3. Is the African Continental Free Trade Area a Game Changer for the Continent?

In 2018, member countries of the African Union took a major step to boost regional trade and economic integration by establishing the African Continental Free Trade Area (AfCFTA). They agreed to eliminate tariffs on most goods, liberalize trade of key services, address nontariff obstacles to intraregional trade, and eventually create a continental single market with free movement of labor and capital. The AfCFTA has been ratified by 22 countries and is likely to take effect in 2019, although negotiations on specific features of the agreement are ongoing. Once operational, the AfCFTA will establish a market of 1.2 billion people with a combined GDP of US$2.5 trillion. This could be an economic game changer for the continent.[1]

Trade integration can help propel development and has prompted spectacular success stories on other continents (see IMF 2018a). Trade integration allows countries to specialize in the production of goods and services for which they have comparative advantage and to exploit economies of scale, thereby improving productivity and growth. Trade integration can also foster structural transformation by spreading knowledge and technology and spurring the development of new products (see IMF 2016). A large free trade area in Africa will amplify the potential for economic transformation in the region. It will not only boost intraregional trade, it will also attract foreign direct investment and facilitate the development of regional supply chains, which have been key engines of economic transformation in other regions.

However, while trade supports growth, it may also entail costs, and its benefits may not be evenly distributed across and within countries. Policymakers are often rightly concerned that further integrating their economies with those of other countries may

benefit some industries and hurt others, negatively affect earnings and employment opportunities in certain sectors and for certain skill levels, and reduce fiscal revenue.

This chapter examines the potential benefits and challenges of implementing the AfCFTA for African countries. It focuses on three questions:

- How has intraregional trade in Africa evolved over time and how does it differ from Africa's international trade? What does the experience of the African subregional economic communities suggest about the continent's potential to integrate further?

- What is the potential impact of the AfCFTA on intraregional trade, and what policies are needed to foster further regional trade integration?

- How will the AfCFTA affect welfare, income distribution, and the fiscal revenue of African countries?

The analysis shows that:

- Intraregional trade in Africa has expanded rapidly, and a few regional hubs dominate relatively well diversified trade flows. Intraregional imports, as a share of total imports, almost tripled over the past two decades to 12–14 percent, or about US$100 billion, as several new subregional economic communities (RECs) boosted trade in the region. In 2017, three-quarters of African intraregional trade took place within the main subregional communities. In the process, regional trade hubs emerged, such as Côte d'Ivoire, Kenya, Senegal, and South Africa (see IMF 2015). Unlike exports to the rest of the world, intraregional trade

[1] As of April 2019, 22 countries ratified the AfCFTA fulfilling the requirement for the agreement to take effect. The AfCFTA envisages agreement on specific tariff reductions, liberalization procedures for trade of services, and rules of origin during 2019. Negotiations are ongoing. In addition, countries envision a second round of negotiations to start in 2020 on intellectual property rights and competition policy (Online Annex 3.1).

flows are relatively diversified, contain higher value-added goods than exports to the rest of the world, and include a sizable share of manufactured products (for example, motor vehicles and clothing).

- Despite this expansion, significant opportunities for further regional trade integration lie ahead. After controlling for lower levels of income and economic size and generally longer distances compared with other regions, African countries' particular features appear to limit their ability to trade (compared with countries in other regions). Some of these features are structural and would require a long-term commitment to change. Others are the result of policy, such as tariffs, trade regulations, and regulatory requirements, and their removal would boost regional integration. Opportunities to expand intraregional trade are particularly sizable for some agriculture-related commodities (for example, food products) and manufacturing industries, as well as in some African subregional economic communities that trade significantly less than their peers.

- Tariffs and, more important, nontariff bottlenecks are currently limiting intraregional trade integration. The experience of the subregional economic communities suggests that reducing tariffs alone is not sufficient to boost intraregional trade. Poor trade logistics and, to a lesser extent, infrastructure are major obstacles to further trade integration in the region. These bottlenecks are particularly important for landlocked and low-income countries.

