomé and Príncipe	Cocoa
DR Congo	Diamonds, copper, coffee, cobalt, crude oil

Each of the eight members of CEMAC is a member of at least one other EPA in central Africa. All eight are also members of the Economic Community of Central African States (ECCAS) as well. The objectives of ECCAS are wide, covering peace promotion, political cooperation, and conflict prevention. CEMAC, instead, has more circumscribed objectives, aiming at the establishment of a common market; the free movement of goods, services, people, and capital; the establishment of a common currency; and the convergence of macroeconomic policies. The DR Congo stands out among CEMAC members by having memberships in two other groups: the Southern African Development Community (SADC) and Common Market for Eastern and Southern Africa (COMESA; see Figure 1).

3. TRADE LIBERALIZATION IN CEMAC

Trade in the CEMAC region is hampered and distorted due to the low complementarities of natural endowments, cumbersome and costly border procedures, and the region's small markets. Other obstacles are a poor transportation infrastructure, security problems, administrative capacity constraints, as well as national restrictions and exemptions in defiance of the common rules that members have agreed on (Tsangarides and Martijn 2007).

The creation of CEMAC and the observed increase in the number of regional free trade agreements in Africa raise the issue of the effectiveness of these agreements in establishing common markets, integrating African economies, and alleviating poverty. Under perfect competition, the effects of regional trade agreements such as CEMAC are ambiguous. A country in a regional trade agreement is expected to benefit from importing commodities that were once highly protected in domestic markets, but will suffer losses from switching imports away from a low-cost third country nonparty to the agreement (Gupta and Yang 2005). Indeed, if tariffs on the same goods are eliminated between countries A and B, but not between A and C, then exports from B become relatively inexpensive when compared with those of C. If imported goods are more competitive overall, consumers in countries A and B will tend to switch away from domestically produced goods, implying trade creation. On the other hand, countries A and B will decrease imports from C because of the tariffs, resulting in trade diversion (Lamy 2002). The net effect on economic welfare is therefore ambiguous and will depend on other factors such as the level of tariffs imposed on countries outside the region. Compared with other regional unions in sub-Saharan Africa, the common external tariffs implemented by CEMAC member states have been relatively high (e.g., 19 percent vs. 12 percent for the West African Economic and Monetary Union [WAEMU]). The breakdown of import tariff, for instance, indicates that rates of 23 percent or more, on average, are put on footwear, wood products, and agricultural produce that can also be produced domestically.⁴ CEMAC tariffs are also more dispersed than those of the WAEMU, which further complicates customs administration and creates price distortions across imported goods (Tsangarides and Martijn 2007).

Although external tariffs remain an important source of fiscal revenue for CEMAC countries, trade liberalization could have a positive impact on economic growth and poverty reduction (Romalis 2006; Berg and Krueger 2003). Trade liberalization could also foster development, diversifying exports away from oil and diamonds (Tsangarides and Martijn 2007). Although tariff reductions could be effective in boosting development, measures to compensate for lost tariff revenues may also be needed.

In December 2000, CEMAC ministers mandated the preparation of trade negotiations with the EU under the EPA structure. In August 2002, the consul created a regional committee to conclude these negotiations with the purpose of creating a free trade area between CEMAC and the EU in conformity with the WTO rules. Detailed overviews of the EPAs between the EU and sub-Saharan Africa are in Meyn (2008) and in Curran, Nilsson, and Brew (2008).

A regional FTA between CEMAC and the EU, as envisioned under the EPA, has the potential to solve some of the problems that could not be solved within the CEMAC region. An EPA could be helpful in strengthening administrative capacity in CEMAC states and thereby make it possible to enforce the application of trade rules by all CEMAC countries. Particularly concerning rules of origin, an EPA could give the CEMAC region new breath in empowering the regional authorities and help them to harmonize rules and procedures and to reform the investment climate (South Center 2007; Tsangarides and Martijn 2007).

Additionally, an FTA could enlarge and diversify markets for CEMAC countries in both agricultural and nonagricultural products. In the manufacturing sector, for instance, by opening markets to the EU, CEMAC countries could attract industries that use inputs from elsewhere but benefit from local and inexpensive labor in Central Africa. CEMAC could also benefit from an EPA in the service sector,

⁴ See table A.3.

but more so from the import side, due to the less-developed nature of the export service sector in CEMAC (Hinkle and Schiff 2004).

In agriculture and food security, where CEMAC has been pursuing harmonization of agricultural policies within a broader framework related to improving integration of the regional market, the region could also benefit from an EPA with the EU. Since 1999, CEMAC has singled out a number of goals that would increase agricultural productivity and improve food security in the region. These goals include increasing producer income; increasing the productivity of agriculture in the region; developing an infrastructure to overcome high transportation costs within the region and improve competitiveness; increasing the amount allocated to agricultural finance in national budgets; and promoting the diversification and rural development of the agricultural sector, particularly in CEMAC oil-exporting countries affected by Dutch disease. To achieve these goals, CEMAC could benefit from an FTA with the EU to secure market access through quotas and low or zero tariffs; it could also lead to greater price stability in some important agricultural markets in the region including bananas, sugar, beef, and veal. CEMAC countries could also have access to sectors that in the past have been highly protected by the EU Common Agriculture Policy (South Center 2007).

Although an EPA between EU and CEMAC would provide Central African countries with opportunities to enlarge their market, strengthen institutional capacity, and raise policy credibility, it is still discretionary and therefore may still create trade diversion. Imports from non-EU sources by CEMAC countries represent 47 percent of their total imports, and nearly all these imports can also be supplied by the EU. Hence, if there is an EPA between EU and CEMAC, then there are risks that CEMAC countries would increase their imports from the EU in place of lower-priced products currently imported from other sources.

Moreover, as in the case of the reduction of external tariffs, an EPA between EU and CEMAC could lead to substantial losses of fiscal revenue for Central African countries. The eventual revenue losses of an EPA would be significant, because more than 50 percent of CEMAC imports are from the EU. This issue could be addressed, however, by the EPA development agreement, where African countries are proposed to open up their markets to the EU after a prior identification of sensitive products in the region, both agricultural and industrial, and to have the flexibilities provided for in the WTO for an asymmetrical and gradual opening of markets.

