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International Trade: The Position of Africa in Global Merchandise Trade

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Abstract

Even though global trade has fluctuated over the years, it has also rapidly increased. However, the structure and pattern of trade vary significantly by-products and regions. Undoubtedly, trade has come with both benefits and daunting challenges to countries involved, especially in African nations, where primary and intermediate merchandise formed a substantial share of exports. Because advanced and newly industrialized economies have better technology and know-how, manufacturing industries, access to finance, and market than Africa, they have a greater market proportion in the world trade. Arguably, African countries have been left in the cold as they struggle to compete with advanced economies. As presented in this chapter, Africa has been struggling to be relevant in the world market. However, its global share of merchandise trade has reduced over the decades. This is partly because the continent has concentrated on the exportation of few primary commodities (i.e., mineral fuels, iron ores, gold, cocoa beans) with volatile prices and demand in the global markets. The frequent global oil crunch other raw products are a wake-up call for a rapid industrialization and diversification for competitiveness in Africa. The World Trade Organization (WTO) has to ensure that defensive trade remedies should not be the next frontier of protectionism. Finally, for trade, growth, and development to be stimulated, African countries should urgently open their markets to expand intra-African trade.

Keywords: exports, economies of scale, trade, technology, market access, Africa

1. Introduction

The movement of goods, services, finance, and human resources across national borders has been driving socioeconomic and political globalization, especially in the past six decades. Historically, international trade theories have attempted to explain the reasons why countries

trade and the benefits are derived from such transactions. For instance, classical or traditional theories, such as absolute advantage [1], comparative advantage [2], and Heckscher-Ohlin's factor endowments [3, 4], argue that countries involve in cross border commerce largely because of the relative costs of production or factor endowments over other nations. Consequently, it has become imperative for nations to trade by exporting products that they have a comparative or competitive production factor(s) and importing products that are scarce domestically. This partly explains why African countries largely export primary commodities and import processed or manufactured goods. On the other hand, modern trade theories [5–10] stress that there are many factors beyond the relative costs of production or factor endowments. They argued that the gains from trade are heavily determined by imperfect competition, increasing economies of scale, technological advancement, tastes, and the levels of per capita income in countries.

Similarly, world organizations, and scholars, especially economists, opine that trade is a catalyst for growth in countries that are poised to develop. Thus, they have some arguments for cross border trade: trade brings a wide variety of goods and services that spur choices of consumers in the countries involved. To some extent, trade maintains stable demand and supply that allows efficient exchanges that stimulate economic growth and development in countries [11, 12]. Also, due to uneven distribution of natural resources and the climatic conditions across the globe, it has made a trade inevitable, as it could either complement or supplement domestic production to the countries involved in such transactions [13–15].

Although tariffs have been significantly reduced in various products, commodities that African countries have the advantage to produce and export still face stringent constraints largely because of restrictions and other distorting measures. Nonetheless, the trends in trade have remarkably risen since the creation of the World Trade Organization (WTO), as a body of trade negotiations, policies, and rules. Even though the WTO has made progress in pressuring countries to reduce restrictions, trade policies and rules may have favored developed economies at the expense of weak economies, especially in Africa [16].

Against this background, this chapter aimed at assessing the performance and challenges of trade in Africa in the present era of trade liberalization. Given that agriculture is the primary export commodities in Africa, this chapter will also focus on the performance of agricultural trade in the continent. To achieve the aims of this study, secondary data are obtained from agencies, such as the United Nations Conference on Trade and Development (UNCTAD) annual statistical reports; WTO, International Trade Centre (ITC), and World Bank (WB).

2. Trends in merchandise trade

Historically, between seventeenth and early twentieth centuries, the share of agricultural trade as a percentage of total global trade was above 50%. Nonetheless, this has steadily decreased over the decades as fuels and mining and manufacturing products have taken over.

Even though trade has substantially grown, it has also been diverse across regions and continents. Developing countries' share on the total merchandise trade has also increased. Developed countries' relative importance as key suppliers in global markets has declined. Nonetheless, they account for slightly above half of the value of merchandise exports. World trade fell in 2015 partly as a result of a reduction in oil and other commodity prices. China was once again the global leading merchandise exporter, followed and the USA and Germany. These three countries are jointly accounted for over one-third of world exports in 2015 (**Table 1**). Also, merchandise exports in individual countries such as China (13.7% of global exports), the USA (9.1% of global exports), Germany (8% of global exports), Japan (3.8% of global exports), the Netherlands (3.4% of global exports), the UK (2.8% of global exports), Italy (2.8% of global exports), and Canada (2.5% of global exports) were more than Africa (2.4% of global exports) as a whole in 2015. No African country was among the top 30 exporters of goods and services in the world in the same period under study.

On the regional levels, just recorded in Africa as a whole, the share of the African regional blocs—East African Community (EAC), Economic Community of Central African States (ECCAS), Southern African Development Community (SADC), and Economic Community of West African States (ECOWAS)—in the merchandise exports also substantially reduced in the same period under study. Nevertheless, SADC has continued to lead, followed by ECOWAS, just as South Africa and Nigeria are the first and second largest exporters from the continent. African merchandise trade has risen faster than those of the developed and developing economies. However, the continent still accounts for a very low share of world trade [17], and it has been decreasing instead of increasing (**Tables 1** and **11**). Although the value of export in Africa has also increased, its export share as a proportion of global exports has been decreasing steadily.

Merchandise exports from African countries and other least developed countries (LDCs) have been marginally affected by sharp falls in the prices of crude oil, mining, and other primary agricultural products. The level of African export merchandise trade rose from $3.4 billion in 1948 to about $92 billion in 1993. It then increased to reach its peak in 2013 ($601 billion) and steadily declined in 2014 ($552 billion) and then substantially decreased to about $396 billion in 2015 (**Table 2**). The share of the continent in the global merchandise export also shrank from 7.3% in 1948 to 2.4% in 2015 (**Table 1**).

Africa's merchandise exports witnessed a significant declined (−28.4%) in dollar terms in 2015. Accounting for about 40% decline in the region's exports, in the oil-exporting countries, such as Nigeria (−45%), Angola (−44%), and Algeria (−40%), in 2015. This slowdown has been partly occasioned by an ample of other factors, including political turmoil in some countries in the continent. The overdependence of some oil-producing countries on oil exports in the region resulted in the decline of Nigeria's share of the world merchandise exports from 0.9% in 2012 [17] to 0.31% in 2015. On individual country levels, **Table 2** indicates that South Africa, Nigeria, Algeria, Angola, and Morocco were the leading merchandise exporters in Africa in 2015. The share of these five countries in the continent rose to 47% in 1948 to 57% in 2015. However, these countries' export values in the world market shrank from 3.5% in 1948 to 1.4% in 2015 **(Table 3)**.