- Removing trade barriers to foster intraregional trade may unevenly affect countries in the region. Fiscal revenue losses from lower tariffs are likely to be limited, on average, but they may be significant in a few countries that still apply high export tariffs. Moreover, deeper trade integration can have adverse effects on countries' income distribution, particularly in countries with more diversified economies and large shares of skilled labor. However, these effects are limited in size as large informality in the economy, while increasing overall inequality, isolates some segments of the population from the short-term effects of trade flows.

Moreover, these effects tend to fade away over time. Finally, small countries, more diversified economies, and established regional trade hubs, already open to international competition, are likely to benefit more from deeper regional integration than economies dominated by agriculture and natural resources.

The key findings in this chapter imply that the AfCFTA could significantly boost intraregional trade in Africa if both tariffs and nontariff policy levers are used. Tariff reductions should be comprehensive in order to have significant effects on intraregional trade flows. Eliminating tariffs on 90 percent of existing intraregional trade flows—the most ambitious target under the AfCFTA—would increase regional trade by about 16 percent, or US$16 billion, over time. Tariff reductions should be complemented with policies addressing nontariff bottlenecks. Even small improvements in addressing such bottlenecks are likely to have sizable effects. Improving trade logistics, such as customs services, and addressing poor infrastructure could be up to four times more effective in boosting trade than tariff reductions. Moreover, reducing nontariff obstacles to trade would improve the effectiveness of tariff reductions in boosting trade, especially in landlocked and low-income countries. Therefore, policies to reduce nontariff bottlenecks, particularly poor trade logistics and infrastructure, should be at the center of the effort to foster deeper trade integration in Africa.

To ensure that the benefits of regional trade integration are shared by all, policies should be put in place to address the adjustment costs that integration may entail. For less-diversified and agriculture-based economies, trade policies should be combined with structural reforms to improve agricultural productivity and strengthen the competitive advantage of these economies. In some countries, measures to mobilize domestic revenues are needed to mitigate the expected revenue losses from tariff reductions (IMF 2018b). The temporary adverse effects of trade liberalization on income distribution need to be tempered—particularly in countries with more diversified economies—through targeted social (for example, income support) and training programs to ease worker mobility across firms and industries and promote employment (IMF 2017a).

REGIONAL TRADE INTEGRATION IN AFRICA: KEY PATTERNS

## Increased Openness and Potential for Further Regional Trade Integration

Over the past two decades, intraregional trade flows have expanded rapidly in tandem with Africa's fast integration with the international trade system (Online Annex 3.2).

- Africa's trade has grown rapidly in recent decades. During 1990–2017, the region's trade openness (imports and exports of goods and services) increased from about 53 percent of GDP to 67 percent, after peaking around 2011 as commodity prices surged. The expansion reflected an increase in trade volumes as well as favorable price developments. In the process, the landscape of Africa's trading partners has changed. New partnerships have been forged with emerging market economies such as China. Africa's trade in services also rose over this period. Total imports (and exports) of services more than tripled from US$27 billion (US$20 billion) in 1990 to about US$90 billion (US$89 billion) in 2017 (Figure 3.1).

- In parallel, Africa's intraregional trade increased substantially. As a share of total African imports, intraregional trade rose from approximately 5 percent in 1990 to about 12 percent in 2017. These statistics underestimate actual intraregional trade flows though, as they do not capture widespread informal cross-border trade.[2] Nevertheless, the share of trade with African countries by 2017 was surpassed only by trade with the European Union and with China, which has been rising fast in the past decade, (Figure 3.2).

- On average, the size of intraregional trade in Africa is broadly in line with patterns observed in other emerging market and developing regions, but much lower than in more advanced regions. Measured as a share of total imports originating from the region, intraregional trade in Africa is similar to or exceeds regional trade in areas such as the Pan-Arab Free Trade Area, (PAFTA) and the Latin American Integration Association (LAIA). However, it is much lower than in the free trade areas of the Association of Southeast Asian Nations (ASEAN) and the North America Free Trade Agreement (NAFTA)[3] (Figure 3.3).

