



CHAPTER 11

# The Competitiveness of African Agriculture: Revisiting Trade Policy Reform in Africa

Antoine Bouët and Sunday Odjo

International trade is conventionally considered to be an engine of economic growth and economic and social development. While this view is at the heart of the policy recommendations of most international institutions focusing on African agriculture today, it remains controversial for some governments on the African continent and is still debated among some development experts.

Trade policy can be instrumental in enhancing the competitiveness of an economy or a sector. Protectionist trade policies have often been used to support the competitiveness of local farmers in local markets vis-à-vis foreign farmers. However, a more comprehensive accounting of all potential consequences of policy reform reveals that the competitiveness of an economy's agricultural sector is positively affected by policies aimed at the reduction of trading costs, both on the export side and on the import side. Other factors that might influence competitiveness include investment policies, property rights, and the degree of participation in regional trade agreements (RTAs).

Competitiveness is a key notion that is difficult to define. From a microeconomic point of view, it may be understood as the comparison of the prices of the same commodity produced in two different places. From a macroeconomic one, a nation's competitiveness can be viewed as its capacity to augment the national share in world exports of goods and services. European treaties go even further and define the concept as the "capacity of a country to sustainably improve the standard of living of its inhabitants and to provide them with a high level of employment and social cohesion" (Debonneuil and Fontagné 2003, 8).

Competitiveness can be studied through its microeconomic drivers (labor costs, input costs, productivity, etc.) and macroeconomic drivers (trade costs, exchange rates, institutions, etc.). It can also be evaluated through its impact on economic variables such as the level of a country's exports of a product relative to other countries. While the notion of competitiveness is often related to that of productivity, it should be noted that the latter concept refers to an absolute metric (for example, production per capita) while the former refers to a relative metric (for example, comparison of the prices of the same commodity produced in two different countries).

The competitiveness of African economies is generally considered to be low. For Schwab and Sala-i-Martin (2017), who rank 137 countries in terms of competitiveness, all African countries are ranked 67 or below, except Mauritius, which is 47th. The Malabo Declaration states that the African heads of state are concerned "that there is limited progress made in agro-industries and agribusiness development, which hampers value addition and competitiveness of our [African] products in trade both local, regional, and international" (African Union Commission 2014, 2). The declaration aims to address these limitations and restore the competitiveness of African nations in the agricultural and agrifood sectors.

Though many African governments long opted for protectionist policies, especially in the agricultural sector, they have progressively, but not uniformly, adopted more liberal policies since the 1980s. Some governments are now attempting to increase the participation of their agricultural sectors in global or regional value chains. But at the same time, some countries continue to adopt openly protectionist strategies.

Indeed, it is interesting to recall rapidly how African trade policy has evolved since 1950. Figure 11.1 summarizes this evolution.

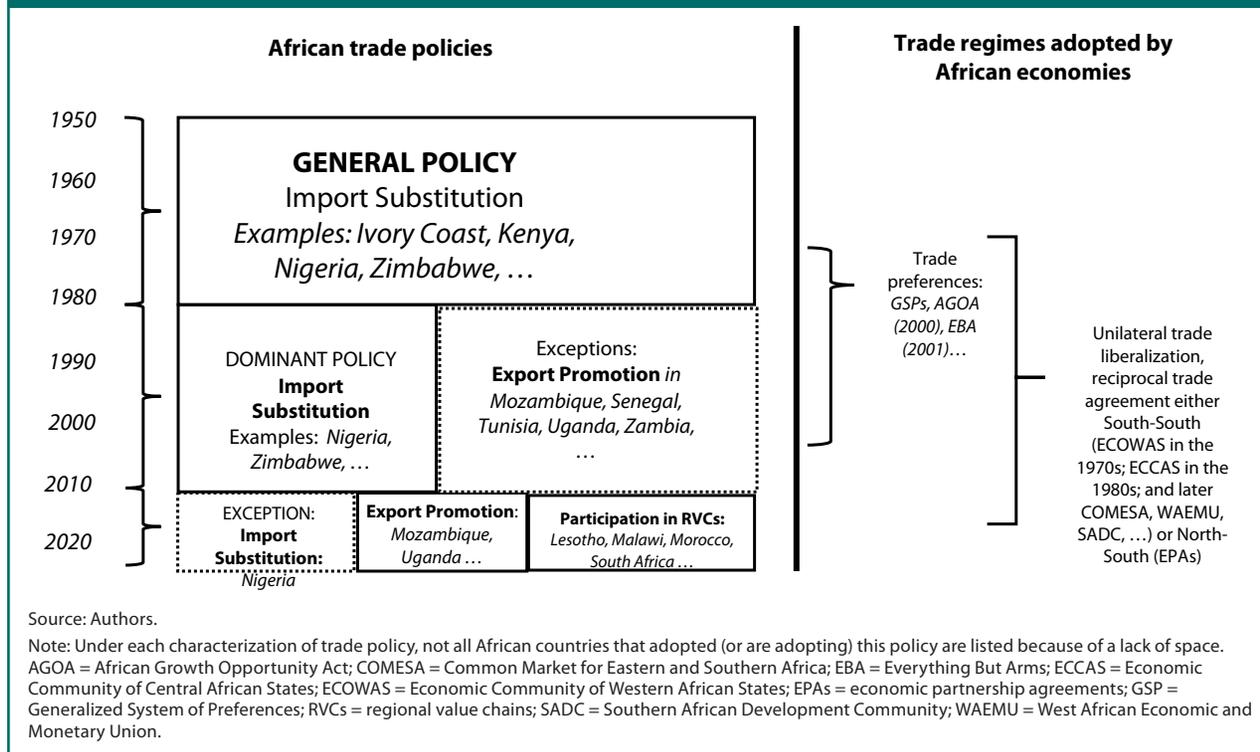
Starting with the African independence period (which for most African countries took place between 1950 and 1975), most African governments adopted protectionist policies. A primary reason was the need for public revenues. Another reason for the widespread adoption of import substitution policies was the belief that limiting or even forbidding foreign competition in the local market could create incentives for domestic investment opportunities.

Import substitution policies were a failure, as evidenced by a series of case studies of policies implemented by developing countries (Bhagwati 1978; Krueger 1978). Those studies concluded that an outward-oriented strategy is better for economic development.<sup>1</sup>

In 1968, at the strong urging of Raul Prebisch, then secretary-general of the United Nations Conference on Trade and Development (UNCTAD), rich countries began to grant trade preferences to developing countries in general and African economies in particular.