Economy/year	1948	1953	1963	1973	1983	1993	2003	2014	2015
World (US$ billions)	59	81	157	582	1858	3782	7590	18,996	16,552
World share (%)	100	100	100	100	100	100	100	100	100
Developing economies	31.8	30.1	23.0	20.4	27.0	27.3	32.5	44.6	44.8
Developed economies	65.5	66.0	71.8	75.4	67.6	71.0	64.8	51.4	52.1
America	39.33	31.44	25.58	21.63	21.05	20.42	18.30	16.75	17.18
The USA	21.59	15.20	14.30	12.17	11.07	12.29	9.55	8.53	9.09
SCA	9.87	8.56	5.61	4.04	4.78	4.01	4.91	5.54	5.44
Asia	12.40	14.04	13.82	17.13	24.81	30.70	31.89	40.69	41.42
China	0.89	1.26	1.30	1.01	1.20	2.43	5.77	12.33	13.74
Europe	37.02	44.25	52.30	54.19	48.26	44.93	46.23	38.09	37.59
Germany	1.4	5.3	9.3	11.7	9.2	10.06	9.90	7.87	8.03
Oceania	3.82	3.4	2.50	2.26	1.47	1.52	1.22	1.56	1.42
Africa	7.43	6.8	5.80	4.79	4.41	2.42	2.36	2.91	2.39
EAC	0.45	0.3	0.36	0.21	0.10	0.06	0.06	0.08	0.09
ECCAS	0.71	0.94	0.62	0.47	0.40	0.28	0.30	0.55	0.40
ECOWAS	1.32	1.25	0.94	1.02	0.87	0.44	0.49	0.73	0.53
SADC	3.25	3.30	2.77	1.88	1.47	1.00	0.82	1.07	0.96
G20	61.26	58.29	58.95	60.32	59.55	64.27	60.93	59.65	61.01
EU28	32.11	38.19	44.84	47.50	40.41	40.88	41.59	32.40	32.55
SSA	5.37	5.29	4.42	3.35	2.69	1.67	1.55	2.11	1.77

Source: Compiled from UNCTAD. Note: SCA stands for South and Central America.

Table 1. World merchandise exports (US$ billions, current and share), 1948–2015.

Economy/year	1948	1953	1983	1993	2003	2014	2015
Africa (US$ billions)	4.36	5.49	81.92	91.57	179.35	552.97	395.96
Balance (US$ billions)	−0.66	4.83	−3.68	−3.0	13.83	−81.57	−159.31
Share (%) in Africa exports							
South Africa	26.88	25.15	22.59	26.45	20.34	16.46	20.63
Nigeria	5.78	6.34	12.64	10.82	13.40	17.04	12.96
Algeria	9.59	7.23	15.36	11.37	12.92	11.37	9.54
Angola	1.38	2.24	2.22	4.11	5.30	10.70	8.38
Morocco	3.30	4.91	2.45	4.04	4.89	4.31	5.53
Top five African countries	46.92	45.87	55.27	56.79	56.85	59.88	57.03
Share in (%) regional exports							
South Africa (% of S*. Africa)	100.0	98.9	91.0	86.4	85.5	85.	86.51
Nigeria (% of West Africa)	32.6	34.3	63.3	57.9	64.3	67.3	57.4
Algeria (% of North Africa)	31.9	29.9	38.7	36.0	35.9	40.4	35.3
Angola (% of Middle Africa)	14.3	16.3	24.9	36.0	42.4	56.7	50.9
Share (%) in world exports							
South Africa	2.00	1.71	1.00	0.64	0.48	0.48	0.49
Nigeria	0.43	0.43	0.56	0.26	0.32	0.50	0.31
Algeria	0.71	0.49	0.68	0.28	0.31	0.33	0.23
Angola	0.10	0.15	0.10	0.10	0.13	0.31	0.20
Morocco	0.24	0.33	0.11	0.10	0.12	0.13	0.13
Top five African countries	3.49	3.12	2.44	1.37	1.34	1.74	1.36

Source: Compiled from UNCTAD data. Note: S* stands for Southern Africa.

Table 2. Top five African merchandise exporters ($ billions, current, and share), 1948–2015.

Indicator/year	1995	2010	2013	2014	2015
[TOTAL] Total of all products	111,076	514,079	597,906	560,069	387,719
[054] Vegetables	688	2987	3851	4403	4207
[057] Fruits and nuts (excluding oil nuts)	1830	5761	7158	7961	7893
[071] Coffee and coffee substitutes	2056	2022	2354	2650	2551
[072] Cocoa	2248	9699	7573	9170	8930
[121] Tobacco, unmanufactured	929	1905	2607	2696	2547
[281] Iron ore and concentrates	582	6484	10,376	9017	3433
[287] Ores and concentrates	738	6826	6643	6466	5197
[321] Coal, whether or not pulverized	1731	5580	6171	5538	4562
[333] Petroleum oils, oils from bitumen	30,444	224,637	256,179	217,057	116,427
[334] Petroleum oils, bituminous >70% oil	6187	26,119	28,476	31,214	18,563
[343] Natural gas, whether or not liquefied	2478	30,148	37,446	34,428	21,721
[522] Inorganic chemical element, oxides & hal. salts	1399	3812	3814.2	3863	3577
[562] Fertilizers (other than of group 272)	1218	4211	4655.9	4306	3614
[667] Pearls, precious and semiprecious stones	5800	6400	12,034	13,505	9420
[671] Pig iron, spiegeleisen*	1326	5570	4328	4880	3270
[681] Silver, platinum, metals of the platinum	2,34	9458	8643	6649	6616
[682] Copper	1090	8367	10,782	11,426	8841
[773] Equipment for distributing elect, n.e.s.	386	3921	4916	5487	4913
[781] Motor vehicles	1270	4974	5177	6568	6926
[971] Gold, nonmonetary (e.g., gold ores)	1791	8221	20,169	18,387	14,354
Fuels (% of total exports) ([333–355] [342–344])	36.0	56.8	55.8	52.6	42.1

Source: Compiled from UNCTAD. Note: *671 Pig iron & spiege., sponge iron, iron/steel granules & powders.

Table 3. Major merchandise export trade matrix in Africa ($, millions, current), 1995–2015.

The value of African merchandise import has increased over the decades (**Table 5**). However, just as in export, the continent remains a marginal player in the world imports, declined 8.1% in 1948 to 3.3% of the global share in 2015 (**Table 4**). The proportions of Africa, Sub-Saharan Africa (SSA) and other African regional bodies, in the world exports and imports have fallen sparingly over the period under review. As shown in **Table 3**, African primary export commodities are crude oil and natural gas, gold, pearls and precious and semiprecious stones, copper, cocoa products, fruits and nuts, and silver, platinum, and other metals.

