

INTRA-AFRICAN FOOD TRADE: AN EMPIRICAL INVESTIGATION

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I. INTRODUCTION

A. *Trends*

STATIC as well as dynamic differences among African countries with respect to a number of economic factors—for example, population and geographical size, degree of infrastructural development, accumulation of technological expertise, pattern of industrial growth, and level of income—go a long way to explain the actual pattern of trade among countries on the continent. A number of economic groupings, namely, the Economic Community of West African States (ECOWAS), the Preferential Trade Area for Eastern and Southern Africa (PTA), and the Economic Community of the Great Lakes Countries (CEPGL), with their forest belts and fertile lands, have the potential of becoming a veritable cornucopia of food production from where surplus food could be exported to food deficit countries on the continent. Important food commodities are maize, rice, bananas and plantains, millet, sorghum, yams, and cassava. However, production problems, weak currencies, market access difficulties, and lack of political will continue to impede food trade among African countries.

On the whole, intra-African trade in food (as a percentage of African countries' food imports from the world) is very small (3.4 per cent during 1986–88), and has tended to decline over the past two decades. Trade is heavily concentrated among very few, usually contiguous, countries and is subject to substantial variations from year to year. On the export side, intra-African trade is influenced significantly by the triangular transactions of the World Food Programme (WFP). On the import side, food aid plays a pivotal role. The most important food imports of African countries are wheat, rice, and maize. Among African countries, the most important food commodities traded are again: bananas and plantains, and roots and tubers.

Africa's exports of food to African countries as a percentage of world exports to African countries declined steadily from 10.8 per cent during 1970–72 to 4.2 per cent during 1979–81, and to 2.2 per cent over the 1986–88 period (see column 2 of Table I). The share of maize, however, rose to 3.7 per cent during 1986–88

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TABLE I
AFRICA'S EXPORTS TO AFRICAN COUNTRIES

Commodity/ Year	As % of World Exports to African Countries	As % of Africa's Total Exports	Current Prices (U.S. \$ Million)	At 1985 Prices ^a (U.S. \$ Million)
Maize unmilled				
1986-88	3.7	31.7	28	34
1979-81	1.4	12.4	5	4
1970-72	27.3	16.7	5	10
Rice				
1986-88	1.1	9.0	5	4
1979-81	1.2	9.1	8	4
1970-72	16.2	8.8	13	20
Wheat				
1986-88	0.04	64.2	0.62	0.68
1979-81	0.04	28.6	0.81	0.65
1970-72	0.33	14.9	0.90	2.0
Bananas & plantains				
1986-88	18.9	3.1	0.13	0.10
1979-81	36.4	4.8	1.42	1.46
1970-72	43.1	5.6	1.8	4.4
Cereal & cereal preparations				
1986-88	0.9	12.3	35	28
1979-81	0.7	8.2	27	14
1970-72	4.6	11.7	25	37
Roots & tubers, vegetables				
1986-88	3.6	5.5	15	12
1979-81	10.7	11.4	27	14
1970-72	26.3	6.5	10	14
Food				
1986-88	2.2	6.5	366	314
1979-81	4.2	7.0	791	472
1970-72	10.8	5.5	282	486
Food & live animals				
1986-88	2.3	6.7	375	337
1979-81	4.5	7.4	860	532
1970-72	11.8	6.1	316	551

Source: Computed from Comtrade and UNCTAD Economic Time Series databases.

Note: Figures may not include border trade and smuggling.

^a Values in current prices were deflated by the index of free market prices, 1985=100, obtainable from [11]. The price index of food was applied to cereal and cereal preparations, and roots and tubers. The price index of food and tropical beverages was applied to food. The price index of "all food" was applied to food and live animals. In the case of maize, rice, wheat, and bananas and plantains, their respective price indices were used.

(thanks to purchases by the WFP) after declining from 27.3 per cent during 1970–72 to 1.4 per cent during 1979–81. Zimbabwe, one of the few African countries to produce a food surplus, harvested a bumper maize crop of about 2 million tonnes in 1988. But it could not easily trade with its neighboring food-deficit countries like Mozambique, Swaziland, Zambia, and Malawi because they lack hard currency. The WFP purchased 30,000 tonnes of Zimbabwe maize at U.S.\$195 per tonne¹ for Malawi which faced an anticipated shortfall of about 200,000 tonnes; and 65,000 tonnes of maize for Zambia which also faced a shortfall. The WFP also bought Zimbabwe maize for Mozambique and Swaziland. These triangular transactions form an important development tool and a powerful incentive for intra-African food trade. Significant shares of intra-African trade take place for bananas and plantains, and roots and tubers but in a declining order of magnitude for both categories. Africa's exports of wheat to African countries as a percentage of world wheat exports to African countries was insignificant, very close to zero.

The third column of Table I shows Africa's exports to African countries as a percentage of its total exports in that food commodity. It is easily observed that the proportion has increased for wheat and maize. While Table I additionally suggests that intra-African trade in maize and wheat is expanding, trade in rice, and bananas and plantains has taken a toboggan slide. One conspicuous development also is that the bulk of African food (including tropical beverages) is exported to the advanced industrialized countries. In 1986–88, African food exports to Western Europe, North America, and Japan accounted for 92 per cent of its total food exports. Comparison with the 1979–81 export share of 84 per cent points to an expanded food trade with these hard-currency countries at the expense of intra-African trade.

Column 2 of Table II displays African countries' food imports from Africa as a percentage of African countries' food imports from the world. In this case, only bananas and plantains, and roots and tubers are shown to be of growing importance. A closer look at the table indicates that while intra-African food imports have fallen steadily since the beginning of the 1970s, imports of food from the developed countries to Africa are on the increase. Africa's food imports from Western Europe, North America, and Japan accounted for 80 per cent of total flows during 1986–88. Intra-African trade in food was minimal with an import share of only 3.4 per cent.

B. *Obstacles to Trade*

Overwhelming obstacles stand in the way of the desire to realize increased intra-African food trade despite the clamor for a trade liberalization programme.² Obstacles include currency problems, limited transport and communications facilities in and among member-states, the nature of African economies, competition from other relatively developed regions, and legal and administrative problems.

¹ The free market price for maize in 1980 was U.S.\$210.3 (Argentina, c.i.f. North Sea Ports) and U.S.\$150.4 (the United States, No. 3 Yellow, c.i.f. Rotterdam).

² See Okolo [9], Thomas [10], and Yeboah [12].

TABLE II
AFRICAN COUNTRIES' IMPORTS FROM AFRICA

Commodity/Year	As % of African Countries' Imports from the World	Current Prices (U.S. \$ Million)	At 1985 Prices ^a (U.S. \$ Million)
Maize unmilled			
1986-88	2.3	13	15
1979-81	3.9	23	17
1970-72	26.5	13	24
Rice			
1986-88	0.1	0.7	0.6
1979-81	0.8	8	4.2
1970-72	10.6	11	17
Wheat			
1986-88	0.02	0.65	0.72
1979-81	0.05	0.75	0.60
1970-72	0.21	0.57	1.30
Bananas & plantains			
1986-88	38.2	1.2	1.0
1979-81	19.2	4.1	4.2
1970-72	19.7	1.3	3.3
Cereal & cereal preparations			
1986-88	0.44	22	17
1979-81	0.84	44	23
1970-72	4.6	31	45
Roots & tubers, vegetables			
1986-88	8.8	24	19
1979-81	6.4	16	8
1970-72	17.4	7	10
Food			
1986-88	3.4	503	431
1979-81	5.9	922	550
1970-72	10.0	280	482
Food & live animals			
1986-88	3.8	573	514
1979-81	5.9	950	588
1970-72	10.5	298	520

Source: Computed from Comtrade and UNCTAD Economic Time Series databases.

Note: Figures may not include border trade and smuggling.

^a Values in current prices were deflated by the index of free market prices, 1985=100, obtainable from [11]. The price index of food was applied to cereal and cereal preparations, and roots and tubers. The price index of food and tropical beverages was applied to food. The price index of "all food" was applied to food and live animals. In the case of maize, rice, wheat, and bananas and plantains, their respective price indices were used.

The domination of African food trade by the industrialized countries has been given more impetus by the associate membership of some states in the European Community (EC). This link, in addition to its hard-currency attractions, provides these states with tariff preferences for their food commodities and duty-free purchases of EC products, causing them to feel that their needs can be met adequately by the industrialized countries and that there is no reason why trade within Africa should be expanded.

Regional infrastructure and facilities, particularly transport facilities—whether road, rail, sea, or air—are woefully inadequate. Good all-weather roads linking African states are limited. Moreover, many of the roads can be very dusty and bumpy during the dry season and muddy, slippery, and even unmotorable during the rainy season. Such risky conditions are very unfavorable for the movement of perishable food items which constitute a large part of the region's commodity trade.

Underdevelopment of the rail transport system adversely affects subregional trade. While all African countries, with a few exceptions, e.g., Benin, have national airlines, there is no coordination of their services, even within Africa. The inadequate air transport links among African states have an adverse impact on intra-regional food trade. Although there are good harbors and free ports along the coast of Africa, the potential of maritime transport has not been harnessed for the promotion of intra-African food trade. Sea transport is still monopolized by foreign shipping lines which also control the freight rates. African shipping lines are too small and lack the sophistication to cope with the volume and changing styles in cargo-packaging and forwarding, whereas foreign lines are constantly modernizing their fleets and introducing more specialized units which are equipped to deal efficiently with various combinations of solid and liquid cargo.

Transportation cost is an important factor in intra-African food trade. Lack of regular sailing schedules on routes linking African countries and prohibitive overland transport cost tend to drive overall transportation costs to astronomical heights. In addition, trade can involve long delays and costly transshipment of food via distant commercial centers.

Deficiencies in telecommunications services have also tended to isolate African states from one another. Meanwhile, businessmen and women traders find it easier and more comfortable to deal with partners in Europe and North America than with fellow businessmen and women traders in the region. Lack of relevant market information additionally impedes intra-African food trade. Trade theory assumes that information—such as that about the availability of products in foreign countries, their characteristics, and prices—is perfect and costless. In Africa, where communication links among countries are few and often indirect, relevant market information may be costly to obtain for both importers and exporters. Furthermore, even where information does exist, the lack of marketing channels (e.g., specialized importers, wholesalers, and retailers, as well as necessary supporting financial and insurance services, including currency-clearing arrangements) makes it difficult for one country to import from another although the desired product could be obtained at an advantageous price.

Protectionist measures, which are discussed from Section III onward, also impede intra-African trade in food.

A particularly strong inhibitor of intra-African trade is the multiplicity of currencies in the region. As few as forty and as many as fifty-five currencies have been identified within the African continent which are tied to different hard currencies such as the dollar (Liberia), the CFA (Benin, Burkina Faso, Côte d'Ivoire, Mali, Niger, Senegal, and Togo), and the South African rand (Botswana, Swaziland, Namibia, Mozambique, and Zimbabwe). The Ghanaian cedi, the Nigerian naire, the Zambian kwacha, and the Sierra Leonean leone, among others are not easily convertible. The multiplicity of currencies compounded by exchange rate problems encourages underground trade in the form of smuggling, an expanding unrecorded trade for which no precise figures are available but which is estimated to be substantial and perhaps several times greater than official trade. The anglophone countries are the most adversely affected because of their import restrictions and unconvertible currencies. Illicit trading usually involves smuggling out their products to be sold for convertible CFA francs, Zimbabwe dollars, Kenyan shillings, or Liberian dollars with which the traders then purchase goods whose importation into their own country is prohibited. The net effect is that goods smuggled out of a country, say Ghana, which have been purchased with cedi bought at discounted black market rates, are sold across the border at prices so low that local dealers cannot match them. The existence of smuggled goods prevents the official export of such food commodities for which demand obviously exists. In a summary, the availability of goods through the underground trade tends to discourage official intra-African trade.

The hostility generated by loss of revenue through smuggling causes some states to take unilateral and extreme measures, for example, the closing of land borders with neighboring countries, in an attempt to control this illegal activity. In the light of these problems, it is considered that monetary and payments cooperation, as well as relaxation of trade barriers would both enhance intra-African food trade and promote the realization of other objectives of economic integration.

II. THE RELATIVE IMPORTANCE OF INDIVIDUAL AFRICAN COUNTRIES IN INTRA-AFRICAN FOOD TRADE

Intra-African food trade assumed greater momentum in the early 1970s than in the late 1980s, presumably due to rigidities in the international trading environment during the latter period. While the importing countries covered forty African nations over the 1970–72 period, they covered only twenty-six countries during 1986–88. The major markets during 1986–88 were (in descending order of importance): Mauritius, Algeria, Tunisia, Reunion, Cameroon, Côte d'Ivoire, Ethiopia, and Zaire. Over the 1970–72 period, the major markets for food were (in descending order): Ghana, Egypt, Libya, Zaire, Chad, Côte d'Ivoire, Algeria, Congo, Nigeria, Somalia, Togo, and Zambia.