<sup>1</sup> The controversy between pro-import substitution strategy and pro-outward oriented strategy economists was renewed at the end of 1990s with the release of a discussion paper by Rodriguez and Rodrik (1999). The paper was strongly criticized by Srinivasan and Bhagwati (1999).

**FIGURE 11.1—EVOLUTION OF AFRICAN TRADE POLICIES, 1950–2020**



A third phase began after 2000. In the 2000s, international value chains have multiplied, resulting in the international decomposition of production processes. The participation of countries with specific tasks along these value chains has increased the efficiency of production structures and multiplied development opportunities for poor countries. Value chains have developed both regionally and globally.

At the global level, it appears that Africa lags far behind in terms of participation in these value chains (Kowalski et al. 2015; Greenville, Kawasaki, and Beaujeu 2017). However, this may largely be because there are few global value chains for the nontraditional agrifood products that are produced by many African countries.

The objective of this chapter is to respond to the question: what can trade policy do for the competitiveness of African agriculture? In the pages that follow, we identify what trade reform consists of, review agricultural policies and market access for African economies,

and provide a measure of agricultural competitiveness before summarizing our conclusions.

## What Is Trade Reform About?

### What Is Trade Policy?

Trade policy includes instruments that affect trade flows, both directly and indirectly: import taxes, import subsidies, export subsidies, and export taxes, but also production taxes and subsidies, sanitary and phytosanitary rules, technical barriers to trade, price controls, state monopolies on exports and imports, and geographical indications.

After a first phase in which protectionist policies were omnipresent in Africa in agriculture, from the early years of independence through the 1980s, a second phase emerged during the 1990s with substantial liberalization efforts in many African countries and the emergence of export promotion policies. These reforms included substantial reductions in tariff and nontariff barriers in many countries during the 1990s, including in Mozambique, Uganda, and Zambia (see, for example, Subramanian and Gelbard 2000). Reforms were uneven, however. Almost no liberalization took place in Angola, Burundi, Comoros, Eritrea, Seychelles, and Zimbabwe, for instance. It is worth noting that trade liberalization in African countries came primarily from unilateral liberalization programs (sometimes under the auspices of the International Monetary Fund) and regional initiatives, either South-South or North-South agreements.

The international trade landscape has been drastically modified during the last two decades, with the rapid growth of global value chains (GVCs), which can be defined as “activities spread over several countries that take place in transforming raw materials into the product delivered at its end use” (OECD 2020). What makes these value chains global is that activity is spread over many countries. What is relatively new is that developing countries are now actively participating in these GVCs.

The multiplication of GVCs and their increasingly prominent role in international trade has transformed the role of trade policy and the impact it has on an economy’s competitiveness. Trade policy is now increasingly being designed as a *tool for improving an economy’s competitiveness*.

Agrifood trade is becoming more and more connected to GVCs (OECD 2020). This significantly affects the impact of trade and agricultural policies. In terms of competitiveness, the key issue for many developing countries’ governments now is securing access to cheap intermediate products. Another feature of GVCs is that they include the cross-border movement of know-how and human capital. These characteristics explain why the reduction of trade costs and the protection of assets are so important to participation in GVCs. It may also explain why Africa is lagging behind in terms of participation in GVCs.

Governments are showing increasing interest in their countries’ participation in GVCs. To boost their participation, they must engage not only in tariff liberalization (reduction of local duties applied on imports, as well as reduction of foreign tariffs faced by exports), but also in deep integration: increasing openness to foreign direct investment, improving efficiencies in services, and embracing other factors that help lower the costs of doing business. The objective is to augment a country’s participation in GVCs, either under backward participation (the “extent to which domestic firms use foreign intermediate value added for exporting activities in a given country” [Kowalski et al. 2015, 14]), or under forward participation (“the extent to which a given country’s exports are used by firms in partner countries as inputs into their own exports” [Kowalski et al. 2015, 14]).

## The Impact of Trade Policies on Trade and Competitiveness

In the early 1990s, most studies on barriers to international trade concluded that the successful tariff liberalization that had taken place from 1945 to 1990 had resolved the issue of customs duties, which are relatively low now, and that policymakers’ attention should be turned toward nontariff barriers. With the development of GVCs, this viewpoint deserves to be reconsidered. About 70 percent of international trade today involves GVCs (Miroudot, Rouzet, and Spinelli 2013). A tariff, even if small, has an amplified negative impact on trade. This is indeed intuitive, as the same value added may cross the same border several times with GVCs (Ferrantino 2012).

The effect of GVCs on trade may even be nonlinear. A small decrease in tariffs can decrease trading costs to a tipping point at which vertical specialization kicks in. With tariffs moving under this threshold, a large and nonlinear increase in international trade occurs (Yi 2003).

Diakantoni and Escaith (2014, 30) conclude their study with the following words: “Are tariffs an issue of the past, thanks to the progress in multilateral or regional trade liberalization? Definitely no!”

The recent economic literature on international trade emphasizes the positive impact of trade liberalization on productivity (Melitz 2003). Does trade liberalization automatically lead to productivity improvement and hence competitiveness? There are two relevant issues to be addressed here: (1) whether trade reforms help domestic producers adopt new technologies in order to be competitive, or simply result in a substitution of imports for local production, and (2) whether increases in imports with modern technology embodied in the imported products help improve productivity and competition, and whether there is any evidence of such an effect.<sup>2</sup>

In the manufacturing sector there is significant evidence of this positive impact (see, for example, Nazli, Siddiqui, and Hanif [2018] on the Pakistani manufacturing sector or Hayakawa and Matsuura [2017] on the Indonesian manufacturing sector). This evidence also exists in the agricultural sector, even if it is less abundant: Staboulis, Natos, and Mattas (2019) use a new measure of

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<sup>2</sup> It is worth noting that Melitz (2003) suggests that the increase in productivity is not obtained through these channels, but through a process of selection of firms: low-productivity firms disappear, and high-productivity firms expand their production. Stated differently, each firm’s productivity remains the same but the average productivity in the economy increases with trade liberalization.

trade costs to test the link between trade costs and productivity in the agricultural sector across the 34 Organization for Economic Co-operation and Development (OECD) member countries for the period 1995–2014. They conclude that when the agricultural sector faces lower trade costs, it becomes more productive and experiences higher productivity growth.