With the increasing integration of markets as a result of globalization and liberalization, Africa faces a more fiercely competitive external trading environment. This may have distorted export-led growth hypothesis and a robust product diversification of export products emanating from Africa. Tariff regime is more pronounced in processed agricultural products

Economy/year	1948	1973	1983	1993	2003	2014	2015
World value ($ billions)	62	596	1901	3845	7780	18,997	16,607
World share (%)	100	100	100	100	100	100	100
Developing economies	31.6	18.1	25.7	28.7	29.2	42.0	42.0
Developed economies	66.0	77.6	69.4	69.7	68.9	55.1	55.7
America	28.7	21.5	22.1	24.2	24.7	21.3	22.7
The USA	21.6	12.2	11.1	12.3	9.6	8.5	9.1
SCA	9.1	3.9	3.2	4.5	4.3	5.7	5.8
Asia	13.33	16.2	23.8	28.3	27.9	37.7	37.1
China	0.9	1.0	1.2	2.4	5.8	12.3	13.7
Japan	0.4	6.4	7.9	9.6	6.2	3.6	3.8
Europe	46.9	56.6	48.1	43.4	43.9	36.1	35.3
EU28	41.3	49.3	40.9	39.8	40.3	31.8	31.4
Oceania	3.0	1.8	1.6	1.6	1.5	1.6	1.6
Africa	8.05	3.86	4.50	2.46	2.13	3.34	3.34
SSA	5.35	2.73	2.75	1.54	1.42	2.20	2.21
ECCAS	0.63	0.29	0.29	0.14	0.17	0.36	0.34
SADC	3.70	1.52	1.32	0.91	0.85	1.09	1.07
EAC	0.42	0.23	0.16	0.11	0.10	0.21	0.21
ECOWAS	0.86	0.76	1.00	0.40	0.33	0.61	0.59

Source: Compiled from UNCTAD.

Table 4. World merchandise imports by region ($ billions and %), 1948–2015.

Economy/year	1948	1953	1983	1993	2003	2014	2015
Africa (US$ billions)	5.02	5.91	85.56	94.56	165.51	634.54	555.27
Share in Africa imports (%)							
South Africa	30.94	21.49	18.47	21.14	24.01	16.51	16.27
Egypt	14.25	8.74	12.00	8.69	7.82	10.52	10.90
Algeria	9.61	9.79	12.15	9.29	7.48	9.23	9.27
Nigeria	3.37	5.13	14.32	5.86	6.56	9.46	8.64
Morocco	5.61	8.27	4.20	7.12	8.61	7.22	6.76
Top five economies	63.79	53.41	61.14	52.09	54.49	52.95	51.85
Share in regional imports (%)							
South Africa (% of S. Africa)	100.0	98.25	85.39	80.81	84.90	84.13	83.30
Nigeria (% of West Africa)	31.40	30.02	63.56	35.00	40.99	50.70	47.94
Share of world import (%)							
Africa	8.05	6.93	4.50	2.46	2.13	3.34	3.34
South Africa	2.49	1.49	0.83	0.52	0.51	0.55	0.54
Egypt	1.15	0.61	0.54	0.21	0.17	0.35	0.36
Algeria	0.77	0.68	0.55	0.23	0.16	0.31	0.31
Nigeria	0.27	0.36	0.64	0.14	0.14	0.32	0.29
Morocco	0.45	0.57	0.19	0.18	0.18	0.24	0.23
Top five economies	5.13	3.70	2.75	1.28	1.16	1.77	1.73

Source: Compiled from UNCTAD.

Table 5. Top five African merchandise importers ($ billions, current, and share) in 2015.

such as cocoa, tea, hides and skins, sugar, meat, coffee, and fruits (**Table 12**), which are among the primary export commodities in Africa. Arguably, developed countries' hidden agenda may be to ensure that African nations remain suppliers of industrial raw materials to their matured industries and, in return, import their manufactured or processed products as postulated by the dependency theories**(Table 5)**.

As a consequence, African countries, being peripherals, are still widely exporting mainly primary commodities, such as crude oil and gas, ores and metals, gold, copper, nickel, lead, cocoa beans, coffee, hides, skins and furskins, vegetables and fruits, sesame seeds, cigarettes, and rubber. On the other hand, they are mainly importing manufactured commodities, such as synthetic rubber, electrical machinery, apparatus, textile yarn and related products, motor

vehicles and bicycles, machinery and transport equipment, medicines, fuels, wheat, paste of tomatoes, chocolate, refined sugar, tractors, and other modern technologies (**Tables 6** and **7**). Arguably, exporting primary commodities means that African countries have been exporting their jobs and wealth to other continents, while importing manufactured products means importing poverty and misery to the continent.

Table 6 shows the list of top seven exported and imported products (at two-digit level) as a share of total exports and imports in Africa between 2001 and 2015. Data from UNCTAD [18] and ITC [19] trade map show that mineral fuels, mineral oils, and products are by far

Code	Product label	2001	2005	2009	2012	2014	2015
Export—share (%)							
Code	All products	100	100	100	100	100	100
27	Mineral fuels, mineral oils	43.5	41.4	50.6	58.9	52.7	44.1
71	Natural/cultured pearls*	9.2	9.2	6.1	7.7	7.4	8.1
26	Ores, slag, and ash	1.9	2.4	3.4	3.1	3.8	3.5
85	Elect. Machinery/equipment and parts	2.0	2.4	2.3	1.7	2.4	3.2
87	Vehicles other than railway/tramway	2.1	2.9	2.1	1.7	2.3	3.1
74	Copper and articles thereof	0.8	1.1	1.6	1.8	2.3	2.8
18	Cocoa and cocoa preparations	1.6	1.8	2.2	1.5	1.7	2.6
Total of top seven exported product groups		61.1	61.2	68.3	76.4	72.6	64.8
Import—share (%)							
Code	All products	100	100	100	100	100	100
27	Mineral fuels, mineral oils	11.6	13.5	12.6	16.6	16.4	14.0
84	Machinery, mechanical appliances	12.5	12.3	13.6	11.3	11.6	11.1
85	Elect. Machinery/equipment and parts	8.0	8.3	8.9	7.2	7.8	8.8
87	Vehicles other than railway/tramway	6.6	8.7	9.3	9.3	8.3	7.6
10	Cereals	4.9	3.9	4.0	4.4	4.1	3.9
39	Plastics and articles thereof	3.2	3.0	3.3	3.2	3.6	3.8
30	Pharmaceutical products	2.4	2.4	2.4	2.3	2.5	2.9
Total of top seven imported product groups		49.2	52.1	54.1	54.3	54.1	52.1

Source: Compiled from ITC. Note: *71 Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin.

Table 6. Africa trade: top seven product groups (at two-digit level) in 2015.

the topmost export products in Africa, and the continent is the net exporter of fuels based on Standard International Trade Classification (SITC 3) as also revealed in **Table 7**. However, when divided according to the SITC 4, Africa is the net importer of some manufactured fuel products, such as petroleum gas and other gaseous hydrocarbons (code 2711). Also, Africa is the net exporter of aggregate cocoa products but the net importer of chocolate and other food preparations containing cocoa (code 1806). Similarly, the continent is the net importer of raw hides, skins, and furskins and a net importer of leather further prepared after tanning or crusting (code 4107).