Among the exporting countries, it is seen that fewer countries became major suppliers of food during 1986–88 than during 1970–72. Major suppliers of food

in intra-African food trade during 1986–88 were (in descending order): Morocco, Senegal, Zimbabwe, Cameroon, Mauritania, Côte d'Ivoire, Mauritius, and Kenya. Over the 1970–72 period, the major suppliers of food were (in descending order): Egypt, Côte d'Ivoire, Morocco, Senegal, Kenya, Madagascar, Chad, and Mozambique. Certain factors play a pivotal role in trade partner selection; these include language, religion and culture, the sharing of common borders, and political inclinations of governments. Over the 1970–72 period, Ethiopia's food imports came mainly from Kenya, Egypt, and Sudan whereas during 1986–88, the direction was (in descending order): Kenya, Djibouti, and Zimbabwe.

Proximity implies distance and therefore transportation cost. The cost of transportation which tends to decrease trade with distance partly explains the change of Kenya's three largest suppliers of food from Zaire, Mozambique, and Rwanda during 1970–72 to Rwanda, Burundi, and Uganda during 1986–88.

Cereals. The seven main cereal suppliers in the early 1970s, namely (in descending order), Egypt, Nigeria, Kenya, Morocco, Senegal, Côte d'Ivoire, and Mozambique, had been reduced by the late 1980s to only one, Kenya, with Côte d'Ivoire and Zimbabwe trailing far behind. This pattern, in fact, reflects the declining intensity of intra-African trade in cereals. Côte d'Ivoire became the only major market for cereals during 1986–88 as compared with Côte d'Ivoire, Niger, Liberia, Sierra Leone, Somalia, Zaire, Ghana, Burkina Faso, Central African Republic, Mali, Algeria, Madagascar, Djibouti, and Togo as markets for cereals during 1970–72. Major suppliers of maize in the intra-African food trade network in the early 1970s—Benin, Nigeria, Kenya, Côte d'Ivoire, Ghana, Madagascar, Togo, and Zambia—had by the late 1980s been reduced to only one, Zimbabwe, although Cameroon, Kenya, and Mozambique have the potential of becoming major suppliers. On the importer side, it is noteworthy that Sudan, Angola, Mauritania, and Mozambique have become new major markets for maize.

Rice. On the basis of the number of trading partners, Egypt became the largest supplier of rice to African countries during 1970–72. Other suppliers were (in descending order of importance): Madagascar, Senegal, Côte d'Ivoire, Ghana, Kenya, Morocco, and Togo. However, during 1986–88, only Egypt and Nigeria emerged as major suppliers of rice. It is remarkable that trading partners were more widespread during 1970–72 than during 1986–88. The largest rice markets, which during 1970–72 numbered thirty-one, had become thirteen by the 1986–88 period with Chad, Tunisia, Guinea Bissau, and Mauritania entering as new markets. Factors explaining this shrinking behavior of intra-African food trade have been adumbrated in the introduction.

Wheat. For export of wheat, the top five suppliers during 1970–72 on the basis of the number of trading partners were (in descending order): Morocco, Kenya, Zimbabwe, Tunisia, and Nigeria. The dominant positions of Morocco and Kenya are worthy of note. During 1986–88, no country emerged as a major wheat suppliers in the intra-African food trade. This implies that the bulk of Africa's wheat is imported from outside the region as confirmed by Table II. The table indeed indicates that intra-African trade accounted for only 0.2 per cent of Africa's wheat needs during 1970–72 and virtually none over the 1986–88 period.

Bananas and plantains. As regards trade in bananas and plantains, the major suppliers according to the number of trading partners during 1970–72 were (in descending order): Côte d'Ivoire, Nigeria, Algeria, Cameroon, Guinea, Senegal, Tunisia, and Zimbabwe. The dominant position of Côte d'Ivoire is particularly noteworthy. During 1986–88, there was no major suppliers, further pointing to the shrinking nature of intra-African food trade.

Roots and tubers. When countries are ranked according to the number of African countries for whom the exporter is a major supplier of roots and tubers, the top four countries during 1970–72 were (in descending order): Morocco, Senegal, Côte d'Ivoire, and Kenya. No country met the criterion during 1986–88 although Morocco, Kenya, and Nigeria appeared high on the list.

The spread of bilateral trade relations can be analyzed by considering the frequency with which countries have traded with each other between 1970–72 and 1986–88. It is noticeable that at least one country, namely Mauritius, has increased the number of African destinations to which it exported or from which it imported food between 1970–72 and 1986–88. This criterion should not, however, conceal the dominant roles of Morocco, Senegal, Zimbabwe, Kenya, Cameroon, Mauritania, and Côte d'Ivoire as major suppliers of food in the intra-African food trade. The achievement of Mauritius is spectacular. Mauritius has doubled the number of its trading partners between the two periods. This implies that outside the traditional factors which influence the structure of demand and therefore the pattern of trade—i.e., language, religion and culture, taste, etc.—a newly industrializing country could easily penetrate markets and become the bulwark of intra-African trade.

For total food exports of African countries during 1986–88, Mauritius offers the largest market followed by Algeria, Tunisia, Reunion, Cameroon, Côte d'Ivoire, Ethiopia, and Zaire. In the case of cereals, Côte d'Ivoire offers the largest market. Mauritius is again the largest market for intra-African trade in roots and tubers, having outperformed Ghana, Zambia, Egypt, Libya, Nigeria, and Côte d'Ivoire which were major markets during 1970–72. One conclusion which emerges from this analysis is that while Mauritius has generally increased the number of its trading partners on both the export and the import sides in recent years, Tunisia, Cameroon, Mali, Benin, Comoros, and Reunion have had generally more import than export partners, meaning a relatively more diversified area pattern for food imports than for exports, in intra-African food trade. Morocco exports more food (in descending order) to Senegal, Cameroon, Tunisia, Côte d'Ivoire, Zaire, Gabon, Congo, Libya, Angola, and Algeria than to any other country, suggesting a relatively greater intensity of trade with these countries.

Examination of individual country data indicates that for the vast majority of countries there has been a significant expansion of food trade over recent years with countries sharing common borders or in close proximity. Neighboring countries can be expected to have an additional stimulus to trade because of similarity of tastes and awareness of common interests. Appendix Tables AI and AII portray the three largest destinations of food and live animals exports and the three largest suppliers of such imports in intra-African food trade. They also indicate the

TABLE III
FIVE MAJOR SUPPLIERS AND THEIR TEN MOST IMPORTANT
IMPORTERS OF FOOD

Suppliers	Period	Importers
Morocco	1986-88	Senegal (14), Cameroon (12), Tunisia (10), Côte d'Ivoire (10), Zaire (9), Gabon (8), Congo (7), Libya (7), Angola (6), and Algeria (5).
	1970-72	Algeria (18), Ghana (4), Libya (4), Mauritania (3), Egypt (3), Côte d'Ivoire (3), Reunion (2), Nigeria (2), Senegal (2), and Congo (1).
Senegal	1986-88	Cameroon (14), Côte d'Ivoire (8), Mali (4), Mauritania (3), Zaire (1), Cape Verde (1), Gabon (1), Nigeria (1), Guinea (0.4), and Morocco (0.3).
	1970-72	Côte d'Ivoire (6), Mauritania (3), Chad (1), Mali (1), Ghana (1), Guinea (1), Reunion (1), Benin (1), Madagascar (0.4), and Gabon (0.3).
Zimbabwe	1986-88	Mozambique (12), Reunion (3), Morocco (3), Zaire (2), Ethiopia (2), Zambia (1), Angola (1), Cape Verde (1), Tanzania (1), and Malawi (0.4).
	1970-72	—
Kenya	1986-88	Sudan (10), Tanzania (3), Egypt (3), Ethiopia (2), Djibouti (1), Angola (1), Uganda (1), Somalia (1), Mozambique (1), and Tunisia (0.5).
	1970-72	Zambia (5), Libya (4), Zaire (2), Ethiopia (2), Burundi (2), Somalia (2), Sudan (1), Rwanda (1), Malawi (1), and Seychelles (1).
Cameroon	1986-88	Algeria (5), Gabon (5), Chad (2), Congo (2), Côte d'Ivoire (1), Eq. Guinea (1), Centr. African Rep. (1), Togo (1), Tunisia (0.5), and Guinea (0.1).
	1970-72	Congo (2), Chad (2), Gabon (2), Centr. African Rep. (1), Nigeria (1), Egypt (1), Eq. Guinea (1), Côte d'Ivoire (0.1), Morocco (0.1), and Benin (0.02).

Source: Computed from Comtrade database.

Notes: 1. Values in parentheses are in U.S.\$ million at 1985 prices.

2. Values of food imports in current prices were deflated by the index of free market prices for "all food," 1985=100, obtainable from [11, p. 2].

relative importance of countries as markets for other African countries.

The five major food suppliers and the ten most important countries that each one exports food to are presented (in descending order of importance) in Table III.

It is noticeable that trading partners have changed abruptly with unimportant importers in the early 1970s becoming major importers in the late 1980s. To sum up, toward the end of the 1980s, Cameroon, Senegal, Côte d'Ivoire, Mozambique, Gabon, Angola, Sudan, Tunisia, Zaire, Algeria, and Ethiopia had become the most important importers of food in intra-African food trade.

Particularly noteworthy is the declining importance of Egypt, Côte d'Ivoire, and

Madagascar and the growing importance of Mauritania and Mauritius between 1970–72 and 1986–88 in terms of both export mean values and the number of African countries for which these countries are major suppliers. The above analysis with individual country data indicates that changes in economy-wide variables such as incomes, relative prices, and exchange rates have major effects on food trade. These effects can be such as to increase greatly the variability and uncertainty faced by the trading partners. It is not only national macroeconomic policies that are important. The increased importance of international trade, combined with integration of capital markets, has meant that many of the changes in macroeconomic performance variables within an African country may originate from outside the country and are, perhaps, beyond the control of that country.

III. TARIFF AND NON-TARIFF BARRIERS TO INTRA-AFRICAN FOOD TRADE

The existence of tariff and non-tariff barriers are perceived as hobbling intra-African food trade. Although most of the African data on trade control measures have not been verified by the respective countries yet, tariffs are generally high on roots and tubers in Algeria, Burkina Faso, Kenya, Nigeria, Senegal, Somalia, Sudan, Tanzania, Tunisia, Uganda, and Zambia; and on bananas and plantains in Algeria, Benin, Burkina Faso, Burundi, Kenya, Morocco, Nigeria, Rwanda, Tanzania, Uganda, and Zambia. Non-tariff barriers vary greatly in form and severity. The state trading monopoly is a major barrier in Algeria. Nonautomatic licences, enterprise specific quotas, compulsory national insurance, and a state trading monopoly are applied by Angola; customs valuation with fixed prices, *inter alia* by Benin; multiple exchange rates, and special import authorization and licencing by Botswana; and preshipment inspection, licences, health and safety regulations, and compulsory national insurance by Kenya. There are also practices such as bank authorization, *inter alia* in Zimbabwe, Sierra Leone, and Morocco; a sole importing agency, *inter alia* in Tanzania; automatic licences and advance import deposit in Sudan. The existence of all these multifarious barriers tends to make intra-African food trade difficult. Appendix Table BI displays major food imports for selected African countries subject to trade control measures which during 1986–88 amounted to almost U.S.\$5.0 billion for Africa as a whole.

Table IV illustrates that tariff and non-tariff barriers exist for four major food commodities in practically all African countries. There are three minor exceptions. In Djibouti, non-tariff barriers exist only for rice while in Côte d'Ivoire, non-tariff barriers exist for rice, and bananas and plantains. In the case of Burkina Faso, non-tariff barriers exist for all the food commodities under consideration in this study, except for bananas and plantains.