The impact of trade liberalization on productivity in African agriculture is a highly controversial issue, as there have been examples of an inverse relationship: trade liberalization can lead to a decline in productivity. For example, Morrissey and Leyaro (2009) conclude that the liberalization of the Tanzanian agricultural sector in the 1990s has led to a general decline in yields due to a large increase in fertilizer prices, which discouraged its use. Comparing cotton yields, Poulton, Labaste, and Boughton (2009) show that productivity is higher in the more concentrated systems (Zambia and Zimbabwe) than in the more competitive models (Tanzania and Uganda). In the latter, it is very difficult to provide the services that farmers need to raise their yields.

But although many African countries have experienced a decline in productivity following liberalization of the sector, this decline is not inevitable. The negative relation can be explained by market failures, particularly markets for credit and insurance, or dysfunctional input markets. A positive relationship between trade liberalization and productivity is therefore conditional on the proper functioning of these markets.

## What Could Be the Objectives of Trade Policies?

Many objectives have been cited as justification for trade policies, such as protecting local farmers from foreign competition, raising public revenues, and improving food security. However, these policies may be misguided or costly or both. We focus here on the role that trade policy can play in enhancing agricultural competitiveness in the current context of regional or global agrifood value chains.

Of course, a tax on imported goods can reduce the competitiveness of foreign farmers and improve the competitiveness of local ones. But this concerns only domestic markets, as an import tax does not improve local farmers' competitiveness on international markets. And in cases in which an imported intermediate good is taxed, local farmers will face a loss of competitiveness on both domestic and international markets.

However, trade policy can be used to improve competitiveness on international markets. A differential export taxes scheme is a trade policy aimed at increasing the competitiveness of the manufacturing stages of a value chain: high export taxes on primary products, low or zero export taxes on manufactured products. The idea behind this scheme is to decrease the domestic price of primary products, which gives an edge to local processors. But this benefit comes at the expense of local producers of raw materials, and the policy is highly distortionary (Bouët, Estrades, and Laborde 2014).

Examples of this type of trade policy include the policies implemented by the Democratic Republic of the Congo in the wood value chain and by Tanzania in cashew nuts and wet blue leather exports.

- In the Democratic Republic of the Congo, exports of raw timber are taxed at a rate in the range of 8.5 to 10 percent of the free on board (FOB) value, while exports of processed timber are taxed at 0 to 5 percent of the FOB value (WTO Trade Policy Review Body 2016).
- In Tanzania, raw cashew nuts are subject to an export tax at a rate of 15 percent of the FOB value of the exports or US\$160 per metric ton, whichever is higher (Tanzania Revenue Authority 2020). Exports of shelled cashews are not taxed.
- Tanzania is an exporter of wet blue leather, made from the hides and skins of sheep, lambs, goats, bovines, buffalo, or horses. The Tanzanian government officially supports exports in this value chain. Skins and hides are also exported, but the scheme implemented by the government aims to give more support to exports of wet blue leather. Raw hides and skins are subject to an export tax at a rate of 80 percent of the FOB value of the exports or US\$0.52 per kilogram, whichever is greater, while export taxes on wet blue leather are levied at a rate of 10 percent of FOB value (Tanzania Revenue Authority 2020).

Differential export taxes policies tax producers, especially of raw materials, and may reward inefficient processors. It is difficult to recommend these policies.

An economy's competitiveness today is often estimated in terms of its participation in GVCs. Unfortunately, data on GVCs do not cover all countries and sectors. However, recent studies point out a few converging observations (Kowalski et al. 2015; Greenville, Kawasaki, and Beaujeu 2017):

- Structural factors such as size of the domestic market, location, level of development, and industrial structure are key determinants of countries' participation in GVCs.
- Policy factors are also important determinants of participation in GVCs: tariffs charged on imports and faced on exports, technical barriers to trade placed on imports and faced on exports, import and export shares covered by RTAs, revealed openness to foreign direct investment flows, logistics performance, intellectual property rights, and quality of infrastructure and institutions.
- With regard to participation in GVCs, Africa is lagging behind. For Kowalski et al., “there is as yet little sign of a *factory Africa* emerging along the lines of *factory Asia*” (2015, 8).
- In agriculture, participation in GVCs is generally lower than in industrial sectors. A key explanation is that there are more distortions in the agrifood sector. Tariffs, which are an important determinant of participation in GVCs, are significantly higher in this sector.

Several conclusions emerge here. First, as underlined above, tariff barriers are still important, and this renewed importance is related to the emergence of GVCs. Second, the competitiveness of an economy is increasingly measured by its participation in GVCs, and trade policy can play a key role in this regard. Third, concerning the participation of African firms in the agrifood sector, there is significant room for policy reform.

## *Review of Agricultural Trade Policies and Market Access*

Domestic market and trade liberalization policies have had a considerable impact on food security across African countries. Economic theory and empirical evidence across the continent suggest that the current challenges relating to food security in Africa can be better addressed by revisiting policies that govern domestic food markets as well as intraregional and extraregional trade.

To gain insight into the effects of trade and market access policies, we review the experiences of individual African countries in reforming their domestic markets as part of structural adjustment programs and their trade policy instruments as part of their alignment with regional integration schemes. We draw on

the estimations of average ad valorem equivalents of export and import restrictions by Bouët, Cosnard, and Laborde (2017) to illustrate the level of protection of the agricultural sector in Africa compared to other regions of the developing world. The experiences outlined here reveal that market and trade policy reforms can still play a crucial role in sustaining food security by improving access not only to global agricultural markets but also to African markets for both African and non-African exporters.

## Domestic Market Liberalization Policies

Between the 1960s and the mid-1980s, commodity price controls, input subsidies, state marketing boards, and export restrictions and taxation were common in the newly independent African countries. Most governments were convinced that their interventions were necessary (1) in the food sector to guarantee domestic food prices that would be both profitable to producers and affordable to consumers, and (2) in the export sector to obtain the resources needed for development expenditures through explicit or implicit taxation. Policymakers justified government interventions with the arguments put forward by development economists who saw price controls as the appropriate response to market failures (Myrdal 1956) or who viewed the taxation of agricultural exports in developing countries as a convenient and practical way to achieve industrial development (Lewis 1954; Hirschman 1958; Bhagwati 1958).