Indicator/year	1995	2000	2005	2009	2010	2012
Total of all products	−0.06	0.08	0.08	−0.02	0.04	0.02
Primary commodities (SITC 0 to 4 + 68)	0.36	0.47	0.53	0.44	0.47	0.41
All food items (SITC 0 + 1 + 22 + 4)	−0.07	−0.10	−0.16	−0.15	−0.16	−0.30
Agric raw materials (SITC 2 < 22, 27+ 28)	0.29	0.34	0.31	0.18	0.32	0.21
Ores and metals (SITC 27 + 28 + 68)	0.58	0.58	0.52	0.59	0.62	0.53
Fuels (SITC 3)	0.60	0.68	0.72	0.62	0.63	0.61
Manufactured goods (SITC 5–8 < 667, 68)	−0.49	−0.45	−0.51	−0.58	−0.56	−0.61
Machinery and transport equipment (SITC 7)	−0.70	−0.67	−0.68	−0.71	−0.69	−0.71
Iron and steel (SITC 67)	−0.20	−0.04	−0.21	−0.53	−0.34	−0.50
Manufactured goods by degree of manuf.	−0.49	−0.45	−0.51	−0.58	−0.56	−0.61
Labor- and resource-intensive manufactures	−0.12	−0.11	−0.21	−0.30	−0.33	−0.43
Low-skill and tech-intensive manufactures	−0.40	−0.30	−0.42	−0.57	−0.48	−0.58
Cereals and cereal preparations	−0.85	−0.86	−0.83	−0.80	−0.82	−0.87
Vegetables and fruits	0.43	0.42	0.45	0.39	0.40	0.32
Sugar, sugar preparations, and honey	−0.23	−0.16	−0.21	−0.36	−0.40	−0.51
Coffee, tea, cocoa, spices, and manuf.	0.69	0.61	0.59	0.69	0.70	0.56
Chocolate, food preparations with cocoa	−0.21	−0.24	0.02	−0.07	−0.03	−0.38
Tea and mate	0.16	0.19	0.25	0.22	0.27	0.18
Hides, skins and furskins, raw	0.58	0.61	0.65	0.67	0.63	0.64

Indicator/year	1995	2000	2005	2009	2010	2012
Crude rubber	0.30	0.12	0.17	0.28	0.43	0.35
Synthetic rubber	−0.59	−0.54	−0.47	−0.56	−0.49	−0.56
Crude vegetable materials, n.e.s.	0.49	0.38	0.43	0.47	0.72	0.28
Medicinal and pharma products	−0.86	−0.83	−0.86	−0.85	−0.86	−0.88
Cotton	0.67	0.77	0.73	0.74	0.68	0.83
Textile yarn and related products	−0.56	−0.63	−0.71	−0.67	−0.67	−0.71
Iron and steel	−0.20	−0.04	−0.21	−0.53	−0.34	−0.50
Copper	0.51	0.41	0.16	0.41	0.53	0.47
Nickel	0.40	0.31	0.48	0.17	0.66	0.69
Agricultural machinery and parts	−0.79	−0.80	−0.81	−0.85	−0.85	−0.85
Electrical machinery, apparatus	−0.60	−0.43	−0.42	−0.51	−0.51	−0.52
Road vehicles	−0.60	−0.59	−0.62	−0.67	−0.67	−0.70
Motorcycles and cycles	−0.88	−0.87	−0.89	−0.88	−0.91	−0.92
Arms and ammunition	−0.72	−0.68	−0.18	−0.48	−0.71	−0.66

Source: Compiled from UNCTAD.

Table 7. Merchandise trade specialization index in Africa, 1995–2012.

Africa has experienced negative trade balance in recent years (**Table 2**). For instance, in 2015, only ten African countries (Angola, Nigeria, Equatorial Guinea, Côte d'Ivoire, Guineas Bissau, Gabon, Swaziland, DR Congo, Congo, and Chad) were recorded as net exporters, albeit with minimal amount. The total net merchandise exports for the ten African countries were $20.1 billion [18]. This partly explains why Africa has been a net importer of merchandise products. It is worth mentioning that Nigeria, Angola, and Equatorial Guinea have recorded a positive trade balance mainly because fuels accounts for over 90% of the total exports. This means that outside oil, they may also record as net importers in the regions. In Africa, apart from a few primary commodities and tropical products, all other products are in net import status, and this situation is likely to continue over the next decade unless industrialization and intra-regional trade in the continent are intensified.

The merchandise trade specialization index (TSI) according to specific products in Africa (**Table 7**) shows the sluggish performance of the continent and country in the global market. The positive values signify that Africa has been a net exporter of these products. African countries are net exporters of tropical agricultural commodities and some other raw materials, such as fuels (**Table 7**), which need to be given serious attention, as it suggests that the continent may have had a comparative advantage in those products. Therefore, there is a need

for the specialization in the production and exportation of those products as postulated by Ricardo's comparative advantage [2] and the Heckscher-Ohlin model [3, 4] for growth and development to be ensured. Also, negative values suggest that Africa imports more than its exports (net consumption); it should either step up production or continue to import if they cannot cheaply produce in large quantities at home.

Sadly, even though agriculture is the mainstay of Africa's economy, the continent has performed badly in the world markets. The continent recorded negative trade balance not only in labor- and resource-intensive manufactured but also in low-skill and tech-intensive manufactured (**Table 7**). It is worth reiterating that Africa needs to increase production and the level of industrialization to process or manufacture most of the products it consumes. The continent has abundant factor endowments as postulated by the Heckscher-Ohlin model [3, 4] that need to be typed for industrial and commercial purposes.

3. Trade similarity and complementary

Trade similarity index, as developed by modern trade theories [6, 8, 20], is an indicator that helps to verify whether the structures of two economies or continents' products traded are similar or dispersed. The index ranges from 0 to 1. A value closer to 1 indicates the higher similarity or identical products trade structure between economies or continents, also known as overlap of trade. Trade similarity index in developing countries has increased over time, from 0.72 in 1995 to 0.81 in 2013, reaching the same levels with advanced economies. Implying that trade between developing countries has been intensified with identical products. Even though Africa has performed above Oceanic, as its index improved from 0.41 in 1995 to 0.47 in 2013, it was still below developing countries, South America and South Asia's averages. This implies that the continent's export structure has not proportionally matched with that of its imports from its partners as proposed by intra-industry or Linder's similarity [6] trade theories. Also, Middle, Western, and Eastern African regions poorly performed in the trade compositions during the period under scrutiny (**Table 8**). The structure of African trade shows that the continent mostly imports finished products and exports raw materials (**Table 7**), which are heterogeneous in compositions. As a consequence, its trade structure has not been at par with advanced and newly industrialized economies.

Trade complementarity index (TCI) is an overlap index, which provides significant information on intra-regional trade [21, 22]. It reveals the structures of nations' or continents' exports or imports complement the imports or exports of its trading partners. The values range from 0 to 1. A value closer to 1 may indicate ideal trading partners as they stand to benefit from increased trade, while a value closer to 0 suggests that no nation or continent traded merchandise products. In other words, a high index might signify that two nations stand to benefit from increased mutual trade. The index is likely to be significant in assessing prospective bilateral or regional trade agreements (RTAs). The TCI in developing countries has increased over time at the expense of developed economies. Even though Africa has improved, it is still below Eastern Asia, South America, and developing countries' averages. This implies that the

continent's export structure has not proportionally matched that of its importing partners. Middle Africa recorded with the lowest index, followed by the Western and Eastern African regions, reflecting a poor match between the relative composition of trade for the period in 1995 and 2013 (**Table 8**).