As regards tariff measures, eight countries impose no tariffs on maize; eight other countries apply tariffs in the range of 1–10 per cent; and sixteen countries impose tariffs greater than 10 per cent. The highest tariff rate for maize is 62 per cent (Sudan). Four other countries impose specific taxes on maize. The numbers of countries imposing no tariffs, with respect to the other commodities, are four (for rice), seven (for wheat), and one (for bananas and plantains). The numbers

TABLE IV
TARIFF AND NON-TARIFF BARRIERS AFFECTING INTRA-AFRICAN FOOD TRADE

Country	Total Charges (%)				Non-Tariff Barriers			
	Maize	Rice	Wheat	Bananas & Plantains	Maize	Rice	Wheat	Bananas & Plantains
Algeria	1	1	1	38.5	x	x	x	x
Angola	15.5 ^s	15 ^s	30 ^s	—	x	x	x	x
Benin	14.8	18.8	14.8	64.3	x	x	x	x
Botswana	0	5 ^s	5 ^s	20	x	x	x	x
Burkina Faso	24.6	24.6	29.9	185.3	x	x	x	
Burundi	50	50	25	105	x	x	x	x
Cameroon	0	25	0	30	x	x	x	x
C. Afr. Rep.	0.3	15.3	0.3	40.3	x	x	x	x
Congo	0	20	0	30	x	x	x	x
Côte d'Ivoire	3.3	1.3	3.8	53		x		x
Djibouti	0	0	0	0		x		
Egypt	0.7	14	0.7	7	x	x	x	x
Ethiopia	31.3	31.3	31.3	31.8	x	x	x	x
Ghana	35	35	35	35	x	x	x	x
Guinea	10	0	10	10	x	x	x	x
Kenya	31	31	31	81	x	x	x	x
Lesotho	0	6 ^s	2 ^s	20	x	x	x	x
Libya	15	0	0	15	x	x	x	x
Madagascar	40	0	10	80	x	x	x	x
Malawi	0	35	0	15	x	x	x	x
Mauritius	34	5 ^s	34	74	x	x	x	x
Morocco	12.5	45	12.5	57.5	x	x	x	x
Mozambique	2 ^s	26	5 ^s	32	x	x	x	x
Nigeria	56	56	71	76	x	x	x	x
Rwanda	40 ^s	46	26	86	x	x	x	x
Senegal	7.5	15	0	50	x	x	x	x
Sierra Leone	0	10	0	20	x	x	x	x
Somalia	1 ^s	1 ^s	17	57	x	x	x	x
Sudan	62	17	62	102	x	x	x	x
Swaziland	0	8.3 ^s	2 ^s	20	x	x	x	x
Tanzania	25	25	25	60	x	x	x	x
Tunisia	19	25	19	46	x	x	x	x
Uganda	20.5	30.5	30.5	50.5	x	x	x	x
Zaire	6.3	6.3	6.3	11.3	x	x	x	x
Zambia	5	20	5	55	x	x	x	x
Zimbabwe	20	20	20	20	x	x	x	x

Source: UNCTAD Trade Information System database.

- Notes:
1. Specific refers to taxes in national currency. It could be MFN rates of customs duty or special tax (product specific). Please see Appendix B.
 2. A superscript s indicates "specifics." Specifics are converted to percentage terms (see the text for details).
 3. An x indicates the existence of non-tariff barriers.

of countries applying tariffs in the range of 1–10 per cent are four (for rice), eight (for wheat), and two (for bananas and plantains).

Tariffs greater than 10 per cent are imposed by twenty-two countries on rice, sixteen countries on wheat, and thirty-two countries on bananas and plantains. Six countries apply specific taxes to rice, five countries apply them to wheat, and only one country applies them to bananas and plantains. In general, tariffs are high for bananas and plantains. The highest rate hovers around 185.3 per cent (Burkina Faso). In the case of wheat and rice, the highest rates are 71 and 56 per cent (Nigeria) respectively.

Restrictions on an African country's exports tend to reduce its ability to exploit its comparative advantage by exporting food commodities using such resources. Similarly, if African countries place tariffs on the food imports from one another, the gains from free trade and specialization in production are reduced. Should each tariff level be sufficiently high, trade would cease altogether and the country would be reduced to the welfare position it would have had in the absence of trade. The conclusion is that tariffs largely dissipate the bilateral gain from trade between two countries.

A tariff reduction is expected to have very large effects on the distribution of domestic income even when the effects on output and demand are small; as competitiveness is increased, there may be redistribution both from factors intensive in importables to factors intensive in exportables and from profits to wages.

IV. THEORETICAL CONSIDERATIONS OF THE MODEL

A. *The Model*

The potential gains from trade liberalization are analyzed within the framework of a partial equilibrium model. The conceptual framework for the model specification is derived principally from the work of Laird and Yeats [7], Zietz and Valdés [13], Cline [1], Corden [2], and Magee [8]. A separate market model is constructed for each of the food commodities being analyzed. Unlike Zietz and Valdés [13] who guessed the elasticities by adjusting downward the own-price elasticities of a previous guess (a unitary elasticity) made by Koester and Schmitz [6] to implicitly account for interdependencies among the commodity markets, the supply and demand elasticities used in this study have been estimated using the Koyck-Nerlove adaptive expectations model and the partial adjustment model respectively.

The trade policy simulation model³ may, technically, be described as an ex ante partial equilibrium model, measuring the first-round effects of simulated policy changes. The most important calculations in the simulations relate to trade creation and trade diversion effects.

The trade creation effect results from changed level of domestic demand for imports from a particular trading partner caused by changed price of the imported

³ This model is analogous to the model used by UNCTAD to estimate various effects of commercial policy changes, including changes in tariff rates and the incidence of non-tariff distortion of international trade. Also consulted were Jones and Kenen [5] and Gardner and Kimbrough [4].

good after the tariff reduction or relative to the price of domestically produced substitute. It is assumed that the price change would fully reflect the tariff reduction or removal, that is, the benefits of the tariff reduction or elimination would be passed on to consumers.

The trade diversion effect, the substitution of goods coming from one set of foreign suppliers for goods from another set of foreign suppliers, results from changes in the relative import prices (after payment of duties) of goods from different sets of foreign suppliers as a consequence of changes in the MFN (most favored nation) rate or the preference rate differential facing them. If a preference rate for one set of countries is introduced or reduced while the other set of countries continues to face the MFN rate, a positive trade diversion results in favor of the preference-receiving countries. For the other set of countries, a negative trade diversion results.

The basic model can be described by a set of equations from which the formulation for the simulations is derived. Consider the import demand function of importing country j for commodity i produced in country k :

$$M_{ijk} = F(Y_j, P_{ij}, P_{ik}), \quad (1)$$

where M_{ijk} are imports of commodity i by country j from country k , Y_j national income of importing country j , P_{ij} price of commodity i in importing country j , P_{ik} price of commodity i in producing country k . The F means a function of.

The export supply function of producer/exporting country k for commodity i may be expressed as:

$$X_{ikj} = F(P_{ikj}), \quad (2)$$

where X_{ikj} are exports of commodity i by k to j ; P_{ikj} price of commodity i from exporting country k to importing country j .

Equations (1) and (2) are related by the following identity:

$$M_{ijk} = X_{ikj}. \quad (3)$$

On the assumption that in a free trade situation the domestic price of commodity i in importing market j equals exporting country k 's export price plus transport and insurance charges, the price is expected to rise by an amount equivalent to the ad valorem incidence of any tariff or non-tariff distortion applied to the good. Thus:

$$P_{ijk} = P_{ikj}(1 + t_{ijk}), \quad (4)$$

where P_{ijk} is the price of commodity i in country j from country k (i.e., the domestic price in country j), and t_{ijk} is the tariff rate or non-tariff distortion in ad valorem terms of commodity i in importing country j from exporting country k .

It is also clear that the export revenue earned by k , R_{ikj} , is:

$$R_{ikj} = X_{ikj} \cdot P_{ikj}. \quad (5)$$

1. Trade creation

The trade creation effect is the increased demand in country j for commodity i from exporting country k resulting from the price decrease associated with the

assumed full transmission of price changes when tariff or non-tariff distortions are reduced or eliminated.

Given the basic model consisting of equations (1) to (5), it is possible to write the basic formula for trade creation. First, from equation (4) it is possible to derive the total differential of domestic price with respect to tariffs and foreign price.

$$dP_{ijk} = P_{ijk} \cdot dt_{ijk} + (1 + t_{ijk}) dP_{ikj}. \quad (6)$$

Now, the standard equation for the elasticity of import demand with respect to the domestic price can be rearranged as follows:

$$dM_{ijk}/M_{ijk} = Em(dP_{ijk}/P_{ijk}), \quad (7)$$

where Em is the elasticity of import demand with respect to domestic price.

Substituting from equations (4) and (6) into equation (7) gives:

$$dM_{ijk}/M_{ijk} = Em[dt_{ijk}/(1 + t_{ijk}) + dP_{ikj}/P_{ikj}]. \quad (8)$$

The standard equation for the elasticity of export supply with respect to the world price can be rearranged as follows:

$$dP_{ikj}/P_{ikj} = (dX_{ikj}/X_{ikj})/Ex, \quad (9)$$

where Ex is the elasticity of export supply with respect to export price.

From equation (3) it follows that

$$dM_{ijk}/M_{ijk} = dX_{ikj}/X_{ikj}. \quad (10)$$

Substitution of equation (10) into equation (9) and the result into equation (8) produces the equation that can be employed to compute the trade creation effect. By virtue of equation (3), this is equivalent to exporting country k 's growth of exports of commodity i to country j . The equation for trade creation (TC_{ijk}) can be written as:

$$TC_{ijk} = M_{ijk} \cdot Em \cdot dt_{ijk} / \{(1 + t_{ijk})[1 - (Em/Ex)]\}. \quad (11)$$

It may be noted that if the elasticity of export supply with respect to the world price is infinite, the denominator on the right-hand side of equation (11) becomes unity and is ignored. This model assumes an infinite export supply price elasticity.

2. Trade diversion

Following standard practice, the term trade diversion is used to account for the tendency of importers to substitute goods from one source for another in response to a change in the import price of suppliers from the free-trade area (or customs union) but not from competitive external suppliers. Thus, if prices fall in a member-state of an economic integration arrangement, there will be a tendency to purchase more goods from that country and less from countries outside the arrangement whose exports are unchanged in price. Trade diversion can also occur not because of the change in the export price as such but because of introduction or elimination of preferential treatment of goods from one (or more sources) while treatment of goods from other sources remains unchanged. Again, there could simply be a relative change in the treatment of goods from different

sources in the importing country by differential alterations in the treatment of different foreign suppliers.

We can define the elasticity of substitution as the percentage of change in relative shares associated with a 1 per cent change in the relative prices of the same product from alternative sources. That is:

$$Es = \frac{d(\sum M_{ijk}/\sum M_{ijK})/(\sum M_{ijk}/\sum M_{ijK})}{d(P_{ijk}/P_{ijK})/(P_{ijk}/P_{ijK})}, \quad (12)$$

where k denotes imports from one (group of) foreign supplier(s); K denotes imports from another (group of) foreign supplier(s); and the summation is only across the country group k or K but not across product groups (i) nor across imports (j).

From this equation it is possible to express the percentage of change in the relative shares of the alternative suppliers in terms of elasticity of substitution, the percentage of change in relative prices, and the original relative shares of imports from the alternative sources. By extensive expansion, substitution, and rearrangement, it is possible to obtain the following expression for the change in imports from one country—or trade diversion (TD) gain or loss, as the case may be—as a result of the change in duty paid prices relative to the prices from other sources resulting from a commercial policy change:

$$TD_{ijk} = \frac{M_{ijk}}{\sum M_{ijk}} \cdot \frac{\sum M_{ijk} \cdot \sum M_{ijK} \cdot Es \cdot d(P_{ijk}/P_{ijK})/(P_{ijk}/P_{ijK})}{\sum M_{ijk} + \sum M_{ijK} + \sum M_{ijk} \cdot Es \cdot d(P_{ijk}/P_{ijK})/(P_{ijk}/P_{ijK})}, \quad (13)$$

where Es is the elasticity of substitution with respect to relative prices of the same product from different sources of supply.

The term in equation (13) for the relative price movement is specified in terms of movements of the tariffs or the ad valorem incidence of non-tariff distortions for the two foreign sources. Equation (13) is the equivalent of the final equation for trade diversion given by Cline [1]. As in Cline, similar equations can be derived to obtain separate results for the different groups of foreign/exporting countries. Alternatively, the results can be summed for one group, and this sum can be distributed among members of the alternative group of foreign suppliers in accordance with their prior share in the imports from that group.

3. Total trade effect

The total trade effect is obtained simply by summing together the trade creation and trade diversion effects. Results can be summed for the importer across product groups and/or across sources of supply. Results can be summed across groups of importers for single products or groups of products as well as for single sources of supply or for groups of suppliers. Results can also be summed for suppliers across product groups. Finally, results can be summed for groups of suppliers either for individual products or across product groups.

4. The price effect

If the export supply elasticity is infinite, price has no effect on exports. Otherwise

the price effect can be obtained by substituting equation (10) into equation (9) giving:

$$dP_{ijk}/P_{ijk} = [dt_{ijk}/(1+t_{ijk})][Em/(Ex-Em)]. \quad (14)$$

This model, however, assumes an infinite export supply elasticity.