State interference in the operation of agricultural markets achieved the stated objectives to varying degrees. Jayne and Jones (1997) observed a “smallholder green revolution” in eastern and southern Africa as producers responded to the incentives provided by marketing boards and prices through massive adoption of new technology. However, the state intervention approach became fiscally unsustainable, and several African governments were urged to undertake a range of domestic market reforms during the late 1980s and the 1990s as part of structural adjustment programs.

This reform agenda aimed to open domestic markets to more competition and increase agricultural productivity and export competitiveness. It included the elimination of barriers to private sector involvement in agricultural production and marketing; the removal of price controls, export taxes, and input subsidies; the privatization of state-backed processing and marketing enterprises; the dismantling of state monopolies and barriers to competition; and, in some cases, the correction of overvalued exchange rates.

The implementation of this reform agenda varied across countries and commodities. For example, the governments of Mozambique and Uganda are recognized for the successful reforms of their fertilizer and maize markets, as are Ghana and Mali for their cereal market reforms. In contrast, the government still plays an important role in cotton marketing in Benin, in maize marketing in Malawi, and in input distribution in both countries. Zimbabwe reverted back to maize price controls a couple of years after eliminating them. In addition, the government has continued controlling fertilizer markets in Zambia and Ethiopia and the coffee market in Malawi (Kherallah et al. 2001; FAO 2003).

Thus, the implementation of reforms has been selective, depending on the political sensitivity regarding food security or foreign exchange earnings and tax revenues. Prior to market reforms, the food sector appeared to be more politically sensitive than the export sector. Food markets were protected through price controls for the benefit of rural producers and at the expense of urban consumers, while export commodities were taxed to obtain government revenue and foreign exchange earnings. However, export restrictions aided urban consumers but penalized producers. In contrast, during the reforms the food sector became less sensitive than the export sector. Many governments were generally more inclined to implement food market reforms while being reluctant to reform export markets.

Some smallholder farmers have responded to the increased political sensitivity of the export sector by either moving away from cereals production or integrating cereals and export commodities. This unanticipated effect appeared as a threat to food self-sufficiency and encouraged a return to government controls over food markets in some countries. Hence, state marketing boards survived the reform process in countries such as Ethiopia, Kenya, Malawi, and Zimbabwe. Competing with the nascent private sector, they played a significant role as buyer of last resort and managed price stabilization reserves. In other countries, such as Benin, Tanzania, and Zambia, the role of postreform marketing boards was restricted to maintaining a limited grain stock for use in emergency situations (Akiyama et al. 2001).

Generally, some sectors that are critical for agricultural marketing, such as rural transportation and finance, or some segments of distribution output or input chains, were excluded from the grain market liberalization process. This incomplete liberalization process may be exemplified by the case of Benin, where, despite the reforms, fertilizer importation, distribution, and pricing continued

to be regulated (Badiane et al. 1997). Because of their significant contributions to gross domestic product (GDP), foreign exchange earnings, tax revenues, rural employment, and poverty reduction, export crops such as cocoa, coffee, cotton, and sugar were not completely reformed in many countries.

Market liberalization is a gradual process; the sequence and pace of remaining reforms across all commodities will depend not only on the political and economic conditions within individual countries but also on access to regional and global markets. For example, domestic interventions in developed countries in the form of subsidies and tariff protection are often raised as the reason for delaying domestic market reforms in developing countries.

## Trade Liberalization Policies and Global Market Access

In addition to domestic market reforms, African countries have engaged in trade liberalization efforts not only as part of structural adjustment programs but also through RTAs.

Over the past four decades, RTAs have proliferated with the objective of expanding trade among their member countries and further connecting them to global markets. The establishment of RTAs entails significant changes in national trade policies, including the removal of impediments to cross-border trade such as import licenses and other procedural barriers, tariff and nontariff barriers, import and export prohibitions, import levies and export taxes, and the adherence to common external tariffs (CETs) if the RTA is a customs union. Not all member countries of an RTA adhere to the trade facilitation agreements of the RTA, and not all RTAs have put their trade facilitation agreements in force.

The Southern African Customs Union (SACU), the East African Community (EAC), the Central African Economic and Monetary Community (CEMAC), and the Economic Community of West African States (ECOWAS) have their CETs in force. CETs serve as most favored nation (MFN) applied tariffs applicable to all imports originating from extraregional partners. The entry into force of the ECOWAS CET in January 2015 abolished the CET of the West African Economic and Monetary Union (WAEMU). Earlier, the ECOWAS Trade Liberalization Scheme (ETLS) was adopted in 1979 and revised in 1990 to promote a free trade area in the region. However, complex rules of origin and cumbersome procedures led to persistent noncompliance with the ETLS. Although Cabo Verde is an ECOWAS member and enjoys full access to the free trade area, the country has

not yet adhered to the West African CET and continues to trade with extraregional partners under MFN applied tariffs.

Although CETs are not yet in place in the Common Market for Eastern and Southern Africa (COMESA) or the Southern African Development Community (SADC), free trade agreements (FTAs) are set up and consist of preferential tariffs granted on intraregional imports, while MFN applied tariffs are due on imports originating from extraregional partners that are World Trade Organization (WTO) members. However, five COMESA member countries are not part of the region's FTA: the Democratic Republic of the Congo, Eritrea, Ethiopia, Somalia, and Tunisia trade with their COMESA partners under MFN applied tariffs as they do with their extra-COMESA partners. Similarly, three SADC members, Angola, Comoros, and the Democratic Republic of the Congo, have not adhered to the preferential tariff treatment on intra-SADC imports. As with their extra-SADC partners, their trade with other SADC members is subject to MFN applied tariffs.

The Arab Maghreb Union (AMU), the Economic Community of Central African States (ECCAS), and the Inter-Governmental Authority on Development (IGAD) also have FTAs. However, these FTAs are not yet in force; intraregional trade is still subject to MFN applied tariffs, as is extraregional trade with third parties that are WTO members.