Indicator/year	Trade complementarity					Trade similarity index				
	1995	2000	2010	2012	2013	1995	2000	2010	2012	2013
Developing economies	0.72	0.74	0.79	0.80	0.80	0.72	0.74	0.79	0.80	0.81
Developed economies	0.87	0.86	0.81	0.81	0.81	0.88	0.87	0.82	0.81	0.81
Africa	0.42	0.39	0.44	0.46	0.46	0.41	0.38	0.44	0.46	0.47
Eastern Africa	0.28	0.28	0.31	0.34	0.34	0.28	0.28	0.31	0.34	0.34
Middle Africa	0.15	0.15	0.18	0.19	0.19	0.16	0.16	0.19	0.19	0.19
Northern Africa	0.29	0.28	0.35	0.37	0.38	0.29	0.28	0.35	0.38	0.39
Southern Africa	0.49	0.45	0.43	0.41	0.42	0.48	0.45	0.44	0.41	0.42
Western Africa	0.21	0.21	0.26	0.29	0.30	0.20	0.22	0.27	0.29	0.31
SSA	0.42	0.39	0.41	0.42	0.42	0.41	0.39	0.41	0.43	0.43
South America	0.50	0.49	0.49	0.51	0.50	0.49	0.49	0.49	0.51	0.50
Eastern Asia	0.60	0.62	0.61	0.60	0.60	0.62	0.62	0.60	0.60	0.60
EU28	0.83	0.82	0.77	0.77	0.78	0.84	0.83	0.78	0.77	0.78

Source: Compiled from UNCTAD.

Table 8. Trade complementarity and similarity indices, 1995-2013.

4. Product concentration and diversification

The Herfindahl-Hirschman index (HHI) also known as the Herfindahl index measures concentration or anticompetitive behavior of countries [23]. The product concentration index indicates how exports and imports of a country or continent (or regional groups) concentrate on a few products or otherwise distributed in a more homogeneous manner among a broad range of products. In other words, the index measures the dispersion of export's or import's values across exporter's or importer's products. The index value ranges from 0 to 1. A value closer to 1 indicates that an economy concentrated in few goods and/or sectors for trade, thus its vulnerability to trade shocks, whereas a nation or continent with a completely diversified portfolio will have an index close to 0. Globally, nations or firms spread their risks by diversifying in many baskets of markets or products as much as possible. Product and market diversification is promoted to avoid countries or companies from being vulnerable to the market shocks, usually occasioned by price, demand, and market access directions. The diversification index

signifies whether the structure of exports or imports by-product of a given nation or continent varies from the global pattern. The index value ranges from 0 to 1. A value closer to 1 indicates lower diversification and vice versa.

Table 9 presents export merchandise product diversification index (EPDI), export product concentration index (EPCI), and the total number of products (N. p) that have been exported by individual economies. Both EPDI and EPCI show that Africa has concentrated only in

Year	1995			2010			2015		
Economy/ indicator	No. p	EPCI	EPDI	No. p	EPCI	EPDI	No. p	EPCI	EPDI
World	261	0.05	0.00	260	0.08	0.00	260	0.06	0.00
Developing countries	261	0.09	0.28	260	0.12	0.21	260	0.09	0.19
Developed countries	260	0.05	0.12	260	0.07	0.18	260	0.07	0.18
EU28	260	0.05	0.16	260	0.07	0.22	259	0.07	0.21
America	260	0.06	0.19	260	0.07	0.18	258	0.08	0.19
Asia	261	0.08	0.23	260	0.10	0.20	260	0.09	0.20
Europe	260	0.05	0.14	260	0.07	0.18	259	0.06	0.18
Oceania	258	0.10	0.53	255	0.22	0.62	254	0.18	0.64
Africa	259	0.25	0.59	260	0.41	0.56	259	0.27	0.54
SSA	259	0.21	0.59	260	0.42	0.58	259	0.30	0.58
ACP	261	0.18	0.58	260	0.38	0.56	260	0.27	0.57
EAC	220	0.27	0.74	249	0.14	0.67	247	0.13	0.65
ECCAS	188	0.59	0.84	229	0.81	0.81	228	0.73	0.83
ECOWAS	238	0.47	0.80	248	0.60	0.74	253	0.46	0.74
SADC	259	0.12	0.51	260	0.26	0.54	257	0.20	0.54
Côte d'Ivoire	151	0.34	0.82	164	0.37	0.73	186	0.42	0.75
Ghana	129	0.36	0.83	202	0.51	0.80	214	0.44	0.81
Nigeria	168	0.85	0.89	201	0.79	0.81	231	0.72	0.83
Angola	31	0.90	0.86	89	0.97	0.84	72	0.93	0.89
Cameroon	109	0.32	0.82	168	0.37	0.75	174	0.38	0.79
Botswana	132	0.71	0.88	193	0.57	0.84	159	0.80	0.91
South Africa	255	0.11	0.51	256	0.14	0.54	251	0.12	0.50

Source: Compiled from UNCTAD. Note: No. p, number of products; EPCI, export product, concentration index; EPDI, export product diversification index.

Table 9. Product concentration and diversification indices by economy, 1995–2015.

few product groups for exports. Even though the share of the seven products in the total export products declined from 76% to about 65% in 2015, it is still huge. In the same fashion, although the proportion of mineral fuels (code 27) in the total African merchandise exports declined from 57% in 2010 to 42% in 2015 (**Table 3**), it has revealed that the continent's export has not been diversified. Also, pearls, precious stones (code 71), and ores, slag and ash (code 26), accounted for 8.1% and 3.5% of total exports respectively in 2015 in the continent.

The situation is even worrisome in some leading exporting countries in the continent. For instance, evidence from the ITC [19] shows that in 2015, Algeria's oil export accounted for 95% of total exports of the country. The value oil export in Algeria declined by −43%, sugars and sugar confectionery (−35%) and raw hides and skins (−39%), in 2015. Angola's oil export accounted 97% of total exports of the country, while pearls, precious stones, metals, and coins (code 71) accounted for 2% of the total exports in 2015. The value oil export in the country declined by −44% in 2015. Nigeria's oil exports accounted 94.5% of total exports of the country, and the value of the products exported dropped by −44% in 2015. Libya's oil exports accounted 94.3% of total exports of the country, and the value of the goods shipped was decreased by −50% in 2015. Zambia's copper exports (code 74) accounted for 74% of total exports in 2015; it dropped by −29% in the same year. Equatorial Guinea's oil export declined by −48%; mineral fuels accounted for 93% of total exports in 2015. Congo's oil exports decreased by −47%; mineral fuels accounted for 73.5% of total exports in 2015. Copper accounted 15% of total exports, but fell by −13% in 2015. Côte d'Ivoire's cocoa accounted for 43% and oil 17% of total exports in 2015. Ghana's pearls, precious stones, and metals (code 71), cocoa (code 18), and oil accounted for 34.4%, 26%, and 18%, respectively, of total exports in 2015. Also, Ghanaian oil exports declined by −50% in the same year under study. This shows that the continent is vulnerable to the global shocks of these few export products. The global oil crunch and other raw products are a wake-up call for a rapid industrialization and diversification for a sustainable export competitiveness, and export-led growth hypothesis to be achieved in Africa.