4. MODEL AND DATA

The model used in this study is the standard GTAP comparative static model, largely documented in Hertel and Tsigas (1997).⁵ The standard GTAP model is a multiregion, multisector, computable general equilibrium model that uses an algebraic framework resulting from imposing the conditions of producer and consumer maximization on the accounting framework of the social accounting matrix. The algebraic framework is used to analyze the behavior of numerous economic agents including producers, households, and governments.

The standard GTAP assumption is perfect competition and constant returns to scale where bilateral trade is handled via the Armington framework (products are differentiated by country of origin).⁶ The model assumes that there is a regional household that collects all income and allocates across private consumption, government, and saving. Household demand for commodities and services are in constant difference elasticity form, which assumes nonhomothetic preferences and is more flexible than the constant elasticity of substitution form. Producers are assumed to have a constant elasticity of substitution production function (Hertel and Tsigas 1997).

We used the standard GTAP model with a few adjustments in the closure rules to accommodate different scenarios used in the simulations. As in McDonald and Walmsley (2003), we include three fundamental adjustments to the standard GTAP closure. First, we adopt a fixed trade balance to account for the fact that developing and underdeveloped countries follow a managed float regime. Their trade balances are fixed, while savings change. Second, we considered a more realistic assumption for countries in CEMAC that there is not full employment of unskilled workers. In African countries there is commonly an excess supply of unskilled labor that can be used by industries in case there is an increase in production. To account for this fact, wage rates are assumed exogenous (fixed) and labor supply is assumed endogenous. Lastly, we account for fixed prices in the market for the dominant exports such as oil and diamonds. The price of diamond exports from the DR Congo, São Tomé and Príncipe, and Central African Republic is in general fixed by the Central Selling Organization. Crude oil in the region is produced by Cameroon, Chad, Congo, Equatorial Guinea, and Gabon. Although these countries are not members of OPEC, their crude oil prices are to a large extent dictated by OPEC.

To analyze the impact of the FTA between the EU and CEMAC, we used the standard GTAP model with 14 region/country aggregations. Details of the regional breakdown are given in Table A.1 in the appendix. The sector breakdown consisted of 15 sectors that were aggregated from the 57-sector GTAP database (see Table A.2). The regional and commodity aggregations reflected the known patterns of trade and various trade agreements in Central Africa (McDonald and Walmsley 2003). For country-specific analysis, the DR Congo and Cameroon are analyzed separately from CEMAC.⁷ The choice of these individual countries was mainly dictated by the GTAP data set, in which only these two CEMAC countries are separate regions. Oil and minerals are analyzed separate from other commodities.

⁵ The GTAP static model used here does not allow fully capturing the dynamic gains of an FTA between CEMAC and EU. To have a full picture of the benefits for such a trading arrangement, a dynamic computable general equilibrium model should be used. We leave that for future work.

⁶ The standard GTAP model used in this paper does not include both imperfect competition and increasing return to scale. This caveat could be addressed in future work.

⁷ GTAP project has recently increased efforts in disaggregating the African region in its database. Input-Output (I-O) tables for all of the newly added African countries were constructed in-house by mapping them to the regions for which GTAP has contributed I-O data, based on per-capita GDP match. For DR Congo and Cameroon, however, I-O tables were contributed by African economists and were then compare to those available on the database, based on per-capita GDP match.

5. SIMULATION RESULTS

5.1. The FTA with Multilateral Liberalization

The welfare effects of the EU-CEMAC FTA given multilateral liberalization are given in Tables 4 and 5. The results show an increase in welfare for all regions except the North American Free Trade Agreement (NAFTA) area, WAEMU, and the DR Congo, where losses are 0.01, 0.76, and 0.12 percent of GDP, respectively. North Africa, the rest of the world (ROW), and Cameroon show the largest welfare gain with 4.1, 1.64, and 1.53 percent of GDP, respectively. The EU has a relatively moderate gain of 0.11 percent of GDP.

Table 4. Regional welfare impacts: FTA with multilateral trade agreement

Region	GDP (Millions of Dollars)	Millions of Dollars	Percent of GDP
NAFTA	11,418,072.00	-1,013.53	-0.01
EU_25	8,297,006.00	9,184.84	0.11
North Africa	247,714.06	10,099.96	4.08
WAEMU	26,158.81	-199.65	-0.76
Rest of ECOWAS ¹	52,919.15	522.96	0.99
DR Congo	5,184.30	-6.48	-0.12
Cameroon	8,641.54	131.86	1.53
Rest CEMAC	11,524.80	12.16	0.11
COMESA	49,843.16	7.45	0.01
SADC	138,444.09	2,207.46	1.59
Latin America	1,383,859.25	5,145.79	0.37
Rest of Europe	1,092,938.00	5,403.50	0.49
COMESADC	33,418.48	406.54	1.22
Rest of World	8,686,665.00	142,059.88	1.64

Note: ¹ Economic Community of West African States

Table 5. Decomposition of welfare changes

Region	Allocative Efficiency	Endowment	Term of Trade	Investment Saving	Total Welfare
NAFTA	3,570.17	-3,292.73	-566.92	-724.05	-1,013.53
EU_25	5,774.44	-791.98	4,037.01	165.37	9,184.84
North Africa	7,834.68	3,906.10	-1,546.40	-94.43	10,099.96
WAEMU	131.06	55.02	-216.25	-169.48	-199.65
Rest of ECOWAS	983.63	21.46	-294.24	-187.89	522.96
DR Congo	0.78	-3.79	-6.57	3.09	-6.48
Cameroon	51.87	89.01	-17.57	8.54	131.86
Rest of CEMAC	32.91	-5.79	-91.18	76.22	12.16
COMESA	365.27	342.63	-366.35	-334.10	7.45
SADC	931.28	944.56	164.03	167.59	2,207.46
Latin America	4,091.21	0.00	1,366.32	-311.74	5,145.79
Rest of Europe	6,341.51	0.00	-1,488.00	549.98	5,403.49
COMESADC	165.99	231.87	7.95	0.73	406.55
Rest of World	68,320.93	73,870.64	-981.83	850.16	142,059.89

The relatively good performance of North Africa, ROW, and Cameroon is attributable to their gains in both allocative efficiency and endowments. All of them, however, recorded deterioration in their terms of trade. The effects on capital goods were positive for both ROW (US\$850 million) and Cameroon (US\$8.5 million) but negative for North Africa (-US\$94.43 million). The moderate gain for the EU is explained by gains in allocative efficiency and in capital goods, as well as an improvement in the terms of trade. These gains were counterbalanced by a reduction in employment of unskilled labor. The DR Congo recorded positive impacts on allocation efficiency, but the overall welfare was hindered by a reduction in employment of unskilled labor and a deterioration of the terms of trade (see Table 5).