Across all RTAs, trade with extraregional partners that are not WTO members is under general applied tariffs. Despite these RTAs, Africa remains highly protected with respect to extraregional import tariff rates across the continent. According to Bouët, Cosnard, and Laborde (2017), in 2010 the average import duty in the agricultural sector was 19.6 percent in Africa, compared to 19 percent in Asia and 14.4 percent in Latin America and the Caribbean. AMU, CEMAC, COMESA, EAC, and IGAD have the most protected agriculture, with the average import duty close to or more than 20 percent in 2010. Though CEMAC and EAC are customs unions, their extraregional tariffs are among the most prohibitive, averaging 19.5 and 24.2 percent, respectively, in 2010. In contrast, SACU, SADC, and ECOWAS have the least protected agriculture, with average 2010 import duty rates at 12.8, 13.6, and 14.0 percent, respectively. More specifically, Egypt and Tunisia, two AMU members, are the most protectionist African countries as regards agriculture, with average 2010 import duty rates at 46.7 and 45.3 percent, respectively. Seychelles and Morocco follow with 36 percent and 33.8 percent, respectively, while all other countries had average

2010 import duty rates around or much below 25 percent. The most open agricultural sectors in Africa are found in Libya (AMU), and Mauritius and Comoros (COMESA members), with average 2010 import duty rates of less than 5 percent. Countries with average 2010 import duty rates on agriculture of between 5 and 10 percent include Botswana, Eswatini, Lesotho, and Namibia (within SACU); Angola, Djibouti, and Eritrea (within COMESA); Mauritania (AMU); and Cabo Verde (ECOWAS).

Though RTAs have succeeded in reducing intraregional import duties in many cases, there is room for improvement in many other cases. The most recent available data indicate that the average tariff rate on intracontinental imports of agricultural products was 15.2 percent in Africa as of 2007, compared to 15.4 percent in Latin America and the Caribbean, 19.9 percent in Asia, and 22.2 percent in Europe (Bouët, Cosnard, and Laborde 2017). Agriculture protection against cross-border trade is the highest within SADC, where the average duty on intraregional imports of agricultural products was 12.5 percent in 2007. The protection of agriculture is less trade prohibitive within IGAD, AMU, and COMESA, where average 2007 import duty rates were 7.6 percent, 5.1 percent, and 4.9 percent, respectively. Within the three customs unions that existed in 2007 (CEMAC, EAC, and SACU) and within ECOWAS since 2015, all import duties have been eliminated.

African exporters face fewer restrictions in global markets than in intracontinental markets. In addition to lower trading costs outside Africa, exporters from least developed countries can seize the opportunities of preferential trade regimes such as the Everything But Arms initiative introduced by the European Union, and the African Growth and Opportunity Act implemented by the United States. According to estimations by Bouët, Cosnard, and Laborde (2017), African exporters have easier access to global agricultural markets than their competitors from other continents do. The average ad valorem equivalent of import duties faced by African exporters of agricultural products when entering foreign countries is estimated at 9.9 percent in 2010, while corresponding estimations range between 14 and 20.4 percent for other exporter groups, including 14 percent for North American exporters and 16.4 percent for European exporters. With respect to regional disparities, CEMAC and ECOWAS are the most favored exporters to global agricultural markets, with import duties faced by their members' agricultural exports averaging 2.6 percent and 5.4 percent, respectively. In contrast, SACU is the least favored exporter to global agricultural markets; it

faces an estimated average import duty on its members' agricultural exports of 13.9 percent. More specifically, global agricultural markets are the most accessible for Cameroon, Equatorial Guinea, Sao Tome and Principe, and Sierra Leone, which face an average import duty on agricultural exports of 2 percent or less, and the least accessible for Algeria, Egypt, Gabon, Kenya, Malawi, and Niger, which face an average duty of not less than 15 percent.

In sum, despite the domestic market and trade liberalization efforts completed as part of structural adjustment programs and regional integration schemes, African agricultural markets remain less accessible than global agricultural markets. However, they benefit from relatively good access to foreign markets, even if this situation varies significantly from one African country to the next. It is often claimed that African countries' access to global markets is limited by domestic support in rich and emerging countries, nontariff barriers related to compliance with sanitary and phytosanitary issues, and too-strict rules of origin. There is a fear that emerging protectionism and tariff escalation in rich countries will exacerbate these barriers to African competitiveness. However, while these arguments deserve consideration, impediments to Africa's export performance on global markets also have much to do with high import tariffs, lengthy customs procedures, poor logistics performance, and nontariff barriers imposed by African countries both against each other within RTAs and against their non-African competitors.

## The Participation of African Agricultural Sectors in Global Agrifood Value Chains

A well-known feature of Africa's participation in world trade is the excessive specialization of its economies in traditional primary products such as tea, coffee, cocoa, and cotton. As we shall see in the next section, this structure of African exports prevails in its extracontinental relations in particular.

The emergence and multiplication of value chains can be a great opportunity for Africa to specialize in labor- and land-intensive segments of GVCs in order to attract international investment, which generally generates transfers of know-how and technology. Moreover, alliances with large companies from rich countries generally facilitate the adaptation of African agricultural products to the technical, sanitary, and phytosanitary standards of large countries.

An example of this type of alliance is informative. Madagascar has been very successful with its agricultural exports, thanks not only to vanilla but also to

exports of fruits and vegetables (for example, French beans, asparagus, gherkins, and snow peas). The country benefits from preferential access for its exports to the European Union and the United States. Furthermore, the government has introduced an export processing zone scheme. An export processing zone is an area with a special customs regime: the import of plants, machinery, equipment, and material for the local manufacture of export goods is free of any duty. In Madagascar, Lecofruit, the company that carries out most exports of fruits and vegetables, has contracted 9,000 small local farmers to produce French beans, which are highly appreciated in Europe because they are handpicked. At the same time, Lecofruit has contracted with large European supermarkets for the marketing and distribution of these products in Europe. Minten, Randrianarison, and Swinnen (2009) show that farmers associated with Lecofruit enjoy higher welfare and more stable incomes.

Until recently, at the global level, Africa was considered as lagging behind in terms of participation in global agrifood value chains (Kowalski et al. 2015; Greenville, Kawasaki, and Beaujeu 2017). It should be noted, however, that a few recent studies (Del Prete et al. 2016; Foster-McGregor, Kaulich, and Stehrer 2015) conclude that the participation of African economies in GVCs in agribusiness is significant. In particular, Uganda is an important supplier of unprocessed products in the sector's international value chains. It is true that African involvement generally remains confined to supplying unprocessed products to these value chains, especially in their relations with other continents. However, a few exceptions show that it is possible to position these countries in the processing stages: a relatively large share of the gross agricultural exports of Ethiopia, Rwanda, and Tanzania is composed of foreign value added.

