USDA Economic Research Service
U.S. DEPARTMENT OF AGRICULTURE

Economic Research Service

Economic Information Bulletin Number 244

November 2022

Africa's Agricultural Trade: Recent Trends Leading up to the African Continental Free Trade Area

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AFRICA Trade & INVESTMENT

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Recommended citation format for this publication:

Johnson, Michael E., Jarrad Farris, Stephen Morgan, Jeffrey R. Bloem, Kayode Ajewole, Jayson Beckman. November 2022. *Africa's Agricultural Trade: Recent Trends Leading up to the African Continental Free Trade Area,* EIB-244, U.S. Department of Agriculture, Economic Research Service.

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Abstract

The African Continental Free Trade Area (AfCFTA) has the potential to be among the largest free trade areas in the world once fully implemented; trade under the AfCFTA began on January 1, 2021. It could potentially connect 1.3 billion people across 55 countries with a combined gross domestic product (GDP) valued at $3.4 trillion, according to the World Bank. The free trade area could particularly influence African agricultural trade as growth in member economies increase the demand for processed agricultural products. These include sugars, beverages, miscellaneous prepared foods, animal and vegetable oils, dairy and poultry, and prepared cereals. This report examines past and emerging trends in Africa's sources and destinations of agricultural commodities traded. Particular attention is given to the changing patterns of agricultural trade from within and outside the continent, including within existing free trade areas. While intraregional nonagricultural trade dominates the region, consumer-oriented agricultural goods contributed to about half of the intra-Africa agricultural trade from 2017–19. Much of the growth in agricultural trade was within the region over the last two decades. U.S. agricultural exports to Africa also slowly shifted from bulk cereals (wheat and corn) to higher value agricultural products such as poultry. Consumer-oriented and intermediate agricultural goods made up 44 percent of U.S. agricultural exports to Africa in 2017–19, up from 29 percent in 1999–2001. High urban population and income growth rates, together with the AfCFTA's potential to expand intra-Africa trade may offer an opportunity for U.S. firms to help meet Africa's rapidly growing demand.

Keywords: AfCFTA, African Continental Free Trade Area, Africa, intraregional trade, free trade areas, trade integration, agricultural imports, agricultural exports

Acknowledgments

The authors thank Anne Effland, USDA, Economic Research Service (ERS), and four anonymous peer reviewers for their valuable input during the preparation of this report. A special thanks goes to Erica Johnston and her team at the United States Department of Agriculture's Foreign Agricultural Service for requesting the Economics Research Service to conduct this report and in providing key insights and a review of an earlier draft. We also thank Jana Goldman, Christine Williams, Opeyemi Zubair, and Xan Holt, USDA, ERS, for editorial, graphics, and design.

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Contents

Abbreviations

AfCFTA	Africa Continental Free Trade Area
AMU	Arab Maghreb Union
ASEAN	Association of Southeast Asian Nations
AU	African Union
AUC	African Union Commission
BACI	International trade data at the product level
BRIIC	Brazil, Russia, Indonesia, India, and China
CEMAC	Central African Economic and Monetary Community
CEN-SAD	Community of Sahel-Saharan States
CEPII	French Center for Research and Expertise on the World Economy
COMESA	Common Market for Eastern and Southern Africa
DRC	Democratic Republic of the Congo
EAC	East African Community
EAEU	Eurasian Economic Union
ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of West African States
EU	European Union
EU27	European Union post U.K. exit
FAO	Food and Agricultural Organization
FAS	Foreign Agricultural Service
FTA	Free Trade Agreement or Free Trade Area
GATS	Global Agriculture Trade System
GDP	Gross Domestic Product
GSP	Generalized System of Preferences
IGAD	Intergovernmental Authority on Development
ILO	International Labor Organization
MERCOSUR	Southern Common Market (South America)
NESOI	Not Elsewhere Specified or Indicated
NTM	Non-Tariff Measure
OECD	Organization for Economic Co-Operation and Development
PACCI	Pan African Chamber of Commerce and Industry
RCEP	Regional Comprehensive Economic Partnership
REC	Regional Economic Community
RTA	Regional Trade Agreement

Abbreviations Continued

SACU	Southern African Customs Union
SADC	Southern African Development Community
SAFTA	South Asian Free Trade Area
SICE	Foreign Trade Information System, Organization of American States
TFTA	Tripartite Free Trade Area
U.S.	United States of America
UK	United Kingdom
UN	United Nations
UN COMTRADE	United Nations International Trade Statistics Database
UNCTAD	United Nations Conference on Trade and Development
UNECA	United Nations Economic Commission for Africa
USDA	U.S. Department of Agriculture
USMCA	United States-Mexico-Canada Agreement
WAEMU	West African Economic and Monetary Union
WTO	World Trade Organization

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A report summary from the Economic Research Service *November 2022*

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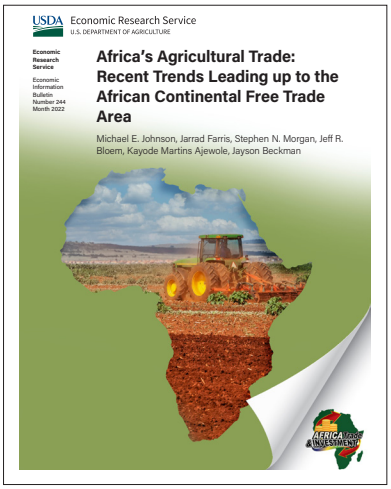
What Is the Issue?



The African Continental Free Trade Area (AfCFTA) began operating on January 1, 2021, and when fully implemented will be among the largest free trade areas in the world. This free trade area could, particularly, influence African agricultural trade as growth in member economies could increase the demand for agricultural products—offering expanding opportunities for agriculture and agribusiness growth in the region. Already, agricultural demand outpaces production in the region to the extent that Africa remains a net agricultural importer. While external partners, including the United States, are not currently part of the free trade area, AfCFTA may present immediate opportunities for new investments and future opportunities for further trade liberalization with outside partners.

What Did the Study Find?

Results of the study highlight important emerging trends:

- Africa continues to rely heavily on agricultural imports. The real value of Africa's external agricultural imports grew by 7.4 percent annually over 1999–2019, surpassing the annual growth rate of its external agricultural exports and intra-agricultural trade. Major external agricultural imports include bulk commodities and processed foods, such as cereals (including prepared cereals), dairy (mostly fresh and condensed milk), meats (especially poultry), and animal and vegetable oils. Cereals, especially wheat, rice, and corn (maize), account for more than one third of Africa's external agricultural imports by value. High urban population growth rates suggest that these trends of growth in agricultural imports could continue.
- Historically, European partners have accounted for a significant share of Africa's agricultural trade (exports plus imports) with partners outside the continent; however, trade with others has been growing over the past two decades. For example, China and Brazil have increased their share of Africa's agricultural trade, respectively from about 0.9 percent and 1.3 percent (1999–2001) to 5.1 percent and 6.3 percent more recently

(2017–19). In contrast, the European Union's shares declined from a high of 34 percent to 25 percent over the same period.

- U.S. agricultural exports to Africa have been more volatile than imports from the region but slowly shifted in composition from bulk cereals to higher value agricultural products such as poultry meat and prepared cereals. Consumer-oriented and intermediate agricultural goods made up 44 percent of U.S. agricultural exports to Africa in 2017–19, up from 29 percent in 1999–2001. While the United States continues to hold a firm lead among exporters of soybeans to Africa, it faces competition from the European Union and Brazil for poultry meat.
- There is evidence of a growing share of intra-Africa trade in high value agricultural commodities. Consumer-oriented agricultural goods account for about half of intra-Africa agricultural trade in the 2017–19 period and much of the growth in agricultural trade within the region over the last two decades. Consumer-oriented agricultural goods accounted for about 43 percent of intra-Africa agricultural trade in 1999–2001. Intra-Africa agricultural trade is greatest among members of the more deeply integrated regional free trade areas in the region (the East African Community (EAC) and Southern African Development Community (SADC)).

How Was the Study Conducted?

This report examines past and emerging trends of Africa's agricultural trade leading up to the implementation of the AfCFTA. A primary source of data is the international trade data (BACI) compiled by the French Center for Research and Expertise on the World Economy (CEPII) using United Nations International Trade Statistics Database (UN COMTRADE) data for 1996 to 2019, with values converted to constant 2015 U.S. dollars.[1] For the section focusing on U.S. trade with Africa, authors relied on official U.S. Census Bureau Trade Data. To examine agricultural trade between the United States and Africa in more detail, authors used official data from U.S. Department of Agriculture (USDA), Foreign Agricultural Service (FAS) General Agricultural Trade System (GATS).

[1] See Gaulier and Zignago (2010) for further details on BACI international trade data. CEPII is the Institute for Research on the International Economy located in France.

Africa's Agricultural Trade: Recent Trends Leading up to the African Continental Free Trade Area

Introduction and Motivation

The African Continental Free Trade Area (AfCFTA) may soon be among the largest free trade areas (FTAs) in the world once fully implemented.[2] It could potentially connect 1.3 billion people across 55 countries with a combined gross domestic product (GDP) valued at $3.4 trillion, according to a 2020 World Bank study. The World Bank estimates that AfCFTA has the potential to lift millions of people out of poverty, increasing total exports by as much as $560 billion by 2035, income by 7 percent, and wages by about 10 percent. The free trade area could, particularly, influence African agricultural trade as GDP growth increases the demand for processed agricultural products—which could provide new opportunities for agriculture and agri-business growth in the region. Already, agricultural demand outpaces production in the region such that Africa remains a net agricultural importer, importing double what Africa exports to the world by value.[3]

This report examines past and emerging trends of Africa's agricultural trade leading up to the implementation of AfCFTA. Particular attention is given to some existing FTAs in Africa and how they may have affected intraregional trade flows in recent years. These FTAs have overlapping membership and are at different levels of regional integration, which complicates customs and rules of origin requirements and impedes development of regional value chains. This is expected to change as AfCFTA becomes fully implemented.

Despite the potential for growth in Africa's agricultural trade due to AfCFTA, challenges remain. Connectivity between neighboring countries remains poor due to inadequate hard infrastructure, weak economic institutions and service provisions, public policies, and language barriers (De Melo and Tsikata, 2014). Much of Africa's existing trade infrastructure was built during the colonial period (i.e., roughly the mid-1800s through the mid-1900s) to extract the continent's rich endowment of natural resources. As a result, the continent has some of the highest transportation, storage, and transaction unit costs in the world.[4] These challenges can impede agricultural growth and development that might otherwise come from the free trade area. Furthermore, since the last global food price crises in 2008 and 2010, African governments increasingly implemented various domestic policies designed to promote domestic agricultural production and food security that may distort and destabilize markets. For example, import tariffs are often used to promote self-sufficiency, including for rice in Western Africa (Johnson and Dorosh, 2017) or export bans for maize in Eastern and Southern Africa (Porteous, 2017). Additionally, many countries devote large shares of their agricultural budgets (more than $1 billion per year) to input subsidy programs aimed at increasing yields (Jayne et al., 2018) or other producer price support schemes (Pernechele et al., 2018); however, these programs often lead to unintended marketing and production inefficiencies, such as crowding out the use of

[2] As of February 2021, 36 countries had ratified the agreement for the AfCFTA.

[3] Agricultural exports from the AfCFTA region to countries outside the continent were valued at 42.3 billion U.S. dollars in constant 2015 values (USDA, ERS calculations based on BACI data).

[4] For example, a typical person in Sub-Saharan Africa is 13 percent more distant from economic markets than a typical person in the world (Behar and Manners, 2010). It is twice as expensive to clear goods in the region as it is in East Asia and the Pacific (Behar and Venables, 2011).

other sustainable intensification practices (Morgan et al., 2019). How these domestic policies (if they remain popular) could affect the potential trade creating effects of the AfCFTA within the free trade area remains unclear without further empirical investigation.

AfCFTA and Current Subregional Free Trade Areas

AfCFTA is a major milestone for the African Union's (AU) Agenda 2063, which provides a vision for "the Africa we want."[5] The AfCFTA agreement was created in 2018 and entered into force on January 1, 2021. Overall, the agreement is expected to help integrate African countries in a critical way, leading to increased intraregional trade and economic integration among member countries. To accomplish this, AfCFTA intends to focus on a number of key areas such as trade facilitation, trade policy, productive capacities, trade related infrastructure, trade finance, and factor market integration (Hoekman and Njinkeu, 2017).

In its current first phase, the agreement focuses on negotiating trade in goods, services, and rules and procedures to settle trade disputes (World Bank, 2020). In addition, members are required to progressively remove their tariff lines in a linear form over two 5-year phases for advanced economies and 7-year periods for least developed countries. The first phase involves liberalizing 90 percent of total tariff lines followed by another 7 percent during the second phase. An allowance to maintain tariffs on sensitive goods shall not exceed 3 percent of total tariff lines nor exceed 10 percent of the value of intra-Africa imports. However, this is subject to review every 5 years (Africa Union, 2022). For most African countries, the ad valorem equivalent of tariff levels are generally lower than the combined ad valorem equivalent associated with non-tariff measures (NTMs) and other trade costs (Bouët et al., 2017).[6] As such, the agreement might have little influence during this first phase—and more impact, later, when trade barriers associated with NTMs and other trade costs are addressed.

AfCFTA is expected to build on and serve as an umbrella of the continent's various free trade areas (FTAs) linked to each of the Regional Economic Communities (RECs) in Africa. Currently eight RECS are recognized by the AU (UNECA, 2012) as illustrated in figure 1. These RECs include the Arab Maghreb Union (AMU) composed of five North African countries (Arab Maghreb Union, 2021). Another is the Common Market for Eastern and Southern Africa (COMESA), which comprises 21 countries in Eastern, Southern, and North Africa. Among these countries, 16 are fully participating in the COMESA Free Trade Area with the exception of the Democratic Republic of the Congo, Eritrea, Eswatini, Ethiopia, and Somalia. (COMESA, 2022). The Community of Sahel-Saharan States (CEN-SAD) covers North Africa, West Africa, and other Sahelian countries with a combined GDP of $1.3 trillion, making it the largest REC on the continent (PACCI, 2021a). The East African Community (EAC) is intended to become a customs and monetary union and, as of July 11, 2022, is now comprised of 7 countries following the formal admission of the Democratic Republic of the Congo as a member (EAC, 2022). The Economic Community of Central African States (ECCAS) is mostly representative of countries in Central Africa and intended to also serve as a free trade area and customs union (PACCI, 2021b).

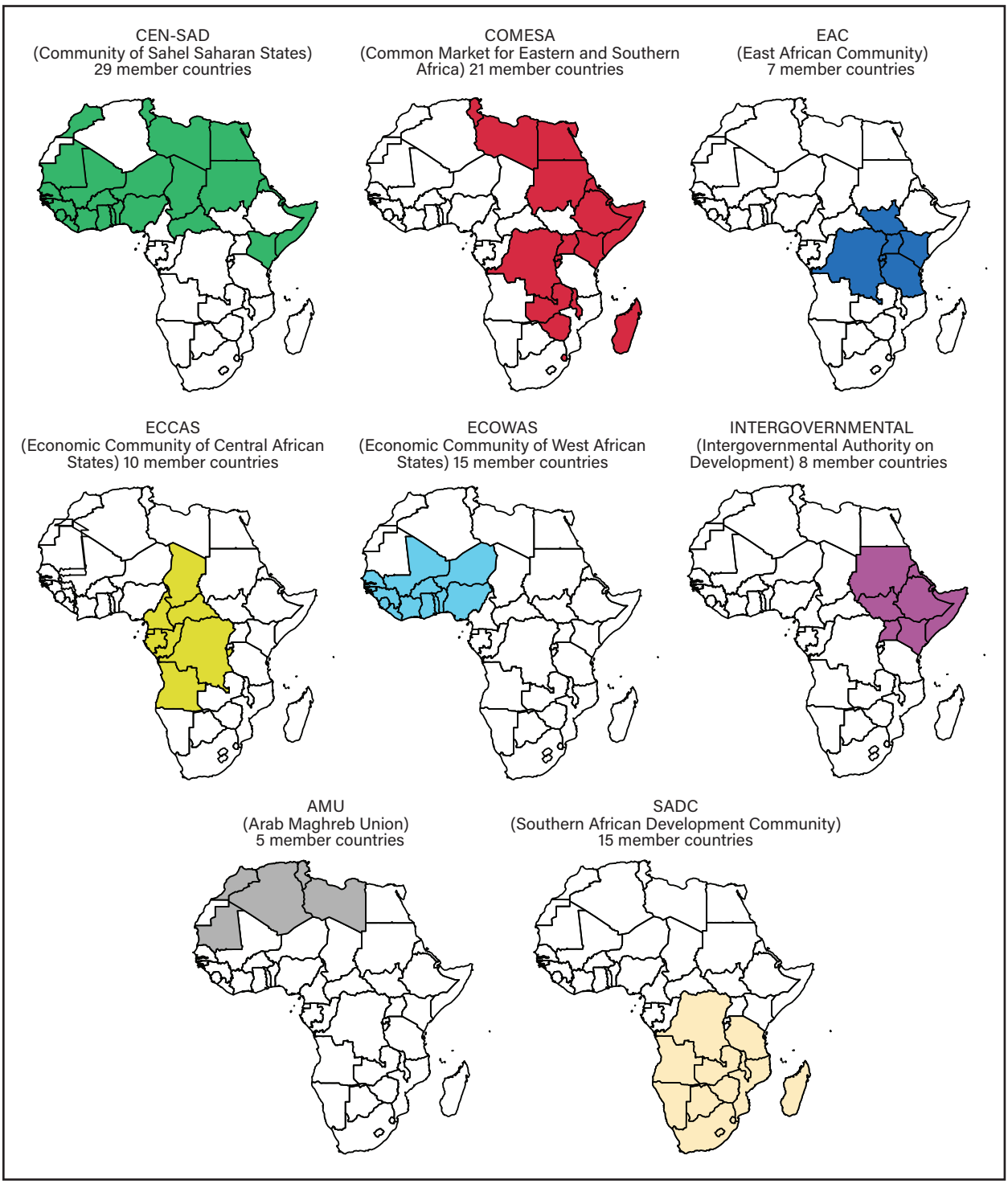
In West Africa, the Economic Community of West African States (ECOWAS) is the third largest in Africa, after CEN-SAD and COMESA. It was also established to serve as a common market and customs union (Barnekow and Kulkarni, 2017). To deal with issues related to drought and desertification in the Horn of Africa, the Intergovernmental Authority on Development (IGAD) was formed in 1996 to replace the

[5] From the official African Union website.

[6] The ad valorem equivalent converts the tariff per quantity of some good into a percentage of the value of the regulated good. Therefore, the ad valorem equivalent represents the additional costs due to the presence of some trade barrier.

previous Intergovernmental Authority on Drought and Development (PACCI, 2021c). Finally, the Southern African Development Community (SADC) is among four of the largest RECs in Africa covering Eastern, Central, and Southern African countries.

Figure 1
Regional Economic Communities in Africa



Source: USDA, Economic Research Service.

As evident in figure 1, many RECs have overlapping memberships with most sharing common borders (Steenkamp and Ferreira, 2020). For example, CEN-SAD covers a wide combination of countries from other economic communities (ILO, 2021). Beside the major regional economic blocks, other economic/trade

blocks in Africa are in various stages of economic integration, monetary union, and implementation. These include the Southern African Customs Union (SACU), the world's oldest operating customs union. Another is the West African Economic Monetary Union (WAEMU)[7], which serves as a monetary and customs union comprising seven former French colonies in West Africa and a former Portuguese colony (Guinea-Bissau). Pegged to the euro, the union has outperformed most other regional trade arrangements in Africa, second only to SADC in terms of interregional trade (Frankel and Rose, 2000; Sy and Sow, 2016). The Central African Economic and Monetary Community (CEMAC), another monetary and customs union belonging to the larger ECCAS region, has not achieved the same performance as WAEMU (Martijn and Tsangarides, 2007). More recently, the creation of the African Free Trade Zone (AFTZ) by three RECs (the EAC, SADC, and COMESA) may prove particularly useful for AfCFTA as its objective is to help integrate the Eastern and Southern African countries through trade, infrastructure development, and industrial growth (Luke and Mabuza, 2015). As of February 2021, 10 member States had ratified the AFTZ agreement.[8]

One important question is whether any of the existing free trade agreements in various stages of integration led to gains from greater trade among member countries and the region. Although several studies assessed their performance, positive results are limited. For example, a meta-analysis of empirical studies that examined the trade-creating effects of African regional trade areas (Afesorgbor, 2017) showed a general positive effect of about 27–32 percent on average in the volume of trade created but with significant heterogeneity across the different trading blocs. This analysis found that ECOWAS and SADC experienced a greater positive impact on trade relative to the other blocs. Afesorgbor (2017) suggested this is due to their deeper integration, including promoting greater regional cooperation, encouraging the free movement of people across member States, and coordinating on large economic and physical infrastructure projects such as the Africa Gas Pipeline in ECOWAS and an energy power pool in SADC.

There are several potential explanations for the lack of greater trade integration within Africa.[9] One explanation is the historical colonial ties between African and European countries. Barnekow and Kulkarni (2017) noted the link of low levels of intraregional trade in Africa to dependency theory, wherein African countries' economies are closely aligned with primary commodity exports to industries tied with their former colonial powers. Another possibility is the lack of transportation infrastructure and networks, communications, and border customs controls that ultimately impede trade (or increase the distance for trade) between two neighboring countries. For example, Olney (2020) found that increases in distance are associated with larger reductions in intra-Africa trade than in trade with non-African countries.[10] Other studies pointed to similarities among FTA countries in terms of resource endowments and tradable goods or the case where a single economic power dominates (Trebilcock and Howse, 2005).

Although it is too early to measure the trade gains from AfCFTA, several studies simulated the potential impacts of the FTA.[11] According to a review by Karonga (2021), studies generally predict that the FTA has the potential to be trade creating, although with gains distributed unequally among countries. These unequal

[7] Typically referred to by its French acronym UEMOA (West African Economic Monetary Union, 2021).

[8] The AFTZ is also known as the Tripartite Free Trade Area.

[9] Prior to AfCFTA, several efforts were made to integrate the continent's economies, including the June 1991 Abuja Treaty that encouraged African countries to promote and strengthen their regional economic communities (RECs) and the African Union (AU) in September 1999.

[10] The question of whether free trade areas in general resulted in greater trade remains an empirical debate. While the creation of free trade areas historically led to increased trade flows (Baier and Bergstrand, 2007; Sun and Reed, 2010), other studies found instances where their creation led to more protectionism that discouraged trade openness to non-member States, leading to trade diversion (e.g., Bhagwati and Panagariya, 1999; Nsour, 2007; Barnekow and Kulkarni, 2017).