5. Intra- and extra-African trade

Intra-industry trade (IIT) is in sharp contrast with the traditional trade theory, which is based on constant returns to scale and perfect competition. The IIT model stressed that international trade takes place as a result of economies of scale, product differentiation, and imperfect competition between and within industries and countries. It emphasizes on the levels of overlap of imports and imports, also known as two-way trade in homogeneous products. The first far-reaching study of the extent of IIT was carried out by Grubel and Lloyd [8]. They developed an index called the Grubel-Lloyd index (GL index) to measure the degree of the structure of trade overlap in countries. The GL index ranges from 0 to 1, where the value closer to 1 indicates intra-industry trade, implying that the nation or region exports the homogeneous quantity of products as much it imports. Conversely, the GL index that is closer to 0 denotes zero IIT, only interindustry trade (or extra- trade), suggesting that the country or region, either substantially exports or imports certain products more than it imports or exports.

Also, studies by Grubel and Lloyd [8] confirm high ratios in the industrialized economies. In the same direction, the results of this study also show that IIT exists more in developed countries than in developing countries. Similarly, the findings show that Oceanic, SSA and Africa as a whole have been far from witnessing IIT. As compared to other continents, such as Europe and Asia, intra-African trade in overall total trade and food export have been below expectations as Africa lags behind. Even though Africa's trade with the world has improved, trade within African remains low. Even though the intra-African exports in total merchandise exports in the continent rose to 17.7% in 2015 from 12.4% in 1995, it was still low compared with 58% in developing nations, 60% in Asia, 61.6% in the EU (28), and 51% in America (**Table 10**). Despite the fact that intra-African imports in total merchandise imports in Africa rose from 11.3% in 1995 to 13.6% in 2015, it was still low compared to 59% in developing economies and about 63% in Asia (**Table 10**). On the regional levels in Africa, EAC and SADC performed more than African average. Intra-industry trade in SADC increased from 15% in 1995 to 21% in 2015, while EAC rose from 17% in 1995 to 19% in 2015, albeit below the developing countries average. Also, EAC and SADC performed better than the African average in intra-regional imports during the same time under review. On the other hand, ECCAS has the worst results in both intra-regional imports and exports in the region. Intra-regional trade in ECOWAS relatively remained the same and less than EAC and SADC. This is substantially because Nigeria, Cote d'Ivoire, and Ghana, which have been the leading traders in the region, mostly export primary commodities (mainly crude oil, cocoa, and gold) to other continents and also import manufactured goods from other regions outside Africa.

Even though agriculture has substantially contributed to the GDP and export value in African countries, the continents share in the global markets, and the annual growth rates have diminished and stagnated over the years [12]. For instance, as shown in **Table 11**, global agricultural exports by region showed Europe (40.8%) with the highest share in the world, followed by Asia (22.4%) and North America (15.7%) and South and Central America (12%), while Africa, which has heavily depended on agriculture for food, economic growth, and development, merely accounted for 3.6% of total global food exports in 2014 [24].

As seen in the previous subchapters, global trade has risen over the decades, and developing countries' share on the total merchandise trade has also increased. Nevertheless, trade in agriculture products has grown more in developed countries than African nations that are regarded as agrarian nations. Also, the developing countries' share in agricultural exports to other developing countries has also increased, albeit not as manufactured products. However, their share of agricultural exports to developed countries has stagnated. Arguably, advanced economies' trade restrictions especially on processed agricultural products (**Table 12**) have stifled trade in Africa [11, 12, 16, 24].

From the foregoing, African countries are still lagging behind from attaining IIT, similarity, or complementarity trade proponents as compared to developed countries. The low level of industrialization in Africa may have partially constrained the scope for intra-industry

Economy/year	1995			2010			2015		
	Intra-g	ROR	ROW	Intra-g	ROR	ROW	Intra-g	ROR	ROW
Export									
World	100.0	–	0.0	100.0	–	0.0	100.0	–	0.0
Developing countries	42.0	–	58.0	54.8	–	45.2	58.0	–	42.0
Developed countries	74.4	–	25.6	68.6	–	31.4	67.3	–	32.7
America	53.2	–	46.8	55.3	–	44.7	55.9	–	44.1
Asia	52.9	–	47.1	59.7	–	40.3	60.1	–	39.9
EU28	67.8	8.4	32.2	64.8	10.4	35.2	61.6	10.1	38.4
Oceania	12.9	–	87.1	8.6	–	91.4	8.0	–	92.0
Africa	12.4	–	87.6	13.8	–	86.2	17.7	–	82.3
SSA	14.9	4.3	85.1	17.2	2.9	82.8	20.2	2.7	79.8
EAC	17.2	40.7	82.8	18.6	49.9	81.4	18.8	50.3	81.2
ECCAS	1.3	66.9	98.7	1.7	71.7	98.3	1.8	73.3	98.2
ECOWAS	10.4	20.3	89.6	8.1	49.5	91.9	10.8	40.7	89.2
SADC	15.0	14.8	85.0	18.2	14.5	81.8	20.9	13.9	79.1
Import									
Developing countries	37.9	–	62.1	57.2	–	42.8	59.1	–	40.9
Developed countries	73.8	–	26.2	60.4	–	39.6	60.2	–	39.8
Asia	54.1	–	45.9	63.5	–	36.5	62.6	–	37.4
Africa	11.3	–	88.7	14.8	–	85.2	13.6	–	86.4
SSA	14.7	3.8	85.3	19.4	5.4	80.6	17.3	6.4	82.7

Source: Compiled from UNCTAD. Note: ROR (rest of the region); ROW (rest of the world).

Table 10. Intra-trade and extra-trade in economies, 1995–2015.

trade in the continent. Intra-African trade has tremendous potential to create jobs, boost investment, and stimulate growth and development in Africa. African countries have made several efforts to exploit its trade potentials for growth and development since gaining political independence in the 1950s and 1960s. To boost intra-regional trade, African regional bodies such as the ECOWAS, EAC, and SADC have launched Customs Unions to abolish duties and taxes of equivalent effect and remove nontariff measures that constraint

Indicator	Value	Share in region's exports		Share in world exports		Annual percentage change		
	2014	2010	2014	2010	2014	2010–2014	2013	2014
World	1,765.4	100.0	100.0	100.0	100.0	6.6	5.2	1.6
Europe								
World	719.5	100.0	100.0	41.8	40.8	6.0	8.1	1.4
Europe	546.1	78.7	75.9	32.9	30.9	5.0	7.7	1.4
Asia	54.7	6.2	7.6	2.6	3.1	11.3	9.9	4.1
North America	31.4	4.0	4.4	1.7	1.8	8.1	7.1	6.2
Africa	30.4	3.6	4.2	1.5	1.7	10.1	10.4	6.5
Asia								
World	395.7	100.0	100.0	21.4	22.4	7.9	2.0	2.1
Asia	232.0	59.0	58.6	12.6	13.1	7.7	0.9	1.4
Europe	49.6	13.8	12.5	3.0	2.8	5.3	2.4	1.9
North America	46.0	11.5	11.6	2.5	2.6	8.1	-3.9	8.8
Africa	24.7	5.3	6.2	1.1	1.4	12.3	3.8	5.5
Africa								
World	63.6	100.0	100.0	3.8	3.6	5.3	6.7	2.8
Europe	22.0	39.5	34.5	1.5	1.2	1.9	7.0	0.1
Africa	17.1	24.9	26.9	0.9	1.0	7.4	9.8	0.1
Asia	14.2	16.7	22.2	0.6	0.8	13.1	4.9	17.5
North America	2.8	4.7	4.4	0.2	0.2	3.6	-8.1	6.1

Source: Compiled from WTO.