## *Measuring the Competitiveness of African Agriculture*

In examining the links between trade policy reforms and competitiveness gains, we seek to determine the extent to which global trade policies explain the differential competitiveness of raw versus semiprocessed agricultural goods. We begin by reviewing a compilation of trade statistics and analyses to assess the competitiveness of African agricultural value chains. Then we examine how global trade policies have contributed to the differential competitiveness of raw versus semiprocessed agricultural goods in Africa.

## Revealed Comparative Advantage

We start with a study of Africa's comparative advantages in agriculture. The comparative advantage of a country in a product is often assessed in terms of revealed comparative advantage (RCA). This indicator is based on recorded levels of trade flows and measures whether a specific product is a strength or a weakness in the structure of a specific country's exports. The RCA is calculated by dividing the share of a product's exports in a country's total exports by the share of exports of the same product in world exports. If the RCA is greater than (or less than) 1, it is concluded that this country has a comparative advantage (or disadvantage) in this product.

Importantly, an RCA reflects trade flows *in the current policy environment*. A country may be very competitive in, for example, rice cultivation, but if its government bans the export of this product, a comparative advantage in rice will not be *revealed*. By contrast, large exports of a product by a country may come about only because exports are highly subsidized. In a nutshell, an RCA reveals a comparative advantage or disadvantage from observed trade flows, but it does not explain why exports of this product by this country are so high or so low.

This statistic can be calculated for the African continent and for the entire agricultural sector: it reveals a comparative advantage of Africa in agriculture (see Dedehouanou, Dimaranan, and Laborde 2019).

RCAs can also be calculated at the product level (using the six-digit Harmonized System codes) and for each African country. Doing so, on average for 2015–2017, the three top-ranking agricultural products for each country can be identified.<sup>3</sup>

This gives a list of 153 products, 78 percent of which can be grouped into eight categories of agricultural products: horticultural products (28, of which 15 are fruits, 9 are vegetables, and 4 belong to the floriculture sector), fish and related products (28), livestock products (18), cocoa and its derivatives (15), cotton and related products (8), sesame (8), tobacco (7), and legumes (7). All 55 African countries have a RCAs in the eight main categories identified. The commodities most frequently identified are cocoa, cotton, fish and fish products, fruits, legumes, and tea.

<sup>3</sup> The complete list can be requested from the authors.

## Market Share Growth Analysis

A market share decomposition analysis, comparing the period 2005–2007 to the period 2015–2017, can help us evaluate Africa's competitiveness.

The competitiveness of a country in a sector such as agriculture is often evaluated in terms of the country's world agricultural market share. However, this is misleading because a gain in market share can be attributed to the specialization of this country in a product that is relatively more in demand as compared to other products, or to a geographic concentration of its exports toward a country whose demand for imports is increasing more than the world average. To determine whether a gain in market share can be attributed to an increase in competitiveness, the global market shares of a country can be decomposed to analyze what is driving the performance: good geographical or sectoral specialization (that is, benefiting from a growth trend due to sectoral or geographical specialization), or individual performance.

This approach assesses whether a country has overperformed or underperformed and identifies the domestic performance as the portion of the market share growth that is not attributable to increases in sectoral or geographic demand. A gain (or loss) in competitiveness is concluded if this residual is positive (or negative) (see Cheptea, Fontagné, and Zignago 2014).

More precisely, under this analysis a change in market share is attributed to one or more of the following factors:

1. The initial geographical pattern of exports. If a country is initially specialized in exports toward markets with strong growth (Cambodia, China, Malaysia, Myanmar, Nepal, the Philippines, Thailand, and Viet Nam), this could explain an increase in global market share without an actual gain in competitiveness.
2. The initial sectoral pattern of exports. If a country is initially specialized in products experiencing strong growth in world demand (avocados; nuts such as pine nuts or pecans; and spices such as ginger, turmeric, cloves, cardamom, and vanilla), this could explain an increase in global market share without an actual gain in competitiveness.

3. The changes in geographical export patterns over the period. This component examines whether exporters have shifted from traditional markets to growing ones, for example, by increasing China's share in their exports.
4. The changes in product specialization over the period.
5. Domestic performance, that is, competitiveness. The residual of an exporter's performance not attributable to the above four factors is attributed to competitiveness.

Between 2005–2007 and 2015–2017, Africa slightly improved its global market share in agriculture, from 4 percent to 4.3 percent. Overall, 31 African countries increased their global market shares, with the largest absolute gains for Algeria, Benin, Côte d'Ivoire, Egypt, Ethiopia, Ghana, Guinea-Bissau, Madagascar, Morocco, Mozambique, Nigeria, Rwanda, Senegal, Somalia, Tanzania, and Uganda. In relative terms, the worst performers were Botswana, Cabo Verde, Central African Republic, Chad, Congo, Djibouti, Equatorial Guinea, Gabon, and Namibia.

Results of the market share decomposition analysis for all African countries are presented in Figure 11.2. The horizontal axis measures the percentage change in world market share between 2005–2007 and 2015–2017, and each bar shows the decomposition along our five drivers: initial geographical and sectoral specialization (dark blue and dark green), changes in geographical and sectoral specialization (light blue and light green), and the competitiveness factor (ochre). Black dots indicate the net effect.

Most of the 48 African countries benefited from initial pro-export-growth geographical specialization, especially Benin, Burkina Faso, Chad, and Guinea-Bissau. Their initial exports were relatively concentrated toward the Netherlands (global re-export platforms), China, India, and Malaysia (relatively high growth in demand). Four African countries (Angola, Gabon, Niger, and Somalia) had a disadvantageous initial geographical specialization. Geographical reallocation has been beneficial for 27 countries, including Niger, which increased its export shares to China, Malaysia, and Thailand; Angola, which augmented its exports to Chile, China, and Peru; Somalia, which increased its export shares to Gulf countries, especially Oman and Saudi Arabia, and to China; Liberia (toward Malaysia and the Netherlands); Gabon (toward Canada and Switzerland); and Zimbabwe (toward China).

Regarding sectoral specialization, 33 African economies benefited from an initial specialization in products in high demand throughout this period, including Tunisia (olive oil and dates), the Comoros (spices and essential oils), Botswana (bovine meat), Burundi (coffee, tea, and beer), Rwanda (coffee and tea), and Guinea (cocoa and coffee).

Forty-four African economies increased their export shares in pro-growth products. Examples include Madagascar, which increased its specialization in spices and vanilla; the Comoros (also spices and vanilla); Gabon, which reduced its concentration on exports of tobacco-related products and increased exports of “niche” products such as communion wafers; Niger, which increased exports of sesame seeds; Central African Republic (fresh fruits); Cabo Verde (rum); and Senegal (fresh or chilled vegetables and groundnuts).