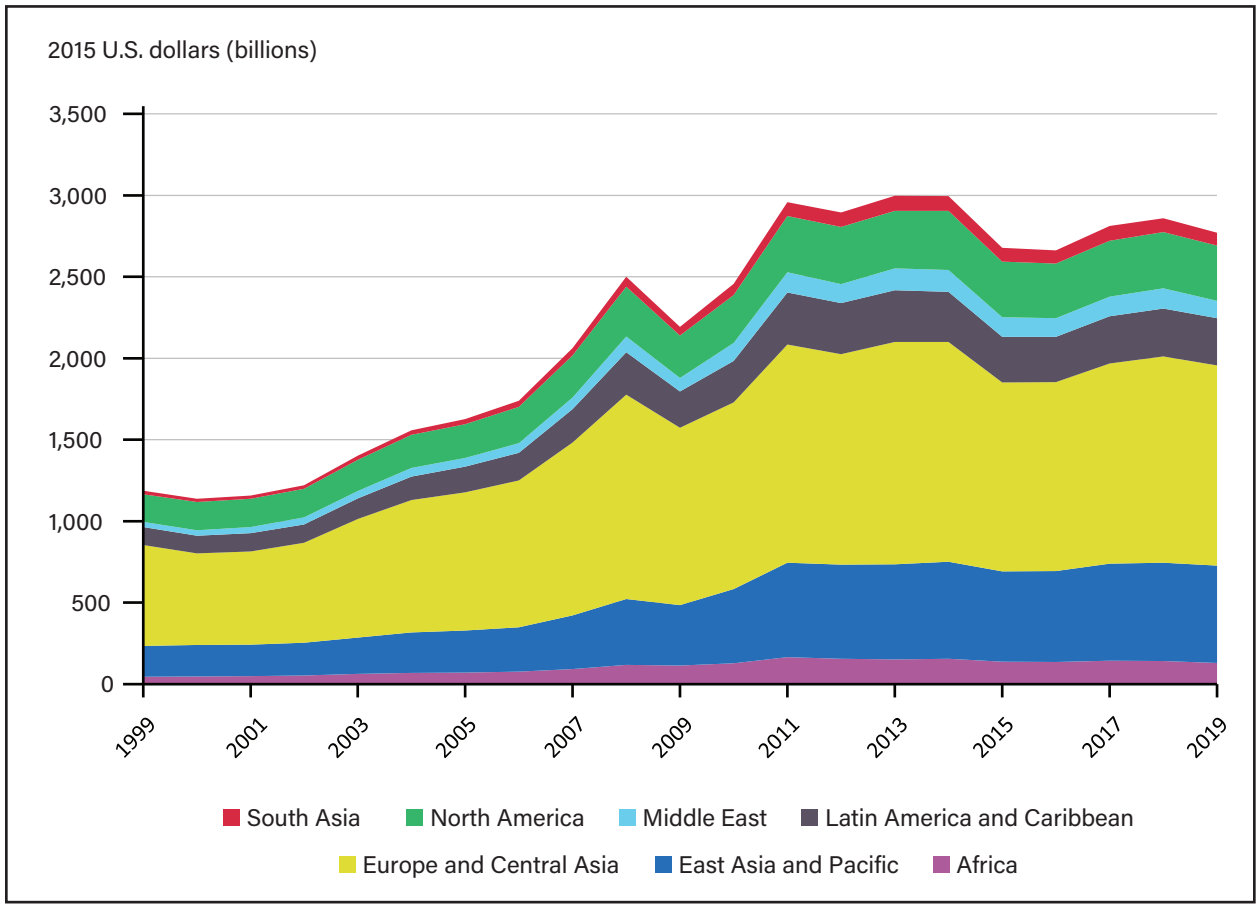
[11] There are also a number of reports on agricultural trade and investments in Africa, most notably UNCTAD's annual Investment Reports (e.g. UNCTAD, 2020), the Akademiya2063, and International Food Policy Research Institute's annual Africa Agriculture Trade Monitor (Bouët et al., 2021).

gains can be attributed to differences in market sizes, infrastructure, levels of tariff revenue losses, and degrees of diversification in exports.

Overview of African Agricultural Trade

It is often argued that African agricultural trade benefited little from globalization and trade in intermediate and high value products. This is evident in the continent's continued reliance on traditional primary commodity exports, especially minerals, fuels, cocoa, coffee, and tobacco.[12]

Figure 2
Total agricultural trade (exports plus imports) by major region



Source: USDA, Economic Research Service using International Trade Data (BACI), 2021.

[12] According to the UNCTAD trade database (2021), Africa's export concentration index (a measure of an area's reliance on a limited group of commodities as its primary source of foreign exchange income) is higher than most other regions in the world (ranging between 0.30 and 0.40 compared with less than 0.10 for the Association of Southeast Asian Nations (ASEAN region) for example). Egypt and South Africa are the only countries with diversified trade (as measured by the export concentration index).

Africa's Place in Global Trade and Agriculture

Much of global agricultural trade (exports and imports, including intraregional trade) is dominated by Europe and Central Asia, followed by East Asia and Pacific and North America (figure 2). Africa's share is only about 3 percent, and this pattern has not changed much over the past two decades. Therefore, it is not surprising that among the world's major regional trade agreements (RTAs)[13], the volume of agriculture trade activities is much higher among the wealthiest regions such as Europe and North America. Combined, the European Union (EU) and the United States/Mexico/Canada (USMCA) regions account for almost half of the global GDP and value of commodity exports but only 12.6 percent of the world's population. In sharp contrast, the African continent lags far behind. The region continues to grow faster in population than any other region in the world—Africa's population now accounts for 18.1 percent of the world's population (table 1). The region's per capita income, however, is among the lowest in the world.

Altogether, the EU, the Regional Comprehensive Economic Partnership (RCEP),[14] and USMCA represent almost 75 percent of the value of total global exports from countries belonging to these agreements. Asian countries have continued to expand their shares. For example, the Association of Southeast Asian Nations (ASEAN) region experienced some of the fastest growing GDP (8 percent per year since 2000) and trade (5.5 percent a year growth in exports) (table 1). Export growth was higher for the RCEP region, driven mostly by China's performance during this period.

For the AfCFTA region, which makes up only 2.9 percent of total world exports, much of its earnings come from extractive industries, primarily mineral fuels, precious metals, and cultured pearls. For mineral fuels alone, its contribution ranged between 44 to 63 percent of total exports from Africa over the same period (figure 3). The volatility reflects a heavy reliance on commodities that typically face sharp down- or up-swings in global commodity markets. Many African countries that are heavily dependent on these commodities face constant risk in maintaining growth and development—such as Angola, Nigeria, and Zambia. As figure 3 shows, trends in the total value of African exports to the rest of the world follow the trend in global primary commodity prices.

[13] According to the World Trade Organization (WTO), regional trade agreements or RTAs are defined as any reciprocal trade agreement between two or more partners and not necessarily belonging to the same region. RTAs are a key fixture of global trade, with increased numbers, depth, and complexity over the years. A Free Trade Area (FTA) is a type of RTA whereby all trade barriers (such as tariffs) are removed among member countries while trade policies of member countries with countries outside the agreement are unaffected. A Customs Union also eliminates barriers between member countries but goes further by adopting common external barriers with countries outside the union.

[14] RCEP is a proposed free trade agreement between the 10 member States of the Association of Southeast Asian Nations (ASEAN) (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam) and its 6 FTA partners (Australia, China, India, Japan, New Zealand, and Republic of Korea).

Table 1
Total exports, Gross Domestic Product, and population by regional trade agreement, 2017–19

Variable (units)	AfCFTA	ASEAN	EU27	MERCOSUR	RCEP	USMCA
Values (3-year averages, 2017–19)						
Export value (U.S. dollars, trillions)	0.5	1.4	5.2	0.3	5.3	2.3
GDP (U.S. dollars, trillions)	2.6	2.8	15.2	2.4	23.5	22.2
Population (billions)	1.4	0.7	0.5	0.3	2.3	0.5
Per capita GDP (U.S. dollars, thousands)	1.9	4.4	33.0	9.4	10.4	45.4
Share of world total						
Export value (percent)	2.9	8.1	30.4	1.7	30.9	13.2
GDP (percent)	3.2	3.5	18.8	3.0	29.0	27.5
Population (percent)	18.1	8.6	6.1	3.4	29.6	6.5
Annual growth rates, 2000–19						
Exports (percent)	5.1	5.5	3.1	5.2	6.1	2.7
GDP (percent)	5.8	8.0	1.6	6.2	5.7	1.9
Population (percent)	2.5	1.2	0.2	1.0	0.7	1.0

AfCFTA = Africa Continental Free Trade Area. ASEAN = Association of Southeast Asian Nations. EU27 = European Union including the United Kingdom. GDP = Gross Domestic Product. MERCOSUR = Southern Common Market (South America). RCEP = Regional Comprehensive Economic Partnership. USMCA = United States-Mexico-Canada Agreement.

Notes: All values are in constant 2015 U.S. dollars.

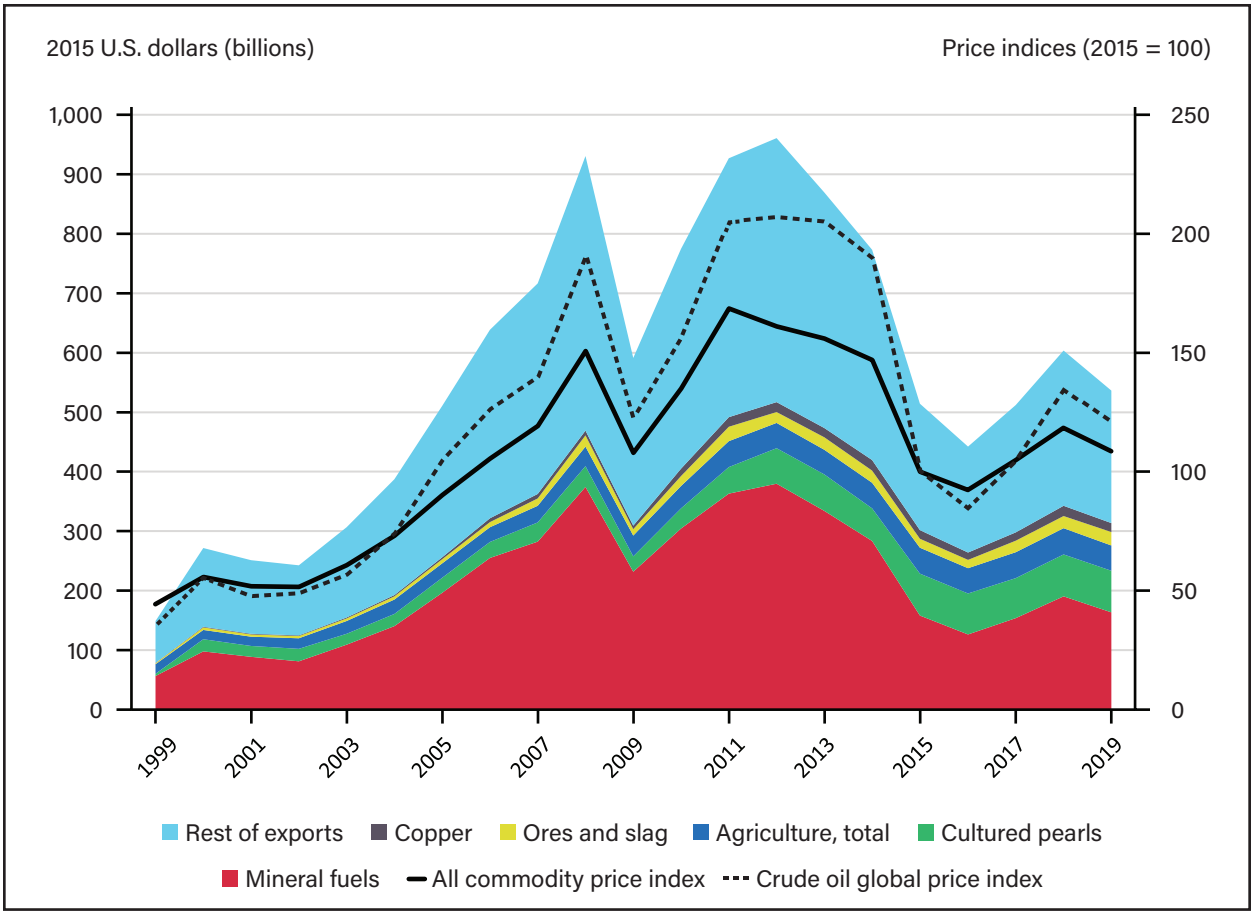
Source: USDA, Economic Research Service using International Trade Data (BACI) and World Bank Development indicators, 2021.

For agriculture, the sector's share of total exports from Africa hovered around 11 percent over the past two decades, ranking third in total export earnings (figure 3). Not surprisingly, its share of exports at the global level is quite small. In fact, among the top 25 exporters of agricultural products in the world, none are from Africa (appendix table 1). This is despite many African countries having preferential access to high-income country markets for a wide range of products under the U.S. and EU Generalized System of Preferences (GSP) programs established in the 1970s (USTR, 2021a). These were extended in 2001 to include more products that enjoyed duty free access under the EU's Everything but Arms (EBA) program and the United States' African Growth and Opportunity Act (AGOA) (USTR,2021b). While they have helped boost exports, not all countries have benefited from these programs, especially for manufactured goods exports, with a majority gaining only during price booms for primary commodity exports and therefore unsteady (Coulibaly et al., 2022).

European partners have historically accounted for a significant share of Africa's total agricultural trade (exports plus imports) outside the continent; however, trade with others has been growing more recently. For example, China and Brazil have increased their share of Africa's agricultural trade, respectively from about 0.9 percent and 1.3 percent (1999–2001) to 5.1 percent and 6.3 percent (2017–19). In contrast, the European Union's shares declined from a high of 34 percent to 25 percent over the same period.

Intraregional agricultural trade as a share of total agricultural trade has hovered around 20 percent in AfCFTA compared with more than 40 percent in the European Union (EU), RCEP, and USMCA regions (figure 4). As an indicator of the extent of trade integration within a region, AfCFTA appears comparable with other regions (except for the larger and richer ones—EU, RCEP, and USMCA).

Figure 3
AfCFTA total exports outside AfCFTA region, 1999–2019

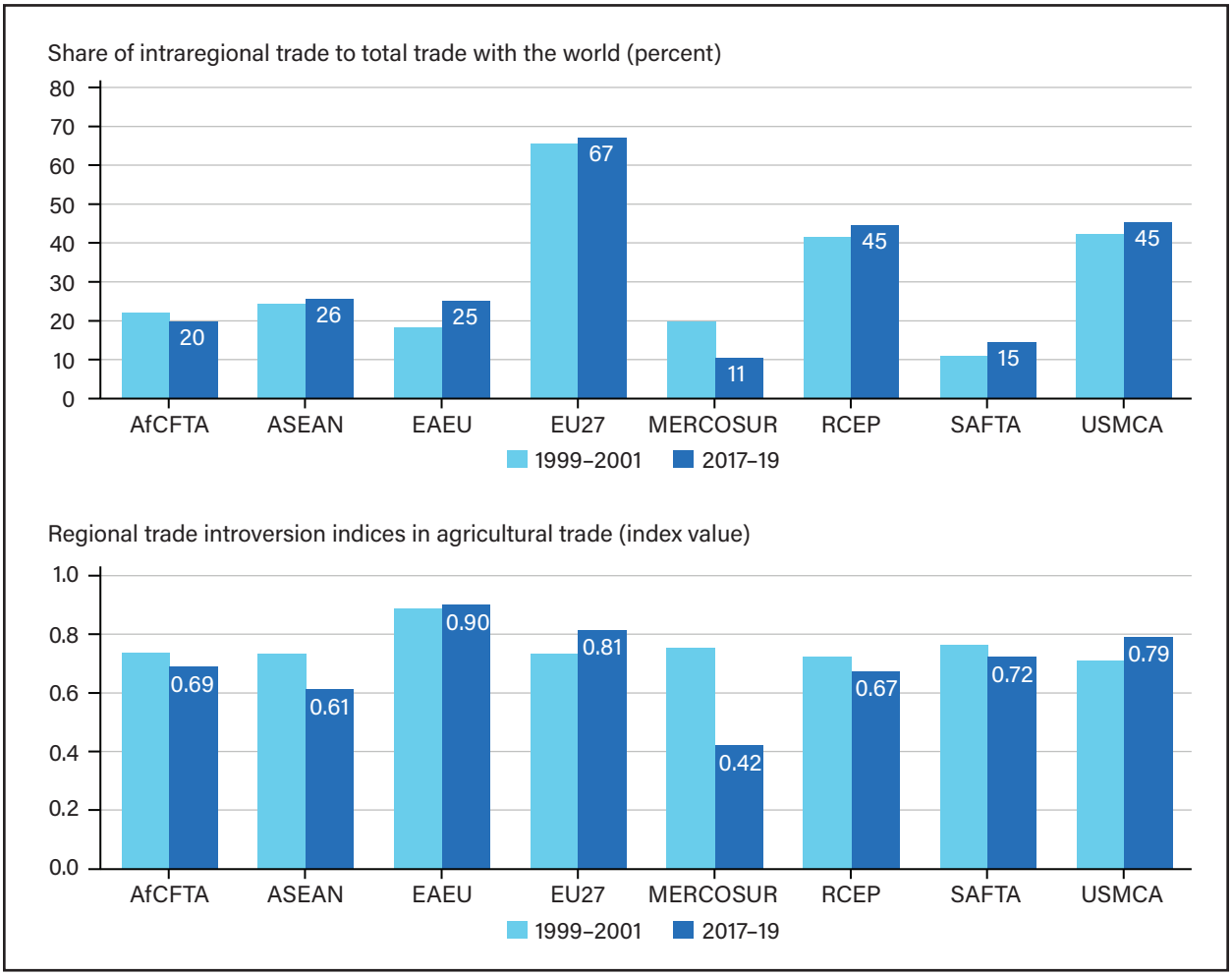


Source: USDA, Economic Research Service using International Trade Data (BACI), 2021.

However, these shares can be misleading for cross-regional and time-series comparisons as trade shares can be influenced by many factors including geography, size of economic activity, and competitiveness. While intraregional trade shares may rise due to greater regional integration, it may also be due to greater or less competitiveness in markets outside the region, as well as economic size of the countries in the region and number of States (Iapadre and Luchetti, 2010; Bouët et al., 2017). Basically, a more fragmented region like Africa that has large States like South Africa, Egypt, and Nigeria could see shares of intraregional trade rise as more trade for these few countries is recorded. To account for these biases, Bouët et al., (2017) and Hamanaka (2015) recommended using a regional trade introversion index (RTI). The RTI is expressed as an index calculated using weighted shares of a region's intraregional trade with the rest of the world and that of the region's extraregional trade with the rest of the world. The latter is used as a benchmark.[15] The result is an index that measures the degree to which intraregional (inward) trade activities compare with extraregional (outward) trade activities relative to the rest of world's trade activities. In this case, the rest of the world serves as a benchmark. The lower panel of figure 4 reports RTIs by major RTA (compare these with figure 4, upper panel).

[15] Details on how the RTI index is calculated can be found in Bouët et al. (2017).

Figure 4
Share of intraregional agricultural trade to total agricultural trade with the world for each regional trade agreement



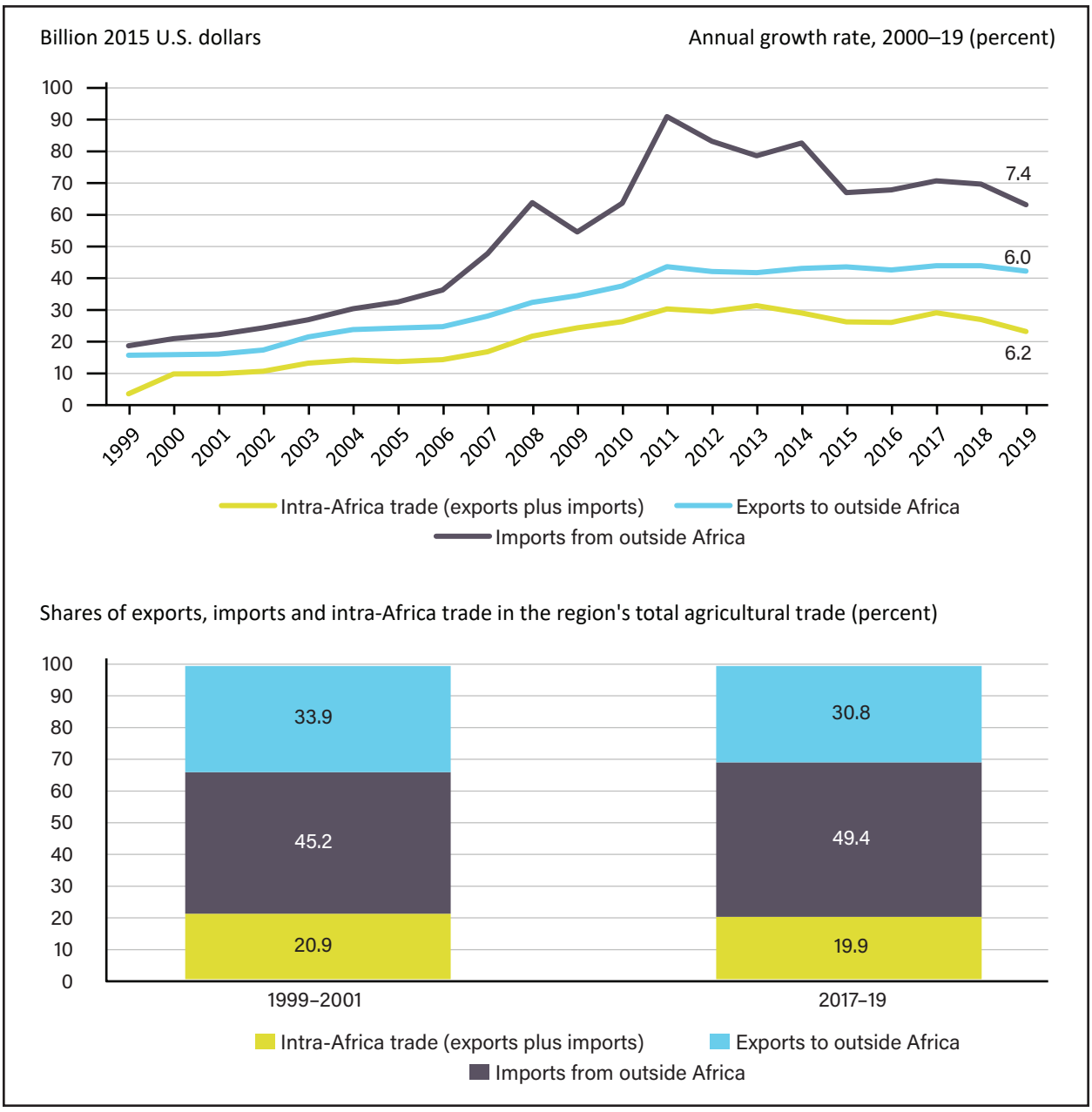
AfCFTA = Africa Continental Free Trade Area. ASEAN = Association of Southeast Asian Nations. EAEU = Eurasian Economic Union. EU27 = European Union including the United Kingdom. MERCOSUR = Southern Common Market (South America). RCEP = Regional Comprehensive Economic Partnership. SAFTA = South Asian Free Trade Area. USMCA = United States-Mexico-Canada Agreement.