Table 11. Exports of agrarian products (US$ billion and %) of regions by destination, 2014.

trade within the continent. Also, in 2012, the African Union (AU) held a summit aimed at boosting intra-African trade and speeding up the establishment of a free-trade area in the continent.

Despite advances in the regional integration, barriers to intra-African trade remain a challenge in the continent. The continent has committed to intra-regional free trade, nevertheless there have been a widespread smuggling of products between countries. This is partly due to inconsistency in trade policies and administrative bottlenecks in countries. Sadly, African trade among African countries or extra-Africa has been dominated with primary product because value addition or industrial development has been below the global average (**Table 7**).

Indicator		The USA		Japan		The EU	
Product	level	2010	2014	2007	2014	2010	2016
Cocoa							
	Beans	0	0	0	0	0	0
	Powder	10	0.1	29.8	29.8	8.0	8.0
	Chocolate	10	5.6	21.3	29.8	43	38.0
Sesame	Raw seed	0	0	0	0	0	0
	Sesame oil	0.3	0.2	3.1	1.9	7.4	6.4
Coffee							
	Husks and skins	0	0	0	0	0	0
	Roasted	0	0	12	12	7.5	9.5
	Substitutes	0.3	0.3	12	12	11.5	11.5
Cotton	Lint	0	0	0	0	0	0
	Yarn	5.9	5.9	5.6	5.6	4.0	4.0
Oranges	Fresh	1.8	1.5	24	24	12	16.7
	Juice	22.5	13.2	25.5	25.5	33.4	31.7

Source: Compiled from ITC market access map.

Table 12. Africa: tax escalation (average applied MFN tariffs) in main importing partners.

6. Constraints to trade

6.1. Market access

Is the doctrine of mercantilism dead or still alive? Mercantilism model seems to have gone; however, trade in manufactured products, especially processed agriculture, is still protected which was seen as the key features of mercantilism. For instance, export subsidies, quotas, tariffs, and other forms of trade distortions by various governments worldwide, especially the advanced economies, may have profoundly hurt LDCs, which exports primary and semi-processed agricultural products mostly. Arguably, the doctrine of encouraging local production for exports and discouraging imports as postulated by mercantilism is still alive in agriculture [16] and other commodities that African countries have an advantage for exports, albeit in different forms.

The constraints to trade in Africa are multidimensional, both internal and external dimensions. The external constraints, such as the market access, volatility of commodity prices, domestic support and export subsidies, quality standards, and competitiveness, have been identified among the major factors that are militating trade and development in Africa. Thus, some of these factors are briefly highlighted below.

Tariff and nontariff measures (NTMs) and technical and nontechnical measures[1] are among the key trade restrictions and constraints to trade in agricultural commodities. African countries increase tariffs to raise revenues and to protect infant industries, whereas developed countries increase the tax to curtail trade so as to protect domestic producers that are vulnerable to global competition. *Tax escalation* means higher tariffs on processed commodities than on raw materials [19]. This type of trade restriction in developed economies in processed or manufactured products from Africa other LDCs is incredibly outrageous, making it almost impossible for exporters to develop and benefit substantially from trade. Arguably, advanced economies' hidden agenda might be to ensure that developing countries, especially Africa, remain suppliers of primary products to their well-established manufacturing industries and, in return, import manufactured or processed commodities as postulated by the dependency theories.

This progress in tariff reduction can be largely attributed to the WTO persistent efforts in reducing trade barriers for mutual benefits, growth, and development in the countries involved. Even though countries' taxes have been cut, especially since the beginning of the current Doha Round in November 2001, it persists in many commodity chains, especially in processed products. This to some extent impedes exports in Africa. Sadly, the intra-African trade has also substantially faced with market access issues including tariffs. Regrettably, African countries have been complaining about market access in developed countries but have not significantly traded among themselves. This is partly occasioned by trade barriers that exist within the continent and lack of region.

Sanitary and phytosanitary (SPS) are another form of technical trade obstacles that have impeded trade in LDCs. The quality of products is identified as among the key constraints faced by African exporters when exporting to OECD markets, notably, the EU, Japan, and the USA. Implementing SPS measures, more than trade costs, presents a specific challenge to the African producers and exporters. For instance, owing to Nigeria's inability to adhere to international food and feed safety and standards, in June 2015, the EU banned some food exports from the country for a year period. African products are prohibited partly because of producers and exporters in the continent's poor awareness and understanding of the applicable global standards and best practices. High level of chemicals, insufficient information on nutritional content, inadequate labeling, and high levels of pesticide are the main reasons; some African products are frequently banned in the global markets. Many countries from Africa seem to lack expertise and equipment at the standard setting and the enforcement stage, including the border. The continent also lacks clearly defined mandates, insufficient testing capacity, and catapulting in uncoordinated and overlapping technical regulations and other activities, which lead to confusion, delays, and duplicating costs. Consequently, African

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[1]Technical measures: sanitary and phytosanitary measures, technical barriers to trade (testing, certification, labeling, origin marking and packaging requirements, marketing standards, health and safety regulations), pre-shipment inspection, and other formalities. Nontechnical measures: contingent trade-protective measures, nonautomatic licensing, quotas, prohibitions, and quantity-control measures other than for SPS or TBT reasons; price-control measures, including additional taxes and charges; finance measures; measures affecting competition; trade-related investment measures; distribution restrictions; restrictions on post-sale services; subsidies (excluding export subsidies under p7); government procurement restrictions; intellectual property; and rules of origin. Exports: export-related measures [17].

processors and exporters are being marginalized and excluded from taking competitive advantage in the global markets, thus partly impeding production, trade, and development in the continent. According to Moïsé and Le Bris [25], even though attaining the standard requirements leads to additional production and trade costs, it might also facilitate trade as it stimulates demand for commodities as consumers get information on how to use and quality of the products being traded.

Industrialization and trade policy bottlenecks: As shown in the previous subchapters, African exports are dominated by raw or intermediate products. Although African trade policies address a broad range of regulatory barriers, for instance, by prohibiting export licensing regimes, establishing a duty-free status for certain products, and promoting harmonization and mutual recognition of standards in the continent, these policies are poorly implemented in reality. Africa has been negotiating bilateral and multilateral trade agreements that require reciprocity, but it has to preserve flexibility. This is crucial to guarantee that its priority to industrialization efforts is not undermined. Also, this process requires strategic trade policies that do not discourage or limit South-South or North-South trade dynamics [26], which has been a big challenge in the continent. An essential factor for trade policy to advance industrialization is the inevitable balancing between promotion of relatively well-developed sectors and simultaneous protection and support infant or fragile sectors in economies in Africa. Undoubtedly, this is a tedious task but a feasible one as has been successfully carried out by most advanced and newly industrialized countries.