Table 6 presents exports and imports under the FTA/multilateralism scenario. In DR Congo, exports increased for the oil, other fuels, manufactures (light), utilities, construction, public administration, and other services sectors. In contrast, agricultural exports decreased, as did food products, textiles, manufactures, heavy manufactures, and machinery. The most significant export change for DR Congo was a 28 percent increase in other fuels exports and a 27 percent decrease in textile exports. The decrease in textile exports is due to this sector's being heavily protected and internationally noncompetitive. The DR Congo imports, on the other hand, decreased in most sectors, particularly in construction (14 percent), light manufactures (8 percent), and animals (5 percent). Textile imports increased by 2.6 percent.

Table 6. Impact of the FTA with multilateral liberalization on exports and imports

Sector	Exports			Imports		
	DR Congo	Cameroon	Rest of CEMAC	DR Congo	Cameroon	Rest of CEMAC
Crops	-12.29	18.08	-10.65	-4.01	1.65	-1.96
Animals	-4.04	-1.99	20.54	-5.91	1.38	-7.86
Oil	0.47	0.00	0.00	-2.74	44.21	-9.80
Minerals	0.00	-4.35	0.00	-2.04	7.38	6.51
Other fuels	28.72	13.96	26.12	-0.83	23.51	6.23
Food products	-19.55	-18.84	8.63	0.16	17.03	12.54
Textiles	-27.05	-5.38	15.46	2.61	27.82	4.92
Heavy manufactures	-2.15	12.82	22.69	-1.38	9.84	5.46
Manufacture	-8.15	3.66	27.99	-1.79	10.95	10.03
Light manufactures	2.68	7.36	19.47	-8.06	4.69	5.22
Machinery	-1.38	7.11	25.98	-4.42	10.72	4.56
Utilities	2.63	4.98	16.07	-1.59	-3.64	-7.97
Construction	0.53	8.61	12.96	-14.87	1.65	-4.00
Public administration	0.51	4.12	11.80	-0.01	-2.12	-8.56
Other services	3.03	7.02	11.59	-1.26	-2.50	-4.58

Results for Cameroon were very different from the DR Congo. Unlike the DR Congo, both exports and imports increased for the majority of products in Cameroon. The most substantial increase in exports was in agricultural crops, other fuels, and heavy manufactures. Exports in these sectors increased 18, 14, and 13 percent, respectively. Imports increased significantly for oil (44 percent), textiles (28 percent), and other fuels (24 percent); however, Cameroon imports of utilities declined by 3.6 percent and public administration by 2.1 percent.

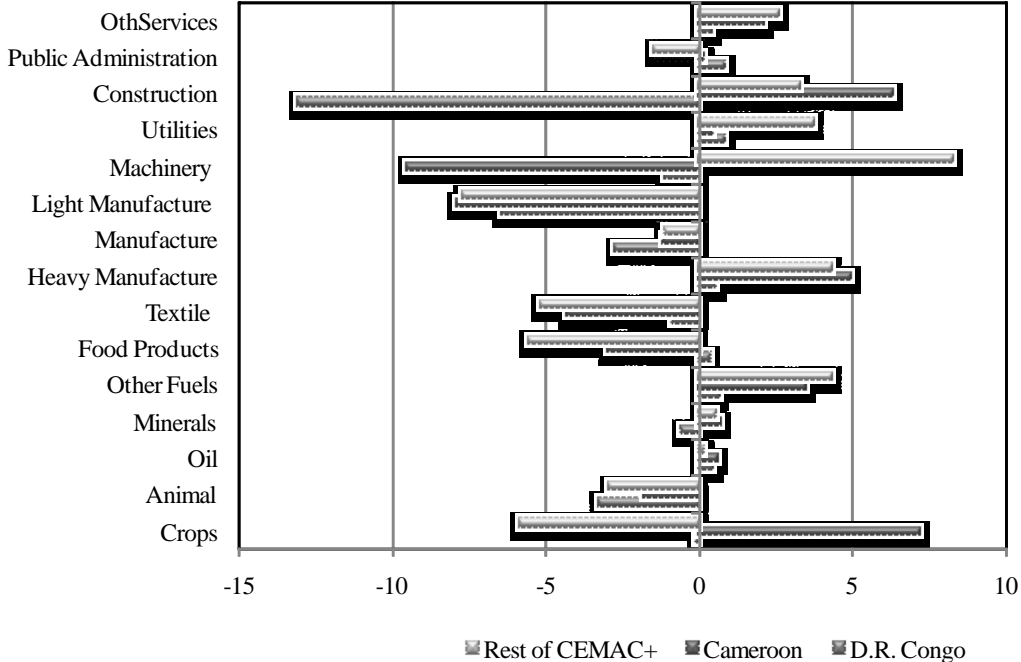
The rest of CEMAC showed substantial increases in exports, with the most significant increase being in manufactures (27 percent), other fuels (26 percent), machinery (26 percent), heavy manufactures (23 percent), and animals (20 percent). Of all exports, only agricultural crops declined (11 percent). CEMAC imports declined in more than five sectors including crops, animals, oil, utilities, construction, and other services. The most significant decrease was in the other services sector (61 percent).

Figure 2 shows the output for different sectors as affected by liberalization under the present scenario. In the DR Congo, output declined in most sectors, particularly in construction (13 percent) and

light manufactures (6 percent). Cameroon, in contrast, showed a significant output increase in construction (6 percent), heavy manufactures (5 percent), and other fuels (4 percent). More than five sectors, however, showed decreases in output. This resulted in small increases in exports but significant increases in imports for Cameroon.

Displaying a similar pattern to Cameroon, CEMAC showed significant output increases in the machinery (8 percent), other fuels (4 percent), utilities (4 percent), and construction (3 percent) sectors. Also similar to Cameroon, CEMAC outputs for more than five sectors declined. This resulted in significant increases in imports for CEMAC (DR Congo and Cameroon excluded).