5. *The revenue effect*

Equation (14) has direct application in estimating the revenue effect for the exporting country. If the export supply elasticity is infinite, there is no price effect, and consequently revenue increases in proportion to the increase in exports. Otherwise, the percentage of increase in revenue is equal to the percentage of increase in exports plus the percentage of increase in prices. This can be shown by taking the total differential of revenue [equation (5)] with respect to export price and the volume of exports:

$$dR_{ijk} = P_{ijk} \cdot dX_{ijk} + X_{ijk} \cdot dP_{ijk}. \quad (15)$$

Dividing the left-hand side (LHS) of equation (15) by the LHS of equation (5) and the right-hand side (RHS) of equation (15) by the RHS of equation (5), we obtain

$$dR_{ijk}/R_{ijk} = (P_{ijk} \cdot dX_{ijk} + X_{ijk} \cdot dP_{ijk}) / (P_{ijk} \cdot X_{ijk}). \quad (16)$$

Reducing and substituting equation (10) gives:

$$dR_{ijk}/R_{ijk} = (dM_{ijk}/M_{ijk}) + (dP_{ijk}/P_{ijk}). \quad (17)$$

Alternatively, this can be written as:

$$dR_{ijk}/R_{ijk} = [dt_{ijk}/(1+t_{ijk})] \cdot Em \cdot [(1+Ex)/(Ex-Em)]. \quad (18)$$

6. *The welfare effect*

The welfare effect arises from the benefits consumers in the importing country derive from lower domestic prices after the reduction or removal of tariffs or the ad valorem incidence of non-tariff distortions. The net welfare gain is normally estimated as the increase in import value multiplied by the average between ad valorem incidence of trade barriers before and after their elimination. This welfare gain can also be thought of as the increase in consumer surplus. It can be written as:

$$W_{ijk} = 0.5(dt_{ijk} \cdot dM_{ijk}). \quad (19)$$

In the case where elasticity of export supply is less than infinity, the supply price is higher than previously. The new domestic price of imports does not decline to the full extent of the tariff change and import expansion is less than in the case of infinitely elastic export supply. Welfare can still be computed using equation (19) but needs to be interpreted as a combination of consumer surplus and producer surplus.

7. *Evaluation of the model*

Partial equilibrium models are vulnerable to the criticism that they do not take account of the economy-wide effects of changes, although they can be extended

to approximate the results of inter-industry effects and the maintenance of equilibrium in the balance of trade. Theoretically, general equilibrium models are more satisfactory, since they also take account of second-round effects, such as inter-industry and exchange rate effects. They, therefore, provide valuable insights into the interaction of a large number of economic variables. Notwithstanding the valuable information provided, general equilibrium models are also vulnerable to criticisms regarding the extensive underlying assumptions and the very sensitive nature of general equilibrium results to changes in these assumptions. There are a number of problems associated with working versions of this modelling approach, not the least of which is the loss of detail arising from the need to work in large aggregates to make general equilibrium models computable at reasonable cost.

Notwithstanding the number of drawbacks associated with partial equilibrium as a modelling approach, it has the overriding advantage of working at a very fine level of detail. Methodologically, it has the advantage of avoiding the aggregation bias that is common to general equilibrium models.

As the model uses prior information on elasticities (i.e., it is a simulation model, not an estimation model), it is relatively easy to examine new policy options on an ex ante basis. This model, however, has one shortcoming, which is that the model does not allow for trade reversals. For example, a country cannot turn from a net food importer to a net food exporter and vice versa as a result of the trade liberalization; a country which does not import will still not import after food trade liberalization; and a country which does not export will still not export.

B. *Data: Quantities and Prices*

Data on imports are taken from the Comtrade database, and on price indices from the *UNCTAD Monthly Commodity Price Bulletin, 1970–1989, Supplement* [11]. All real monetary values are obtained by deflating the current values by the indices of free market prices of the respective food items (1985 = 1) for each year from 1980 to 1988, and an average computed. The average for the years 1980 to 1988 is used to overcome the problem of sparse trade data in the Comtrade database. As an illustration, if between 1980 and 1988, country X has import data for 1980, 1984, and 1988, an average for the three years is computed. If, on the other hand, country X has data for all nine years, 1980–88, the computed average is based on the nine years.

C. *Demand Elasticities*

Domestic demand elasticities are estimated by using the partial adjustment model. The standard commodity demand model in its static version is derived from the theory of individual consumer seeking to maximize utility subject to a budget constraint. Solution of this constrained-maximization model yields consumer demand equations in which demand is a function of the commodity's own price, consumer's income, and the price of a substitute or complement commodity. The theory stipulates that consumption should be positively related to the price of a substitute and negatively related to that of a complement. Markets with low consumption of the commodity but with potential for expansion would be suited

TABLE V
IMPORT DEMAND ELASTICITIES OF AFRICAN COUNTRIES

Developing Africa	Maize	Rice	Wheat	Bananas and Plantains
Algeria	-1.73	-0.52	-1.07	-3.10
Angola	—	—	—	—
Benin	-3.53	-1.32	-1.00	—
Botswana	-0.4	-0.48	-8.97	—
Burkina Faso	-1.68	-2.00	-0.90	-0.34
Burundi	—	—	—	—
Cameroon	-1.08	-1.90	-0.42	—
Cape Verde	—	-1.82	-0.50	—
C. Afr. Rep.	-4.27	—	-7.61	—
Chad	-2.18	-5.70	-5.40	—
Comoros	—	—	—	—
Congo	-4.68	-2.86	-2.91	—
Côte d'Ivoire	-2.95	-2.06	-1.32	—
Djibouti	—	—	—	—
Egypt	-0.70	-2.42	-0.24	-2.00
Eq. Guinea	—	—	—	—
Ethiopia	-2.58	-2.44	-1.44	—
Gabon	-2.03	-0.78	-0.55	—
Gambia	—	—	—	—
Ghana	-1.48	-0.65	-0.90	—
Guinea	—	—	—	—
Guinea Bissau	-1.88	—	—	—
Kenya	-4.16	-1.30	-2.31	-0.99
Lesotho	-0.96	-1.80	-2.76	-0.42
Liberia	-0.73	—	-1.70	-0.55
Libya	-2.20	—	-0.73	-3.40
Madagascar	-3.63	-1.20	—	—
Malawi	-11.13	-2.65	-7.10	—
Mali	-2.32	-5.20	-5.10	-0.44
Mauritania	-3.10	-2.40	-1.85	—
Mauritius	-1.24	—	-2.10	—
Morocco	-3.66	-9.88	-1.30	-0.90
Mozambique	-1.10	-0.80	-1.99	—
Namibia	—	—	—	—
Niger	-2.38	-4.02	-1.94	-1.13
Nigeria	-2.30	-1.83	-0.61	—
Reunion	—	—	—	—
Rwanda	-2.11	-0.74	-5.30	—
Sao Tome	—	—	—	—
Senegal	-0.74	-0.66	-0.30	-0.40
Seychelles	—	—	—	—
Sierra Leone	-1.25	-4.61	-2.30	—
Somalia	-6.63	-1.31	-1.10	—
Sudan	—	—	—	—

TABLE V (Continued)

Developing Africa	Maize	Rice	Wheat	Bananas and Plantains
Swaziland	—	-1.20	-4.80	—
Tanzania	-4.30	-9.03	-7.73	—
Togo	-1.76	-2.14	-4.24	—
Tunisia	-1.36	-2.00	-0.53	-1.00
Uganda	-10.45	-3.40	-3.90	—
Zaire	-0.70	-1.34	-0.80	—
Zambia	-0.76	-1.05	-1.02	-3.33
Zimbabwe	-2.51	-1.08	-1.66	—

to be modelled by the dynamic model, since they are gradually moving toward long-run equilibrium consumption levels. Import demand elasticities are estimated for the purpose of this study (see Table V).

Where import demand elasticities cannot be estimated for lack of good data on a longitudinal basis, the demand elasticity of a neighboring importing country is substituted.

Maize. Ethiopia's import demand elasticity substitutes for Djibouti and Sudan; Cameroon's substitutes for Equatorial Guinea and Sao Tome; and Madagascar's substitutes for Comoros and Seychelles. For Reunion, the import demand elasticity of Mauritius is used, and for Swaziland the elasticity of Mozambique is used. The import demand elasticity of Senegal substitutes for Cape Verde, Gambia, and Guinea; that of Rwanda for Burundi; and that of Zambia for Angola.

Rice. Algeria's import demand elasticity substitutes for Libya; Cameroon's substitutes for Equatorial Guinea, Central African Republic, and Sao Tome; and Ethiopia's substitutes for Djibouti and Sudan. For Comoros, Mauritius, Reunion, and Seychelles, the import demand elasticity of Madagascar is used; and for Burundi the elasticity of Rwanda is used. The import demand elasticity of Senegal substitutes for Gambia, Guinea, and Guinea Bissau; that of Sierra Leone for Liberia; and that of Zambia for Angola.

Wheat. Cameroon's import demand elasticity substitutes for Equatorial Guinea and Sao Tome; Ethiopia's substitutes for Djibouti and Sudan; Mauritius' substitutes for Comoros, Madagascar, Reunion, and Seychelles; Rwanda's substitutes for Burundi; Senegal's substitutes for Gambia, Guinea, and Guinea Bissau; and Zambia's substitutes for Angola.

Bananas and plantains. Burkina Faso's import demand elasticity substitutes for Ghana and Togo; Kenya's substitutes for Djibouti, Ethiopia, Somalia, and Tanzania; Liberia's substitutes for Sierra Leone; Niger's substitutes for Chad, Nigeria, and Sudan; Senegal's substitutes for Côte d'Ivoire, Equatorial Guinea, Gabon, Gambia, and Mauritania; and Zambia's substitutes for Angola, Mozambique, Reunion, Zaire, and Zimbabwe.

The model assumes an overall elasticity of substitution of 1.5 for all the four food items.

D. *Protection Levels*

Ad valorem tariff rates are portrayed in columns 2–5 of Table IV. The “specifics” or taxes in national currency are converted to percentage terms by comparing with the import unit values in national currency per kilogram (or per quintal).

V. RESULTS AND POLICY IMPLICATIONS

Table VI and Appendix Tables CI–CIII illustrate the effects on African economic groupings, namely, ECOWAS, PTA, and the hypothetical African Common Market of a complete removal of trade barriers for maize, rice, wheat, and bananas and plantains.⁴ Table VI additionally portrays a summary description of the results of trade creation and trade diversion of the three economic groupings. Trade creation effect is viewed as welfare-raising as it allows domestic consumers to buy more at lower prices and releases domestic resources from the production of a commodity for which a country does not have a comparative advantage. The net surplus generated within the hypothetical African Common Market, ECOWAS, and the PTA by this creation of international trade is shown in the second column of Table VI. With reference to the African Common Market, this trade creation amounts to about U.S.\$17 million at 1985 prices for the total of the four food items; the equivalent figures for the PTA and ECOWAS are U.S.\$9 million and U.S.\$1 million respectively. It is thus clear that PTA would benefit from a complete liberalization of food trade in Africa.

Trade creation is generated when the price of an economic grouping imports to local consumers is lower than applied previously when the same commodities were imported duty-inclusive from outside the grouping. In a static context, this process is achieved with the move from a non-preferential to a preferential commercial policy. Trade creation involves the displacement of less efficient national producers by more efficient producers elsewhere within the economic grouping. In the standard (constant or increasing cost) case, this involves benefits for both the importing and exporting countries in the economic grouping as illustrated by Appendix Tables CII and CIII. In the decreasing cost case (i.e., where there are economies of scale) trade creation may also involve gains for all or some countries. In both cases, these gains require that the economies remained competitive, and that the range of food items produced (and consumed) by high-cost producers in one part of the grouping are similar to those of low-cost producers elsewhere in the economic grouping. Indeed the greater the efficiency differentials within the economic grouping the greater, *ceteris paribus*, the possibility of trade creation and resource allocation to take advantage of efficiency or scale differences. The economic characteristics, size, and policies of member states would influence, to a great extent, the degree of overlap of production structures and hence scope for trade creation.

⁴ Results of calculations pertaining to ECOWAS and PTA countries, as a comparable with Appendix Tables CI–CIII, are available from the author.