Source: USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.

The RTIs in figure 4 have the advantage of being symmetric and independent from the size of the region and only increase if intraregional trade grows faster than trade with markets outside the region (Bouët et al., 2017). It can therefore be used for cross-regional comparisons—higher (or positive) values would mean a region is more introverted (trades heavily with itself). It is not surprising that the Eurasian Economic Union (EAEU), EU, and USMCA are the most introverted regions (compare the indicator value for EAEU in the upper and lower panels of figure 4). Southern Common Market, South America (MERCOSUR), and South Asian Free Trade Area (SAFTA) appear less introverted, confirming their outward engagement in global agricultural trade. On the other hand, the RTIs of the AfCFTA region are comparable to those of other major RTAs. This implies the region is moderately introverted, with many African countries trading intensely with partners belonging to the same region (within AfCFTA in this case) than outside the region. However, some would argue this may be more the result of the degree to which Africa's openness with the world is limited—favoring the intraregional trade—thus confirming its limited participation in globalization (Iapadre and Luchetti, 2010).

Africa has had a trade deficit in agriculture for some time, but it has widened since 2000. As shown in figure 5, external agricultural imports grew by 7.4 percent annually over the 1999–2019 period, surpassing the 6-percent growth rate for external agricultural exports over the same period. The share of imports from outside Africa to total trade now stands at almost half (about 60 percent if imports from within Africa are included, 49.4 + 19.9/2). Intraregional agricultural trade shares have remained about the same—at 20 percent between the 1999–2001 and 2017–19 periods.

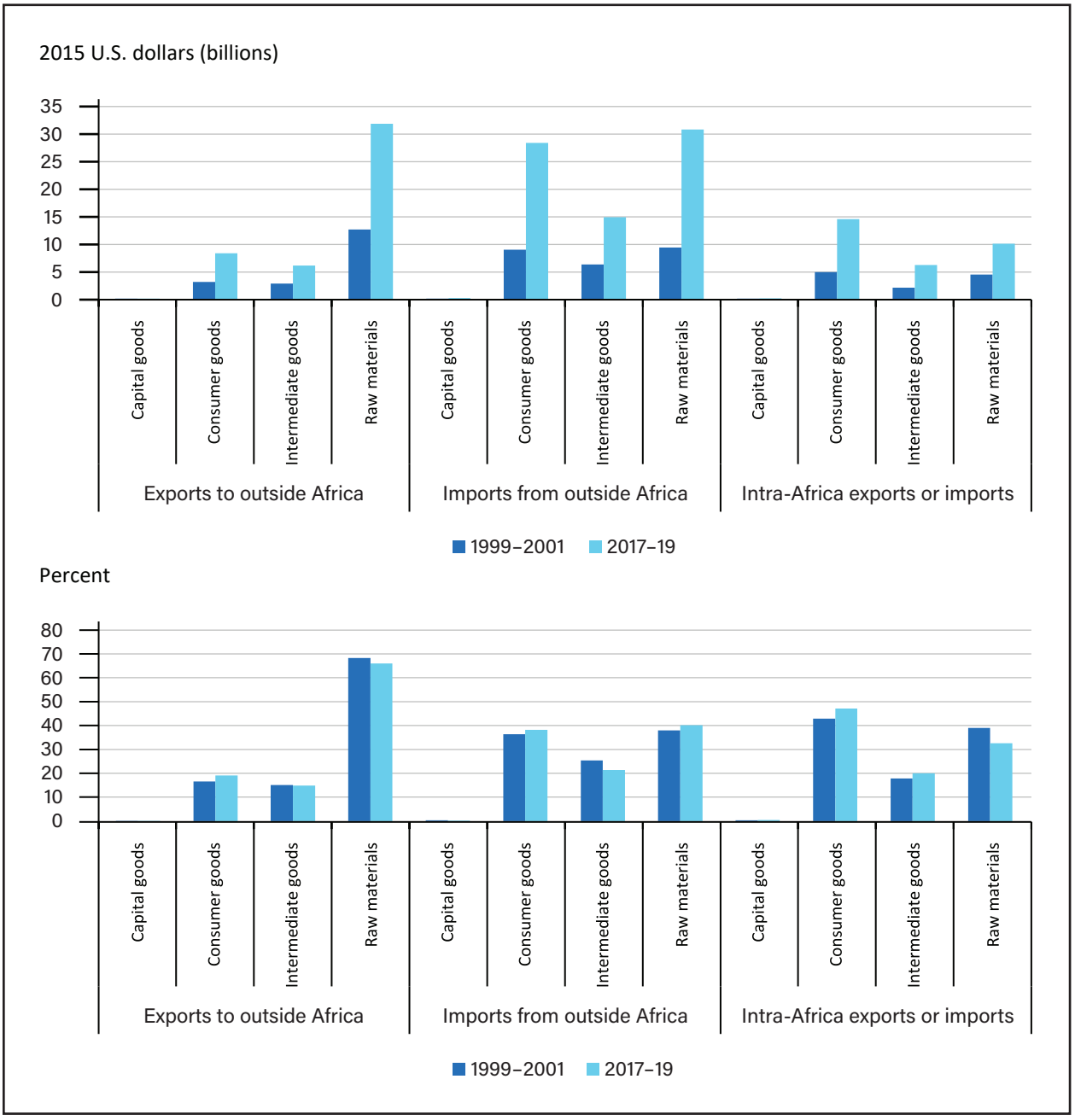
Figure 5
Trend of African agricultural trade and shares over time, 1999–2019



Notes: Annual growth rates in the upper panel are based on an estimated linear trend over the period, 2000–19. Shares in lower panel may not sum to 100 due to rounding.

Source: USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.

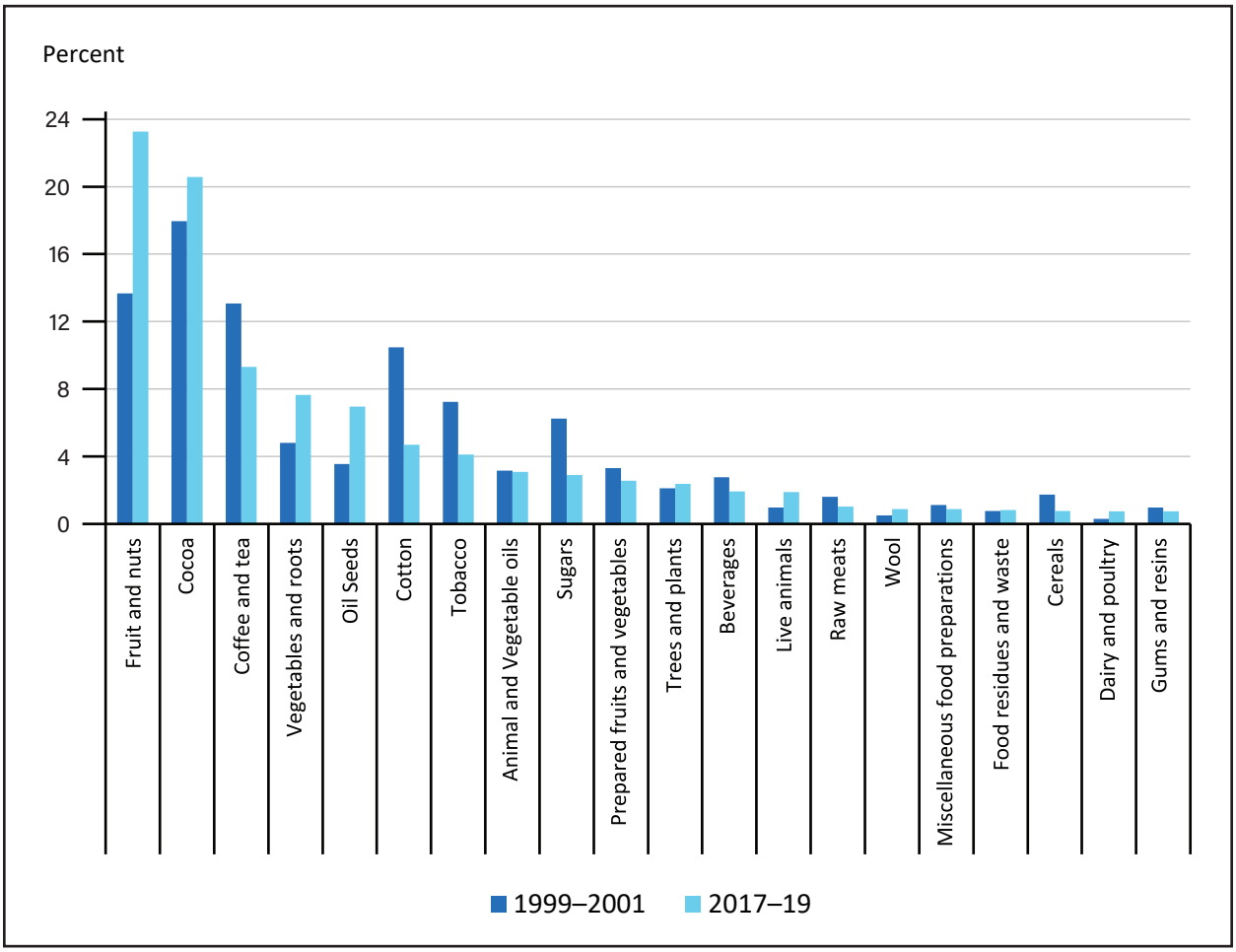
Figure 6
Overall composition of Africa's agricultural exports and imports



Source: USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.

Europe has been and remains the largest importer of African products. Among the top destinations are the Netherlands, France, Germany, and the UK (United Kingdom) (see table A1 in the appendix). The United States ranks third, surpassing Germany and UK (led mostly by cocoa and coffee exports). China, Vietnam, and India have more recently emerged—rising from 29th, 35th, and 10th, to 6th, 7th, and 8th, respectively, as destinations of Africa's total agricultural exports. United Arab Emirates also recently emerged as a top destination of agricultural exports from Africa, rising from 33rd place to 13th.

Figure 7
Top 20 African agricultural commodity exports to outside Africa (percent of total agricultural exports)



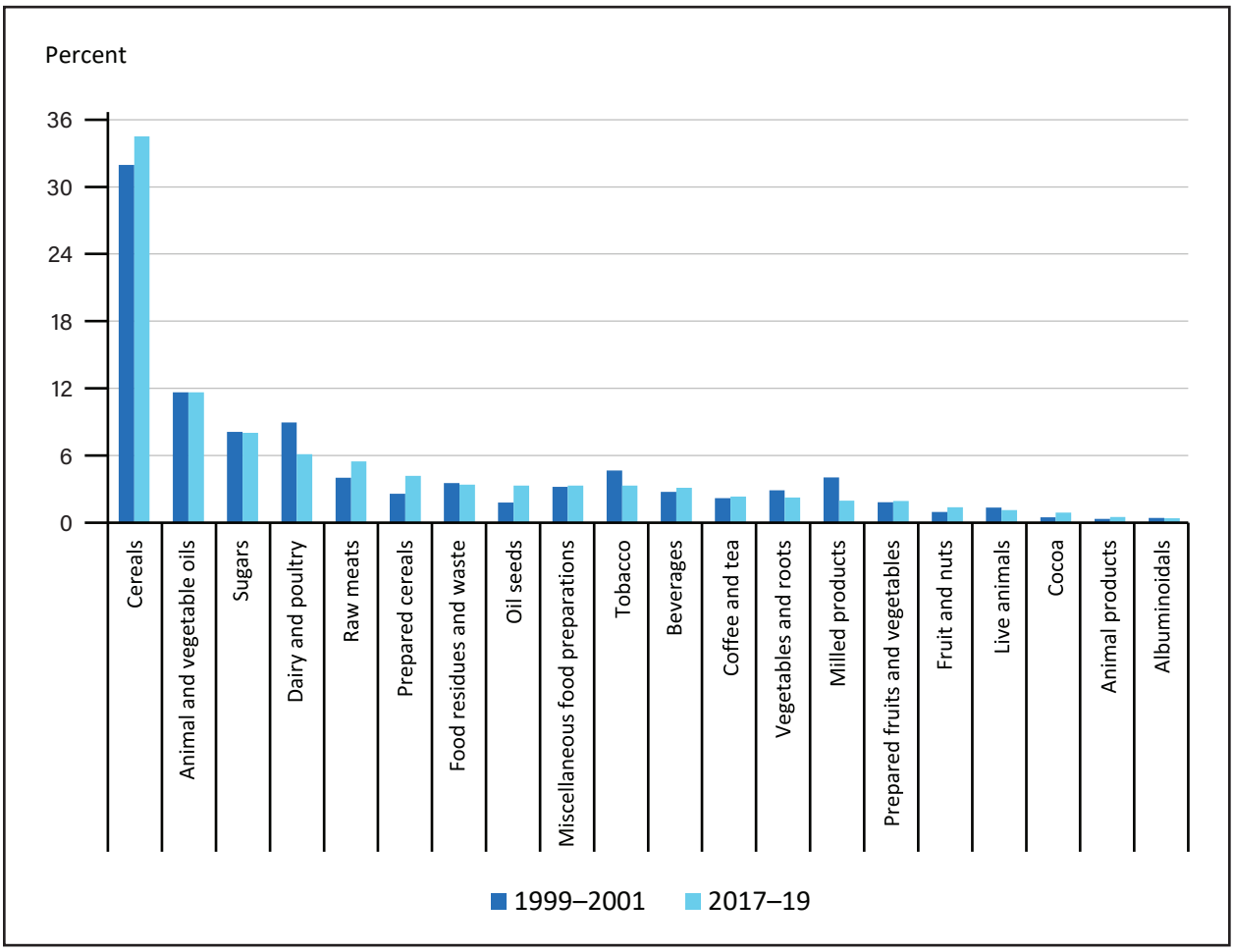
Source: USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.

Table A2 in the appendix ranks the top 20 sources of agricultural exports into Africa. The sources have increasingly included the so-called BRIIC countries: Brazil, Russia, India, Indonesia, and China, as well as others such as Ukraine. Among the top two exporters to Africa are Russia and Brazil, followed by India, Indonesia, Ukraine, and China. China rose from 14th to 10th place in ranking as a source of Africa's agricultural imports between the periods 1999–2001 and 2017–19 while Ukraine rose from 25th to 9th place during the same period. Within Africa, South Africa is also a major source of agricultural imports at eighth place. In fact, with respect to top sources by RTA, AfCFTA is ranked second, just behind the EU.

What is the composition of Africa's agricultural trade? Figure 6 decomposes both agricultural exports and imports. Africa's exports outside the continent can be classified as mostly raw materials —and this trend has not changed much over time, accounting for over 65 percent of commodities exported. Consumer and intermediate goods, which require more processing, account for the rest. Goods traded within the region, however, differ from this pattern as consumer goods are more common.

What are the top agricultural commodities Africa imports and exports? The top five agricultural exports from Africa are fruits and nuts, cocoa, coffee and tea, vegetables and roots, and oil seeds (figure 7). Together they easily account for more than half of the value of agricultural exports. Imports, on the other hand, are dwarfed

Figure 8
Top 20 African agricultural commodity imports from outside Africa (percent of total agricultural imports)



Source: USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.

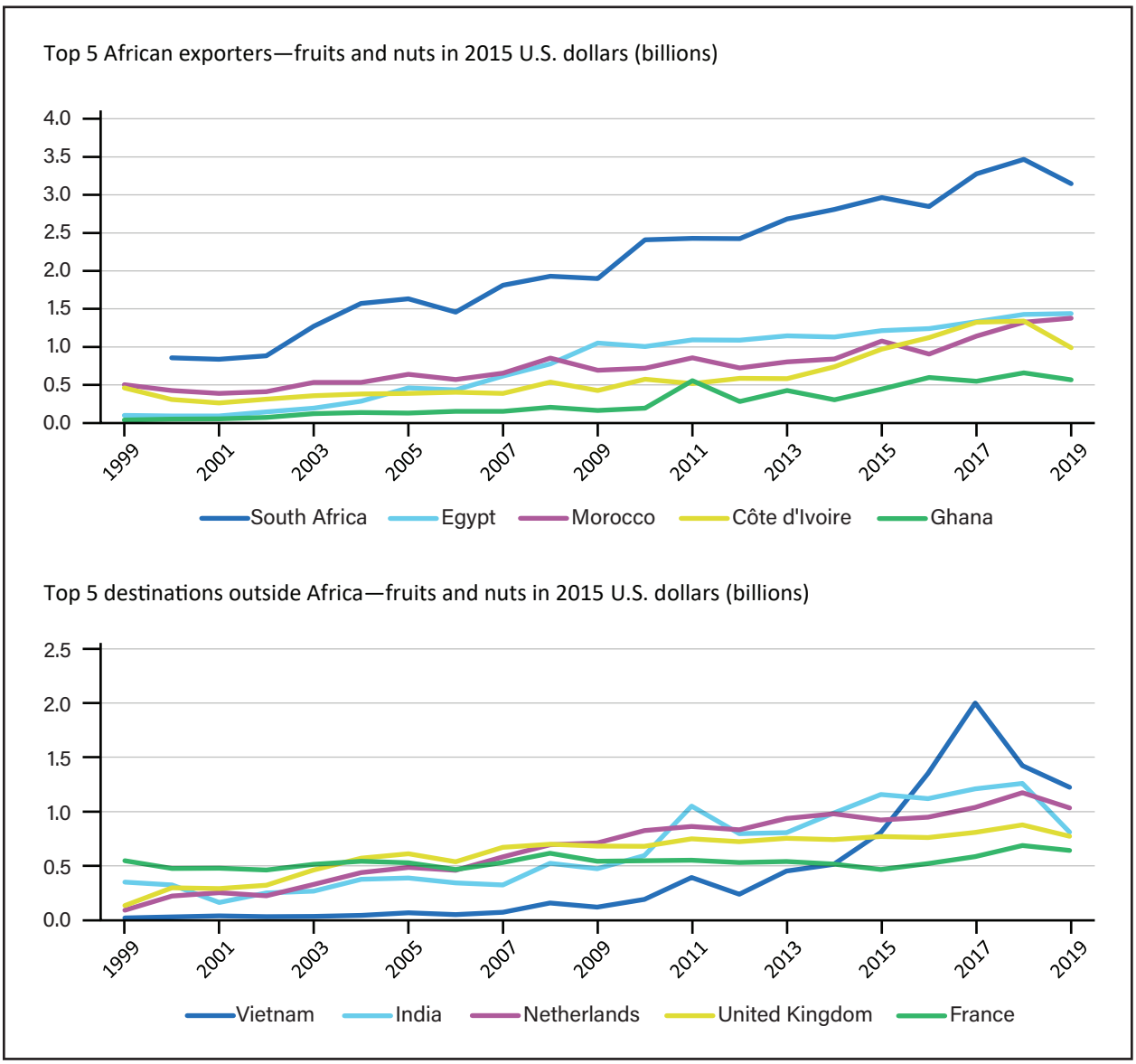
by cereals, which account for more than 30 percent of the value of total agricultural imports to Africa (figure 8).

Among the top agricultural export commodities, fruits and nuts have the highest share. South Africa and northern African countries are primary exporters of these, as all are situated in favorable climates for citrus fruits and grape production. Ghana and Cote d'Ivoire are leading cocoa exporters, and both also export fruits and nuts to the EU. Key destinations for fruits and nuts are the Netherlands, France, and the UK. One dramatic change is the growth of exports to Vietnam and India since about 2010 (mostly for cashew nuts). Vietnam displaced the Netherlands as a top destination in fruits and nuts (figure 9).[16]

Like cocoa, coffee and tea always maintained a leading role in agricultural exports from Africa. Based on BACI International Trade Data, Kenya has continued to lead, followed by Ethiopia and Uganda. Madagascar is a more recent entrant and now closely matches Ethiopia's ranking. Madagascar is also known for exports of spices (especially vanilla beans), with the United States as a major trade partner. Since about 2014, leading

[16] The EU as a bloc would naturally still rank first.

Figure 9
Top African exporters and destinations of fruits and nuts outside Africa



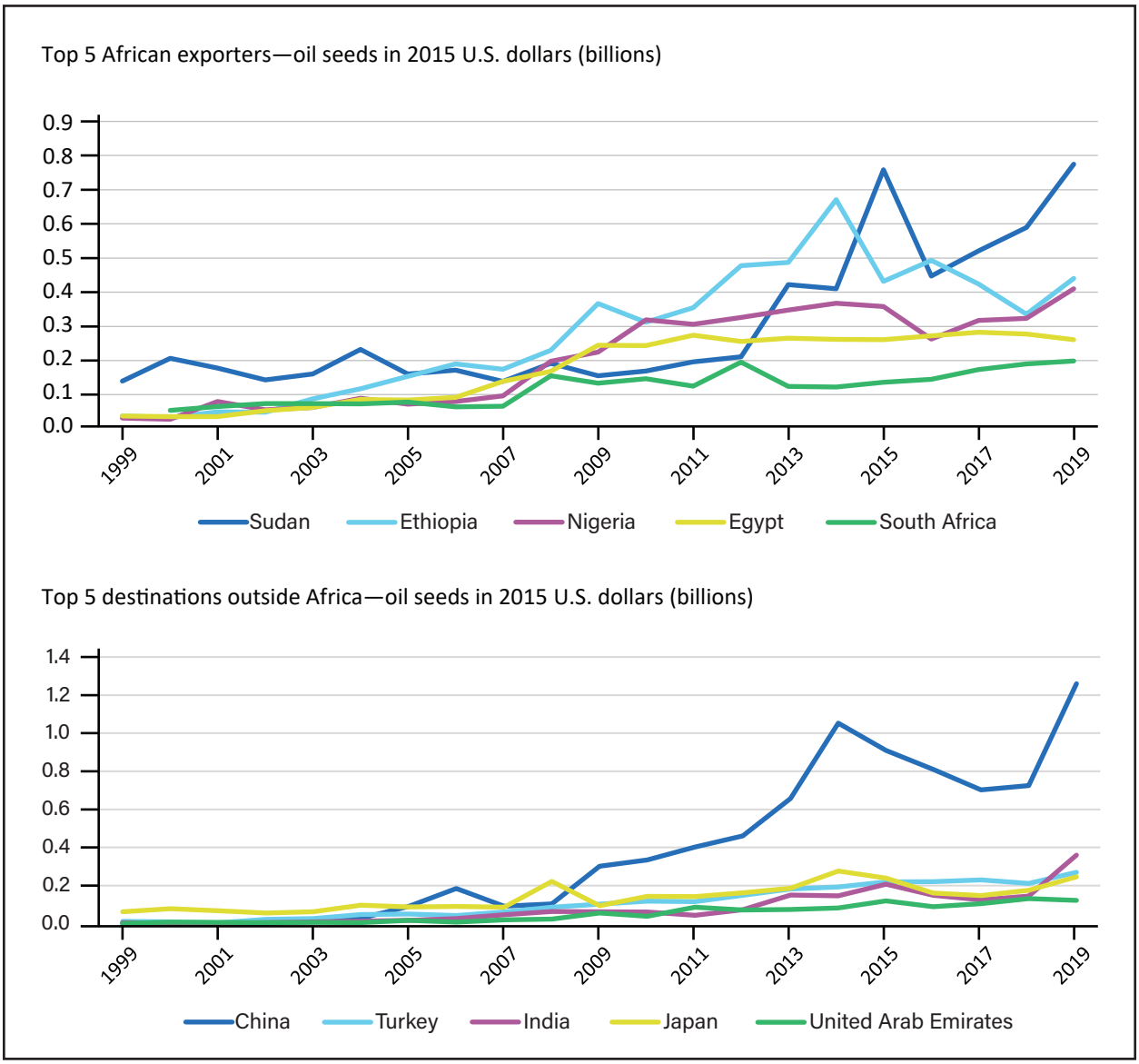
Source: USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.

destinations for coffee and tea have been the United States and Pakistan markets, displacing some of traditional EU (plus UK) destinations.