Figure 2. Changes in outputs by sector



5.2. The FTA without Multilateral Liberalization

When the FTA between EU and CEMAC is implemented without multilateral liberalization, the results change in many ways. As opposed to the case where the FTA is accompanied by multilateral liberalization, all changes in welfare across regions are negative except for the regions in the agreement (see Table 7). The EU shows a gain of US\$367 million, which is less than 1/100 percent of GDP. The welfare gain for the DR Congo was only 0.006 percent of GDP, and for Cameroon, the welfare gain was 0.9 percent of GDP. The rest of CEMAC realized the highest relative gain (1.3 percent of CEMAC GDP).

Although all the signatories to the agreements achieved welfare gains, the relative magnitude compared with those recorded in the case of multilateral liberalization varies among regions. The EU welfare gain was 0.004 percent as compared to 0.11 percent with multilateral liberalization. Similarly, the welfare gain for Cameroon was 1.5 percent with multilateral liberalization and only 0.9 percent without. The rest of CEMAC as well as the DR Congo gained more under the FTA without multilateral liberalization. For the DR Congo, the FTA with the multilateral liberalization was welfare decreasing; however, without multilateralism, the FTA was welfare increasing (Table 7).

Table 7. Regional welfare impacts of the FTA (without multilateral liberalization)

Region	GDP (Millions of Dollars)	Millions of Dollars	Percent of GDP
NAFTA	11,417,747.00	-103.473	-0.001
EU_25	8,292,233.00	366.880	0.004
North Africa	235,970.47	-5.356	-0.002
WAEMU	25,971.00	-6.526	-0.025
Rest of ECOWAS	51,911.77	-5.370	-0.010
DR Congo	5,187.46	0.320	0.006
Cameroon	8,614.78	81.798	0.950
Rest of CEMAC	11,628.68	150.245	1.292
COMESA	49,131.84	-5.831	-0.012
SADC	136,565.02	-8.721	-0.006
Latin America	1,379,765.00	-16.524	-0.001
Rest of Europe	1,086,596.75	-11.677	-0.001
COMESADC	33,018.70	-3.964	-0.012
Rest of World	8,544,498.00	-17.349	0.000

The difference between the two scenarios for the EU is mostly explained by a positive but smaller gain in both allocative efficiency (US\$116 million) and endowments (US\$94 million), as well as a loss in capital goods (US\$15 million). The smaller welfare gain for Cameroon is explained by a smaller gain in allocative efficiency, endowments, and capital goods. For the rest of CEMAC, allocative efficiency nearly doubled when the FTA was implemented without multilateral liberalization. Lastly, the DR Congo achieved higher gains in allocative efficiency, endowments, capital goods, and the terms of trade without multilateralism (Table 8).

Table 8. Decomposition of welfare changes

Region	Allocative Efficiency	Endowment	Term of Trade	Investment Saving	Total Welfare
NAFTA	-33.29	-14.28	-29.76	-26.14	-103.47
EU_25	115.51	93.99	172.26	-14.88	366.88
North Africa	-0.67	-2.15	-2.13	-0.41	-5.36
WAEMU	-1.34	-0.41	-3.66	-1.12	-6.53
Rest of ECOWAS	-1.88	-0.40	-2.34	-0.74	-5.37
DR Congo	0.01	0.13	0.16	0.02	0.32
Cameroon	44.94	69.19	-41.39	9.06	81.80
Rest of CEMAC	70.08	60.92	-42.43	61.67	150.25
COMESA	-1.35	-2.08	-1.77	-0.63	-5.83
SADC	-1.46	-1.77	-6.07	0.58	-8.72
Latin America	-2.99	0.00	-10.98	-2.56	-16.52
Rest of Europe	0.29	0.00	-8.54	-3.42	-11.68
COMESADC	-0.57	-1.35	-2.00	-0.04	-3.96
Rest of World	1.83	23.56	-21.37	-21.36	-17.35

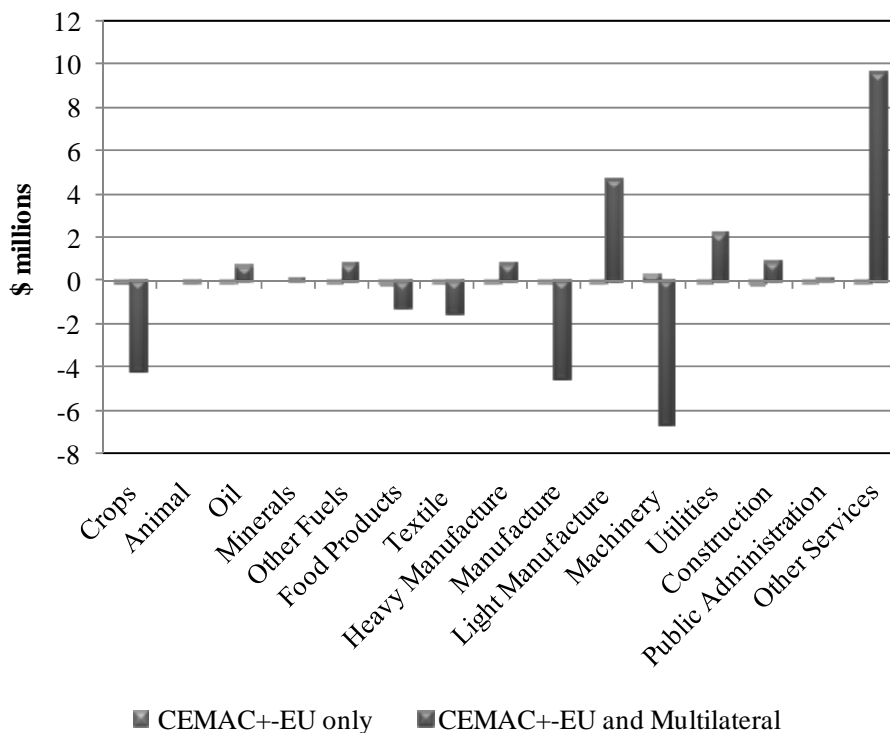
Changes in exports and imports in response to the FTA (without multilateral liberalization) vary with each sector; however, changes are significantly smaller for most sectors in this case (Table 9). In the DR Congo, the largest increase in exports was in the food products sector (1.4 percent). With multilateralism, exports in this sector declined by 20 percent. The textile sector is particularly better off under this scenario with a 0.06 percent increase compared to a 27 percent loss in the previous case. Although Congolese imports in most sectors increase, the changes are small in magnitude. The smaller

changes, in both exports and imports, translate to almost no changes in the balance of payments (see Figure 3). When the FTA is implemented with multilateral liberalization, in contrast, the change in the balance of payments is very substantial.