TABLE VI
 IMPACT OF FOOD TRADE LIBERALIZATION ON AFRICAN ECONOMIC
 GROUPINGS: RESULTS ON TRADE CREATION AND TRADE
 DIVERSION OF IMPORTERS (OR EXPORTERS)

(U.S.\$1,000 at 1985 prices)

Country	Trade Creation	Trade Diversion	Total Trade Effect
African Common Market			
Maize	12,853	6,101	18,954
Rice	2,423	1,509	3,932
Wheat	947	392	1,339
Bananas and plantains	698	72	770
ECOWAS			
Maize	448	367	815
Rice	215	162	378
Wheat	98	207	305
Bananas and plantains	176	3	179
PTA			
Maize	8,117	2,973	11,090
Rice	508	417	925
Wheat	67	47	114
Bananas and plantains	270	1	271

Table VI, Appendix Table CII, and Appendix Table CIII show the trade diversion effect from complete liberalization of food trade. Trade diversion effect involves a switch from importing from the absolute lowest-cost suppliers to the selected lowest-cost suppliers in receipt of the tariff preference. If domestic demand were perfectly price elastic, trade diversion of importers would be reduced to zero and trade creation maximized as the domestic market would accept unlimited amounts at the given price. Thus a preferential elimination of tariff protection is either net welfare-raising or welfare-lowering, depending on the relative magnitudes of the trade creation and diversion effects. In the hypothetical African Common Market, trade creation of exporters of U.S.\$17 million and trade diversion of U.S.\$8 million is welfare-raising. In the PTA, trade creation of exporters of U.S.\$9 million is compared favorably with trade diversion of U.S.\$3.4 million. In the ECOWAS, trade creation and diversion of exporters is very close: U.S.\$0.9 million and U.S.\$0.7 million respectively. Trade diversion involves the displacement of currently more efficient suppliers outside the economic grouping by producers inside the economic grouping. This development represents a net gain to exporting member countries within the economic grouping. For ECOWAS exporters in the wheat trade, there would be more trade diversion than trade creation which could lower welfare.

Eldor and Levin [3], in using a partial equilibrium analysis, concluded that a partial trade liberalization may reduce a country's welfare due to a loss in monopolistic rent if it is carried out by a quota. But in the case of a tariff, partial trade liberalization increases a country's welfare because such a liberalization

TABLE VII
 IMPACT OF FOOD TRADE LIBERALIZATION ON
 AFRICAN ECONOMIC GROUPINGS: LOSS
 IN GOVERNMENT REVENUE

(U.S.\$1,000 at 1985 prices)

African Common Market	
Maize	8,652
Rice	1,474
Wheat	1,065
Bananas and plantains	1,970

ECOWAS	
Maize	341
Rice	108
Wheat	151
Bananas and plantains	1,046

PTA	
Maize	4,180
Rice	401
Wheat	37
Bananas and plantains	495

eliminates the monopolistic power of the domestic producer whereas a liberalization through a quota preserves it. As tariff is reduced from the prohibitive rate, welfare rises.

With reference to the total of the four food commodities, calculations of exporters' revenue and the import bill of importers in the ECOWAS, PTA, and the hypothetical African Common Market show an increase in export revenue of approximately U.S.\$25 million per year for the African Common Market, U.S.\$12.4 million for the PTA, and U.S.\$1.7 million for the ECOWAS. These values are expressed in 1985 dollars and refer to intra-African trade only.

According to results obtained with the model, the gains of trade liberalization in maize would accrue (in descending order) to Kenya, Malawi, Zimbabwe, Côte d'Ivoire, Tanzania, Madagascar, Benin, Togo, Angola, and Morocco. Trade liberalization in rice would benefit (in descending order) Egypt, Tanzania, Malawi, Cameroon, Senegal, Côte d'Ivoire, Madagascar, Togo, Benin, Angola, and Congo. In the case of wheat, the gains of trade liberalization would accrue to Egypt, Togo, Tunisia, Kenya, Mali, and Morocco. Trade liberalization in bananas and plantains would benefit Côte d'Ivoire, Somalia, Senegal, and Kenya.

Table VII illustrates the loss in government revenue⁵ that would be incurred as a result of trade liberalization in maize, rice, wheat, and bananas and plantains. For the total of the four food items, the hypothetical African Common Market would lose U.S.\$13 million in government revenue, the PTA U.S.\$5 million, and the ECOWAS U.S.\$2 million. Some countries, notably Ghana, Tanzania, Ethiopia,

⁵ Loss in government revenue is calculated as pre-liberalization total imports multiplied by the tariff rate less post-liberalization rest-of-the-world imports multiplied by the tariff rate.

TABLE VIII
 IMPACT OF FOOD TRADE LIBERALIZATION ON AFRICAN
 COUNTRIES: LOSS IN GOVERNMENT REVENUE
 IN SELECTED COUNTRIES

(U.S.\$1,000 at 1985 prices)

Maize	
Ghana	1,732
Tanzania	1,490
Ethiopia	1,264
Sudan	1,138
Zambia	631
Angola	559
Reunion	276
Zimbabwe	270
Mozambique	262
Burkina Faso	203
Rice	
Sudan	320
Tunisia	255
Uganda	190
Nigeria	180
Sierra Leone	139
Zimbabwe	123
Wheat	
Sudan	794
Burkina Faso	103
Morocco	67
Uganda	36
Bananas and plantains	
Burkina Faso	686
Kenya	495
Senegal	315
Morocco	232
Tunisia	181

Sudan, Zambia, Angola, Reunion, Zimbabwe, Mozambique, and Burkina Faso would incur government revenue losses from trade liberalization in maize. Ghana would lose U.S.\$1.7 million, Tanzania U.S.\$1.5 million, Ethiopia U.S.\$1.3 million, Sudan U.S.\$1.1 million, and Burkina Faso U.S.\$0.2 million per year at 1985 prices. Within the PTA, the burden of government revenue loss would fall heavily on Tanzania, Ethiopia, and Zambia whilst within the ECOWAS the burden would fall disproportionately on Burkina Faso. Cline noted that "for the preexisting level of imports, any price reduction to the consumer merely represents a transfer away from government of tariff revenue formerly collected on the import and therefore no net gain to the country as a whole. But for the increase in imports, there is a net welfare gain equal to the domestic consumers' valuation of the extra imports minus the cost of extra imports at world price (excluding tariffs)" [1, p. 26].

Government revenue losses from rice trade liberalization range from U.S.\$0.12 million in Zimbabwe to U.S.\$0.32 million in Sudan. The six countries incurring minimal losses in government revenue from rice trade liberalization are Sudan, Tunisia, Uganda, Nigeria, Sierra Leone, and Zimbabwe. By eliminating tariffs affecting trade in wheat, Sudan would lose U.S.\$0.8 million in government revenue, Burkina Faso U.S.\$0.1 million, and Morocco U.S.\$0.07 million. These results are summarized in Table VIII. Similarly, Burkina Faso, Kenya, Senegal, Morocco, and Tunisia would incur government revenue losses from trade liberalization in bananas and plantains.

VI. CONCLUSIONS

This study seeks, *inter alia*, to quantify the trade creation, trade diversion, revenue, and import bill that would arise as a result of dismantling food trade barriers. A detailed analysis is presented for four food commodities: maize, rice, wheat, and bananas and plantains. For each food commodity, the potential gains to Africa from a complete removal of tariff barriers are analyzed within the framework of a partial equilibrium model. The study considers all African countries with relevant data. The hypothetical case of a complete absence of tariffs in intra-African trade is compared with the current situation, which is characterized by the existence of such impediments to trade.

For the total of the four food commodities, trade creation of exporters of U.S.\$17 million and trade diversion of U.S.\$8 million in the hypothetical African Common Market is welfare-raising. Trade creation and diversion is equally welfare-raising in the PTA. In the ECOWAS, trade creation and trade diversion are about equal, U.S.\$0.9 million and U.S.\$0.7 million respectively, and can be described as marginally welfare-raising. The small gains from food trade liberalization within ECOWAS may reflect the existence of physical barriers to trade as described in the Introduction, e.g., inadequate institutional infrastructure for trade promotion and export development. Wheat exporters within ECOWAS would incur more trade diversion than trade creation with the concomitant effect of lowering welfare. The costs of trade diversion, in such cases, should be compensated by inter-governmental financial transfers based on a rate relating to the tariff foregone as a result of trade diversion.

Given the commitment to regional integration, the efficiency of resource allocation within the hypothetical African Common Market, ECOWAS, and the PTA would be improved if the common external tariff and economic characteristics of member states encourage net trade creation. Further, as limitations of import substitution strategies have tended to encourage a reorientation of policies toward export promotion, formation of economic groupings needs to be motivated by trade creation, rather than trade diversion considerations.

Taking African exporters and importers together, trade liberalization in rice, wheat, and bananas and plantains would cause a net welfare gain to these countries as a group. In the case of wheat, a net welfare loss would be incurred by ECOWAS alone.

Owing to the heavy dependence of member states on customs duties as sources of government revenue, it is crucial that a mechanism be established to compensate member states for the loss of revenue occasioned by the reduction or elimination of tariffs.

The results from the model simulations suggest that reducing trade barriers permanently would lead African countries to develop new export products, including the expansion of their own processing operations. In addition, it would probably encourage countries to concentrate more resources on increasing food production. Trade liberalization is, therefore, likely to break the current climate of "food export pessimism" that inhibits intra-African food trade.

The net gains for Africa as a whole could be expected to be substantial. However, increases in foreign exchange earnings would be variable among individual countries and would be concentrated in a relatively small number of them. The majority of countries would have an increased import bill, at least in the short to medium term period.

As more data become available and more reliable, the results could be further refined, and improvements introduced into the model specification.

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APPENDIX A
INTRA-AFRICAN FOOD TRADE FLOWS, 1986-88 AND 1970-72

In the tables presented in this Appendix, the reporter country, e.g., Algeria during 1986-88, exported to the three largest destinations in descending order of importance: Mali, Mauritania, and Tunisia; and imported from the three largest partners, also, in descending order: Tunisia, Mauritania, and Cameroon.

During 1970-72, the reporter country, e.g., Algeria, exported to the three largest destinations in descending order of importance: Niger, Libya, and Egypt; and imported from the three largest partners, also, in descending order: Côte d'Ivoire, Morocco, and Tunisia.

APPENDIX TABLE AI
INTRA-AFRICAN FOOD TRADE FLOWS 1986-88: FOOD AND LIVE ANIMALS (SITC REVISED 1 CODE: 0)

Reporter	Exports to:			Imports from:		
	1	2	3	1	2	3
Algeria	Mali	Mauritania	Tunisia	Tunisia	Mauritania	Cameroon
Cameroon	Algeria	Gabon	Nigeria	Senegal	Mauritania	Morocco
Congo	Zaire	Angola	—	Senegal	Morocco	Zambia
Egypt	Sudan	Algeria	Tunisia	Sudan	Kenya	Mauritania
Ethiopia	Djibouti	Kenya	Mauritius	Kenya	Djibouti	Zimbabwe
Kenya	Sudan	Tanzania	Egypt	Rwanda	Burundi	Uganda
Madagascar	Reunion	Mauritius	Comoros	Reunion	Mauritius	Morocco
Morocco	Senegal	Cameroon	Tunisia	Côte d'Ivoire	Tunisia	Mauritius
Nigeria	Niger	Benin	Côte d'Ivoire	Niger	Burkina Faso	Chad
Reunion	Comoros	Madagascar	Mauritius	Madagascar	Zimbabwe	Mauritius
Senegal	Cameroon	Côte d'Ivoire	Mali	Côte d'Ivoire	Morocco	Mauritania
Seychelles	Reunion	Mauritius	Kenya	Kenya	Mauritius	Tanzania
Togo	Benin	Niger	Burkina Faso	Mauritania	Morocco	Ghana
Tunisia	Algeria	Morocco	Libya	Morocco	Zaire	Côte d'Ivoire
Zimbabwe	Mozambique	Reunion	Morocco	Malawi	Zambia	Côte d'Ivoire

Source: Compiled from Comtrade database.