However, the region's substantial degree of regional trade integration belies large heterogeneity across countries and subregions. As regional trade has expanded, trade hubs have emerged, including (measured as a share of total regional imports) Côte d'Ivoire, Kenya, Senegal, and South Africa. South Africa alone is the source of about 35 percent

Figure 3.1. Africa: Trade Openness, 1990–2017
(Total imports and exports of goods and services)
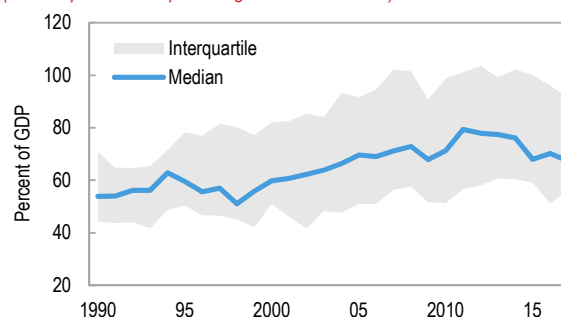
Source: World Bank, World Development Indicators database.

Figure 3.2. Intra-African and Trade Partners' Trade Shares, 1990–2017
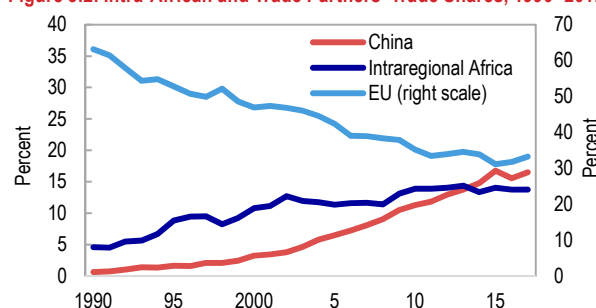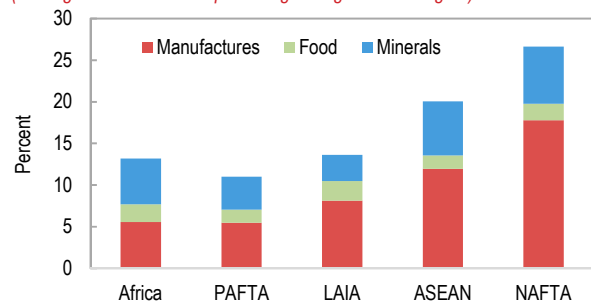

Sources: United Nations COMTRADE database; and IMF staff calculations.

Note: Trade shares are defined as the average of two ratios:
(1) share in total African exports and (2) share in total African imports.
EU = European Union.

---

[2] Survey data suggest that informal cross-border trade in Africa is significant. In eastern Africa, early in the decade, informal exports from Uganda to other countries in the region were as high as a third of formal trade. In the Southern African Development Community area (SADC), informal trade in certain food items in the early 2000s reached 30–40 percent of official trade (AfDB 2012).

[3] It is worth noting that reexports, which are sizable in some subregions, such as the Southern African Customs Union (SACU), may contribute to increased intraregional trade integration indicators and make comparisons uneven. However, lack of data prevents investigating the role of reexports in import trends.

REGIONAL ECONOMIC OUTLOOK: SUB-SAHARAN AFRICA

Figure 3.3. Intraregional Trade in Selected Regions, 2007–17
(Average share of total imports originating from the region)

Sources: United Nations COMTRADE database; and IMF staff calculations.

Note: ASEAN = Association of Southeast Asian Nations; LAIA = Latin American Integration Association; NAFTA = North American Free Trade Agreement; PAFTA = Pan-Arab Free Trade Area.

of all intraregional imports in Africa (and about 40 percent of intraregional manufacturing imports). The smaller economies of the continent, particularly within the SACU, are also very well integrated (Figure 3.4). In contrast, some of the largest African economies remain poorly integrated with the region. Algeria, Egypt, and Nigeria, which

collectively represent about half of the region's total GDP, account for a limited share of regional trade (about 11 percent).