Table 9. Impact of the FTA without multilateral liberalization on exports and imports

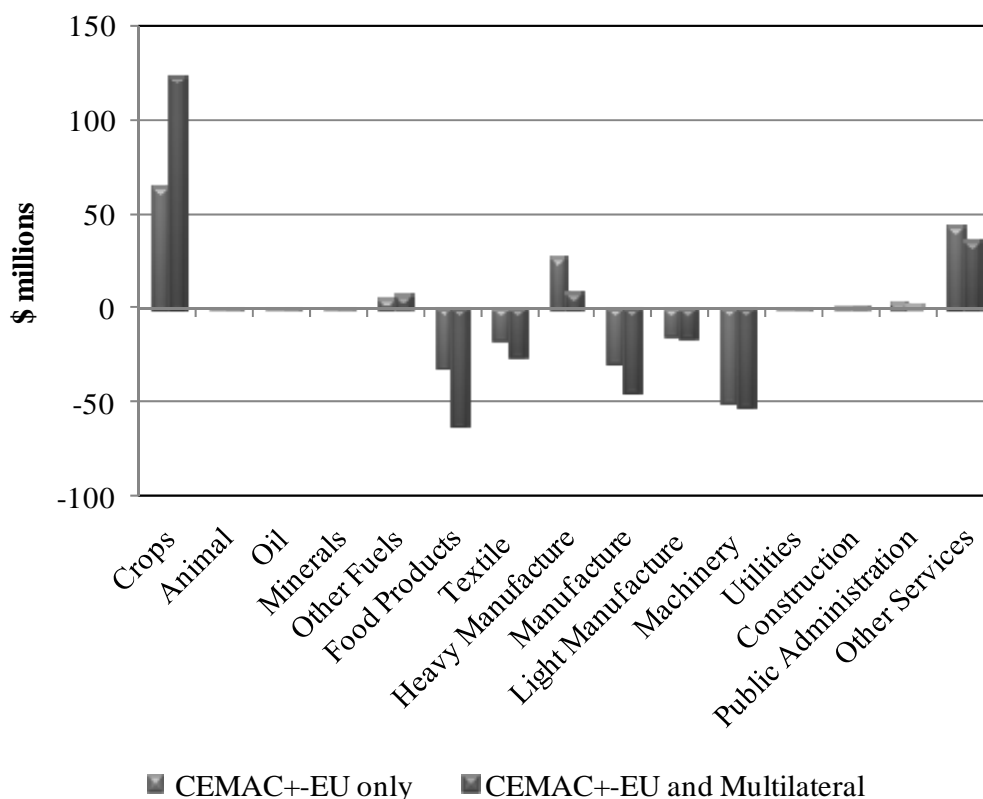
Sector	Exports			Imports		
	DR Congo	Cameroon	Rest of CEMAC+	DR Congo	Cameroon	Rest of CEMAC+
Crops	-0.081	9.584	8.079	0.544	1.796	9.313
Animals	0.023	9.083	10.250	0.019	0.051	2.814
Oil	-0.002	0.000	0.000	-0.011	-2.393	-7.549
Minerals	0.000	3.584	0.000	0.004	0.437	3.872
Other fuels	-0.031	11.408	17.438	0.014	23.082	8.642
Food products	1.400	1.876	10.289	0.138	11.884	15.219
Textiles	0.063	12.646	18.427	0.019	21.499	5.735
Heavy manufactures	0.009	14.836	14.854	0.057	7.214	7.843
Manufacture	0.017	11.706	18.735	0.191	9.977	14.050
Light manufactures	0.024	18.717	17.192	0.050	4.599	8.342
Machinery	0.039	14.416	24.461	0.042	10.588	7.932
Utilities	-0.083	10.136	9.726	-0.004	-5.348	-4.554
Construction	-0.005	11.430	9.824	0.084	2.355	1.514
Public administration	-0.001	8.336	8.063	-0.007	-4.414	-6.191
Other services	0.007	7.789	6.353	0.006	-4.017	-2.300

Figure 3. Changes in the balance of payments for the Democratic Republic of the Congo



Changes in the balance of payments for Cameroon are significant in both scenarios. In both cases only crops and other services show increases in Cameroon. The increase in the crops sector is explained by increases in exports and moderate increases in imports. The changes in all other sectors are either close to zero or significantly negative (see Figure 4).

Figure 4. Changes in the balance of payments for Cameroon



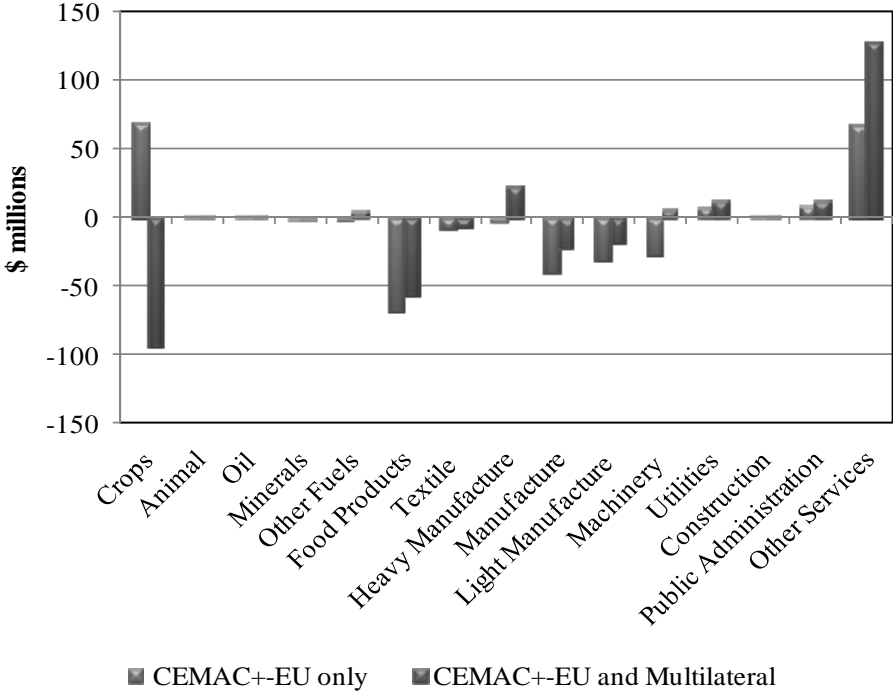
The rest of CEMAC follows the same pattern as Cameroon, with the exception that the change in balance of payments for crops is negative in the case of the FTA with multilateral liberalization, but improves in the case of an FTA without multilateral liberalization (see Figure 5).