Oil seeds exports also increased to non-traditional destinations such as China. As figure 10 shows, the biggest exporters are Sudan, Ethiopia, and Nigeria. Egypt and South Africa trail closely behind. As noted, China grew to become a top destination—growing at about 34 percent per year between 2017 and 2019 and currently ranked first among all destination countries from a ranking of 47th 20 years ago (the EU as a bloc would still rank second to China). India is also increasing its imports of oil seeds from Africa. Sesame seeds are the top oil seed exports to India and China.

The rapidly growing urban populations and mega cities are key drivers of the type and patterns of growth in agricultural imports in Africa, especially for more processed foods (Reardon et al., 2021). This is evident in the growth of imports in bulk and processed foods, such as cereals (including prepared cereals), dairy (mostly fresh and condensed milk), poultry (mostly eggs), and animal and vegetable oils. Africa's agricultural deficit

Figure 10
Top African exporters and destination of oil seeds outside Africa

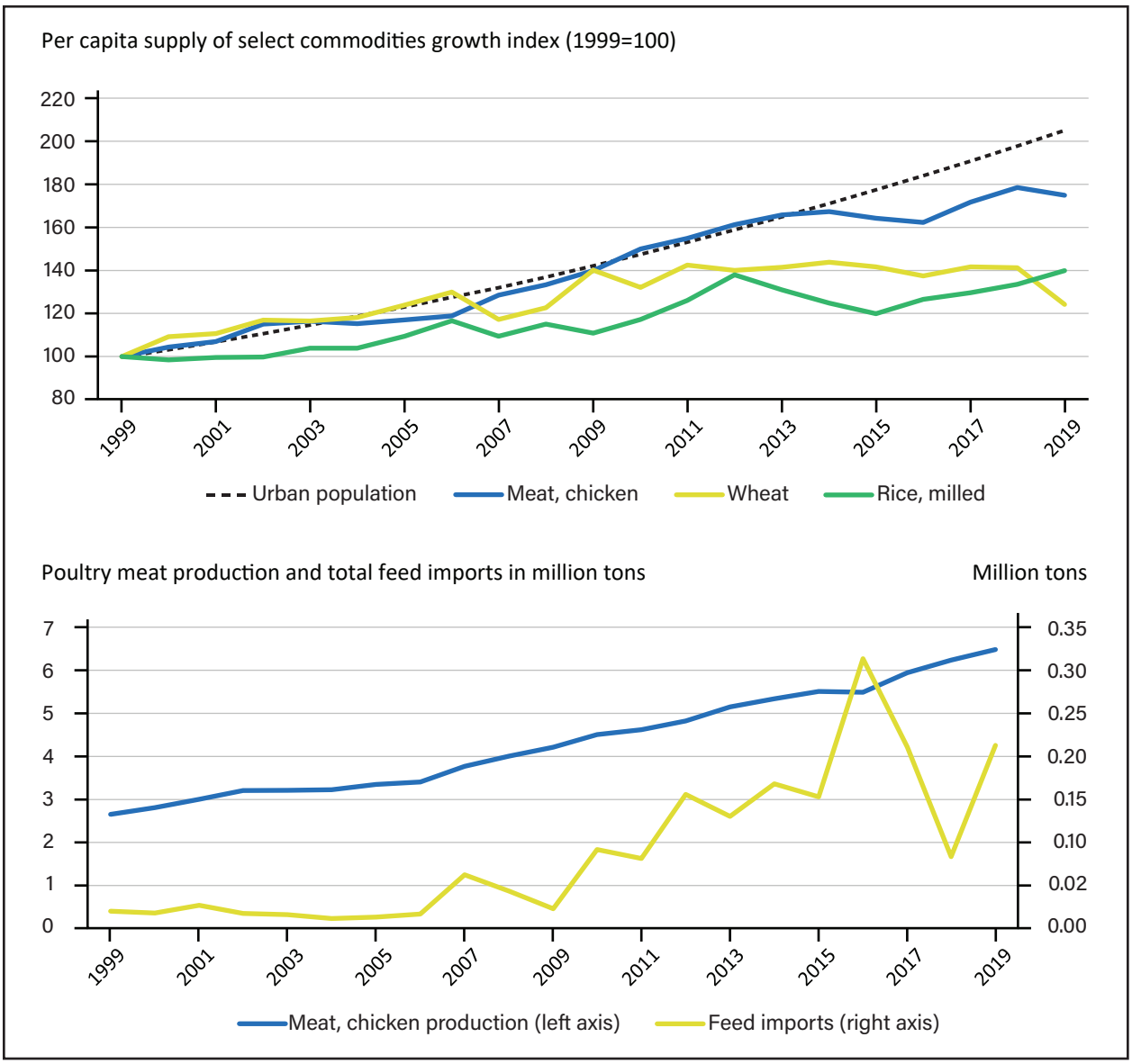


Source: USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.

in cereals is pronounced with the increasing volume of cereals imported, especially wheat, rice, and corn (maize). This is also in line with the recent observations by Reardon et al. (2021). As figure 11 illustrates, the total supply in kilograms/person for poultry meat has grown dramatically since 1999 and almost in tandem with urban population growth (upper panel). Domestic production of poultry meat also increased, more than doubling over the same period, from about 2.5 million tons in 1999 to about 6.4 million tons in 2019. There has also been a growing demand for feed imports as a result (bottom panel, figure 11).

Tables A5 through A7 in the appendix show major destinations and sources for wheat, corn, and rice. Among the major destinations of cereal imports in Africa are North African countries and Nigeria—mostly for wheat and corn (figure 12). Russia and Ukraine have become major sources of cereals in more recent years, accounting for more than 30 percent of total cereals imports into Africa. This is especially true for wheat, although Ukraine also exports corn to Africa, behind Argentina but ahead of Brazil and the United States.

Figure 11
Poultry meat, cereals supply, and feed imports



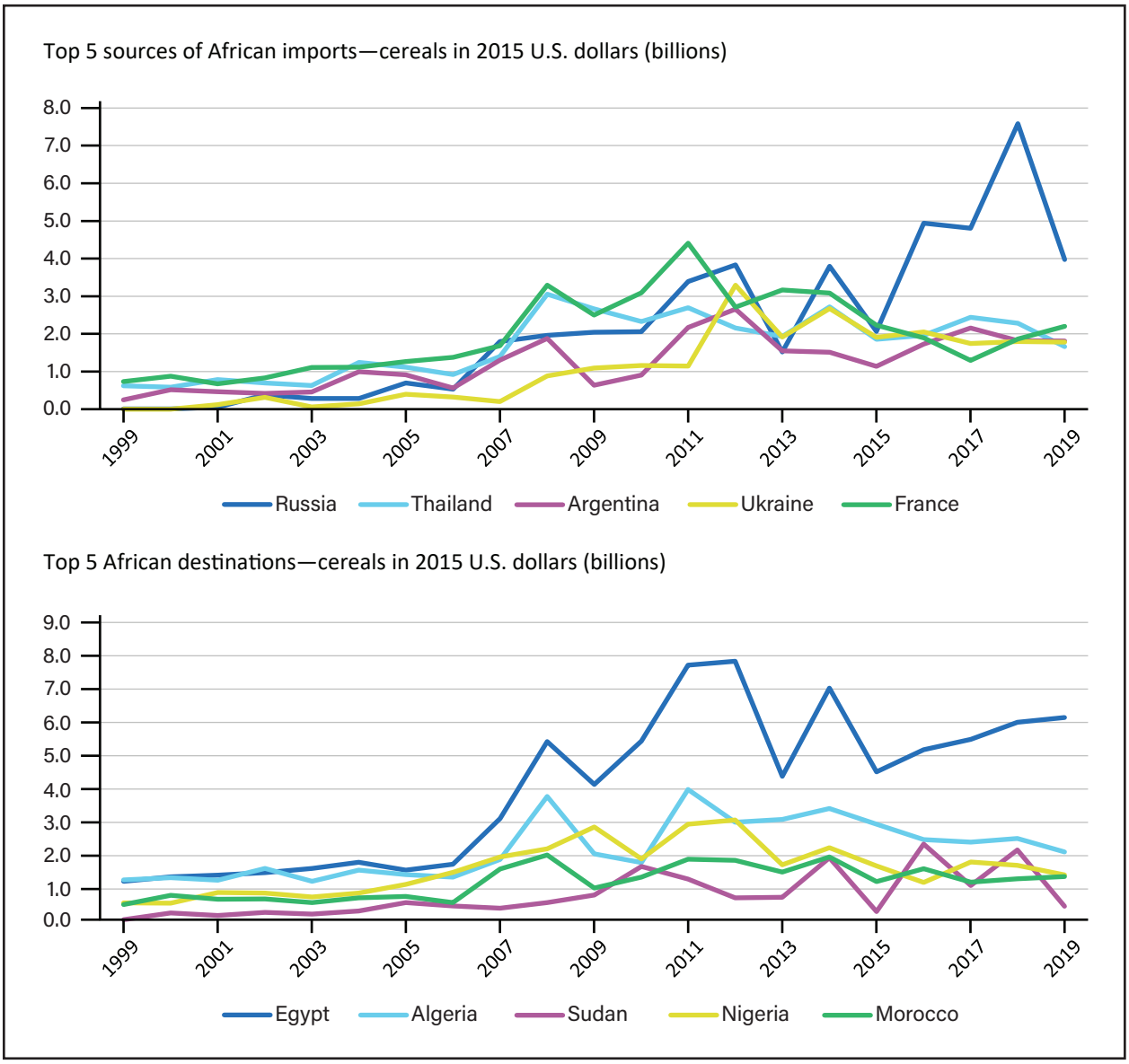
Note: Feed imports is net of all feed imports and not necessarily labeled for poultry only.

Source: USDA, Economic Research Service calculations based on data from the United Nation's Food and Agriculture Organization Statistical Database (FAOSTAT) 2022.

The United States' loss of global trade shares for wheat has been a general trend over the past two decades as new lower cost producers such as Russia, Ukraine, and Argentina have entered the global wheat market (Bond and Liefert, 2018). Not shown in figure 12 is India, which now ranks sixth in total cereals exports to Africa, mostly rice. Wheat and corn imports in Africa are dominated by North African countries, while rice imports are widely shared across Africa. However, from some of the major primary destinations (such as Benin), rice and wheat are then mostly re-exported to secondary destinations within the region.[17] Thailand

[17] For example, Nigeria in the past imposed high import tariffs on rice in order to promote self-sufficiency in domestic rice production. However, the sheer size and growth of demand for rice in Nigeria often meant bypassing official import channels to avoid tariffs by diverting imports through neighboring countries: Benin, Cameroon, and Niger (Johnson and Dorosh, 2017).

Figure 12
Top sources of cereals imports and destinations in Africa



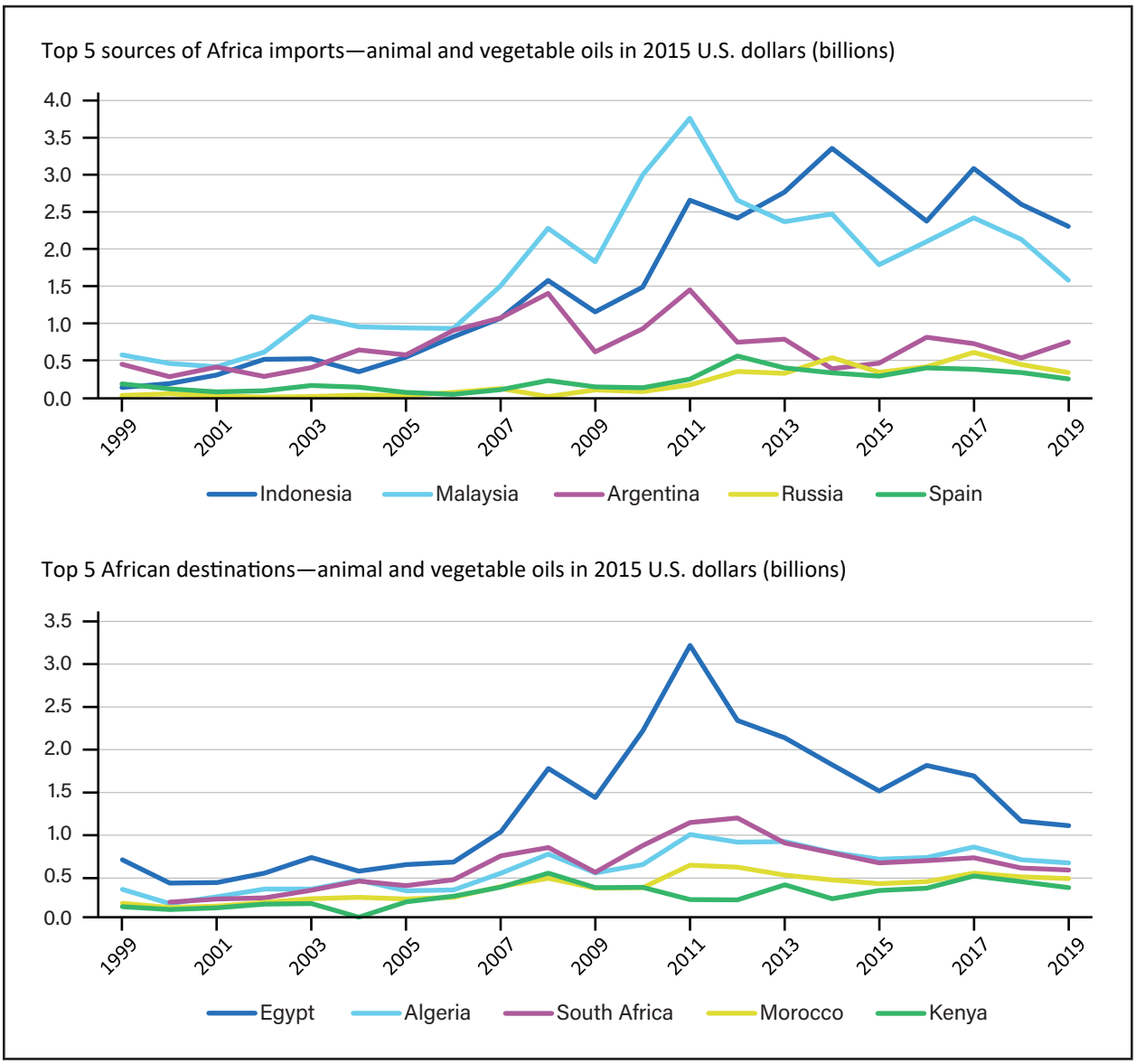
Source: USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.

and India are the major sources of rice, followed by Pakistan, China, and Vietnam (Table A3.7 in the appendix).

Animal and vegetable oils mostly come from Asia, especially Indonesia and Malaysia, which have dominated since 2008 (figure 13). A top destination for oils is Egypt, followed by Algeria, South Africa, Morocco, and Kenya. Sources of dairy (mostly fresh and condensed milk) and poultry are dominated by European countries.

For raw meat imports into Africa, Brazil is a leading source, followed by the United States, India, Netherlands, and Spain (figure 14). Major destinations for raw meats are Egypt, South Africa, Angola, Ghana, and Algeria. The bulk of raw meat is poultry followed by beef. Poultry was almost double the value

Figure 13
Top sources of animal and vegetable oils imports and destinations in Africa



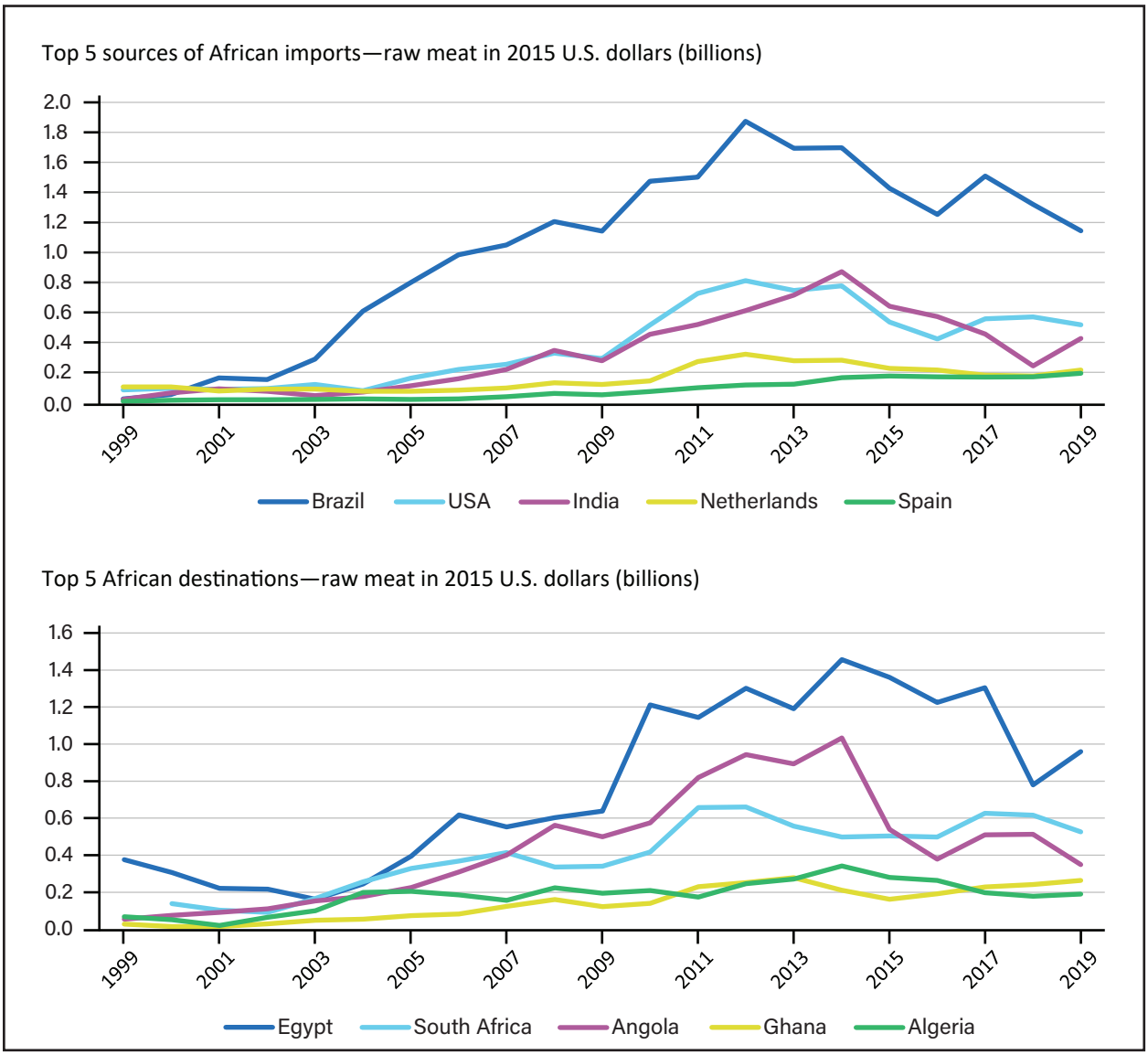
Source: USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.

of beef imports from outside Africa between 2017 and 2019.[18] South Africa is the largest African importer of poultry products followed by Angola, Ghana, and Egypt (see appendix table A4).

Prepared cereals, including miscellaneous prepared foods, have also seen growth in imports as the appetite for processed foods has grown with urbanization and rising incomes in many African countries (Reardon et al., 2021). As figure 15 shows, leading importers are Nigeria, Senegal, Algeria, Angola, and Libya. Among these are major oil exporters that can more easily afford imports of higher value processed foods, as with raw meat imports. Key sources of imports are the EU (especially France, Ireland, and Netherlands), Turkey, and Malaysia. Imports of prepared cereals and miscellaneous prepared foods are less concentrated in a few

[18] USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.