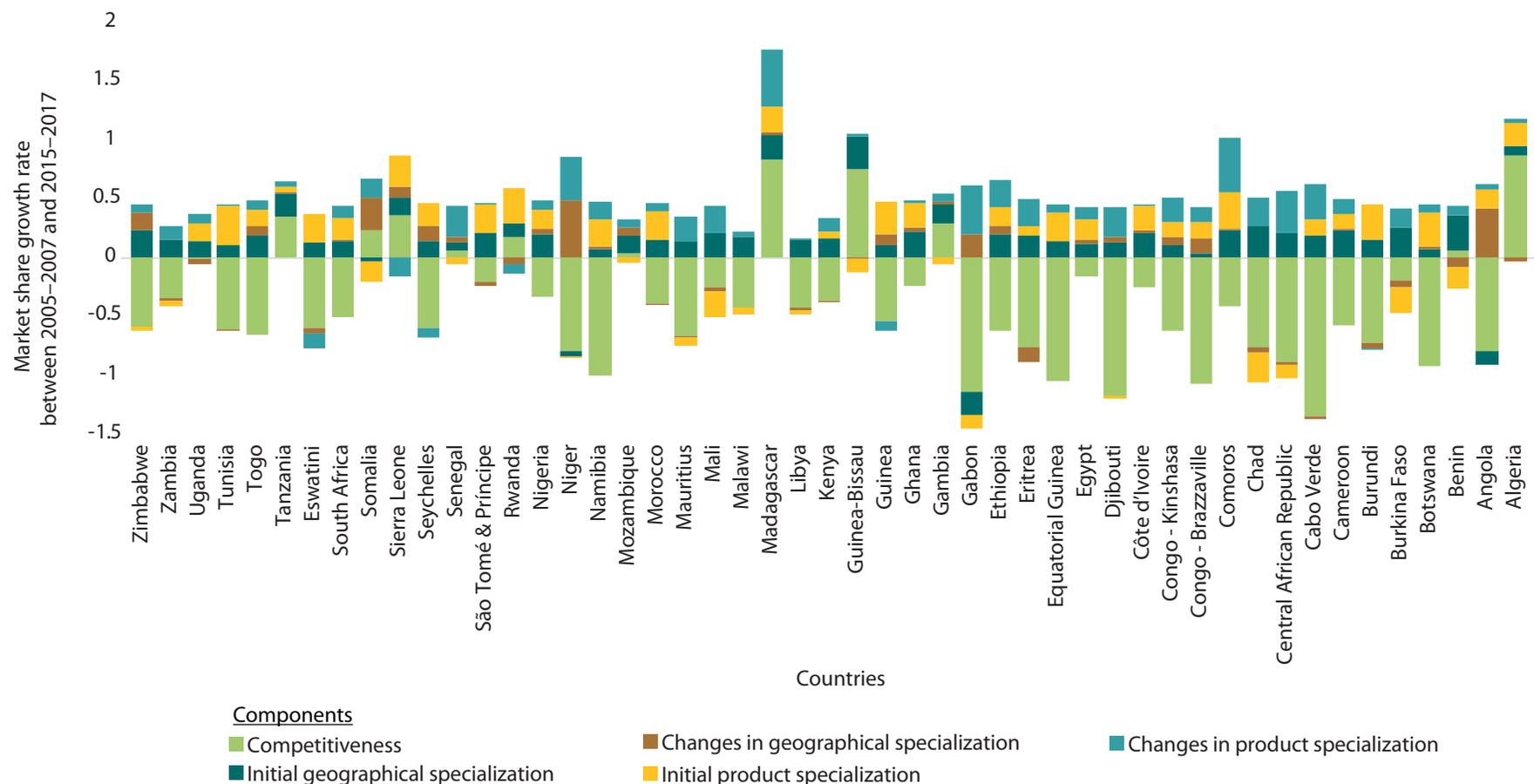
The residual competitiveness factor is positive for 10 countries: Algeria, Benin, Gambia, Guinea-Bissau, Madagascar, Rwanda, Senegal, Sierra Leone, Somalia, and Tanzania. None are poor performers in absolute terms. However, this analysis concludes that they have operated below their export potential: given their export specialization, in terms of products and destinations, and the changes in this specialization over the period, they should have expanded their world market share by more than they actually did.

## Price Competitiveness

Let us now examine the price competitiveness of African countries with regard to several value chains. Dedehouanou, Dimaranan, and Laborde (2019) base their analysis on comparisons of unit values obtained through a trade flows database. At the aggregate level of agriculture, Africa appears to be competitive in terms of its prices of agricultural goods compared to the rest of the world: the gap in average prices varies between 10 and 25 percent over the period between 2005–2007 and 2015–2017. Africa appears to be very competitive in terms of price in the value chains of cotton, tea, sugar, sesame seed, and cocoa.

Price differences for the same good between two countries must be carefully interpreted. These differences may reflect either the price competitiveness of one economy in relation to another or differences in quality. However, in the context of agricultural goods, the issue of quality differentiation is less influential. This is especially true when we compare average unit values for specific value chains such as tomatoes, cotton, and cashews.