The small changes in the trade balance for the DR Congo is due to the insignificant changes in output in the no-multilateralism scenario. In Cameroon, in contrast, outputs changed significantly, and the magnitude and direction of trade depended on the sector. The most significant increases were in construction, heavy manufacture, and crops. The largest decrease was in machinery and light manufacture. In the rest of CEMAC, the largest output increases were in machinery (6 percent) and construction (6 percent; see Figure 4).

Multilateral liberalization amplifies the welfare gain for Cameroon. The DR Congo, with its weaker institutional capacity, is affected negatively. An EU-CEMAC FTA without multilateralism produces gains for both Cameroon and the DR Congo. The gain for Cameroon is moderate when compared to that achieved when the EU-CEMAC FTA is accompanied with the multilateral agreement. The EU, with strong institutional capabilities to adjust larger market size, benefits more from the EU-CEMAC FTA accompanied with multilateralism than from the EU-CEMAC FTA alone. The rest of CEMAC, within which all countries are least developed (except Gabon and Republic of Congo), benefits more from the EU-CEMAC FTA alone than from the EU-CEMAC FTA accompanied with multilateralism. Results show that the CEMAC region is actually better off without the multilateral

agreement when there is a regional agreement with the EU. This suggests that CEMAC member states would have little interest in the success of multilateralism. This is also noted by Ponte, Raakjær, and Campling (2007), who suggest that given that African countries already have preferential access to the EU, they have little interest in seeing the current WTO negotiations succeed because increased market access for non-African countries could lead to the eroding of the current preferences they enjoy with the EU.

Figure 5. Changes in the balance of payments for the rest of CEMAC



6. CONCLUSION

In this paper, we argue that a multilateral liberalization and a regional FTA between EU and CEMAC are not exclusive. A prodevelopment multilateral liberalization would amplify the benefits of an FTA between the EU and CEMAC as envisioned by the EPA. The most difficult issues in trade negotiations under the EPA, those related to agriculture for instance, could find solutions in a multilateral arrangement. Hence, it would be desirable that an FTA between the EU and CEMAC happen simultaneously with a multilateral liberalization.

To support this argument, we compare the results of two policy simulations. First, we assume that the FTA between the EU and CEMAC happens simultaneously with multilateral liberalization; and second, using results of the first scenario as the point of reference, we simulate an FTA between EU and CEMAC without multilateral liberalization, and then compare results.

Results show that all regions in the model are better off with multilateralism, except NAFTA, WAEMU, and the DR Congo. Cameroon received the largest welfare gain. The EU gained moderately. Assuming that there is no multilateral liberalization, results showed losses in welfare across all regions except for those regions belonging to the FTA. EU welfare increased by US\$367 million, representing 0.004 percent of GDP. DR Congo showed an increase in welfare of 0.006 percent of GDP, and Cameroon gained 0.9 percent. The rest of CEMAC realized the highest relative gain (1.3 percents of GDP).

Although all members of the FTA achieved welfare gains, the relative magnitude compared with those recorded in the case of an FTA with multilateral liberalization varies with region. The EU shows welfare gains of 0.11 percent with multilateral liberalization. Cameroon shows welfare gains of 1.5 percent of GDP with multilateral liberalization. The rest of CEMAC gain more with the FTA without multilateral liberalization, and the DR Congo achieved higher gains without multilateral liberalization.

APPENDIX

Table A.1. Aggregation of regions

Region in the Model	Regions in GTAP	Countries
DR Congo	DR Congo	DR Congo
Cameroon	Cameroon	Cameroon
Rest of CEMAC+	Rest of CEMAC	Chad, Central African Republic, Congo, Equatorial Guinea, Gabon, and São Tomé and Príncipe
EU_25	European Union	European Union
WAEMU	Côte d'Ivoire, Senegal, Rest of WAEMU	Benin, Burkina Faso, Côte d'Ivoire, Guinea Bissau, Mali, Niger, Senegal and Togo
Rest of ECOWAS	Rest of ECOWAS, Ghana	Cape Verde, Gambia, Ghana, Guinea, Liberia, Nigeria, Sierra Leone
Rest of Europe	Rest of Europe	Rest of Europe
North Africa	Algeria, Egypt, Libyan Arab Jamahiriya, Morocco, Tunisia	Algeria, Egypt, Libyan Arab Jamahiriya, Morocco, Tunisia
NAFTA	North America	United States of America, Canada, Mexico
Latin America	Latin America	Central America and the Caribbean, Colombia, Peru, Venezuela, Rest of Andean Pact, Rest of South America
Rest of the World	Oceania, East Asia, SE Asia, South Asia, Middle East	Australia, New Zealand, Chile, China, Hong Kong, Japan, Korea, Taiwan, Indonesia, Malaysia, Philippines, Singapore, Thailand, Vietnam, Bangladesh, India, Sri Lanka, Rest of South Asia, Former Soviet Union, Turkey, Rest of Middle East, Rest of World