Intraregional Trade in Africa Differs from Trade with the Rest of the World and Offers Opportunities for More Sophisticated Exports

A key feature of intraregional exports in Africa is that they are more diversified and have higher technological content than Africa's exports to the rest of the world. The latter remain heavily oriented toward minerals, which (for example, crude oil, copper) on average accounted for about 75 percent of total exports during 2007–17, compared with 16 percent for manufactured goods. In contrast, intraregional exports include higher-value-added products, with manufactured goods accounting, on average, for about 40 percent of intraregional trade (for example, trucks, motor vehicles), minerals for 44 percent (for example, copper), and agricultural products for 16 percent (for example, maize) over the same period (Figure 3.5).

Figure 3.4. Trade Integration, 2015
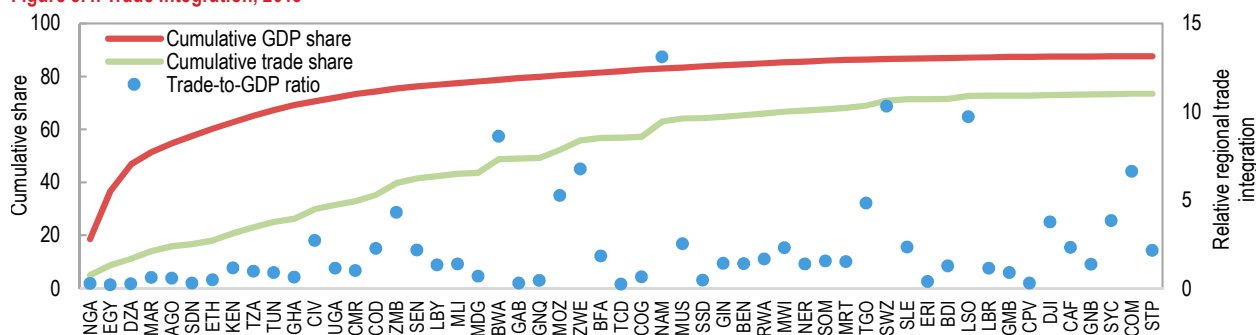
Sources: United Nations COMTRADE Database; and IMF, World Economic Outlook database.

Note: Countries ranked from largest to smallest GDP, excluding South Africa (appearing as a residual). For each country, trade share is the average of exports and imports as a share of total African regional trade. Relative regional trade integration defined as the ratio of the share of regional trade over the share of regional GDP. See page vi for country abbreviations table.

Figure 3.5. Intra-African Trade versus Trade with the Rest of the World, 1990–2017

Sources: United Nations COMTRADE database; and IMF staff calculations.

42
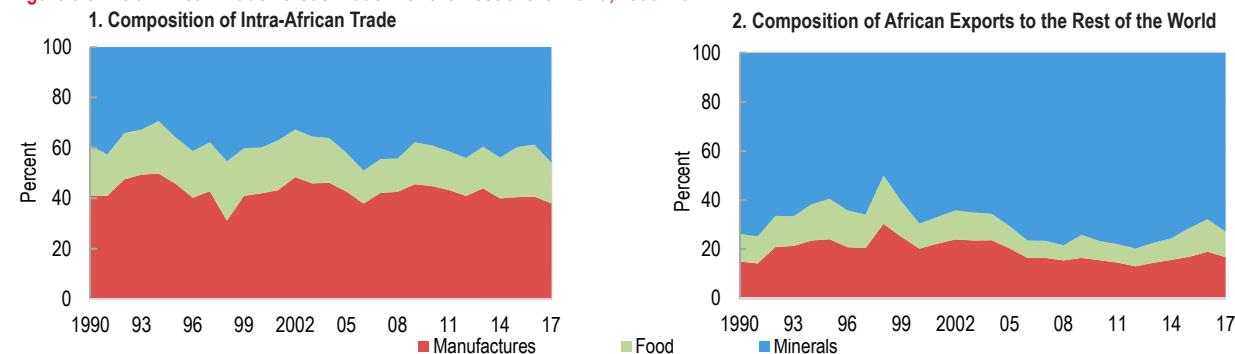
Against this backdrop, countries with more diversified economies tend to trade relatively more within the region. Even within Africa's RECs, countries' structural export sophistication is associated with more intraregional exports (Figure 3.6).