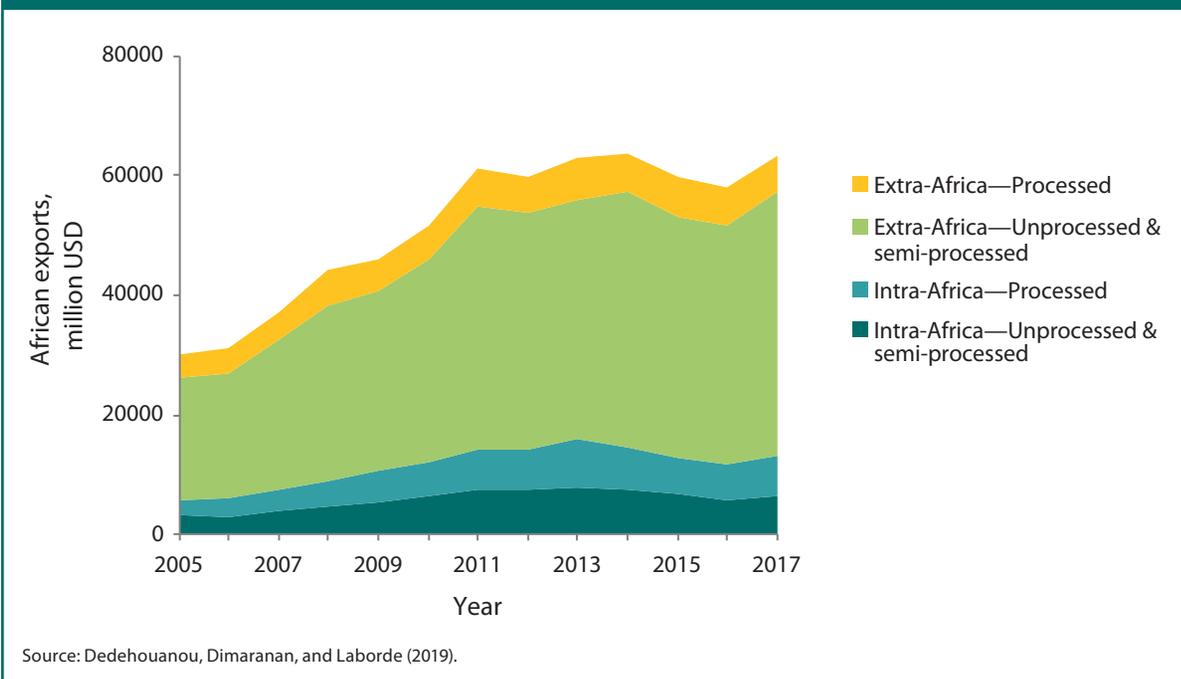
FIGURE 11.2—DECOMPOSITION OF MARKET SHARE CHANGES IN AGRICULTURE, BY COUNTRY



Source: Dedehouanou, Dimaranan, and Laborde (2019).

Note: Lesotho, Liberia, and Mauritania are excluded from the graph owing to a very large increase in market share, potentially because of undermeasurement in the base period. For these three countries, the competitiveness driver is the main explanation (an export-specific story). Black dots indicate the net effect (that is, the relative changes in market share of a regional economic community on world markets over the period).

**FIGURE 11.3—AFRICAN AGRICULTURAL EXPORTS BY DESTINATION MARKET AND STAGE OF PROCESSING**



## The Contribution of Global Trade Policies to Differential Competitiveness of Raw versus Semiprocessed Agricultural Goods

Observing the structure of African countries' agricultural exports by degree of product processing illustrates a remarkable inadequacy in the participation of these countries in world trade: these productive systems remain too confined to the production and export of raw or semiprocessed products. This limitation is shown in Figure 11.3, which represents African agricultural exports by destination (either intra-Africa or extra-Africa) and by degree of processing, from 2005 to 2017.

The figure shows that intra-African agricultural exports are relatively small, and they are equally divided between raw and semiprocessed products on the one hand and processed products on the other. In contrast, extra-African

agricultural exports are largely dominated by raw and semiprocessed products.

There are economic explanations for the weakness of intra-African agricultural exports. Of course, the geographical distance is small between African economies, and these countries share common borders—which should strengthen trade. However, GDPs are lower in Africa, which has a negative impact on both export supply and import demand, and trade barriers are also relatively high within the continent (see previous section). Moreover, unrecorded trade is relatively important in intra-African trade (Bouët, Pace, and Glauber 2018). There are also historical and cultural explanations for the trade structure of these economies: a dummy variable tracing a colonial link is generally significant in econometric work regressing bilateral trade flows through a gravity equation. This partly explains why African trade with European countries is relatively strong and why intra-African trade is relatively low.

Our second observation allows us to confirm an essential conclusion already mentioned: African agriculture is insufficiently involved in the processing stages of international value chains. It remains too concentrated on the production and export of raw products.

In order for African agriculture to move up the production stages of international value chains, both developed and developing countries would need to change their trade policies. The former should reduce tariff escalation in their trade policies, that is, the introduction of low tariffs on raw or semiprocessed products and higher tariffs on processed products. This protective structure favors the location of processing activities in rich countries (see Boumellassa, Laborde, and Mitaritonna [2009] for a systematic measure and Aziz, Denkyirah, and Denkyirah [2017] for a case study on cocoa and Ghana).

The role of standards and other technical barriers to trade is difficult to assess. On paper, these policies may either stimulate or hinder trade (Maskus,

Otsuki, and Wilson 2005; Moenius 2006). From an empirical point of view, a few studies show that *some* nontariff measures enhance trade (Disdier and Marette 2010). However, there is a relatively large literature that identifies a negative impact of sanitary and phytosanitary regulations adopted by developed countries on exports by developing countries (Otsuki, Wilson, and Sewadeh 2001; Wilson and Otsuki 2002; Disdier, Fontagné, and Mimouni 2008).

It remains true that stronger participation of African economies in GVCs, especially in high value-added stages of production, also depends on African trade policies. As shown in the previous section, there are still important barriers to trade in Africa, especially on intra-African trade, such as import duties, low-quality transportation and telecommunications infrastructure, and lengthy customs procedures. These policies obviously penalize the development of regional value chains.

## Conclusions

As demonstrated by recent statistics, the African agricultural sector has recorded substantial progress. Bouët, Cosnard, and Fall (2019), for example, show that between 2005 and 2017, Africa's share in world agricultural GDP increased from 10 to 12 percent. This chapter aimed to identify the possible policy alignments or gaps that need to be addressed to sustain and accelerate this recent economic growth.

Trading costs remain too high in Africa, especially in the agricultural sector. The removal of customs duties on intra-African trade of agricultural commodities is expected with the implementation of the African Continental Free Trade Area. This is a necessary reform, but it is not sufficient to sustain and accelerate the recent success of African agriculture. Policymakers must also prioritize the streamlining of customs procedures, the improvement of transportation and communications infrastructure, the adoption of international sanitary and phytosanitary standards, the reduction of uncertainty about trade through a general consolidation of import duties in Africa, and the commitment by all governments to stop using export restrictions and prohibitions.

This will be a high price to pay. For example, the consolidation of all import duties and ending the use of export taxes are reforms that appear very costly to policymakers. They may reduce public revenues and make the need for general fiscal reform even more urgent. The reforms will also be costly in terms of political economy, as protectionist policies are a simple and easy way

to address the concerns of domestic lobbies and pressure groups. But this is the price to pay for a development strategy for the African agricultural sector that will be successful over the long term.