APPENDIX TABLE AII
 INTRA-AFRICAN FOOD TRADE FLOWS 1970-72: FOOD AND LIVE ANIMALS (SITC REVISED 1 CODE: 0)

Reporter	Exports to:			Imports from:		
	1	2	3	1	2	3
Algeria	Niger	Libya	Egypt	Côte d'Ivoire	Morocco	Tunisia
Angola	Zaire	Mozambique	Cape Verde	Mozambique	Zaire	Sao Tome
Benin	Nigeria	Niger	Togo	Egypt	Morocco	Senegal
Burkina Faso	Côte d'Ivoire	Ghana	Togo	Mali	Congo	Côte d'Ivoire
Cameroon	Congo	Chad	Gabon	Congo	Morocco	Côte d'Ivoire
C. Afr. Rep.	Chad	Zaire	Sudan	Sudan	Chad	Morocco
Chad	Zaire	Congo	Nigeria	Congo	Senegal	Zaire
Congo	Chad	Senegal	Burkina Faso	Mauritania	Chad	Morocco
Côte d'Ivoire	Algeria	Senegal	Morocco	Madagascar	Senegal	Egypt
Egypt	Libya	Sierra Leone	Algeria	Sudan	Ghana	Mozambique
Ethiopia	Djibouti	Mauritius	Somalia	Kenya	Egypt	Sudan
Gabon	Eq. Guinea	Algeria	—	Morocco	Chad	Côte d'Ivoire
Gambia	Sierra Leone	Ghana	Nigeria	Egypt	Senegal	Sierra Leone
Ghana	Egypt	Kenya	Togo	Mali	Burkina Faso	Morocco
Guinea Bissau	Mozambique	Angola	Cape Verde	Egypt	Angola	Cape Verde
Kenya	Zambia	Libya	Zaire	Zaire	Mozambique	Rwanda
Liberia	Sierra Leone	Côte d'Ivoire	Guinea	Egypt	Côte d'Ivoire	Sierra Leone
Libya	Niger	Chad	Tunisia	Tunisia	Egypt	Chad
Madagascar	Reunion	Côte d'Ivoire	Comoros	Egypt	Morocco	Senegal

APPENDIX TABLE AII (Continued)

Reporter	Exports to:			Imports from:		
	1	2	3	1	2	3
Malawi	Zimbabwe	Zambia	Tanzania	Zimbabwe	Kenya	Mozambique
Mali	Côte d'Ivoire	Ghana	Senegal	Egypt	Côte d'Ivoire	Senegal
Mauritania	Congo	Zaire	Ghana	Morocco	Egypt	Congo
Mauritius	Sudan	Reunion	Seychelles	Madagascar	Ethiopia	Kenya
Morocco	Algeria	Ghana	Libya	Côte d'Ivoire	Mozambique	Cameroon
Niger	Nigeria	Côte d'Ivoire	Ghana	Madagascar	Côte d'Ivoire	Morocco
Nigeria	Ghana	Togo	Egypt	Côte d'Ivoire	Morocco	Ghana
Reunion	Mauritius	Madagascar	Djibouti	Madagascar	Morocco	Senegal
Senegal	Côte d'Ivoire	Mauritania	Chad	Côte d'Ivoire	Madagascar	Morocco
Seychelles	Mauritius	Kenya	—	Kenya	Mauritius	Tanzania
Sierra Leone	Egypt	Liberia	Gambia	Egypt	Gambia	Côte d'Ivoire
Somalia	Egypt	Kenya	Djibouti	Kenya	Ethiopia	Egypt
Sudan	Egypt	Libya	Somalia	Uganda	Egypt	Côte d'Ivoire
Tanzania	Zambia	Zaire	Somalia	Malawi	Egypt	Zambia
Togo	Egypt	Ghana	Benin	Ghana	Niger	Burkina Faso
Tunisia	Libya	Algeria	Morocco	Côte d'Ivoire	Egypt	Madagascar
Uganda	Sudan	Somalia	Libya	Zambia	Egypt	Zaire
Zaire	Chad	Congo	Zambia	Zimbabwe	Angola	Chad
Zambia	Zaire	Mozambique	Tanzania	Zimbabwe	Tanzania	Kenya

Source: Compiled from Comtrade database.

APPENDIX B

VALUE OF GLOBAL FOOD IMPORTS AND TRADE
CONTROL MEASURES

Various notations have been used for trade control measures: CD. MFN refers to MFN rates of customs duty; FD. MFN denotes MFN rates of fiscal duty; and CD. STAT represents statutory rates of customs duty.

PTA tax1 applies to exports of a PTA member state when the local ownership is more than 51 per cent. PTA tax2 applies to exports of a PTA member state

APPENDIX
B

APPENDIX
VALUE OF GLOBAL FOOD IMPORTS, 1986-88

Country/Food Item	Total Imports (U.S. \$ Million)	Tariff Rate (%)
Algeria		
Maize	116.2	CD. MFN: 0.0
Rice	8.4	CD. MFN: 0.0
Wheat	362.7	CD. MFN: 0.0
Roots & tubers	42.2	CD. MFN: 40-45
Bananas & plantains	0.01	CD. MFN: 30-45
Angola		
Maize	6.8	CD. MFN: S KN 0.60 ^a
Rice	14.7	CD. MFN: S KN 1-1.30 ^a
Wheat	6.2	CD. MFN: S KN 1.0 ^a
Roots & tubers	0.8	CD. MFN: S KN 0.08-1.60 ^a
Bananas & plantains	0.003	CD. MFN: S KN 0.50 ^a
Benin		
Maize	0.14	CD. MFN: 2.0 FD. MFN: 2.0
Sorghum	0.05	CD. MFN: 2.0 FD. MFN: 3.0
Rice	11.5	CD. MFN: 10.0 FD. MFN: 2.0

when the local ownership is 40–51 per cent. PTA tax³ applies to exports of a PTA member state when the local ownership is 30–40 per cent. Where PTA tax does not apply, the actual customs surcharge and surtax of 20 per cent is administered.

CD. MFN: S KN (applicable, e.g., in Angola) refers to specific MFN rates of customs duty in national currency per kilogram net. SP. TAX1: S KG (applicable, e.g., in Côte d'Ivoire) is a special tax (product specific) in national currency per kilogram gross. FD. MFN: S QT (applicable, e.g., in Mauritius) denotes specific MFN rates of customs duty in national currency per quintal (100 kg).

It should be noted, however, that apart from Morocco, the respective countries have not yet verified the information on trade control measures.

TABLE BI
AND TRADE CONTROL MEASURES

Other Import Charges Rate (%)	Non-Tariff Measures
Production tax: 42.85 Customs tax (redevance): 0.004 Customs formality tax: 1.0 Service tax: 5–50 Do. Do. Do. Do.	State trading monopoly Do. Do. Do. Do.
Customs surcharge & surtax: 9.0 Consumption tax: 60.0 Do. Do. Do. Do.	Nonautomatic licences Enterprise specific quota State trading monopoly Compulsory national insurance Do. Do. Do. Do.
Import compensation tax: 9.0 Stamp tax: 4% of fiscal duty Customs charge: 0.75 Customs formality tax: 1.0 Do.	Nonautomatic licences Compulsory national insurance Do.
Import compensation tax: 5.0 Stamp tax: 4% of fiscal duty Customs charge: 0.75 Customs formality tax: 1.0	State trading monopoly Customs valuation with fixed prices Nonautomatic licences Compulsory national insurance

APPENDIX TABLE

Country/Food Item	Total Imports (U.S. \$ Million)	Tariff Rate (%)
Cameroon		
Maize	2.0	CD. MFN: 10 FD. MFN: 10
Roots & tubers	0.1	CD. MFN: 10 FD. MFN: 20
Bananas & plantains	0.1	Do.
Millet	0.02	CD MFN: 15 FD. MFN: 15
Wheat	7.7	CD. MFN: 10-20 FD. MFN: 15
Sorghum	0.1	CD. MFN: 15-20 FD. MFN: 15-20
Rice	12.8	CD. MFN: 10-20 FD. MFN: 5-15
Côte d'Ivoire		
Maize	2.63	CD. MFN: 0-2 FD. MFN: 0-2 CD. STAT: 0-6
Millet	—	Do.
Sorghum	—	Do.
Wheat	37.2	CD. MFN: 2 FD. MFN: 0.5 CD. STAT: 6
Roots & tubers	3.7	FD. MFN: 10
Bananas & plantains	0.2	CD. MFN: 5 FD. MFN: 45-50 CD. STAT: 15
Rice	86.3	CD. MFN: 0-5 FD. MFN: 0-15 CD. STAT: 0-15
Ghana		
Maize	1.3	CD. MFN: 25
Millet	—	Do.
Sorghum	—	Do.
Rice	19.2	Do.
Roots & tubers	0.3	Do.
Bananas & plantains	—	Do.
Wheat	15.6	Do.

BI (Continued)

Other Import Charges Rate (%)	Non-Tariff Measures
Turnover tax: 10	Health & safety regulations
Health & sanitary tax	
Do.	Do.
Do.	Do.
Do.	Do.
+Import compensation tax: 10	Do.
Do.	Do.
Do.	Do.
Do.	Licence with purchase of local production
+Import compensation tax: 5-25	Health & safety regulations
	Nonautomatic licencing n.e.s.

Import compensation tax: 0.6	
Customs formality tax: 0.75% of f.o.b.	
Do.	
Do.	
Do.	
Do.	Preshipment inspection
Do.	Special import authorization
Do.	Preshipment inspection
	Nonautomatic licences
+SP. TAX1: S KG 20 ^b	Unallocated quota
Do.	Preshipment inspection
	Customs valuation with fixed prices

Licence fee: 10	Nonautomatic licences
Do.	Bank authorization
Do.	Do.
Do.	Do.
Do.	Do.
Do.	+ State trading monopoly
Do.	Suspension of issuance of licences
Do.	Bank authorization
Do.	Do.
Do.	+ Automatic licences
Do.	State trading monopoly

APPENDIX TABLE

Country/Food Item	Total Imports (U.S. \$ Million)	Tariff Rate (%)
Kenya		
Maize	0.1	CD. MFN: 30
Wheat	16.0	Do.
Rice	8.7	Do.
Millet	—	Do.
Sorghum	—	CD. MFN: 30-40
Roots & tubers	1.3	CD. MFN: 80
Bananas & plantains	1.3	Do.
Mauritius		
Maize	2.9	CD. STAT: 0.0 CD MFN: 0.0 FD. MFN: 0.0
Millet	—	Do.
Sorghum	—	Do.
Roots & tubers	1.0	Do.
Rice	16.7	FD. MFN: S QT 13.3 ^e
Bananas & plantains	—	CD. STAT: 25 FD. MFN: 40
Morocco		
Maize	20.7	CD. STAT: 30
Millet	—	Do.
Roots & tubers	8.6	CD. STAT: 20 CD. MFN: 17.5
Bananas & plantains	1.1	CD. STAT: 70 CD. MFN: 45
Rice	1.5	CD. STAT: 10-30 CD. MFN: 32.5
Wheat	170	CD. STAT: 30

BI (Continued)

Other Import Charges Rate (%)	Non-Tariff Measures
Tax on foreign exchange transaction: 1.0	Automatic licences State trading monopoly Compulsory national insurance Preshipment inspection
Do.	Do.
Do.	Do.
Do.	Do.
Do.	Do.
Do.	Nonautomatic licences Health & safety regulations Compulsory national insurance Preshipment inspection
Do.	Do.
Customs surcharge & surtax: 17.0 Stamp tax: 17.0	Special import authorization
Do.	Do.
Do.	Do.
Do.	Do.
Do.	Do.
Do.	Do.
Do.	Do.
Customs surcharge & surtax: 12.5 Value added tax: 7-30	Special import authorization Advance import deposit Bank authorization Compulsory national insurance Do.
Do.	Do.
Do.	Do.
Do.	Do.
Do.	Do.
Do.	+ State trading monopoly
Do.	Do.
Do.	+ State trading monopoly

APPENDIX TABLE

Country/Food Item	Total Imports (U.S. \$ Million)	Tariff Rate (%)
Nigeria		
Maize	3.0	CD. MFN: 20
Roots & tubers	3.6	CD. MFN: 40
Bananas & plantains	—	Do.
Rice	94.0	CD. MFN: 20-35
Millet	0.6	CD. MFN: 20
Wheat	84.8	Do.
Sorghum	4.7	CD. MFN: 100
Senegal		
Maize	1.0	CD. MFN: 15 FD. MFN: 10-30
Millet	—	CD. MFN: 15 FD. MFN: 10
Sorghum	0.82	Do.
Roots & tubers	4.72	CD. MFN: 15 FD. MFN: 35
Bananas & plantains	1.8	Do.
Rice	61.8	CD. MFN: 15 FD. MFN: 10-30
Wheat	18.3	CD. MFN: 15 FD. MFN: 10
Zaire		
Maize	6.3	CD. MFN: 5
Millet	—	Do.
Sorghum	—	Do.
Wheat	26.1	Do.
Roots & tubers	0.03	CD. MFN: 10
Bananas & plantains	—	Do.
Rice	17.1	CD. MFN: 5

BI (Continued)

Other Import Charges Rate (%)	Non-Tariff Measures
Tax on transport facilities: 5 Additional charges n.e.s. 1.0 Customs surcharge & surtax: 30	Banned Advance payment of customs duties Compulsory national insurance Preshipment inspection
Do.	Do.
Do.	Do.
Do.	Do.
Do.	Advance payment of customs duties Compulsory national insurance Preshipment inspection
Do.	Do.
Do.	Do.
Value-added tax: 0-20	Compulsory national transport
	Do.
	Do.
	Do.
	Unallocated quota Compulsory national transport Nonautomatic licences Customs valuation with fixed prices Compulsory national transport Nonautomatic licences Compulsory national transport
Additional charges n.e.s. 1.25	Advance import deposits Multiple exchange rates Compulsory national insurance Compulsory national transport Preshipment inspection
Do.	Do.
Do.	Do.
Do.	Do.
Turnover tax: 20	+ Bank authorization
Additional charges n.e.s. 1.25	Do.
Do.	Do.
Additional charges n.e.s.	Do.
	+ Nonautomatic licences + Bank authorization

APPENDIX TABLE

Country/Food Item	Total Imports (U.S. \$ Million)	Tariff Rate (%)
Zambia		
Maize	9.4	
Sorghum	0.44	
Wheat	8.53	
Rice	0.51	CD. MFN: 15
Millet	—	Do.
Roots & tubers	0.04	CD. MFN: 50
Bananas & plantains	—	Do.
Zimbabwe		
Maize	0.2	
Rice	2.9	
Sorghum	0.04	
Bananas & plantains	—	
Millet	0.002	
Wheat	8.82	
Roots & tubers	0.22	

Source: Compiled from NUCTAD Trade Information System and Economic Time Series

- Notes:
1. CD. MFN refers to MFN rates of customs duty; FD. MFN: MFN rates of
 2. PTA tax1 applies to exports of PTA member state when the local ownership ownership is 40–51 per cent; PTA tax3 applies to exports of PTA member and surtax of 20 per cent applies.
 3. Please note that apart from Morocco, the information on trade control
- ^a Specific MFN rates of customs duty in national currency per kilogram net.
^b Special tax (product specific) in national currency per kilogram gross.
^c Specific MFN rates of customs duty in national currency per quintal (100 kg).