Trade in Africa nevertheless remains concentrated in less processed and low-technology goods than trade in other regions of the world and shows limited signs of value-chain creation. Compared with other regions, intraregional trade in Africa is more focused on minerals and less on manufacturing (Figure 3.3). Moreover, intra-industry trade in Africa is lower than in other regions, signaling less regional value-chain integration (Figure 3.7).

The Experience of Subregional Economic Communities and the Role of Tariffs and Nontariff Trade Costs

The experience with Africa's RECs offers some insights into the factors that may affect intraregional trade on the continent. The expansion of regional trade flows within Africa in recent decades occurred along with the creation and expansion of several RECs, several of which apply near-zero preferential tariffs to trade within the community (Figure 3.8). Today, most African countries are part of such communities, and 75 percent of intraregional trade took place in five RECs in 2017, with the SADC alone accounting for half of such trade flows.[4]

The reduction in tariffs on trade within African RECs has, however, had uneven effects on trade flows within subregions, which points to the presence of significant nontariff bottlenecks. In some RECs, trade flows spiked after the reduction in tariffs (for example, SADC), and the share of trade within the community rose significantly. In other RECs, however, tariff reductions were not associated with larger subregional trade flows (for example, Central African Economic and Monetary Community [CEMAC]), which suggests that factors other than tariffs constrain trade, including high nontariff trade costs and limited export diversification. Countries in these latter RECs indeed have some of the highest nontariff trade costs in the region (Figure 3.9) and relatively undiversified exports (Online Annex 3.2).

Figure 3.6. Regional Trade Integration and Export Sophistication, 2015
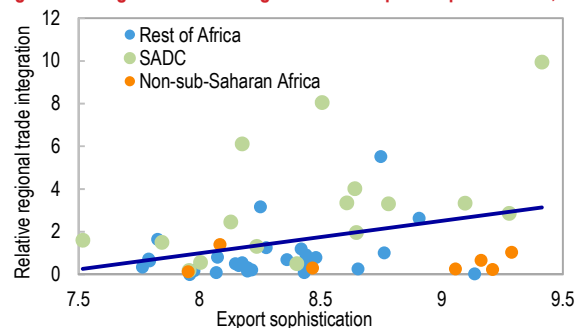
Sources: United Nations COMTRADE database; Cherif, Hasanov, and Wang (2018); and IMF staff calculations.

Note: Export Sophistication is based on the structural index in Cherif, Hasanov, and Wang (2018). Relative regional trade integration is defined as the ratio of the share of regional trade to the share of regional GDP. SADC = Southern African Development Community.

Figure 3.7. Grubel-Lloyd Intra-Industry Index across Regions, 2015
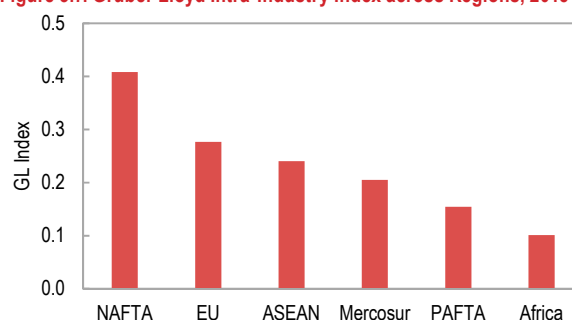
Source: IMF staff calculations.

Note: Index (between 0–1) measures propensity of two countries to trade in the same 4-digit-level industry. Higher index indicates larger intra-industry trade (Online Annex 3.2). ASEAN = Association of Southeast Asian Nations; EU = European Union; NAFTA = North American Free Trade Agreement; PAFTA = Pan-Arab Free Trade Area.