Table A.2. Aggregation of commodities

Model Commodities	GTAP 5 Commodities
Crop agriculture	Paddy rice, wheat, cereal grains nec, vegetables, fruit, nuts, oil seeds, sugarcane, sugar beet, plant-based fibers, crops nec, fishing, forestry
Animal agriculture	Bovine cattle, sheep and goats, horses, animal products nec, raw milk, wool, silkworm cocoons
Oil	Oil
Minerals nec ¹	Minerals nec
Other fuels and minerals	Coal, gas, petroleum, coal products
Food products	Bovine cattle, sheep and goat, horse meat prods; meat products nec; dairy products; vegetable oils and fats; processed rice; sugar; food products nec; beverages and tobacco products
Textiles	Textiles, wearing apparel, leather products
Heavy	Wood products, paper products, publishing, chemical, rubber, plastic products
Manufacturing	Mineral products nec, ferrous metals, metals nec, metal products
Light	Motor vehicles and parts, transport equipment nec, electronic equipment
Manufacturing	Machinery and equipment nec, manufactures nec
Utilities	Electricity, gas manufacture, distribution, water
Construction	Construction
Trade	Trade
Public administration	Pub admin./defense/ health/education
Other services	Trade, transport nec, sea transport, air transport, communication, financial services nec, insurance, business services nec, recreation and other services, dwellings

Note: ¹ nec = not elsewhere classified

Table A.3. CEMAC and WAEMU most favored nation import tariff rates by sector

Harmonized System Classification	CEMAC		WAEMU	
	Average MFN Rate	Standard Deviation	Average MFN Rate	Standard Deviation
Animal and animal products	22.7	6.4	15.1	6.1
Vegetable products	23.4	9.8	14.3	6.8
Foodstuffs	25.3	9.1	16.5	5.6
Mineral products	10.1	2.2	6.1	3.4
Chemicals and allied products	11.3	6.6	7.1	5
Plastics/ Rubbers	16.5	9.4	10.7	6.2
Raw, hides, skins, leather and fun	19.5	10	12	5.7
Wood and wood products	26.3	8.1	10.6	6.3
Textiles	22.1	8.6	17.1	5
Footwear/Headgear	29.3	2.6	17.7	4.2
Stone/Glass	24.9	9.3	15.3	6
Metals	16.7	7.9	12.7	6.8
Machinery	14.2	7.1	8.8	5.8
Transportation	16.5	9.4	10.3	6.2
Miscellaneous	21.3	9.4	14.4	6.6
Unweighted average	19.1	9.6	12.1	6.8

Source: Tsangarides and Martijn (2007)

REFERENCES

- Bagwell, K., and R. W. Staiger. 2001. Reciprocity, non-discrimination and preferential agreements in the multilateral trading system. *European Journal of Political Economy* 17 (2): 281–325.
- Bhagwati, J. 1991. *The World Trading System at Risk*. Princeton, N.J.: Princeton University Press.
- Bhagwati, J. 1993. Regionalism and multilateralism: An overview. In A. Panagariya and J. De Melo, eds., *New Dimensions in Regional Integration*. Washington, D.C.: World Bank.
- Bhagwati, J., and A. Panagariya. 1996. Preferential trading areas and multilateralism: Strangers, friends or foes? In J. Bhagwati and A. Panagariya, eds., *The Economics of Preferential Trade Agreements*. Washington, D.C.: AEI Press.
- Bhagwati, J., D. Greenaway, and A. Panagariya. 1998. Trading preferentially: Theory and policy. *Economic Journal* 108 (449): 1128–1148.
- Berg, A., and A. Krueger. 2003. Trade growth and poverty. *IMF Working Paper, International Monetary Fund*, 03(30).
- CIA. *World Fact Book 2007*. <https://www.cia.gov/library/publications/the-worldfactbook/geos/cd.html>.
- Curran, L., L. Nilsson, and D. Brew. 2008. The economic partnership agreements: Rationale, misperceptions and non-trade aspects. *Development Policy Review* 26 (5): 529–553.
- Delorme, F., and D. van der Mensbrugghe. 1990. Assessing the role of scale economies and imperfect competition in the context of agricultural trade liberalisation: A Canadian case study. *OECD Economic Studies* 13:205–236.
- Development Data Group. 2007. 2007 world development indicators online. <http://go.worldbank.org/3ju2ha60d0>. Washington, DC: The World Bank.
- Fink, C., and M. Jansen. 2007. Services provisions in regional trade agreements: Stumbling or building blocks for multilateral liberalization? Conference Paper, *Centre for Economic Policy Research (CEPR)* September 10–12, 2007. Geneva, Switzerland.
- Gupta, S., and Y. Yang. 2005. Regional trade arrangements in Africa: Past performance and the way forward. *IMF Working Paper 05/36*, IMF, Washington D.C.
- Hadjiyiannis, C. 2004. Regionalism and multilateral trade liberalization with asymmetric countries. *Review of International Economics* 12 (3): 395–411.
- Hertel, T. W. (ed). 1997. *Global trade analysis: Modeling and applications*. Cambridge: Cambridge University Press.
- Hertel, T., and M. Tsigas. 1997. Structure of the GTAP model. In T. Hertel, ed., *Global trade analysis: Modeling and applications*. Cambridge: Cambridge University Press.
- Hinkle, L., and M. Schiff. 2004. Economic partnership agreements between sub-Saharan Africa and the EU: A development perspective. *The World Economy* 27 (2004): 1321–1333.
- Karacaovali, B., and N. Limao. 2008. The clash of liberalizations: Preferential vs. multilateral trade liberalization in the European Union. *Journal of International Economics* 74 (2): 299–327.
- Krishna, P. 1998. Regionalism and multilateralism: A political economy approach. *Quarterly Journal of Economics* 113 (1): 227–251.
- Lamy, P. 2002. Stepping stones or stumbling blocks: The EU's approach towards the problem of multilateralism vs. regionalism in trade policy. *World Economy* 25(10).
- Levy, P. 1997. A political-economic analysis of free-trade agreements. *American Economic Review* 87 (4): 506–519.
- Limao, N. 2006a. Preferential trade agreements as stumbling blocks for multilateral trade liberalization: Evidence for the United States. *American Economic Review* 96 (3): 896–914.