BI (Continued)

Other Import Charges Rate (%)	Non-Tariff Measures
Licence fee: 5	Nonautomatic licences
Sales tax: 20	Advance import deposits
	Preshipment inspection
Do.	Do.
Do.	Do.
Do.	Do.
Do.	Do.
Do.	Do.
Do.	Do.
Sales tax: 12.5	Nonautomatic licences
PTA tax1: 9.45	Special import authorization
PTA tax2: 11.07	Health & safety regulations
PTA tax3: 12.29	Bank authorization
Customs surcharge & surtax: 20	
Do.	Do.
Do.	Do.
	Nonautomatic licences
Do.	Special import authorization
	Bank authorization
	Nonautomatic licences
Do.	Health & safety regulations
	Bank authorization
Sales tax: 12.5	
Customs surcharge & surtax: 20	Do.
Sales tax: 12.5	Nonautomatic licences
PTA tax1: 12.6	Health & safety regulations
PTA tax2: 14.76	
PTA tax3: 16.38	
Customs surcharge & surtax: 20	

databases.

fiscal duty; and CD. STAT: statutory rates of customs duty.

is more than 51 per cent; PTA tax2 applies to exports of PTA member state when the local state when the local ownership is 30-40 per cent; and otherwise the actual customs surcharge

measures may not have been verified by the country concerned.

APPENDIX TABLE CI
 IMPACT OF FOOD TRADE LIBERALIZATION ON ALL AFRICAN COUNTRIES

(U.S.\$1,000 at 1985 prices)

Country	Revenue of Exporters		Import Bill			
	Before Tariff Removal	After Tariff Removal	Before Tariff Removal		After Tariff Removal	
	(African Trade Only)	(African Trade Only)	African Trade	Rest of the World	African Trade	Rest of the World
Maize						
African Common						
Market	58,970	77,924	58,970	401,485	77,924	395,384
Algeria	0	0	0.1	65,984	0.1	65,984
Angola	126.5	140	2,887.4	10,752	4,325	10,031
Benin	32	58	202.6	302.5	329.3	268
Burkina Faso	108.4	120	632	1,169	1,034	977
Burundi	0	0	0.1	0.2	0.2	0.2
Cameroon	107.1	120	39.4	313.3	40	313
Cape Verde	0	0	2,266.2	2,491.9	2,562	2,313
C. Afr. Rep.	0	0	0.1	0.7	0.1	0.7
Chad	0	0	13.6	801.6	16.4	800.2
Comoros	0	0	4.7	838.3	4.7	838.3
Congo	1.7	1.8	37.5	148	37.7	147.9
Côte d'Ivoire	2,433.5	3,184.3	3.8	723.5	4.4	723.2
Djibouti	0	0	0	634.3	—	634.3
Egypt	0	0	0	172,921	—	172,921
Eq. Guinea	0	0	0.03	2.3	0.04	2.3
Ethiopia	0	0	3,889.7	259.5	6,432	110
Gabon	0	0	55.9	65.8	64.3	62.8
Gambia	0	0	0	122	—	122
Ghana	0	0	3,631.4	3,927.5	6,343	2,610
Guinea	0	0	94.7	41.5	107	36
Guinea Bissau	0	0	0	1,818.4	—	1,818.4
Kenya	20,516	30,961	97.4	12,911.4	264	12,841
Liberia	0	0	0.01	297.4	0.02	297.4
Libya	0	0	21	15,010	33	15,003
Madagascar	433.2	467	2.8	2.5	6.6	1.6
Malawi	13,611	17,716	3.3	758	3.3	758
Mali	0	0	640.6	4,343	768	4,286.5
Mauritania	0	0	17.6	206	22	204.4
Mauritius	6.6	7.4	231.5	143.2	353	95
Morocco	20.6	33.2	0	15,995	—	15,995
Mozambique	0	0	12,872	11,135	13,388	10,896
Niger	0	0	1,088.5	2,802.6	1,290	2,724.4

APPENDIX TABLE CI (Continued)

(U.S.\$1,000 at 1985 prices)

Country	Revenue of Exporters		Import Bill			
	Before Tariff Removal	After Tariff Removal	Before Tariff Removal		After Tariff Removal	
	(African Trade Only)	(African Trade Only)	African Trade	Rest of the World	African Trade	Rest of the World
Nigeria	0	0	15.3	17,244	28	17,244
Reunion	3.8	7.6	5,417.5	1,215	5,836	1,117
Rwanda	0	0	0	348	—	348
Sao Tome	0	0	126.5	40	140	37
Senegal	17.6	22	22	1,719	26.4	1,715.7
Seychelles	0	0	3	91.6	4	91.3
Sierra Leone	0	0	0	268	—	268
Somalia	0	0	1,553	6,217	1,680	6,192.4
Sudan	0	0	1,447	522	3,263	134
Tanzania	64	184	4,216.5	14,491	9,587	12,747
Togo	153.5	174	1,469.5	272.3	1,615	250
Tunisia	0	0	0	25,013	—	25,013
Uganda	0	0	371.3	608.3	1,125	515
Zaire	0	0	2,187	667	2,341	604
Zambia	0	0	12,350	3,421	13,064	3,154
Zimbabwe	21,334	24,729	1,059	2,427	1,791	2,138

Rice

African Common Market						
	8,126	12,058	8,126	471,704	12,058	470,195
Algeria	0	0	60	5,370.2	61.5	5,369
Angola	152	176	42	7,981	61.3	7,967
Benin	50	75	0.1	18,027.7	0.1	18,027.7
Burkina Faso	0	0	18.8	1,859.2	36.5	1,848.8
Burundi	0	0	0	181.2	—	181.2
Cameroon	764	1,094	0	41,012.2	—	41,012.2
Cape Verde	60	68	0	2,678	—	2,678
C. Afr. Rep.	0	0	2.3	298	4	297
Chad	0	0	311.2	1,737	422.3	1,710
Comoros	0	0	104	491	119	482
Congo	48	68.5	58.4	1,773.4	111.2	1,748.5
Côte d'Ivoire	466	623	0.01	28,385.5	0.02	28,385.5
Djibouti	0	0	8.9	5,828.4	8.9	5,828.4
Egypt	3,476.3	5,637.5	0.2	2,099.2	0.3	2,099.1
Eq. Guinea	0	0	102.5	1,650	122	1,640
Ethiopia	0	0	0.13	2,295	0.3	2,294.9
Gabon	0	0	59.1	3,410.3	67.2	3,404.4

APPENDIX TABLE CI (Continued)

(U.S.\$1,000 at 1985 prices)

Country	Revenue of Exporters		Import Bill			
	Before Tariff Removal	After Tariff Removal	Before Tariff Removal		After Tariff Removal	
	(African Trade Only)	(African Trade Only)	African Trade	Rest of the World	African Trade	Rest of the World
Gambia	0	0	117	5,825	133	5,813
Ghana	0	0	45	5,905	90	5,867
Guinea	0	0	269.5	9,835.3	270.2	9,834.8
Guinea Bissau	0	0	64.3	6,128.3	73	6,121.8
Kenya	466.3	483	0	7,818	—	7,818
Liberia	202.3	203	1.9	19,473	2.5	19,472.8
Libya	0	0	0	10,730	—	10,730
Madagascar	368.4	418	86.2	31,381.1	86.5	31,380.9
Malawi	832.2	1,229	0	521.4	—	521.4
Mali	0	0	400.4	6,496.4	538	6,458
Mauritania	0	0	6.5	8,746.3	8	8,745.6
Mauritius	0	0	33.8	4,788.6	39.2	4,785.2
Morocco	0.1	0.1	0	2,595	—	2,595
Mozambique	0	0	86	28,621	152	28,569
Niger	0.9	1.2	342	1,689	436	1,660
Nigeria	0	0	321.5	77,368	533	77,368
Reunion	190	205	276	7,151	319	7,123
Rwanda	0	0	0.01	230	0.02	230
Sao Tome	0	0	152	293	176	283
Senegal	548.4	720.2	7.5	42,558	11	42,555
Seychelles	0	0	0	704	—	704
Sierra Leone	0	0	1,182	7,888	1,888	7,677
Somalia	8.9	8.9	487.5	17,652	503	17,643
Sudan	0	0	1,502.4	4,438.5	2,416	4,057
Tanzania	464	992	0.3	17,540.3	1	17,540.1
Togo	26.3	53	0.5	9,122	0.6	9,122
Tunisia	0	0	793	1,226	1,335	1,001
Uganda	0	0	464	731	993	571
Zaire	0	0	72	6,598	88	6,589
Zambia	0	0	162	1,509	253	1,447
Zimbabwe	2.8	4.7	485	1,067	703	937

Wheat

African Common						
Market	3,875	5,213	3,875	1,770,703	5,213	1,770,311
Algeria	0	0	1,141	318,340	1,176	318,317
Angola	0	0	0	7,719	—	7,719

APPENDIX TABLE CI (Continued)

(U.S.\$1,000 at 1985 prices)

Country	Revenue of Exporters		Import Bill			
	Before Tariff Removal	After Tariff Removal	Before Tariff Removal		After Tariff Removal	
	(African Trade Only)	(African Trade Only)	African Trade	Rest of the World	African Trade	Rest of the World
Benin	0	0	72	4,688	104	4,666
Burkina Faso	0	0	208	3,534	387	3,398
Burundi	0	0	0	805	—	805
Cameroon	19.4	24	56	9,552.3	56.1	9,552.2
Cape Verde	0	0	0	1,978	—	1,978
C. Afr. Rep.	0	0	7	511	7.2	511
Chad	0	0	6.3	1,900	9	1,899
Comoros	0	0	0	1,960	—	1,960
Congo	0	0	0	1,863	—	1,863
Côte d'Ivoire	0	0	0	32,662	—	32,662
Djibouti	0	0	0.4	1,352.2	0.4	1,352.2
Egypt	1,280	1,985.4	0	585,932.4	—	585,932.4
Eq. Guinea	0	0	8	160.3	8.9	159.5
Ethiopia	0.4	0.4	0.5	75,978.7	1	75,978.3
Gabon	0	0	0	4,650	—	4,650
Gambia	0	0	0	2,506	—	2,506
Ghana	0	0	14.1	10,716	29.3	10,704
Guinea	0	0	0.5	285.6	0.6	285.5
Guinea Bissau	0	0	0	600.5	—	600.5
Kenya	194.4	308	0	18,365	—	18,365
Liberia	0	0	0	1,849	—	1,849
Libya	0	0	0	33,232	—	33,232
Madagascar	0	0	0	5,737.4	—	5,737.4
Malawi	0	0	121.8	1,034.7	123	1,034.5
Mali	97.5	181	0	3,674	—	3,674
Mauritania	0	0	24.3	10,281	29	10,278.6
Mauritius	0	0	0	87	—	87
Morocco	1,141	1,176	424	221,686	598	221,573
Mozambique	0	0	0.5	18,558.1	0.6	18,558
Niger	0.05	0.1	433	1,864	508	1,828
Nigeria	7	7.2	5.1	167,666	6.4	167,666
Reunion	0	0	0	3,838.7	—	3,838.7
Rwanda	0	0	0	650	—	650
Sao Tome	0	0	0	65	—	65
Senegal	24.8	29.5	0	17,211	—	17,211
Seychelles	0	0	0	0.1	—	0.1