Figure 14
Top sources of African raw meat imports and destinations in Africa

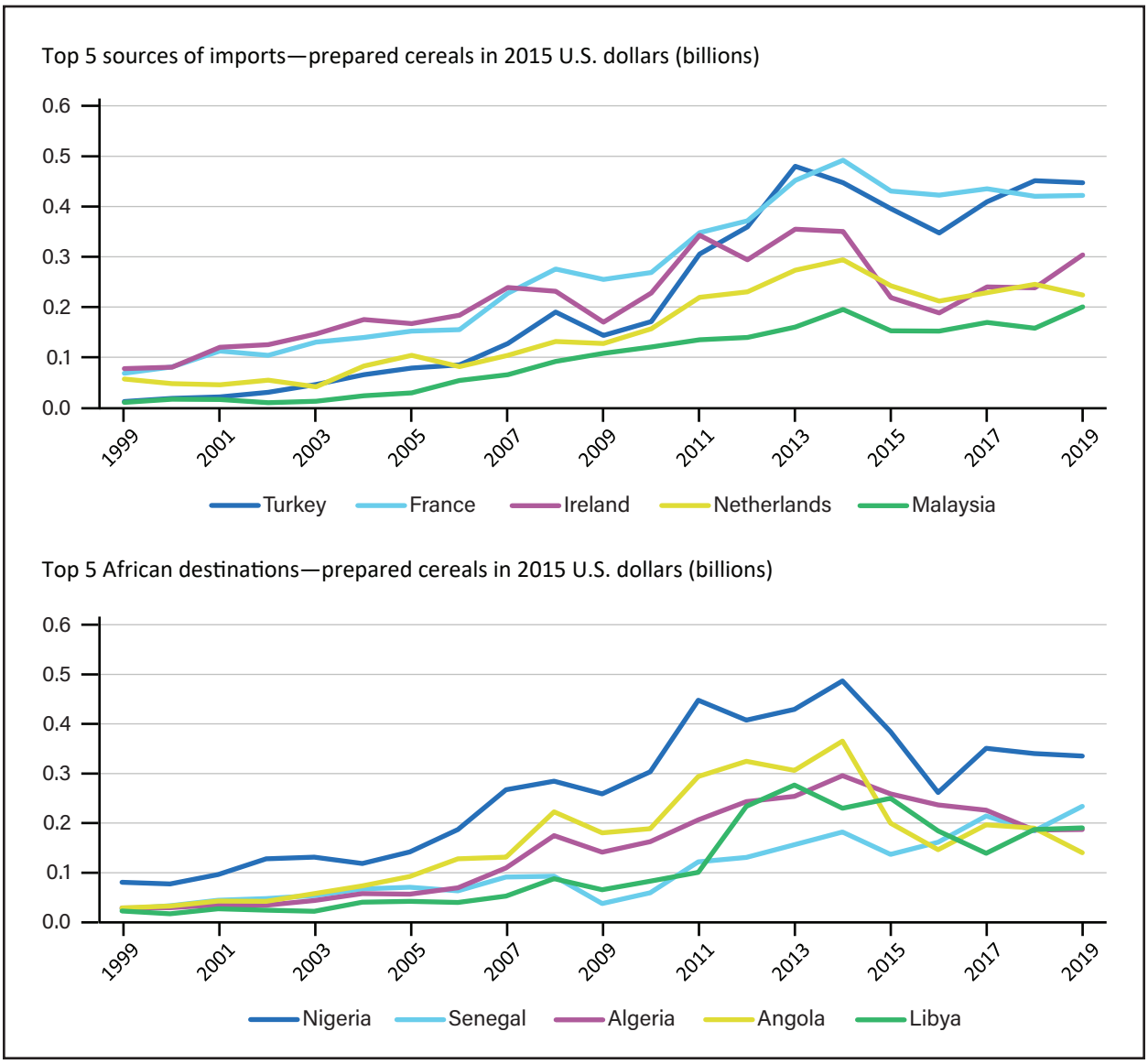


Source: USDA, Economic Research Service calculations based on International Trade Data (BACI) 2021.

countries. The top 5 importers account for only about 32 percent of total imports on the continent (see table A9 in the appendix). Imports from within Africa are even lower, at 25 percent. This is another sign of the rising importance of rapid urbanization across Africa.

Prospects for continued growth in the demand for cereals and high-value agricultural imports remains positive. The high rates of population growth in Africa are projected to continue to drive future demand for cereals and poultry meat over the next decade, according to the most recent USDA Agricultural Projections to 2031 report (USDA, 2022). The joint outlook report by the Organization for Economic Co-operation and Development (OECD) and Food and Agricultural Organization (FAO) (OECD/FAO, 2021) also projects continued growth in demand for livestock and fish, increasing up to 11 percent per year for middle income countries in Africa, such as Egypt, Ghana, Kenya, and South Africa.

Figure 15
Top sources of prepared cereal imports and destinations in Africa



Source: USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.

U.S. Agricultural Trade with Africa

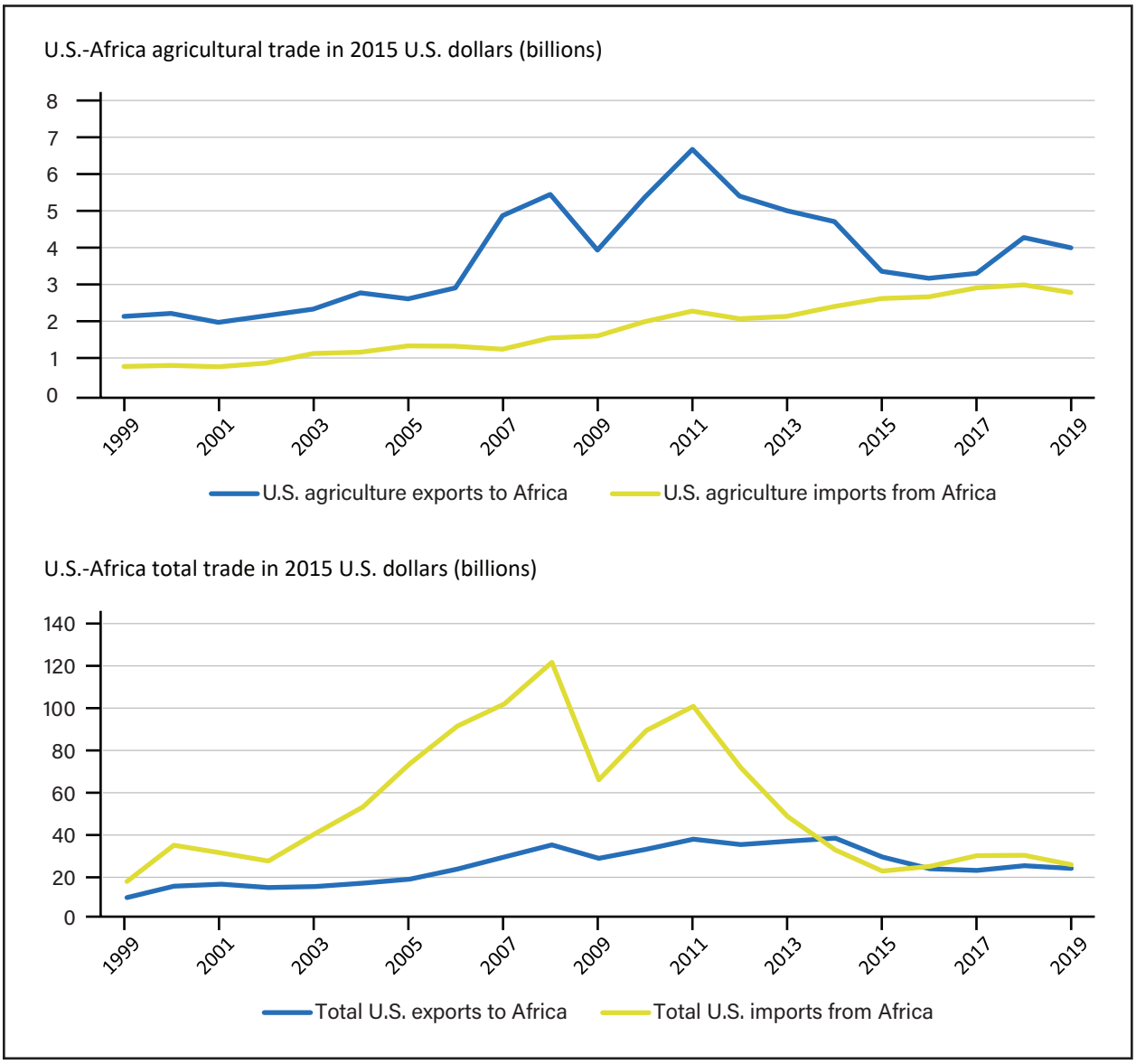
Looking more closely at U.S.-African trade, oil and minerals led U.S. imports from Africa— sometimes accounting for as much as 80 percent of imports from the region at the turn of the century (1999–2001). But oil and minerals recently declined in importance to the United States. In 2019, they only accounted for about 43 percent of imports from Africa.[19] In contrast, U.S. imports of agricultural products from Africa have more than doubled in terms of share in total imports—from 3.7 percent to 9.4 percent over the same period (1999–2019). This is partially due to the AGOA program, which provides duty-free access in U.S. markets for eligible countries and commodities and has had an overall trade creation impact for several African countries

[19] USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.

involved, such as Angola, South Africa, Kenya, Namibia, Ethiopia, Botswana, Tanzania, Gabon, Togo, and Lesotho (Coulibaly & Kassa, 2022).

U.S. agricultural exports to Africa also grew in their share of total exports to the region, from 3 percent to about 15 percent in the most recent period for which data is available (2017–19).[20] Overall, the United States has enjoyed an agricultural trade surplus with Africa, although that has been decreasing since 2015 (figure 16, top panel). This is primarily due to a decline in U.S. cereals exports and a steady growth of agricultural imports from Africa, about 4.6 percent per year since 2010. Overall, while the United States typically had a deficit in terms of total trade with Africa, this has also closed due to the decline in imports of mineral fuels from the region (figure 16, bottom panel).

Figure 16
U.S. trade with Africa—exports and imports, 1999–2019

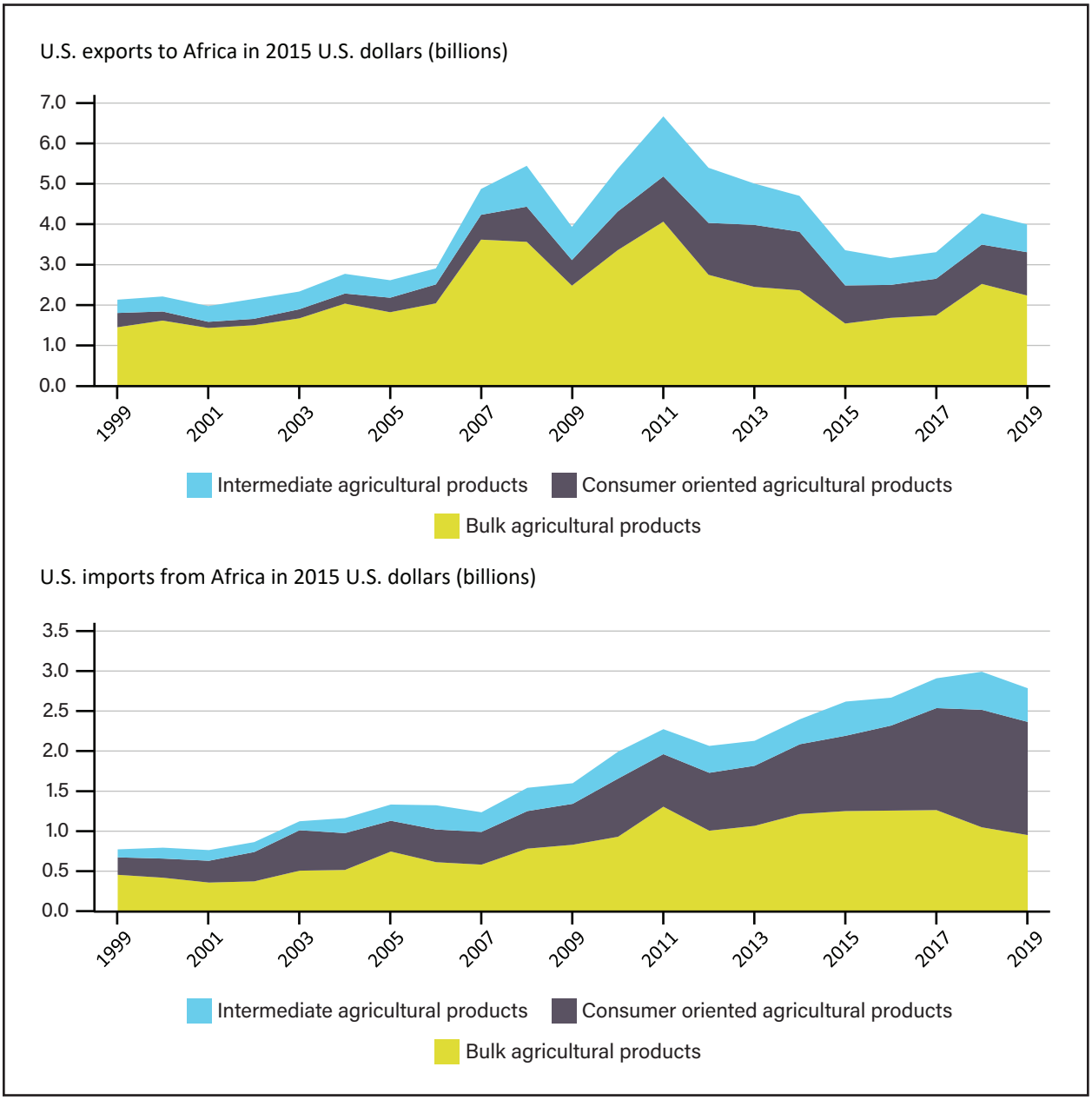


Sources: USDA, Economic Research Service calculations based on U.S. Census Bureau Trade Data via USDA, Foreign Agricultural Service (top panel), and USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021 (bottom panel).

[20] Statistics calculated by USDA, Economic Research Service based on International Trade Data (BACI).

U.S. agricultural exports to Africa are led by bulk commodities, mostly soybeans, wheat, and corn (figure 17). Consumer-oriented agricultural products follow, including poultry meat and dairy products. Intermediate goods refer to soy meal, vegetable oils, and other feeds and fodder. Consumer-oriented and intermediate agricultural goods made up 44 percent of U.S. agricultural exports to Africa in 2017–19, up from 29 percent in 1999–2001. While U.S. agricultural imports from Africa used to be led by bulk commodities (such as cocoa and coffee), consumer-oriented and intermediate agricultural goods now make up a majority of U.S. agricultural imports from Africa (figure 17). U.S. imports of consumer-oriented and/or semi-processed products from Africa have been growing since the early 2000s. Much of these are exports from North African countries and South Africa.

Figure 17
Composition of U.S. agriculture trade with the AfCFTA region, 1999–2019



AfCFTA = African Continental Free Trade Area.

Source: USDA, Economic Research Service calculations based on U.S. Census Bureau Trade Data via USDA, Foreign Agricultural Service (FAS). 2021.

Africa's imports from the United States increased rapidly in more recent years for poultry meat and soybeans—which have both grown over time at about 16 percent per year on average (table 2). The two now rank among the largest U.S. agricultural exports to Africa. Soymeal imports appear to have modest growth during this period as well. This suggests that the rising demand for poultry in Africa is driving demand for poultry meats and poultry feed ingredients for domestic production (Andam et al., 2017).

Among bulk commodities, Africa's agricultural exports to the United States have changed little. Traditional export commodities such as cocoa, coffee, and tobacco continue to dominate U.S. imports from the region, although coffee has surpassed tobacco in its ranking (table 3). Cocoa mostly comes from Côte d'Ivoire, while coffee sources include Ethiopia, Kenya, Uganda, Rwanda, and Tanzania. Imports of unroasted coffee grew at an average rate of 11.3 percent per year since 2000—much of it because of Ethiopia's share of U.S. imports, rising from 22 percent in 2000 to almost 50 percent by 2019.

Table 2
Top U.S. agricultural commodity exports to the AfCFTA region

Commodity categories and commodities	Export value (2015 U.S. dollars, millions)		Rankings within each commodity category		Annual percent growth
	1999–2001	2017–19	1999–2001	2017–19	2000–19
Bulk agricultural products					
Soybeans	46.1	908.4	4	1	15.9
Wheat	819.6	721.2	1	2	-0.9
Corn	545.3	247.3	2	3	-9.8
Coarse grains (except corn)	7.9	81.7	7	4	14.2
Rice	61.4	74.6	3	5	1.6
Consumer-oriented agricultural products					
Poultry meat and products*	29.2	428.4	4	1	16.8
Dairy products	32.3	118.9	3	2	8.5
Tree nuts	8.6	101.2	6	3	16.5
Beef and beef products	34.7	86.6	2	4	10.6
Other food preparations	19.6	82.5	5	5	10.4
Intermediate agricultural products					
Soybean meal	92.0	139.0	1	1	5.1
Vegetable oils NESOI	71.9	127.7	2	2	2.6
Other feeds and fodders	41.5	118.6	4	3	7.1
Distillers grains	0.0	69.6	19	4	-
Planting seeds	20.1	47.3	6	5	5.4

* Excludes eggs.

AfCFTA = African Continental Free Trade Area. NESOI = not elsewhere specified or indicated.

Source: USDA, Economic Research Service calculations based on U.S. Census Bureau Trade Data via USDA, Foreign Agricultural Service, 2021.

Table 3
Top U.S. agricultural commodity imports from the AfCFTA region

Commodity categories and commodities	Export value (2015 U.S. dollars, millions)		Rankings within each commodity category		Annual percent growth
	1999–2001	2017–19	1999–2001	2017–19	2000–19
Bulk agricultural products					
Cocoa beans	260.4	746.3	1	1	7.2
Coffee, unroasted	60.0	261.6	3	2	11.3
Tobacco	61.9	32.4	2	3	-2.8
Other bulk commodities	9.7	21.1	6	4	4.5
Oilseeds NESOI	12.5	17.4	5	5	4.5
Consumer oriented agricultural products					
Spices	53.5	456.0	1	1	8.2
Tree nuts	19.6	222.7	6	2	15.5
Chocolate and cocoa products	33.8	205.5	2	3	10.3
Fresh fruit	32.7	131.5	3	4	8.1
Processed vegetables	29.7	104.6	4	5	7.1
Intermediate agricultural products					
Vegetable oils NESOI	12.2	136.3	3	1	16.0
Other intermediate	29.2	62.4	2	2	5.1
Sugars and sweeteners	48.0	62.2	1	3	1.2
Industrial alcohols and fatty acids	0.0	58.8	13	4	0.0
Essential oils	8.0	49.1	5	5	10.1

AfCFTA = African Continental Free Trade Area. NESOI = not elsewhere specified or indicated.

Source: USDA, Economic Research Service calculations based on U.S. Census Bureau Trade Data via USDA, Foreign Agricultural Service, 2021.

Consumer-oriented imports from Africa also have not changed very much in composition. But niche products such as spices (especially vanilla) and tree nuts (especially cashew nuts) grew substantially. The value of imports for tree nuts grew the fastest, at about 15.5 percent per year since the turn of the century. About 90 percent is imported from five countries—South Africa, Kenya, Côte d'Ivoire, Mozambique, and Benin. Among intermediate commodities, vegetable oils surpassed other commodities in the same category to rise from third to first place after growing at about 16 percent per year since 2000.

Across the commodity categories, agricultural trade between the United States and Africa has changed some over time. U.S. agricultural imports from Africa shifted slowly toward consumer and intermediate goods, which together now account for 62.5 percent of total agricultural imports from the continent. The high growth in imports of niche products such as spices and tree nuts explains some of this. Vegetable oils imports also increased. Although bulk commodities like cocoa and unroasted coffee grew over the same period, they did not do so at the same pace.

U.S. agricultural exports to the region also evolved due to rising demand for poultry meat and soybeans on the continent. As a result, U.S. exports of these two commodities to Africa grew at about 16 percent per year on average. The United States continues to hold a firm lead among other exporters of soybeans to Africa but faces stiffer competition from the EU and Brazil for poultry meat markets in the region. In contrast, U.S. traditional cereals exports to Africa have declined. For example, the share of wheat exports to Africa dropped behind Russia, France, and Ukraine. The U.S. share of wheat exports to Africa was 29 percent in 1999–2001, declining to 7 percent in 2017–19 (table A5 in the appendix).

U.S. corn exports to Africa also declined—from 62 percent in 1999–2001 to 7.5 percent in 2017–20. The leading corn suppliers to Africa are now Argentina, Ukraine, and Brazil (table A6 in the appendix). An area of increased demand in Africa is miscellaneous food preparations for which the United States also witnessed growth in exports to the region (table 2).

In summary, agricultural trade with Africa has been more volatile for U.S. exports to the region than imports from the region. The composition of U.S. agricultural exports has been slowly changing in favor of consumer and intermediate goods. This may be a sign of changing dynamics of consumer demand in Africa and the loss of market share for U.S. cereals exports in the region to emerging exporters (Russia, Ukraine, and the MERCOSUR countries in South America). Africa's agricultural trade with Asia has also grown rapidly for oil seeds exports and rice imports. Large growing trade partners for Africa in Asia include China, Thailand, India, Pakistan, Vietnam, and Indonesia.

Delving Deeper into Africa's Intraregional Agricultural Trade

Increasing intra-Africa trade is a major objective of AfCFTA. Since 2000, the value of agricultural trade between African countries expanded in tandem with total agricultural trade—both growing at 6.2 percent and 6.7 percent annually between 2000 and 2019, respectively (figure 18).

The modest growth of total intra-Africa agricultural trade resulted in more than doubling the value of trade in this sector. For nonagriculture, intraregional trade grew even faster, at 7.2 percent annually relative to 5.9 percent for total nonagricultural trade with the world. This is especially significant considering the sector accounts for the bulk of total trade, about 88 percent. An important caveat to this, however, is the exclusion of informal intra-Africa trade (see box Africa's Unrecorded Informal Trade). Examining the composition of intraregional trade in the region can help highlight changing patterns at a more aggregate level.