Domestic support and export subsidies: Because producers and exporters (farmers) in the advanced economies have been heavily protected and backed up by their states, they enjoy modern technology, increasing economies of scale, and value chains that have been the case in African countries [11, 26]. Since those countries' output and exports surpass African countries (see **Tables 1** and **11**), the large-scale import suggests having hampered domestic producers and exporters in the continent as they cannot favorably compete with external competitors regarding price, quality, and quantity. Also, the West (i.e., the USA and EU) spends a substantial amount of money to support producers or farmers, without which most of them would not still be in the agricultural markets. For instance, Common Agricultural Policy (CAP)[2] of the EU has taken the highest share of the Union's annual budget. In 2014, about €58 billion or 40% of the EU's total budget were for CAPs. The amount was more than 70% in some decades ago [12]. On the other hand, producers and traders in many African countries find it difficult to have access to finance for production and exports as governments and the financial institutions' provision of affordable loans and support has remained a major challenge on the continent.

Commodity price fluctuations in the world markets: Price volatility characterizes most agricultural commodity markets. The consistent price fluctuations of primary products in the

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[2]Common Agricultural Policy (CAP) is the EU's comprehensive system of agricultural subsidies, schemes, and marketing measures designed to manage agricultural production and trade within the EU member countries and across the globe. The policy provides an affordable and a wide range of food for the EU citizens and as well as fair standard of living for farmers in the countryside. The CAP stresses that farming is not just about food; it is also about rural communities or countryside and its precious natural resources. Consequently, the CAP also provides funds for rural development in the EU member states.

global markets might have had adverse effects on export and earnings in Africa. Since world prices of African primary commodities are notoriously volatile, it creates bottlenecks for producers and exporters needing to take proactive investment decisions and for resource-constrained consumers. Arguably, the extreme world price volatility leads to insecurity for all the exporters involved. Also, Africa continues to export a broad range of primary products that are highly vulnerable to shocks in demand in the global commodity markets, which lead to disincentives to production and trade when the prices sharply shrink. The inability of African countries to favorably compete in the world markets has been partially reflected in their negative trade balance and decline in the proportion of global merchandise trade.

Poor infrastructure and productive capacity constraints: African producers and exporters have faced with critical infrastructure and capacity constraints from the production to trade. The ability of African countries to integrate efficiently into the world market to a great extent depends on the quality of both hard and soft infrastructure, ranging from transportation, customs practices and procedures, and financial services to border processes and regulatory environments [27]. The ability of Africa to aggressively expand export is partially associated with its capacity to produce or manufacture and export. To determine the levels of countries' infrastructure development, the World Bank [28] develops Logistics Performance Index (LPI). It uses the LPI to carry out a survey in partnership with academic, global institutions, private companies, and individuals that engaged in international logistics. It evaluates eight markets on six core dimensions of trade (i.e., infrastructure quality, custom performance, logistics competence, tracking and tracing, and timeliness of shipments) on a scale from 1 (worst) to 5 (best). Also, the markets are chosen based on the most applicable export and import markets of the respondent's nation. The LPI results (quality of trade and transport infrastructure) in some selected countries for the period between 2007 and 2016 are presented in **Table 13**. The result shows that apart from South Africa, African countries have been consistently scored below the global average in global overall in quality of trade and transport infrastructure. Despite this development, challenges remain prevalent in logistics infrastructure. Weak infrastructure partly delays production and trade in African countries. Similarly, global competitiveness ranking for 2015–2016 shows infrastructure as among the most problematic factors for doing business in Africa [29]. The development of infrastructure and productive capacities is essential for improving economies of scale, competitiveness, and intra-African trade [26].

Trade costs have become a focal point of discussion in the WTO and academic circles in recent years, partly due to the increased visibility in reducing traditional trade restrictions [25]. Arguably, "high trade costs effectively nullify comparative advantage by rendering exports uncompetitive. High trade costs deny firms access to technology and intermediate inputs, preventing their entry into, or movement up, global value chains. High trade costs also erode consumer welfare narrowing the range of good and services on offer and pushing up prices. While trade costs do not alone explain the development pathways of economies"; they play a vital role in explaining why some African countries and LDCs are unable to grow and diversify as expected [27]. Intranational trade costs are approximately four to five times higher in some SSA countries than in developed countries [30].

Country	2007	2010	2014	2016	Country	2007	2010	2014	2016
Algeria	1.86	2.06	2.54	2.58	Malaysia	3.33	3.5	3.56	3.45
Cote d'Ivoire	2.22	2.37	2.41	2.46	North America	4.01	4.09	4.12	4.14
Colombia	2.28	2.59	2.44	2.43	Niger	1.40	2.28	2.08	2.22
Czech Republic	3.00	3.25	3.29	3.36	Nigeria	2.23	2.43	2.56	2.40
Germany	4.19	4.34	4.32	4.44	OECD	3.55	3.61	3.69	3.70
Ethiopia	1.88	1.77	2.17	2.12	South Africa	3.42	3.42	3.20	3.78
EU	3.34	3.34	3.5	3.56	SSA	2.11	2.05	2.27	2.30
Ghana	2.25	2.52	2.67	2.48	World	2.58	2.64	2.77	2.75

Source: Compiled from the World Bank.

Table 13. Logistics performance index (LPI): quality of trade and transport infrastructure (1 = low to 5 = high), 2007–2016.

Also, average time takes exporters 20 days to export goods, while import takes an average of over 30 days in African countries and other LDCs across the globe [27]. This delay partly leads to high costs of trade, which hinders small-scale exporters to trade across national borders. Trade costs as well as bureaucratic or procedural bottlenecks at home and the border, coupled with high transportation costs, appear among the factors that are constraining trade SSA countries. High trade costs that are related to border procedure compliance, transportation, are likely to have a greater share of the impact on the price of most products, especially raw commodities which form a large proportion of African exports.

Finally, recommendations for necessary measures to stimulate production and trade in Africa in the present era of free trade and negotiations at the WTO and other regional bodies are summarized here as follows: African countries should create a friendly environment and provide/guarantee affordable/soft loans to producers and traders to support their services and productive initiatives. They should also set standards to make sure that quality control met international standards and best practices and provides sound legal and regulatory frameworks for production and trade. African countries should as a matter of urgency provide transport and other critical infrastructure facilities to ease movement of inputs to the sites and output to the markets for global competitive supply chains to be ensured. In the spirit of global partnership for development, world organizations and emerging and advanced economies should continue to provide technical know-how and facilitate trade in Africa. Globally, WTO seems to be at the crossroad at the moment in ensuring that all the agreements are implemented for mutual trade benefits. The WTO has to ensure that defensive trade remedies, such as SPS, should not be the next frontier of protectionism as these measure to some extent curtail trade from Africa and other LDCs. Finally, African countries complain about market access in advanced and newly industrialized nations without fully opening their markets to trade within the region. To stimulate production and trade for growth and development within the continent, markets should be urgently opened to expand intra-African trade.

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