APPENDIX TABLE CI (Continued)

(U.S.\$1,000 at 1985 prices)

Country	Revenue of Exporters		Import Bill			
	Before Tariff Removal	After Tariff Removal	Before Tariff Removal	After Tariff Removal	After Tariff Removal	After Tariff Removal
	(African Trade Only)	(African Trade Only)	African Trade	Rest of the World	African Trade	Rest of the World
Sierra Leone	0	0	0	1,690	—	1,690
Somalia	0	0	0.1	4,581	0.1	4,581
Sudan	0	0	1,280	43,971	1,986	43,971
Tanzania	0	0	0.05	3,586.5	0.2	3,586.5
Togo	686	903	0	5,283	—	5,283
Tunisia	424	598	0	98,377	—	98,377
Uganda	0	0	72	1,009	184	963
Zaire	0	0	0	22,184	—	22,184
Zambia	0	0	0	9,270	—	9,270
Zimbabwe	0.5	0.6	0	7,259	—	7,259
Bananas and Plantains						
African Common						
Market	2,929	3,699	2,929	4,166	3,699	4,094
Algeria	0	0	0.1	571.6	0.2	571.5
Angola	0	0	0	3	—	3
Benin	1	1.1	0	0	0	0
Burkina Faso	2.3	2.4	370	0	451	—
Burundi	0	0	0	0	0	0
Cameroon	10.2	11	0	0	0	0
Cape Verde	0	0	0	0	0	0
C. Afr. Rep.	0	0	0	0	0	0
Chad	0	0	8.1	0	8.5	—
Comoros	0	0	0	0	0	0
Congo	0	0	0	0	0	0
Côte d'Ivoire	2,178.2	2,651	0	3	—	3
Djibouti	0	0	30	1	30	1
Egypt	0	0	0	744	—	744
Eq. Guinea	0	0	0.01	0	0.02	—
Ethiopia	2.2	2.2	0	189	—	189
Gabon	0	0	0.4	0	0.4	—
Gambia	0	0	0.2	0	0.2	—
Ghana	5.8	7.1	0.1	4	0.2	3.9
Guinea	0	0	0	0	0	0
Guinea Bissau	0	0	0	0	0	0
Kenya	14	20	610.3	1	881.4	0.3
Liberia	0	0	0.1	2	0.1	2

INTRA-AFRICAN FOOD TRADE

97

APPENDIX TABLE CI (Continued)

(U.S.\$1,000 at 1985 prices)

Country	Revenue of Exporters		Import Bill			
	Before Tariff Removal	After Tariff Removal	Before Tariff Removal		After Tariff Removal	
	(African Trade Only)	(African Trade Only)	African Trade	Rest of the World	African Trade	Rest of the World
Libya	0	0	0	2,489	—	2,489
Madagascar	9	11	0	0	0	0
Malawi	0	0	0	0	0	0
Mali	0	0	444.2	0	453.5	—
Mauritania	0	0	76.5	29	94.1	18.5
Mauritius	0	0	0	0	0	0
Morocco	0	0	374	49	526	20
Mozambique	0	0	0.05	0	0.1	—
Niger	0	0	3.6	0.2	4	0.2
Nigeria	0	0	0	0.05	—	0.05
Reunion	0	0	8.8	1.8	10.3	1.7
Rwanda	0	0	0	0	0	0
Sao Tome	0	0	0	0	0	0
Senegal	72	88	630	0.7	714.2	0.1
Seychelles	0	0	0	0	0	0
Sierra Leone	0	0	0	0.3	—	0.3
Somalia	634	906	0	1.8	—	1.8
Sudan	0	0	9.8	0	15.4	—
Tanzania	0	0	0	0.01	—	0.01
Togo	0	0	0.01	0	0.02	—
Tunisia	0	0	363	62	509	31
Uganda	0	0	0	0	0	0
Zaire	0	0	0.7	14	1.1	13.8
Zambia	0	0	0	0	0	0
Zimbabwe	0.05	0.1	0	0.2	—	0.2

APPENDIX

IMPACT OF FOOD TRADE LIBERALIZATION ON ALL AFRICAN COUNTRIES:

Country	Maize			Rice	
	Trade Creation	Trade Diversion	Total Trade Effect	Trade Creation	Trade Diversion
African Common Market	12,853	6,101	18,954	2,423	1,509
Algeria	0	0	0	0.3	1.2
Angola	716.9	720.8	1,437.7	5.8	13.5
Benin	92.2	34.4	126.6	0	0
Burkina Faso	209.7	192.3	402	7.4	10.4
Burundi	0.1	0.1	0.1	0	0
Cameroon	0	0.1	0.1	0	0
Cape Verde	117	178.4	295.4	0	0
C. Afr. Rep.	0	0	0	0.6	0.8
Chad	1.4	1.4	2.8	84.5	26.7
Comoros	0	0	0	5.9	8.6
Congo	0.2	0.1	0.2	27.9	24.9
Côte d'Ivoire	0.4	0.3	0.6	0	0
Djibouti	0	0	0	0	0
Egypt	0	0	0	0.1	0.1
Eq. Guinea	0	0	0	9.3	9.8
Ethiopia	2,392.3	149.6	2,541.9	0.1	0.1
Gabon	5.4	3	8.4	2.2	5.9
Gambia	0	0	0	3.9	11.7
Ghana	1,393.4	1,317.7	2,711.1	7.5	37.5
Guinea	6.9	5.4	12.3	0.2	0.5
Guinea Bissau	0	0	0	2.1	6.5
Kenya	95.9	70.5	166.4	0	0
Liberia	0	0	0	0.4	0.2
Libya	5.9	6.7	12.6	0	0
Madagascar	2.9	0.9	3.8	0.1	0.2
Malawi	0	0	0	0	0
Mali	70.8	56.5	127.3	99.1	38.5
Mauritania	2.6	1.6	4.2	0.7	0.7
Mauritius	72.8	48.1	121	1.9	3.4
Morocco	0	0	0	0	0
Mozambique	277.6	238.4	516	14.2	51.2
Niger	123.4	78.2	201.5	65.4	28.7
Nigeria	12.6	0	12.6	211.2	0
Reunion	319.9	98.3	418.2	15.8	27.2
Rwanda	0	0	0	0	0
Sao Tome	10.4	2.9	13.3	13.8	9.9
Senegal	1.1	3.4	4.5	0.6	2.4
Seychelles	0.5	0.3	0.8	0	0
Sierra Leone	0	0	0	495.3	210.6
Somalia	101.9	24.9	126.8	6.3	9.5
Sudan	1,428.4	487.7	1,816.1	532.6	381.3
Tanzania	3,626.2	1,744.3	5,370.5	0.5	0.2
Togo	123.2	22.3	145.5	0	0
Tunisia	0	0	0	317.2	224.7
Uganda	660.1	93.4	753.5	368.7	159.7
Zaire	90.7	63.5	154.2	5.7	9.3
Zambia	446.9	267.1	714	28.4	62.4
Zimbabwe	443.2	288.8	731.9	87.3	130.2

TABLE CII
RESULTS OF TRADE CREATION AND TRADE DIVERSION FOR IMPORTERS
(U.S.\$1,000 at 1985 prices)

Total Trade Effect	Wheat			Bananas and Plantains		
	Trade Creation	Trade Diversion	Total Trade Effect	Trade Creation	Trade Diversion	Total Trade Effect
3,932	947	392	1,339	698	72	770
1.5	12.1	22.9	34.9	0.1	0.1	0.1
19.3	0	0	0	0	0	0
0	9.3	22.6	31.9	0	0	0
17.8	43.2	135.1	178.2	81.6	0	81.6
0	0	0	0	0	0	0
0	0	0.1	0.1	0	0	0
0	0	0	0	0	0	0
1.4	0.2	0	0.2	0	0	0
111.1	1.6	0.7	2.3	0.4	0	0.4
14.6	0	0	0	0	0	0
52.7	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0.1	0	0	0	0	0	0
19.1	0.2	0.8	0.9	0	0	0
0.2	0.2	0.4	0.5	0	0	0
8.1	0	0	0	0	0	0
15.6	0	0	0	0	0	0
45	3.3	11.9	15.2	0	0.1	0.1
0.7	0	0.1	0.1	0	0	0
8.7	0	0	0	0	0	0
0	0	0	0	270.4	0.8	271.1
0.6	0	0	0	0	0	0
0	0	0	0	0	0	0
0.3	0	0	0	0	0	0
0	0.9	0.2	1.1	0	0	0
137.6	0	0	0	9.3	0	9.3
1.4	2.1	2.5	4.6	7.1	10.5	17.6
5.4	0	0	0	0	0	0
0	61.2	112.8	174	122.9	28.6	151.5
65.4	0.1	0.1	0.1	0	0	0
94.1	40	35.3	75.3	0.2	0	0.2
211.2	1.3	0	1.3	0	0	0
43	0	0	0	1.4	0.1	1.5
0	0	0	0	0	0	0
23.7	0	0	0	0	0	0
3.1	0	0	0	84	0.6	84.5
0	0	0	0	0	0	0
705.9	0	0	0	0	0	0
15.9	0	0	0	0	0	0
913.9	705.4	0	705.4	5.6	0	5.6
0.7	0.1	0	0.1	0	0	0
0	0	0	0	0	0	0
541.9	0	0	0	114.4	31.2	145.6
528.4	65.6	46.2	111.8	0	0	0
15	0	0	0	0.2	0.2	0.4
90.8	0	0	0	0	0	0
217.5	0	0	0	0	0	0

APPENDIX TABLE CIII
 IMPACT OF FOOD TRADE LIBERALIZATION ON ALL AFRICAN
 COUNTRIES: RESULTS OF TRADE CREATION AND
 TRADE DIVERSION FOR EXPORTERS

(U.S.\$1,000 at 1985 prices)

Country	Trade Creation	Trade Diversion	Total Trade Effect
Maize			
African Common Market	12,853	6,101	18,954
Angola	10.4	2.9	13.3
Benin	12.3	13.4	25.7
Burkina Faso	9.2	2	11.2
Cameroon	8.2	4.4	12.6
Congo	0.1	0.1	0.2
Côte d'Ivoire	418.5	332.3	750.8
Kenya	7,284.1	3,160.6	10,444.7
Madagascar	25.6	8.1	33.6
Malawi	2,486.8	1,618.6	4,105.4
Mauritius	0.5	0.3	0.8
Morocco	5.9	6.7	12.6
Reunion	2.9	0.9	3.8
Senegal	2.6	1.6	4.2
Tanzania	103.6	16.4	120
Togo	8	12.5	20.5
Zimbabwe	2,474.3	920.7	3,395
Rice			
African Common Market	2,423	1,509	3,932
Angola	13.8	9.9	23.7
Benin	23.6	1.7	25.2
Cameroon	286.8	42.9	329.7
Cape Verde	2	6.1	8.1
Congo	6.2	14.3	20.5
Côte d'Ivoire	94.3	62.7	157
Egypt	1,344.8	816.4	2,161.2
Kenya	6.9	9.5	16.4
Liberia	0.1	0.4	0.5
Madagascar	17.9	31.6	49.6
Malawi	140.2	256.5	396.7
Morocco	0	0	0
Niger	0.2	0.1	0.3
Reunion	6	8.8	14.8
Senegal	107	64.7	171.8
Somalia	0	0	0
Tanzania	368.5	159.6	528.1
Togo	4.4	22	26.4
Zimbabwe	0.5	1.4	1.9
Wheat			
African Common Market	947	392	1,339
Cameroon	3.1	1.4	4.5
Egypt	705.4	0	705.4

APPENDIX TABLE CIII (Continued)

(U.S.\$1,000 at 1985 prices)

Country	Trade Creation	Trade Diversion	Total Trade Effect
Ethiopia	0	0	0
Kenya	66.8	46.8	113.6
Mali	20.2	63.3	83.5
Morocco	12.1	22.9	34.9
Niger	0	0	0
Nigeria	0	0.2	0.2
Senegal	2.2	2.6	4.7
Togo	75.6	141.7	217.3
Tunisia	61.2	112.8	174
Zimbabwe	0.1	0.1	0.2
Bananas and Plantains			
African Common Market	698	72	770
Benin	0.1	0	0.1
Burkina Faso	0.1	0	0.1
Cameroon	0.7	0	0.7
Côte d'Ivoire	411.1	61.4	472.5
Ethiopia	0	0	0
Ghana	1.3	0	1.3
Kenya	5.8	0.2	6
Madagascar	1.4	0.2	1.6
Senegal	6.6	9.6	16.2
Somalia	270.4	0.8	271.2
Zimbabwe	0	0	0