Africa's Unrecorded Informal Intraregional Trade

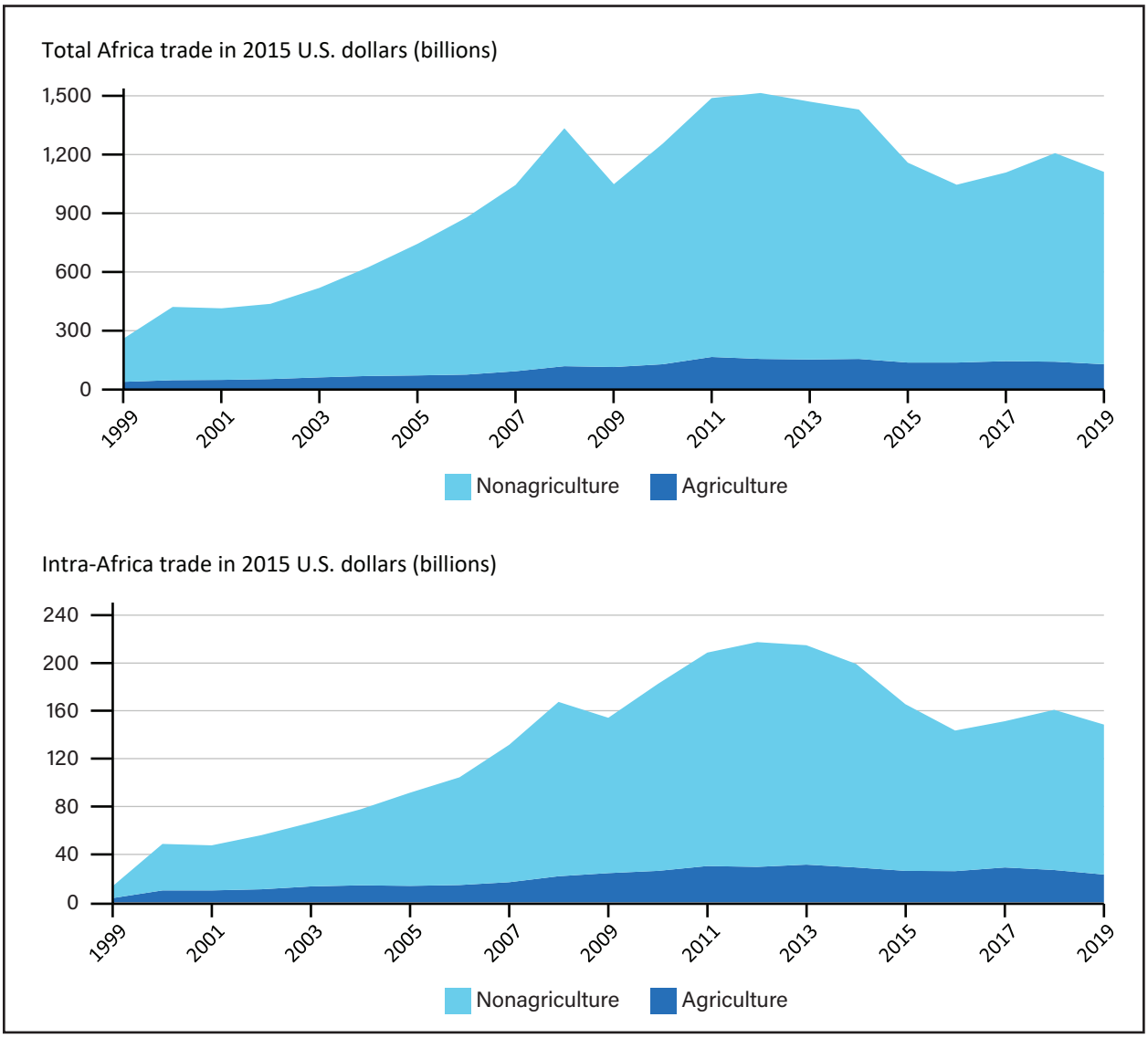
An important caveat to these findings is that this analysis excludes informal intra-Africa trade. This type of trade includes border crossings by small traders whose trade volumes fall below reporting requirements; or at non-official border crossings, as well as formal border crossings that are not accurately declared or classified (Bouët et al., 2020). Informal intra-Africa cross-border trade not captured in official statistics is likely a non-trivial portion of total intra-Africa trade. Using a gravity model approach, Villoria (2008) estimate that missing trade could be valued at approximately $300 million per year and that the extent of unmeasured informal trade is likely to be highest among lower income countries in Central and West Africa. Along with geographic variability, the composition of missing trade is also likely not equally distributed. That is, some types of products, such as raw agricultural staple foods, may be more likely to be traded informally than others.

Figure 19 presents data on the composition of agriculture and nonagriculture trade within Africa and with the world by product group. Agricultural trade within Africa shifted away from agricultural raw materials toward agricultural consumer goods trade over time (figure 19, left panel). Consumer goods explain about half of intra-Africa agricultural trade in 2017–19 and much of the growth in agricultural trade within the region over the last two decades. The share of trade for consumer goods is also higher within Africa rela-

tive to its share with the rest of the world (figure 19, right panel); this is also true, but to a lesser degree, for nonagriculture.

What are the consumer goods being traded in agriculture? As figure 20 illustrates, much of the intra-Africa trade in agricultural consumer goods is dominated by miscellaneous prepared foods, beverages (such as water, soft drinks, and alcoholic beverages), cooking oils, sugars, and prepared cereals.[21] All five products comprise about 64 percent of the trade in agricultural consumer goods.

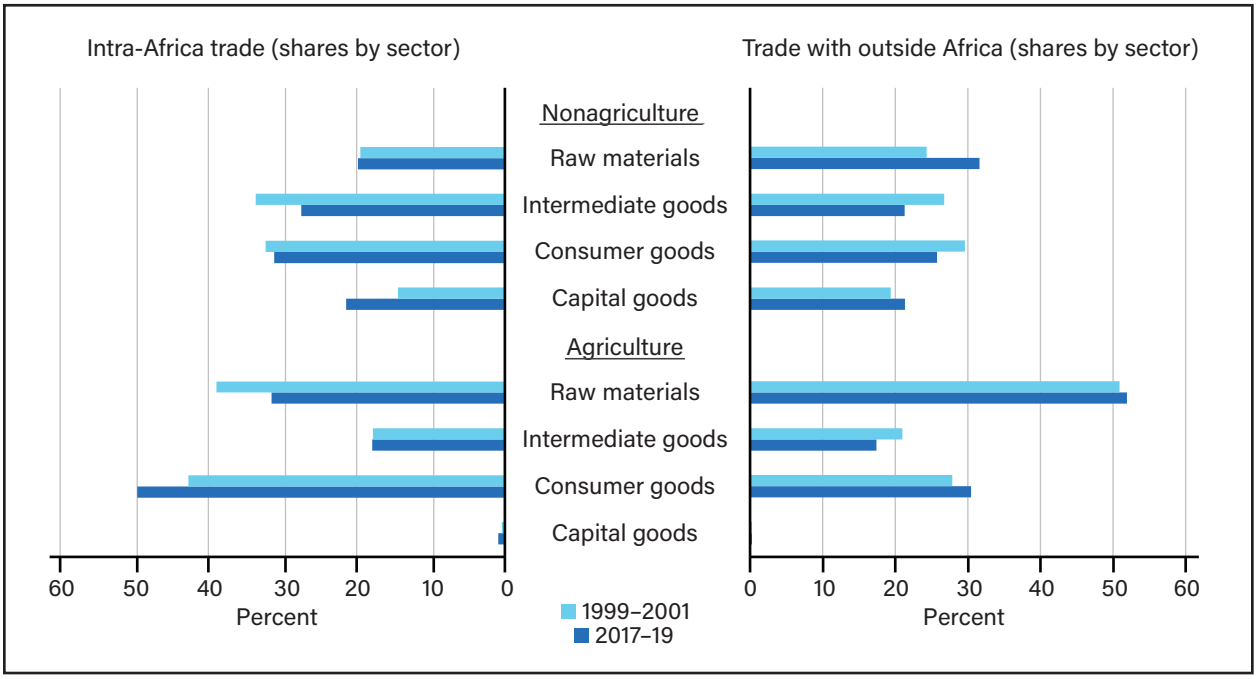
Figure 18
Total and intra-African agricultural and nonagricultural trade



Source: USDA, Economic Research Service based on International Trade Data (BACI), 2021.

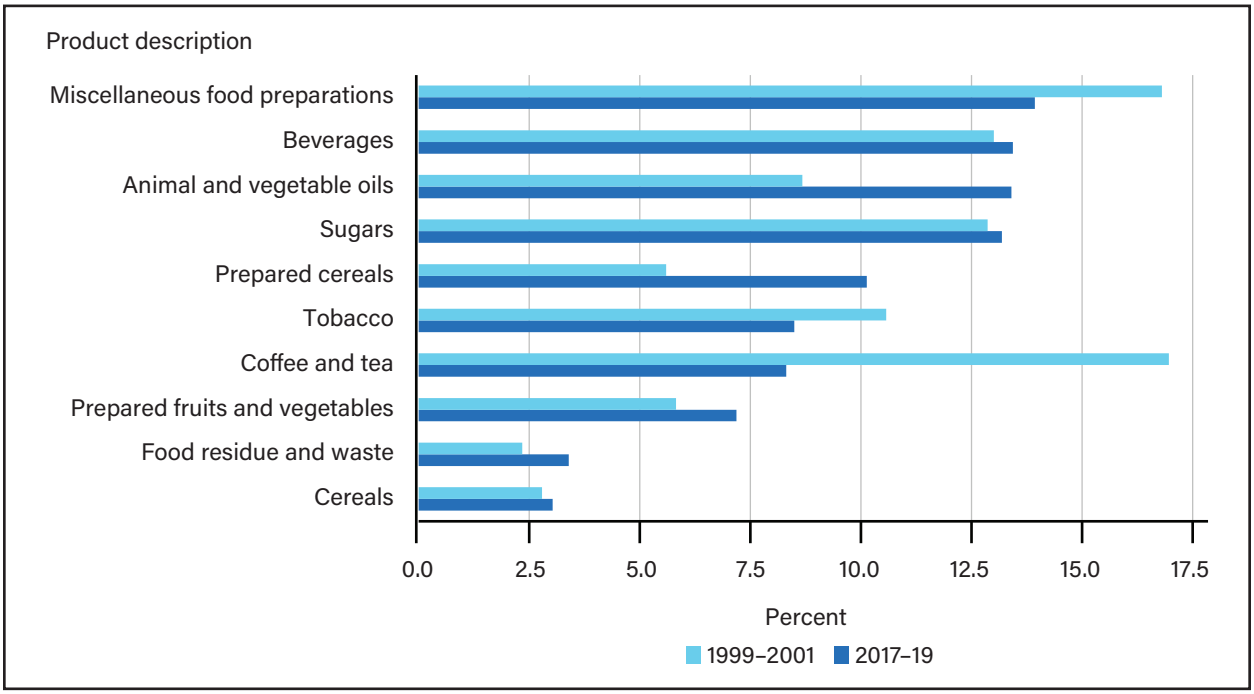
[21] The rise of miscellaneous prepared foods (typically targeted for the growing supermarkets on the continent), including prepared cereals and fruits and vegetables, is indicative of a rise in demand for value-added, convenience foods amidst Africa's ongoing urbanization (Reardon et al., 2003).

Figure 19
Composition of African agricultural and nonagricultural trade by sector, destination, and product group classification



Source: USDA, Economic Research Service using International Trade Data (BACI), 2021.

Figure 20
Share of agricultural consumer goods in intraregional agricultural trade



Source: USDA, Economic Research Service using International Trade Data (BACI), 2021.

For miscellaneous prepared foods, demand grew about 6.4 percent per year since 2000 (figure 21). Several key markets include Mozambique, Mali, Nigeria, Botswana, and Namibia. Another growth area of import demand is prepared cereals (not shown here), which grew even faster at 9.5 percent per year between 2000 and 2019.[22] The top five destinations are Botswana, the Democratic Republic of Congo (DRC), Libya, Ghana, and Nigeria. Major sources for processed food products are typically the larger economies with well established agro-industries such as South Africa, Egypt, Tunisia, and Senegal.

Other major agricultural goods traded include sugars, cereals, milled products, vegetables, and roots (as raw and intermediate products). Dairy and poultry were also within the top 10 raw and intermediate agricultural goods traded within Africa over the 2017–19 period by value, accounting for 5.5 percent of the total value of trade in this category. In fact, while poultry meat demand in Africa increased imports from outside Africa, much of the intraregional trade in poultry is in eggs (i.e., under dairy and poultry). Key markets were Kenya, Mozambique, Libya, Botswana, and Namibia. Kenya sourced its dairy and poultry from Uganda, while all others import them from South Africa. For poultry meat and eggs combined, top sources within the region are South Africa, Benin, Namibia, Zambia, and Morocco, the bulk of which are poultry eggs (see table A4 in the Appendix. Destinations include Mozambique, Nigeria, and the Democratic Republic of the Congo (DRC).

These continent-wide trends in intra-Africa trade mask important subregional trade differences among Africa's existing RECs and free trade areas. Some of Africa's subregional trading blocs or RECs have agricultural sectors that are relatively integrated while others are more reliant on trading partners outside their respective regions (figure 22). Among Africa's RECs, the SADC has the highest share of intraregional agricultural trade. It more closely matches those of the ASEAN region (figure 4). Based on the RTI index, SADC also is more introverted than other African RECs. The exception is the EAC.[23]

The close integration in the SADC and EAC regions suggests the two free trade areas have been relatively successful at facilitating agricultural trade within their trading blocs. For SADC, these findings are further supported by statistical evidence that the implementation of SADC increased both intraregional agricultural trade and external agricultural imports by its members. Part of this success is due to the sheer size and prominence of South Africa's economy in the region which serves as a major trade hub for SADC member countries (Sun and Reed, 2010). Historically, most intraregional trade flows have been between South Africa and the rest of the SADC region given the country's industrial and manufacturing capacity (Isik and Yoshino, 2010).

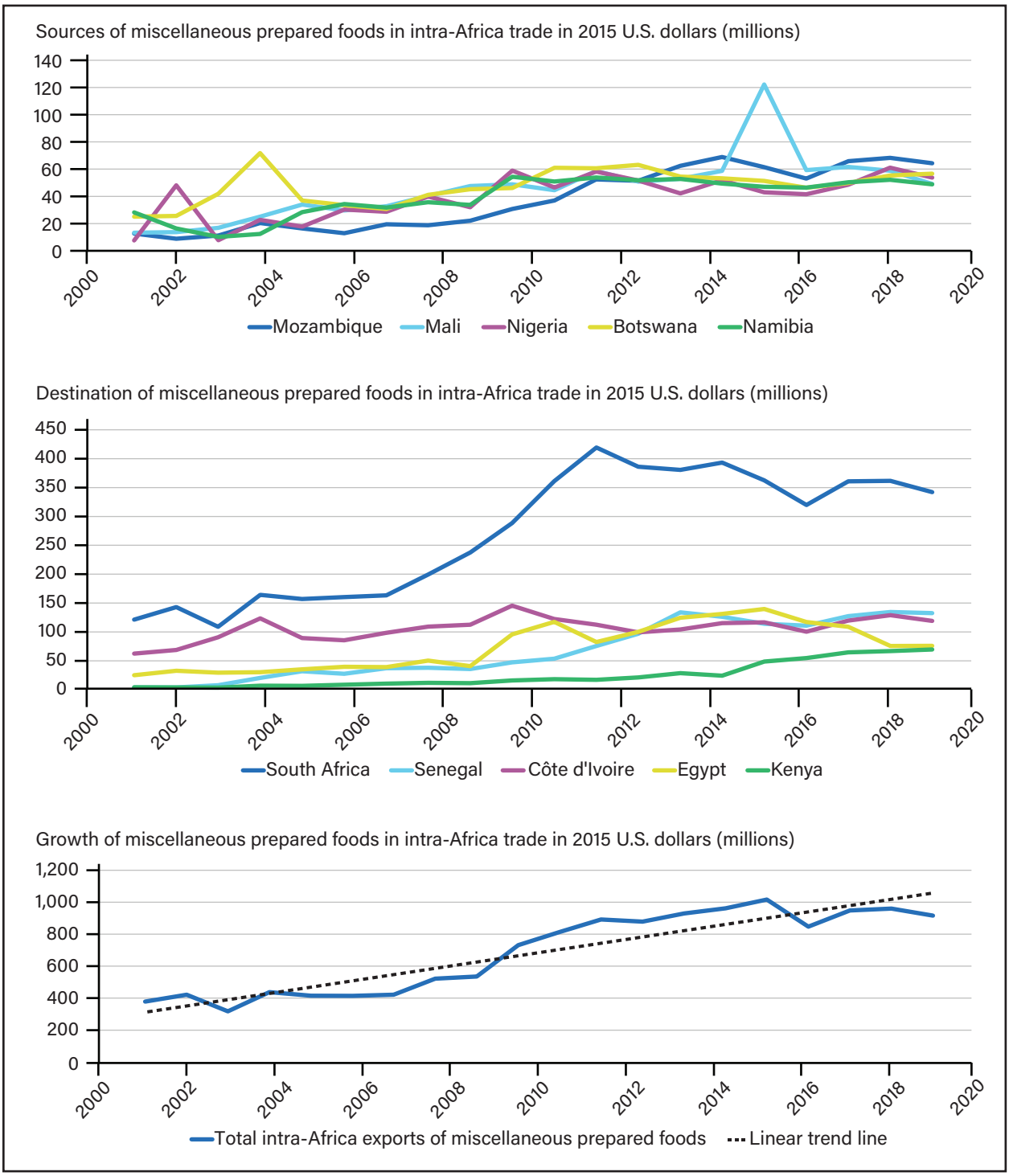
In the case of the EAC region, intra-Africa agricultural trade grew at an average annual rate of 11.3 percent over the 2000–19 period, the fastest rate among all RECs. As a result, EAC increased the share of its agricultural imports sourced from within its own trading bloc from an average of 15 percent in 1999–2001 to 22 percent in 2017–19. Other major African RECs had relatively flat, and often low, intra-RTA shares of agricultural trade over the past two decades (figure 22). This finding is consistent with research showing that, although RTAs in Africa tended to increase intra-Africa trade, the magnitude of increased trade effect declined overtime among many of them (Candau et al., 2019). AMU and ECCAS, two RECs representing North and Central Africa, respectively, remained especially reliant on external agricultural imports, with only a small fraction of their agricultural needs met from within their trading blocs. Many of the countries in these regions rely on mineral and oil exports and have agroclimatic conditions less suited for agricultural production.

[22] Source: USDA, Economic Research Service using International Trade Data (BACI), 2021.

[23] ECCAS also appears to be highly introverted in agricultural trade, a result that may be driven by the DRC's growing agricultural imports from neighboring countries. As it turns, the region is more extroverted in nonagricultural trade (not shown here).

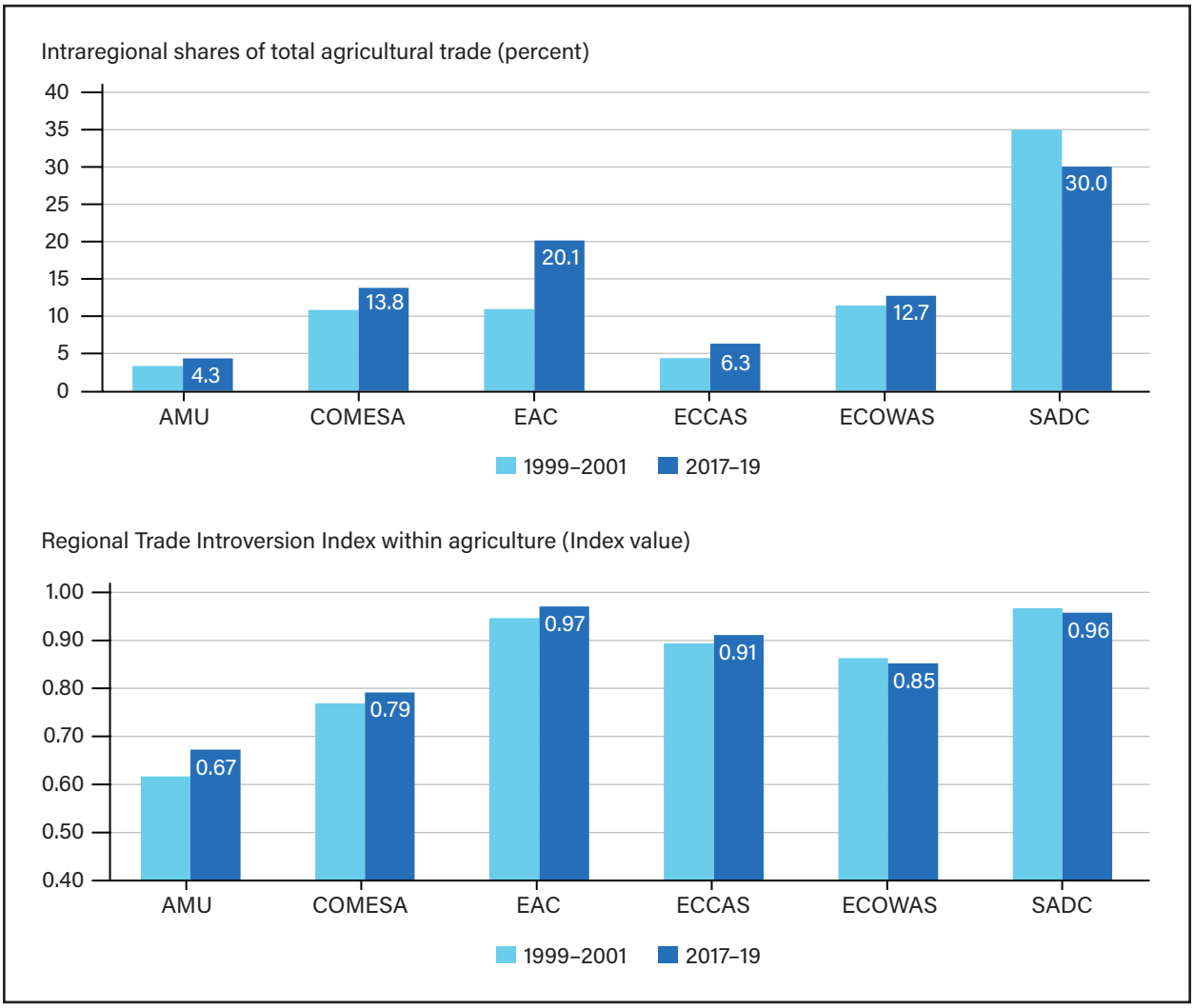
Figure 21

Top sources, destinations, and growth of miscellaneous prepared foods in intra-Africa trade



Source: USDA, Economic Research Service using International Trade Data (BACI), 2021.

Figure 22
Intraregional trade shares and Regional Trade Introversion Index within agriculture by African regional economic community



AMU = Arab Maghreb Union. COMESA = Common Market for Eastern and Southern Africa. EAC = East African Community. ECCAS = Economic Community of Central African States. ECOWAS = Economic Community of West African States. SADC = South African Development Community.

Source: USDA, Economic Research Service using International Trade Data (BACI), 2021.

In looking ahead for AfCFTA, it will be worthwhile to track how existing regional trading hubs such as South Africa may grow, and new ones emerge as intra-Africa trade barriers are slowly removed. These hubs serve to facilitate African trade with the rest of the world. For example, Togo became a major trading hub in West Africa after the country expanded and improved its port facilities and handling capacities.[24] A challenge will be encouraging member countries to diversify away from primary agricultural goods not in high demand by other African countries which could impede intraregional trade growth (Shinyekwa et al., 2020).

AfCFTA provides an opportunity for African countries to strengthen regional ties and further foster intra-Africa agricultural trade. Whether and to what extent this shift occurs has the potential to shape the future of

[24] As noted in a brief on the Sahel and West Africa Club website.