- Limao, N. 2006b. Preferential vs. multilateral trade liberalization: Evidence and open questions preview." *World Trade Review* 5 (2): 155–176.
- McDonald, S., and T. L. Walmsley. 2003. Bilateral free trade agreements and customs unions: The impact of the EU Republic of South Africa free trade agreement on Botswana. *GTAP Working Paper No. 29*, Center for Global Trade Analysis, Purdue University, Indiana.
- Meyn, M. 2008. Economic partnership agreements: A “historic step” towards a “partnership of equals”? *Development Policy Review* 26 (5): 515–528.
- Panagariya, A. 1999. The regional debate: An overview. *World Economy* 22 (4): 477–511.
- Panagariya, A. 2000. Preferential trade liberalization: The traditional theory and new developments. *Journal of Economic Literature* 38 (2): 287–331.
- Ponte, S., J. Raakjær, and L. Campling. 2007. Swimming upstream: Market access for African fish exports in the context of WTO and EU negotiations and regulation. *Development Policy Review* 25:113–138.
- Romalis, J. 2006. Market access, openness and growth. University of Chicago, in gsbwww.uchicago.edu/fac/john.romalis/research.
- Smith, A., and A. J. Venables. 1988. Completing the internal market in the European community: Some industry simulations. *European Economic Review* 32 (7): 1501–1525.
- South Center. 2007. EPA negotiations in the Central African Region: Some issues for consideration. Geneva, Switzerland. Available at: <http://www.southcentre.org>.
- Tsangarides, G. C., and J. K. Martijn. 2007. Trade reform in the CEMAC: Developments and opportunities. IMF Working Papers 07/137.
- United Nations. 2004. Meeting the challenges in an era of globalization by strengthening regional development cooperation. *Asia-Pacific Development Journal* 11(1):113-116
- Vinter, J. 1950. The customs union issue. London: Stevens and Sons Limited.
- Winters, L. A., N. McCulloch, and A. McKay. 2004. Trade liberalization and poverty: The evidence so far. *Journal of Economic Literature* 42:72–115.
- World Population Prospects (2005): The 2004 revision. Available online at: <http://www.un.org/esa/population>.

RECENT IFPRI DISCUSSION PAPERS

For earlier discussion papers, please go to www.ifpri.org/pubs/pubs.htm#dp.
All discussion papers can be downloaded free of charge.

858. *Preliminary evidence on internal migration, remittances, and teen schooling in India.* Valerie Mueller and Abusaleh Shariff, 2009.
857. *Productivity convergence in Brazil: The case of grain production.* Eduardo Magalhaes and Xinshen Diao, 2009.
856. *Dynamics of structural transformation: An empirical characterization in the case of China, Malaysia, and Ghana.* Thaddee Badibanga, Xinshen Diao, Terry Roe, and Agapi Somwaru, 2009.
855. *Do institutions limit clientelism? A study of the district assemblies common fund in Ghana.* Afua Branoah Banful, 2009.
854. *The evolution of Chinese entrepreneurial firms: Township-village enterprises revisited.* Chenggang Xu and Xiaobo Zhang, 2009.
853. *Evaluating the impact of land tenure and titling on access to credit in Uganda.* Carly K. Petracco and John Pender, 2009.
852. *Participation by Men and Women in Off-Farm Activities: An Empirical Analysis in Rural Northern Ghana.* Nancy McCarthy and Yan Sun, 2009.
851. *Measuring agricultural innovation system properties and performance: Illustrations from Ethiopia and Vietnam.* David J. Spielman and Dawit Kelemework, 2009.
850. *Are returns to mothers' human capital realized in the next generation?: The impact of mothers' intellectual human capital and long-run nutritional status on children's human capital in Guatemala.* Jere R. Behrman, Alexis Murphy, Agnes R. Quisumbing, and Kathryn Yount, 2009.
849. *Understanding Farmers' Perceptions and Adaptations to Climate Change and Variability: The Case of the Limpopo Basin, South Africa.* Glwadys Aymone Gbetibouo, 2009.
848. *Agglomeration, migration, and regional growth: A CGE analysis for Uganda.* Paul Dorosh and James Thurlow, 2009.
847. *Biosafety decisions and perceived commercial risks: The role of GM-free private standards.* Guillaume Gruère and Debdatta Sengupta, 2009.
846. *Impact of soaring food price in Ethiopia: does location matter?* John M. Ulimwenju, Sindu Workneh, and Zelekawork Paulos, 2009.
845. *Aggregate effects of imperfect tax enforcement.* Miguel Robles, 2009.
844. *Agricultural strategy development in West Africa: The false promise of participation?* Danielle Resnick and Regina Birner, 2008.
843. *Climate variability and maize yield in South Africa: Results from GME and MELE methods.* Wisdom Akpalu, Rashid M. Hassan, and Claudia Ringler, 2008.
842. *Local impacts of a global crisis: Food price transmission and poverty impacts in Ghana.* Godsway Cudjoe, Clemens Breisinger, and Xinshen Diao, 2008.
841. *Technology transfer, policies, and the role of the private sector in the global poultry revolution.* Clare A. Narrod, Carl E. Pray, and Marites Tiongco, 2008.
840. *The impact of agricultural extension and roads on poverty and consumption growth in fifteen Ethiopian villages.* Stefan Dercon, Daniel O. Gilligan, John Hoddinott, and Tassew Woldehanna, 2008.
839. *The impact of Ethiopia's Productive Safety Net Programme and its linkages.* Daniel O. Gilligan, John Hoddinott, and Alemayehu Seyoum Taffesse, 2008.
838. *Aid effectiveness and capacity development: Implications for economic growth in developing countries.* Prabuddha Sanyal and Suresh Babu, 2008.
837. *A two-dimensional measure of polarization.* Tewodaj Mogues, 2008.
836. *Higher fuel and food prices: Economic impacts and responses for Mozambique.* Channing Arndt, Rui Benfica, Nelson Maximiano, Antonio M.D. Nucifora, and James T. Thurlow, 2008

**INTERNATIONAL FOOD POLICY
RESEARCH INSTITUTE**

www.ifpri.org

IFPRI HEADQUARTERS

2033 K Street, NW
Washington, DC 20006-1002 USA
Tel.: +1-202-862-5600
Fax: +1-202-467-4439
Email: ifpri@cgiar.org

IFPRI ADDIS ABABA

P. O. Box 5689
Addis Ababa, Ethiopia
Tel.: +251 11 6463215
Fax: +251 11 6462927
Email: ifpri-addisababa@cgiar.org

IFPRI NEW DELHI

CG Block, NASC Complex, PUSA
New Delhi 110-012 India
Tel.: 91 11 2584-6565
Fax: 91 11 2584-8008 / 2584-6572
Email: ifpri-newdelhi@cgiar.org