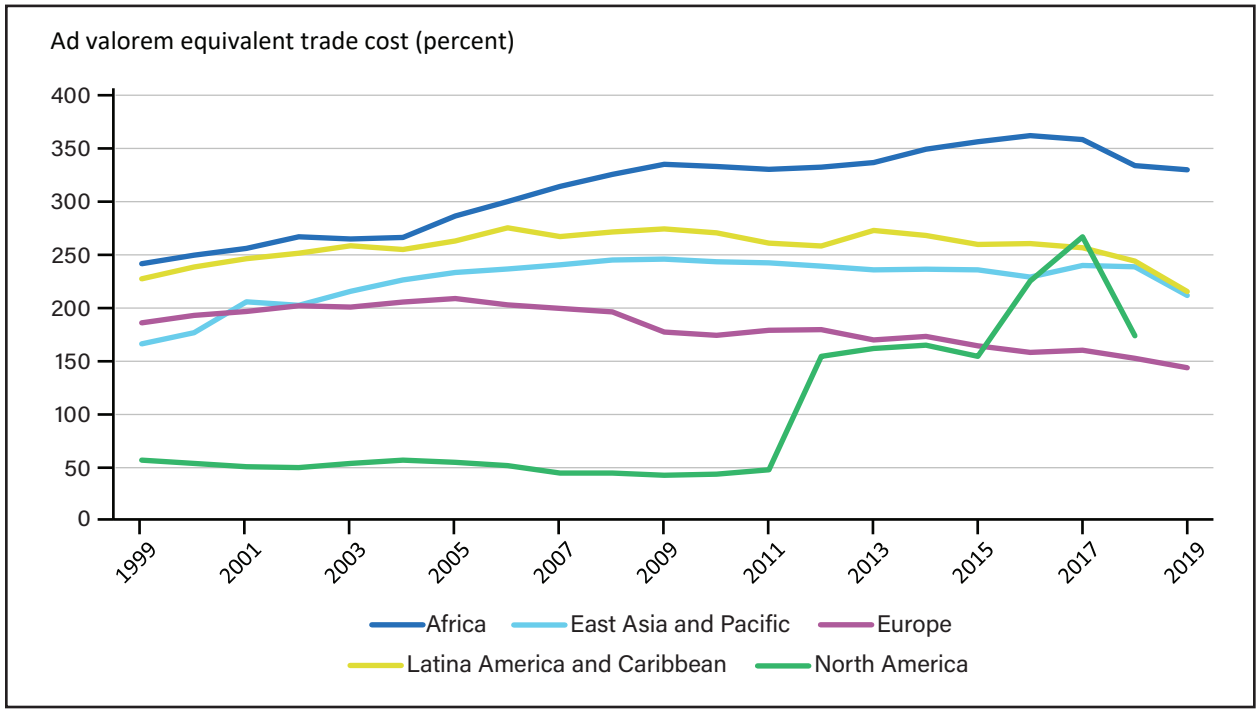
agricultural trade within Africa and with the rest of the world. Furthermore, the ongoing shift in intra-Africa agricultural trade toward higher value consumer goods may provide an opportunity for external trading partners, including the United States, if the growth in demand exceeds the growth in production from intra-Africa trading partners and trade with external partners is also liberalized.

Key Barriers to Trade in Africa

One reason for low levels of intra-African trade are barriers to trade on the continent. Figure 23 highlights that intra-African trade faces relatively higher costs than other regions in the world. Authors used data from the Economic and Social Commission for Asia and the Pacific (ESCAP)-World Bank Trade Cost Database to plot trends in the cost of intraregional agricultural trade over time.[25] The y-axis measures the average ad valorem equivalent of intraregional agricultural trade cost, which can be interpreted as the average additional cost of intraregional agricultural trade relative to the cost of domestic agricultural trade. These data show that since 2005, intraregional agricultural trade costs in Africa surpassed 300 percent the value of traded goods, the highest relative to other major regions of the world.

The high cost of intra-African trade can be categorized across three broad areas: tariffs, non-tariff measures, and other trade barriers.

Figure 23
Intraregional agricultural trade costs over time



Note: Ad valorem equivalent trade costs are expressed as a percentage—they represent the share of total costs associated with importing or exporting a good between two countries (inclusive of tariffs, non-tariff measures, transportation, and other logistics costs and fees, but exclusive of domestic trade costs).

Source: Economic and Social Commission for Asia and the Pacific (ESCAP)-World Bank Trade Cost database, 2021.

[25] The data and data description can be found on the ESCAP website.

Tariff and Non-Tariff Measures

Both tariff and non-tariff polices constrain intra-African agricultural trade. Table 4 reports estimates by Bouët et al. (2017) of average ad valorem equivalent for both tariff and NTMs in different regions and within various free trade areas. Based on these estimates, Africa experiences some of the highest ad valorem equivalents, globally, of import tariffs, for all goods and for agriculture. A similar observation holds when comparing free trade areas within Africa to free trade areas elsewhere in the world. Compared to ASEAN, the EU, and USMCA, all free trade areas on the African continent face impose higher import tariffs with external partners for all goods and specifically for agricultural goods.

A slightly different story emerges when considering just NTMs. Bouët et al. (2017) define NTMs as any barrier that restricts trade between nations including price and quantity controls, anti-dumping policies, sanitary and phytosanitary standards, technical barriers, subsidies, intellectual property rights, and rules of origin.[26] Based on the estimates in table 4, while Africa faces the highest ad valorem equivalent of NTM overall for all goods, this is not the case for agricultural goods specifically.

Table 4
Average ad valorem equivalents of tariff and non-tariff trade measures

	Import tariffs		Non-tariff measures	
	All	Agriculture	All	Agriculture
Africa*	9.67	19.58	15.67	20.85
Asia	5.20	19.01	13.07	22.99
Europe	2.74	13.33	6.46	28.34
Latin America	7.06	14.37	10.49	28.11
North America	2.05	7.16	7.74	24.24
Oceana	2.97	2.36	9.73	29.11
ASEAN	3.93	8.54	-	-
CEMAC	14.57	19.50	-	-
COMESA*	9.95	25.50	-	-
EAC*	11.23	24.22	-	-
ECOWAS*	9.99	13.96	-	-
EU	2.25	10.63	-	-
IGAD*	13.33	21.23	-	-
MERCOSUR	9.47	10.37	-	-
USMCA	2.40	9.10	-	-
SACU*	5.53	12.77	-	-
SADC*	6.98	13.56	-	-
AMU*	10.35	23.31	-	-

Note: An asterisk denotes an African free trade area.

ASEAN = Association of Southeast Asian Nations. CEMAC = Economic and Monetary Community of Central America. COMESA = Common Market for Eastern and Southern Africa. EAC = East African Community. ECOWAS = Economic Community of West African States. EU = European Union. IGAD = Intergovernmental Authority for Development. MERCOSUR = Southern Common Market. USMCA = United States Mexico Canada Agreement. SACU = Southern African Customs Union. SADC = South African Development Community. UMA = Arab Maghreb Union.

Source: USDA, Economic Research Service adaptation from table 1 and table 2 in Bouët et al. (2017).

[26] These policies can either directly limit agricultural trade or indirectly constrain trade by limiting agricultural production, which translates into lower volume of products available for exports. Moreover, relatively frequent changes to trade and trade-related policies create uncertainty for market participants and make it costly to facilitate trade (Dillon and Dambro, 2017).

While NTMs on agriculture remain relatively high, Africa faces the lowest ad valorem equivalent compared to other regions in the world. Clearly, other trade costs unassociated with tariff and non-tariff measures add to the higher total ad valorem equivalent trade costs on the continent (figure 23).

Although reducing tariffs across all sectors could enhance intra-African trade, reducing NTMs and other trade costs could likely have a large impact on facilitating intra-African trade (Bouët et al., 2017; Karonga, 2021). Table 5 summarizes several studies that model the economic welfare effects of trade liberalization under a continental free trade agreement in Africa. All the studies find that the estimated benefits of reducing or eliminating tariffs are much smaller than the estimated benefits of reducing NTMs (Mevel and Karingi, 2012; Jensen and Sandrey, 2015; Chauvin et al., 2016). Moreover, the studies that only model reducing or eliminating tariffs find much more ambiguous results, citing that eliminating tariffs leads to a precipitous decline in government revenue (Mureverwi, 2016; Geda and Yimer, 2019). Therefore, reducing NTMs could be more beneficial than reducing tariffs through free trade negotiations (Jensen and Sandrey, 2015; Mevel and Karingi, 2012).

Table 5
Summary of studies estimating the effect of a free trade agreement

Authors	Tariff barrier reduction?	Non-tariff measure reduction?	Estimated result	Method	Specific detail
Mevel and Karingi, 2012	Full elimination of tariff barriers	Reduced time to import or export	Increased exports and income associated with a free trade agreement	Computable general equilibrium model	Addressing non-tariff measures are essential
Jensen and Sandrey, 2015	Full elimination of tariff barriers	50 percent reduction in non-tariff measures and 20 percent reduction in time to import or export	Increased welfare associated with a free trade agreement, with important heterogeneity across countries	Computable general equilibrium model	Only modest gains associated with eliminating tariff barriers; larger gains associated with eliminating non-tariff measures
Chauvin et al., 2016	Full elimination of tariff barriers	50 percent reduction in non-tariff measures and a 30 percent reduction in time to import or export	Increased trade and economic growth in the long-term associated with a free trade agreement	Computable general equilibrium model	Greater gains from the reduction on non-tariff measures than the elimination of tariffs
Mureverwi, 2016	Full elimination of tariff barriers	N/A	Increased labor demand, capital accumulation, terms of trade, allocative efficiencies	Computable general equilibrium model	Eliminating tariffs increase welfare, but dramatically reduce government revenue
Geda and Yimer, 2019	Full elimination of tariff barriers	N/A	Increased annual value of trade associated with a free trade agreement	Partial equilibrium model	The fragility of these results demonstrates the need for caution

Note: N/A = not available.

Source: USDA, Economic Research Service.

Other Trade Barriers

Other key barriers to trade in Africa are the poor state of infrastructure, institutions, and regulatory systems. Market and trade transaction costs are high countries in Africa (Hatzenbuehler, 2019; Baquedano et al., 2011). A key contributing factor is high transportation costs relative to other regions of the world. Some studies estimate that these costs are 40–100 percent higher in Africa than in Southeast Asia (Rizet and Gwet, 1998), with even higher costs in landlocked African countries (MacKellar et al., 2002). Others (Atkin and Donaldson, 2015; Porteous, 2019) estimate that transportation costs are more than five times higher in Sub-Saharan African than elsewhere in the world.

What makes the cost of transportation so high in Africa compared to other regions? There are at least three possible explanations:

(1) Poor and inadequate road and rail systems, warehouses, and seaport-handling facilities are a common problem across the continent. Most roads in Sub-Saharan Africa are poorly maintained and remain unpaved (African Development Bank, 2014). This increases time spent traveling and, in turn, increases associated travel costs (e.g., fuel, vehicle maintenance).

(2) Transportation distances in Africa are longer than in other regions of the world. A typical person in Sub-Saharan Africa is 13 percent farther from economic markets than a person elsewhere in the world. (Behar and Venables, 2011). Focusing on Ethiopia and Nigeria, Atkin and Donaldson, (2015) found that after accounting for differences in the quality of roads, the cost associated with shipping distance is over two times higher in Ethiopia and four times higher in Nigeria than in the United States.

(3) Customs and border infrastructure (e.g., access restrictions, technical regulations) increases the time and costs of importing and exporting goods in Africa. The average time to export and time to import are roughly three times higher in Sub-Saharan Africa than in OECD countries, and nearly twice as high as in Latin America (Mevel and Karingi, 2012).

These factors help explain why the supply response to significant trade liberalization in the 1990s was slow. In Uganda, for example, Milner et al. (2000) showed that the implicit cost of non-policy barriers to trade (e.g., poor infrastructure and remote locations) are higher than the explicit cost of policy barriers to trade (e.g., export taxes). Intra-African exports are positively associated with infrastructure development, particularly of roads (Olney, 2020). In a review of empirical studies on the economic effect of AfCFTA, Karonga (2021) concluded that although trade flows and other economic outcomes may likely improve with the establishment of AfCFTA, the magnitude of the associated gains could be higher if tariff liberalization and infrastructure development were to be coupled. Recent research on road quality in Ethiopia support the conclusion that improving road infrastructure could magnify the gains associated with tariff liberalization (Fiorini et al., 2021). However, focusing solely on roads, a narrow definition of infrastructure, may not reduce trade costs on their own (Teravaninthorn and Raballand, 2009). Trade costs can also be lowered further by improving other infrastructure such as access to electricity, cold storage facilities, improved port handling capabilities, and improved connectivity. Moreover, another often cited reason for high trade costs in Africa are inefficient administrative procedures at customs and border stations (Bouet et al, 2020). The inefficiencies affect the time it takes to clear goods in customs which adds burdensome costs to traders and especially for perishable agricultural products being traded. They also discourage the development of supply chains, agri-food trade, and involvement in global agri-business value chains. Instead, an integrated approach that seeks to improve the quantity and quality of road networks, implement innovative approaches to overcome long transportation distances, improve other infrastructure such as cold storage, and reduce administrative and technical barriers at customs and border stations may likely prove more effective.

Conclusion and Prospects for United States-African Agricultural Trade

African countries have committed to implementing the African Continental Free Trade Area (AfCFTA)—which, when fully implemented, may become among the largest free trade areas in the world. This free trade area could particularly influence African agricultural trade as growth in their economies could increase the demand for processed agricultural products, offering expanding opportunities for agriculture and agri-business growth in the region. The free trade area may also provide greater trade and investment opportunities for external partners like the U.S. as trade barriers and costs are lowered between member countries, national economies grow, and trade infrastructure is improved. However, this will take time and challenges remain. Improving the poor conditions of basic infrastructure such as roads, access to electricity and cold storage facilities, port handling capacities, transportation costs, and administrative and customs clearance procedures is an enormous long-term challenge. A more immediate challenge specific to the AfCFTA is harmonizing and lowering non-tariff measures (such as SPS, TBTs, rules of origin, etc.) across a diverse group of 52 member countries with varied colonial experiences, languages, and existing political economies more generally.

This report examines past and emerging trends in Africa's agricultural trade leading up to the AfCFTA to discuss sources and destinations of commodities being traded. Particular attention was given to assessing changing patterns of agricultural trade from within and outside the continent, including within existing free trade areas.

Summary of Key Findings

Results from the data assessment highlight critical emerging trends on Africa's agricultural trade with the world and the United States in particular:

- Africa continues to rely heavily on agricultural imports. The real value of Africa's agricultural imports grew by 7.4 percent annually over the 1999–2019 period, surpassing the approximately 6-percent annual growth rate of its agricultural exports. Major agricultural imports include bulk commodities, such as cereals (including prepared cereals), dairy (mostly fresh and condensed milk), meats (especially poultry), and animal and vegetable oils. Cereals, especially wheat, rice, and corn (maize), account for more than one-third of Africa's agricultural imports by value. High urban population growth rates suggest that these trends of growth in agricultural imports could continue.
- The United States lost wheat and corn market share in Africa to Eastern Europe and South America. The share of Africa's wheat imports sourced from the Unites States fell from 29 percent in 1999–2001 to 7 percent in 2017–19. Russia and Ukraine, in contrast, sourced more than 45 percent of Africa's wheat imports over 2017–19, up from less than 5 percent in 1999–2001. The U.S. share of Africa's corn imports fell from over 60 percent in 1999–2001 to less than 10 percent in 2017–19. Argentina and Brazil, in contrast, increased their combined shares from less than 20 percent to more than 50 percent over the same period.
- Asia continues to be the leading source of Africa's growing rice imports. Top sources for Africa's rice imports in 2017–19 include Thailand (32 percent), India (25 percent), Pakistan (11 percent), China (7 percent), and Vietnam (7 percent). India, in particular, increased its share of Africa's rice imports by 20 percent over the last decade. Like processed foods and wheat, rice is replacing local staples as a preferred diet in some urban areas due to its ease of preparation (Gyimah-Brempong et al., 2016; Reardon et al., 2021).

- Raw meat imports, especially poultry, also grew significantly—Africa's poultry imports increased by over 400 percent since 1999. Leading meat sources in 2017–19 were the European Union (31 percent), Brazil (27 percent), and the United States (20 percent). Major destinations for poultry exports to Africa in 2017–19 include South Africa (20 percent), Angola (13 percent), Ghana (9 percent), and Egypt (8 percent).

- Historically, European partners have accounted for a significant share of Africa's agricultural trade (exports plus imports) with partners outside the continent; however, trade with others has been growing over the past two decades. For example, China and Brazil have increased their share of Africa's agricultural trade, respectively from about 0.9 percent and 1.3 percent (1999–2001) to 5.1 percent and 6.3 percent more recently (2017–19). In contrast, the European Union's shares declined from a high of 34 percent to 25 percent over the same period.

- Among Africa's imports from the Unites States, demand for poultry meat and soybeans increased more rapidly over time, growing about 16 percent per year on average. The United States continues to hold a firm lead among other exporters of soybeans to Africa but faces stiffer competition from the EU and Brazil for poultry meat markets in the region.

- Evidence exists of a growing share of intra-Africa trade in high-value agricultural commodities. Consumer-oriented agricultural goods explain about half of intra-Africa agricultural trade from 2017–19 and much of the growth in agricultural trade within the region over the last two decades. Intra-Africa agricultural trade is greatest among the more deeply integrated subregional FTAs in the region (the EAC and SADC).

- Among the consumer-oriented agricultural products traded within Africa, several key markets include Botswana, the Democratic Republic of Congo, Libya, Ghana, Mozambique, Mali, Namibia, and Nigeria. Major sources are middle income countries with well established agro-industries or major trade hubs such as South Africa and Egypt. Consumer-oriented agricultural goods include sugars, beverages, miscellaneous prepared foods, animal and vegetable oils, dairy and poultry, and prepared cereals.

- Prospects for continued growth in the demand for agricultural imports in Africa remain positive given high rates of population growth, especially in urban areas. For example, demand for cereals and sugars is expected to continue growing over the next decade according to the most recent USDA agricultural projections (USDA 2022) and joint outlook report by OECD and FAO (OECD/FAO, 2021). The same outlook also projects continued growth in demand for livestock and fish, growing up to 11 percent per year for middle income countries such as Egypt, Ghana, Kenya, and South Africa.

- A big challenge for agricultural trade growth with Africa is the persistence of high trade barriers and costs. As the data showed, Africa has some of the highest trade barriers in the world, including tariffs (especially in agriculture), non-tariff measures, and other trade costs. Key barriers that contribute to the region's high trade costs include the poor state of infrastructure, inefficient institutional and regulatory systems.

Once implemented, AFCFTA could provide new opportunities for global agricultural trade and investment, including with the United States. First, by reducing barriers to intra-African trade, AfCFTA may represent an opportunity to accelerate economic growth across the region. Rising populations and incomes may lead to increased demand for all goods, including for U.S. exports. Second, the general lowering of trade barriers among AfCFTA countries may provide a clear platform to further liberalize trade relations with other external partners. This issue will become increasingly important as other AfCFTA provisions are negotiated (especially protocols surrounding NTMs) and other trade programs and agreements evolve. For example,

continued U.S. interest in establishing new agreements with partners in the region may provide new opportunities for liberalized trade flows. Third, increased intra-AfCFTA trade might reduce the costs associated with existing trade on the continent, especially through improved infrastructure. Trade costs may also be reduced by providing technical support for improving trade facilitation and logistics; promoting the improvement of port handling capacities and efficiencies among those linked to major trading corridors and trade hubs in each major sub-region; improving cold storage capacities and handling; and supporting broader development efforts to attract investments and increase overall agricultural productivity growth. Even in the absence of additional liberalization with outside partners, reduced trade costs may incentivize increased trade more broadly.

However, the potential benefits from AfCFTA for global agricultural trade will take time as the agreement is implemented and there are still significant challenges including additional negotiations (e.g., investment, rules of origin, intellectual property) that remain to be addressed. More research is needed on U.S. competitiveness and market conditions that might help inform the direction of future U.S. trade and investment decisions. For example, what value chain investments (e.g., infrastructure, cold storage, communication technologies) may support increased U.S. trade flows and efficient markets? How will the collection of domestic support policies in place across Africa affect trade in the region and the competitiveness of U.S. agricultural exports? What are the comparative advantages of different trading partners given existing connections in the region? This is especially important as China has emerged as a leading bilateral trade and investment partner with the continent. Further research is needed to examine the extent to which such trends have already impacted the competitiveness of U.S. agricultural and food exports to the region and how this may change once the AfCFTA is fully operational.

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Appendix

Table A1
County and regional destinations of Africa's agricultural exports, 1999–2019

Top 20 country destinations					
	Export value (2015 U.S. dollars, millions)		Rankings		Annual percentage growth
	1999–2001	2017–19	1999–2001	2017–19	2000–19
Netherlands	1,818	4,872	3	1	5.5
France	1,937	3,135	2	2	2.8
USA	1,130	2,835	5	3	5.8
Germany	1,370	2,338	4	4	4.4
United Kingdom	2,074	2,312	1	5	0.2
China	185	2,274	29	6	14.3
Vietnam	41	2,260	35	7	26.9
India	563	2,200	10	8	10.4
Spain	547	1,763	11	9	7.6
Saudi Arabia	532	1,740	12	10	9.3
Belgium	672	1,730	8	11	5.9
Italy	1,106	1,285	6	12	1.8
United Arab Emirates	118	1,271	33	13	15.8
Russian Federation	277	1,208	20	14	8.7
Malaysia	125	1,138	32	15	15.8
South Africa	843	1,133	7	16	2.9
Turkey	234	993	22	17	9.0
Kenya	308	946	16	18	8.2
Egypt	233	876	23	19	9.2
Pakistan	223	844	25	20	7.5
Global regional trade agreement destinations					
	Export value (2015 U.S. dollars, millions)		Rankings		Annual percentage growth
	1999–2001	2017–19	1999–2001	2017–19	2000–19
EU27	9.00	17.48	1	1	4.3
AfCFTA	5.67	14.88	2	2	6.2
Other	4.19	9.81	3	3	5.7
RCEP	1.97	8.70	4	4	9.4
ASEAN	0.86	5.14	6	5	12.0
USMCA	1.41	3.57	5	6	5.9
MERCOSUR	0.24	0.34	7	7	6.5

Notes: EU27 = European Union inclusive of the United Kingdom. AfCFTA = Africa Continental Free Trade Area. RCEP = Regional Comprehensive Economic Partnership. ASEAN = Association of Southeast Asian Nations. USMCA = United States-Mexico-Canada Agreement. MERCOSUR = Southern Common Market (South America).

Source: USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.

Table A2

Country and regional sources of Africa's agricultural imports, 1999–2019

Top 20 country sources					
	Export value (2015 U.S. dollars, millions)		Rankings		Annual percentage growth
	1999–2001	2017–19	1999–2001	2017–19	2000–19
Russian Federation	101	6,483	27	1	24.1
Brazil	1,183	6,021	6	2	9.5
France	2,712	4,975	2	3	4.4
USA	3,589	4,606	1	4	1.6
Argentina	1,441	4,605	4	5	6.7
South Africa	1,720	3,948	3	6	5.2
India	490	3,774	19	7	14.1
Indonesia	329	3,160	21	8	14.0
Ukraine	168	2,940	25	9	22.0
China	731	2,833	14	10	9.0
Malaysia	606	2,661	17	11	9.0
Thailand	774	2,617	13	12	7.8
Netherlands	1,215	2,483	5	13	5.4
Spain	682	2,092	16	14	7.6
Germany	1,101	1,854	7	15	5.4
Turkey	396	1,784	20	16	11.3
United Arab Emirates	77	1,758	28	17	21.7
Canada	901	1,485	10	18	4.3
Belgium	866	1,398	11	19	3.4
Italy	950	1,210	9	20	2.0
Global regional trade agreement sources					
	Export value (2015 U.S. dollars, millions)		Rankings		Annual percentage growth
	1999–2001	2017–19	1999–2001	2017–19	2000–19
EU27	9.4	19.8	1	1	5.5
AfCFTA	5.7	14.9	2	2	6.2
RCEP	4.1	14.8	4	3	8.6
MERCOSUR	2.7	11.2	5	4	8.4
ASEAN	2.2	9.9	7	5	9.5
Other	2.6	9.7	6	6	9.6
USMCA	4.6	6.5	3	7	2.3

Notes: EU27 = European Union inclusive of the United Kingdom. AfCFTA = Africa Continental Free Trade Area. RCEP = Regional Comprehensive Economic Partnership. ASEAN = Association of Southeast Asian Nations. USMCA = United States-Mexico-Canada Agreement. MERCOSUR = Southern Common Market (South America).

Source: USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.

Table A3

Rankings of Top 25 global exporters of agricultural products, 1999–2019

	2015 U.S. dollars, millions			Annual percentage growth	Rankings	
	1999–2001	2009–11	2017–19	2000–19	1999–2001	2017–19
United States	80.2	136.8	140.9	4.1	1	1
Netherlands	46.1	89.9	90.0	4.0	3	2
Brazil	21.5	76.2	80.8	8.1	8	3
Germany	36.2	83.6	80.5	4.7	4	4
France	48.2	75.8	68.5	2.2	2	5
China	17.7	40.7	53.7	6.9	12	6
Spain	21.0	40.7	49.7	4.7	10	7
Italy	22.1	41.5	47.0	4.2	7	8
Canada	22.9	40.7	44.7	4.5	6	9
Belgium	23.6	42.1	42.9	3.4	5	10
Australia	19.6	33.3	35.7	4.2	11	11
Argentina	16.4	39.8	35.5	5.2	13	12
Indonesia	6.9	28.6	34.3	10.4	21	13
Mexico	10.3	20.3	32.7	7.1	15	14
India	8.0	25.7	31.1	9.8	20	15
Poland	3.9	19.2	30.1	12.4	29	16
United Kingdom	21.5	29.5	29.6	2.2	9	17
Thailand	9.5	24.0	29.5	7.6	18	18
New Zealand	9.5	21.4	24.1	5.5	17	19
Malaysia	8.6	27.5	22.8	6.3	19	20
Russia	2.1	11.7	22.3	13.4	45	21
Ukraine	2.6	12.7	20.0	12.7	39	22
Vietnam	3.5	11.1	17.9	11.1	32	23
Denmark	12.7	19.9	17.6	1.9	14	24
Turkey	5.7	14.2	17.6	7.7	22	25

Notes: Highlighted rows represent the five emerging BRIIC countries (Brazil, Russia, Indonesia, India, and China) and the two new entrants into the top 25 (Ukraine and Vietnam).

Source: USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.

Table A4

Raw poultry meats and dairy and poultry eggs imports—sources and destinations from outside and within Africa, 1999–2019

	2015 U.S. dollars, millions			Shares			Annual percentage growth	
	1999–2001	2009–11	2017–19	1999–2001	2009–11	2017–19	2000–20	2010–20
Top sources from outside Africa								
EU	247.3	571.6	710.3	57.1	26.4	31.1	7.8	0.8
Brazil	44.8	736.2	609.9	10.3	34.0	26.7	14.4	-5.7
United States	43.0	311.0	461.1	9.9	14.4	20.2	15.0	0.5
Sub-total	335.1	1,618.8	1,781.3	77.4	74.8	78.0		
Total AfCFTA	49.9	284.3	177.1	11.5	13.1	7.8	8.3	-3.0
Total world	433.0	2,165.6	2,284.0	100.0	100.0	100.0	10.6	-1.8
Top destinations from outside Africa								
South Africa	57.0	345.4	455.1	13.2	16.0	19.9	12.2	1.8
Angola	45.5	373.4	302.7	10.5	17.2	13.3	11.4	-7.4
Ghana	14.5	127.9	194.2	3.4	5.9	8.5	15.9	3.1
Egypt	6.5	164.4	187.8	1.5	7.6	8.2	28.4	-5.1
Libya	21.0	80.6	140.4	4.8	3.7	6.1	17.8	7.2
Benin	80.2	237.7	131.8	18.5	11.0	5.8	6.2	-11.0
Congo	20.1	101.2	107.4	4.6	4.7	4.7	10.9	-1.7
DRC	15.0	87.2	95.7	3.5	4.0	4.2	9.6	-0.8
Sub-total	259.9	1,517.8	1,615.2	60.0	70.1	70.7		
Top sources from within Africa								
South Africa	36.5	156.4	100.0	73.2	55.0	56.5	8.1	-5.5
Benin	1.7	88.5	23.1	3.4	31.1	13.0	19.4	102.3
Namibia	0.3	6.6	15.7	0.7	2.3	8.9	18.3	23.8
Zambia	2.7	2.5	10.8	5.3	0.9	6.1	14.1	23.9
Morocco	0.0	3.3	9.3	0.0	1.2	5.2	58.0	9.3
Sub-total	41.2	257.2	158.9	82.5	90.5	89.7		
Top destinations from within Africa								
Mozambique	8.8	19.3	41.3	17.6	6.8	23.3	13.5	7.5
Lesotho	0.0	31.4	30.3	0.0	11.1	17.1	-	-0.9
Nigeria	1.7	89.1	23.6	3.3	31.3	13.3	12.1	26.9
DRC	0.3	5.5	18.6	0.6	1.9	10.5	13.7	29.6
Namibia	20.1	65.0	11.2	40.3	22.9	6.3	-2.5	-21.0
Sub-total	30.9	210.4	124.9	61.8	74.0	70.5		

Notes: AfCFTA = African Continental Free Trade Area. EU= European Union. DRC = Democratic Republic of the Congo.

Source: USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.

Table A5

Cereals (wheat) imports—sources and destinations from outside and within Africa, 1999–2019

	2015 U.S. dollars, millions			Shares			Annual percentage growth	
	1999–2001	2009–11	2017–19	1999–2001	2009–11	2017–19	2000–20	2010–20
Top sources from outside Africa								
Russian Federation	31.0	2,518.7	5,747.7	0.7	16.2	39.6	30.5	10.2
France	678.5	3,237.8	1,726.8	15.7	20.8	11.9	5.7	-9.1
Ukraine	58.1	627.2	1,297.3	1.3	4.0	8.9	19.8	5.2
Canada	678.2	975.8	1,024.6	15.6	6.3	7.1	3.8	-0.2
United States	1,238.9	2,508.4	999.1	28.6	16.1	6.9	-1.9	-14.0
Sub-total	2,684.7	9,867.8	10,795.5	61.9	63.3	74.4		
Total AfCFTA	61.8	185.3	60.8	1.4	1.2	0.4	2.0	-13.7
Total world	4,333.9	15,578.1	14,504.6	100.0	100.0	100.0	7.4	-2.0
Top destinations from outside Africa								
Egypt	764.6	4,522.8	4,514.7	17.6	29.0	31.1	11.3	-1.7
Sudan	269.7	1,201.3	1,695.3	6.2	7.7	11.7	9.0	-2.4
Algeria	1,112.4	2,081.4	1,634.4	25.7	13.4	11.3	3.2	-2.5
Nigeria	341.1	1,715.1	1,633.1	7.9	11.0	11.3	7.8	1.2
Morocco	525.7	1,080.6	900.5	12.1	6.9	6.2	4.4	-3.4
Tunisia	243.6	513.0	406.2	5.6	3.3	2.8	3.9	-3.4
Kenya	135.1	380.6	400.4	3.1	2.4	2.8	9.3	3.6
South Africa	115.5	466.9	378.3	2.7	3.0	2.6	8.0	-3.6
Sub-total	3,507.6	11,961.8	11,562.7	80.9	76.8	79.7		
Top sources from within Africa								
South Africa	41.2	83.3	43.3	66.7	45.0	71.2	2.7	-8.5
Rwanda	0.0	0.0	4.0	0.0	0.0	6.6	NA	NA
Mauritius	1.0	0.1	2.4	1.7	0.0	4.0	NA	NA
Egypt	0.0	0.2	1.9	0.0	0.1	3.2	NA	NA
Kenya	0.1	2.1	1.9	0.2	1.1	3.1	12.7	-0.5
Sub-total	42.4	85.7	53.5	68.5	46.2	88.0		
Top destinations from within Africa								
Zimbabwe	0.5	25.8	14.4	0.9	13.9	23.7	16.9	-2.0
Botswana	1.0	30.2	12.6	1.5	16.3	20.8	11.1	-12.4
Lesotho	0.0	14.2	6.8	0.0	7.6	11.2	NA	-14.8
Zambia	18.9	5.3	4.8	30.6	2.8	7.9	-19.3	48.0
Namibia	0.0	6.3	3.9	0.1	3.4	6.4	23.7	-8.6
Sub-total	20.4	81.8	42.6	33.1	44.1	70.1		

Notes: AfCFTA = African Continental Free Trade Area. NA = not applicable due to zero values in the data.

Source: USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.

Table A6

Cereals (corn or maize) imports—sources and destinations from outside and within Africa, 1999-2019

	2015 U.S. dollars, millions			Shares			Annual percentage growth	
	1999–2001	2009–11	2017–19	1999–2001	2009–11	2017–19	2000–20	2010–20
Top sources from outside Africa								
Argentina	216.9	816.6	1,361.2	17.0	22.8	34.6	10.6	3.5
Ukraine	1.5	540.0	678.6	0.1	15.1	17.3	28.5	-0.5
Brazil	27.0	382.1	669.7	2.1	10.7	17.0	42.9	1.6
United States	792.7	832.3	296.9	62.2	23.3	7.5	-9.7	-11.0
Sub-total	1,038.2	2,571.0	3,006.4	81.5	71.9	76.4		
Total AfCFTA	132.6	540.7	480.2	10.4	15.1	12.2	5.2	-2.3
Total world	1,273.9	3,573.8	3,933.3	100.0	100.0	100.0	6.6	-0.8
Top destinations from outside Africa								
Egypt	586.6	1,398.4	1,516.3	46.1	39.1	38.6	6.8	-1.0
Algeria	183.2	615.0	681.8	14.4	17.2	17.3	8.8	-1.3
Morocco	104.1	417.7	416.2	8.2	11.7	10.6	7.8	-2.4
Tunisia	84.9	195.8	178.3	6.7	5.5	4.5	4.3	-4.2
Kenya	25.6	51.9	161.8	2.0	1.5	4.1	-16.9	9.8
Libya	35.4	181.4	97.7	2.8	5.1	2.5	6.7	-12.6
Nigeria	0.1	3.9	96.5	0.0	0.1	2.5	44.8	32.9
South Africa	26.9	38.0	88.4	2.1	1.1	2.2	4.2	19.5
Sub-total	1,046.7	2,902.1	3,236.9	82.2	81.2	82.3		
Top sources from within Africa								
South Africa	76.4	336.4	222.2	57.6	62.2	46.3	2.7	-1.3
Uganda	16.1	25.2	83.7	12.2	4.7	17.4	11.3	-4.0
Zambia	3.6	81.4	69.7	2.7	15.1	14.5	24.8	-6.6
Tanzania	1.7	3.2	36.3	1.3	0.6	7.6	13.1	29.0
Mozambique	3.7	8.7	10.7	2.8	1.6	2.2	-7.5	-15.7
Sub-total	101.5	454.8	422.7	76.6	84.1	88.0		
Top destinations from within Africa								
Kenya	24.1	171.5	133.8	18.2	31.7	27.9	12.7	2.3
Zimbabwe	1.8	98.9	55.5	1.4	18.3	11.6	7.9	-14.8
Botswana	10.7	32.6	39.3	8.0	6.0	8.2	NA	-1.6
Tanzania	4.9	13.4	35.2	3.7	2.5	7.3	12.6	3.7
Namibia	10.7	22.2	30.3	8.1	4.1	6.3	8.2	2.6
Mozambique	9.0	28.0	28.5	6.8	5.2	5.9	8.3	1.4
Swaziland	15.1	29.0	24.3	11.4	5.4	5.1	1.8	-2.3
Rwanda	1.1	7.7	23.2	0.8	1.4	4.8	23.1	19.2
Sub-total	77.4	403.3	370.2	58.4	74.6	77.1		

Notes: AfCFTA = African Continental Free Trade Area. NA = not applicable due to zero values in the data.

Source: USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.

Table A7

Rice cereals imports—sources and destinations from outside and within Africa, 1999–2019

	2015 U.S. dollars, millions			Shares			Annual percentage growth	
	1999–2001	2009–11	2017–19	1999–2001	2009–11	2017–19	2000–20	2010–20
Top sources from outside Africa								
Thailand	699.1	2,591.1	2,175.1	36.1	42.4	32.0	7.1	-2.3
India	139.5	310.5	1,722.1	7.2	5.1	25.3	15.9	22.1
Pakistan	147.4	681.7	749.8	7.6	11.2	11.0	12.1	-0.8
China	279.3	91.9	503.7	14.4	1.5	7.4	-0.8	21.3
Vietnam	192.7	809.9	481.1	9.9	13.3	7.1	6.5	-7.4
Sub-total	1,457.9	4,485.2	5,631.9	75.3	73.4	82.8		
Total AfCFTA	92.6	408.7	379.0	4.8	6.7	5.6	7.0	-3.4
Total world	1,936.6	6,106.9	6,805.8	100.0	100.0	100.0	8.1	-0.3
Top destinations from outside Africa								
Benin	41.1	396.8	1,028.2	2.1	6.5	15.1	20.0	11.5
Côte d'Ivoire	213.7	613.4	610.7	11.0	10.0	9.0	6.4	-0.5
South Africa	179.9	517.8	459.3	9.3	8.5	6.7	5.1	-3.6
Senegal	181.5	382.1	412.2	9.4	6.3	6.1	4.5	-1.0
Ghana	65.2	370.9	335.6	3.4	6.1	4.9	9.9	-2.3
Cameroon	55.3	219.6	274.3	2.9	3.6	4.0	10.1	0.8
Kenya	31.5	157.8	257.8	1.6	2.6	3.8	12.3	5.0
Mozambique	52.0	169.6	234.4	2.7	2.8	3.4	10.6	4.0
Sub-total	820.2	2,828.1	3,612.6	42.4	46.3	53.1		
Top sources from within Africa								
Niger	0.1	0.1	129.5	0.1	0.0	34.2	10.7	69.9
South Africa	34.3	77.5	63.8	37.1	19.0	16.8	3.3	-2.6
Senegal	4.9	45.1	40.6	5.3	11.0	10.7	11.1	3.5
Rwanda	0.0	0.1	30.5	0.0	0.0	8.1	NA	103.8
Tanzania	3.4	18.4	27.5	3.6	4.5	7.3	19.4	-0.6
Sub-total	42.6	141.2	291.9	46.1	34.5	77.0		
Top destinations from within Africa								
Nigeria	7.0	67.7	75.9	7.5	16.6	20.0	-6.9	-55.5
Benin	1.7	7.5	63.9	1.9	1.8	16.9	16.0	25.8
DRC	2.1	14.6	50.3	2.2	3.6	13.3	25.3	11.1
Tanzania	4.6	34.2	36.6	5.0	8.4	9.7	11.3	4.9
Botswana	17.9	28.7	25.3	19.3	7.0	6.7	0.1	-1.0
Zimbabwe	2.4	26.4	18.5	2.6	6.5	4.9	18.8	-7.7
Uganda	1.4	7.6	16.9	1.5	1.8	4.5	15.5	-21.9
Swaziland	7.1	15.0	15.4	7.7	3.7	4.1	4.4	-0.4
Sub-total	44.1	201.7	302.8	47.7	49.4	79.9		

Notes: DRC = Democratic Republic of the Congo. AfCFTA = African Continental Free Trade Area. NA = not applicable due to zero values in the data.

Source: USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.

Table A8

Oil seeds (soybeans) imports—sources and destinations from outside and within Africa, 1999–2019

	2015 U.S. dollars, millions			Shares			Annual percentage growth	
	1999–2001	2009–11	2017–19	1999–2001	2009–11	2017–19	2000–20	2010–20
Top sources from outside Africa								
United States	67.6	626.6	942.8	45.9	46.9	62.1	13.7	3.1
Argentina	36.6	363.9	160.6	24.9	27.2	10.6	8.6	-11.9
Ukraine	0.0	48.4	138.7	0.0	3.6	9.1	NA	13.8
Brazil	19.5	70.0	97.9	13.2	5.2	6.4	4.2	31.4
Paraguay	0.0	59.6	55.4	0.0	4.5	3.6	NA	0.6
Sub-total	123.8	1,168.4	1,395.4	84.0	87.4	91.9		
Total AfCFTA	14.3	72.0	38.9	9.7	5.4	2.6	9.7	-0.3
Total world	147.4	1,336.9	1,518.3	100.0	100.0	100.0	13.7	0.5
Top destinations from outside Africa								
Egypt	60.5	801.8	1,148.4	41.1	60.0	75.6	17.7	2.6
Tunisia	0.0	198.7	219.3	0.0	14.9	14.4	NA	-1.0
Algeria	5.4	0.2	41.2	3.7	0.0	2.7	-1.9	54.0
Morocco	49.3	102.1	20.0	33.4	7.6	1.3	-8.9	-15.9
Nigeria	2.1	25.7	19.5	1.4	1.9	1.3	20.0	-7.7
Sub-total	117.3	1,128.4	1,448.4	79.6	84.4	95.4		
Top sources from within Africa								
Zambia	2.9	4.6	14.0	20.1	6.4	35.9	27.7	14.0
Malawi	1.5	4.4	13.0	10.3	6.1	33.4	32.2	16.6
South Africa	2.0	3.7	2.6	13.9	5.2	6.6	0.8	-1.5
Uganda	0.4	1.5	1.9	2.8	2.0	4.8	9.5	-16.2
Tanzania	0.1	56.0	1.8	0.4	77.7	4.7	1.8	-25.5
Sub-total	6.8	70.2	33.2	47.5	97.4	85.4		
Top destinations from within Africa								
Zimbabwe	0.4	4.8	14.3	3.1	6.7	36.7	29.3	19.6
South Africa	8.2	2.1	6.1	57.1	2.9	15.8	12.1	37.6
Kenya	0.6	1.9	5.5	4.4	2.6	14.1	16.4	18.0
Tanzania	0.0	0.1	3.5	0.0	0.1	8.9	NA	114.1
Botswana	0.2	2.1	1.9	1.7	2.9	5.0	10.3	1.5
Sub-total	9.5	10.9	31.3	66.3	15.1	80.4		

Notes: AfCFTA = African Continental Free Trade Area. DRC = Democratic Republic of the Congo. NA = not applicable due to zero values in the data.

Source: USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.

Table A9

Prepared cereals and miscellaneous prepared foods—sources and destinations from outside and within Africa, 1999–2019

	2015 U.S. dollars, millions			Shares			Annual percentage growth	
	1999–2001	2009–11	2017–19	1999–2001	2009–11	2017–19	2000–20	2010–20
Top sources from outside Africa								
France	246.7	635.1	793.8	12.4	6.5	11.0	7.7	0.8
Turkey	53.0	338.4	602.6	2.7	3.5	8.3	14.6	5.5
China	18.4	283.5	376.4	0.9	2.9	5.2	20.6	1.7
Netherlands	89.8	286.1	370.9	4.5	2.9	5.1	9.8	1.3
Ireland	201.8	316.6	302.0	10.1	3.2	4.2	1.6	-2.1
Germany	39.3	133.1	278.5	2.0	1.4	3.8	13.6	8.8
United States	112.8	220.2	269.1	5.7	2.2	3.7	4.2	2.2
Sub-total	762.0	2,213.0	2,993.3	38.2	22.6	41.3		
Total AfCFTA	590.7	1,487.4	1,752.1	29.6	15.2	24.2	7.5	1.2
Total world	1,993.0	9,788.5	7,240.7	100.0	100.0	100.0	8.6	-0.6
Top destinations from outside Africa								
Nigeria	233.5	4,559.1	628.0	11.7	46.6	8.7	6.6	-8.4
South Africa	123.1	402.1	452.2	6.2	4.1	6.2	NA	0.4
Algeria	130.3	375.8	421.6	6.5	3.8	5.8	8.4	-1.7
Egypt	89.9	241.1	309.5	4.5	2.5	4.3	10.8	2.5
Angola	58.4	309.4	275.8	2.9	3.2	3.8	9.7	-5.7
Senegal	65.4	151.8	270.3	3.3	1.6	3.7	7.7	7.4
Sub-total	700.6	6,039.2	2,357.4	35.2	61.7	32.6		
Top sources from within Africa								
South Africa	208.1	567.4	595.8	35.2	38.2	34.0	7.9	-0.6
Egypt	26.5	172.4	181.5	4.5	11.6	10.4	13.3	0.4
Senegal	5.9	81.5	175.2	1.0	5.5	10.0	18.8	7.7
Côte d'Ivoire	85.6	164.4	157.0	14.5	11.1	9.0	2.6	0.5
Tanzania	20.3	31.8	103.6	3.4	2.1	5.9	13.2	20.0
Sub-Total	346.4	1,017.5	1,213.1	58.6	68.4	69.2		
Top destinations from within Africa								
Botswana	37.7	96.9	104.4	6.4	6.5	6.0	4.5	0.1
Mozambique	19.7	56.0	92.4	3.3	3.8	5.3	11.1	4.9
Namibia	32.8	88.1	89.3	5.5	5.9	5.1	7.5	0.1
Tanzania	72.1	106.5	84.0	12.2	7.2	4.8	NA	0.1
DRC	8.9	31.7	77.6	1.5	2.1	4.4	13.1	11.4
Sub-total	171.2	379.1	447.7	29.0	25.5	25.5		

Notes: DRC = Democratic Republic of the Congo. AfCFTA = African Continental Free Trade Area. NA = not applicable due to zero values in the data.

Source: USDA, Economic Research Service calculations based on International Trade Data (BACI), 2021.