Figure 3.8. Africa: Average Tariff Rates by Regional Economic Community, 2010–17
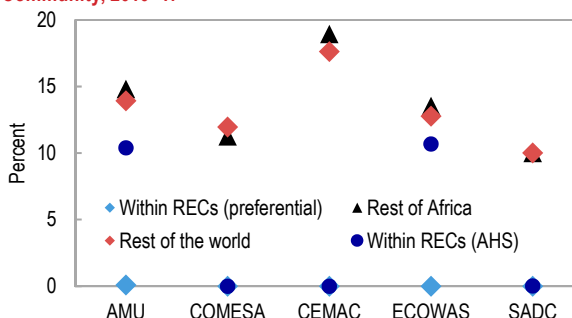
Sources: UNCTAD Trade Analysis Information System; and IMF staff estimates.

Note: Near-zero preferential tariff rates in RECs do not necessarily imply the absence of tariffs as in some RECs not all members are part of the associated free trade agreement. AHS = effectively applied. Rest of Africa and rest of the world refer to AHS. AMU = Arab Maghreb Union; CEMAC = Central African Economic and Monetary Community; COMESA = Common Market for Eastern and Southern Africa; ECOWAS = Economic Community of West African States; RECs = regional economic communities; SADC = Southern African Development Community.

---

[4] The analysis focuses on five major RECs covering most of Africa with minimal overlap. It is a subsample of many intertwined African RECs including free trade areas, customs unions, and monetary unions (Online Annex 3.2).

Figure 3.9. Africa: Trade Integration in RECs
(Intraregional RECs' imports as a share of total imports, 2015)
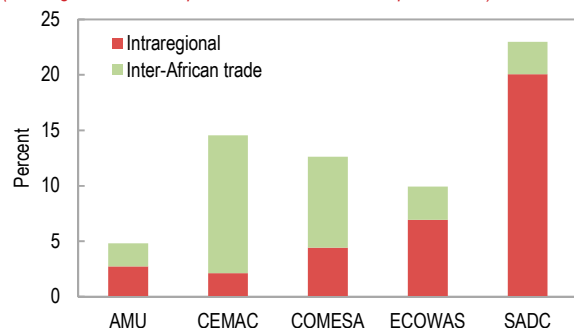
Sources: United Nations COMTRADE database; World Bank; and IMF staff calculations.

Note: Inter-African trade excludes trade with countries from the same regional economic community (REC). AMU = Arab Maghreb Union; CEMAC = Central African Economic and Monetary Community; COMESA = Common Market for Eastern and Southern Africa; ECOWAS = Economic Community of West African States; SADC = Southern African Development Community.

Moreover, trade between countries belonging to different RECs remains limited (Online Annex 3.2). This likely reflects the still relatively high tariffs on trade between countries from different RECs, which, on average, are about 12–15 percent (Figure 3.8). Limited trade between some countries may also reflect a long-standing problem: many countries are part of different RECs and agreements, which apply different trade rules (for example, rules of origin), raising the cost of trading within the continent. Addressing these issues is both an objective and a challenge for the AfCFTA.

## HOW CAN THE AfCFTA SUPPORT REGIONAL TRADE INTEGRATION IN AFRICA?

Expanded international and regional trade flows have played a significant role in Africa's rapid growth in recent years (IMF 2015, 2018c). The 2018 AfCFTA marks another milestone toward deeper regional integration and the quest for stronger and sustained growth. However, the range of outcomes from Africa's RECs suggests that regional integration is a complex process with several factors at play beyond tariffs. This section examines the potential for the AfCFTA to further expand regional trade and identifies policy levers to deepen trade integration within Africa.

Potential for Further Regional Trade Integration

A key issue when assessing the AfCFTA is to evaluate the potential to expand intraregional trade further. A central tenet of trade theory is that trade flows increase along with countries' size, level of development, and geographic and cultural proximity. This section assesses the degree of regional integration in Africa by gauging the impact of these features on trade flows. In so doing, it follows the empirical literature and estimates gravity equations covering 148 countries during 2000–15, using data on trade in goods disaggregated by industry.

Estimates suggest that African countries are, on average, expected to trade less than countries in other regions (Figure 3.10). In other words, particular features of African economies, besides size and level of development, imply less trade compared with other regions. These features include structural factors of African economies and policy-related factors such as tariffs, poor logistics and infrastructure quality, and limited credit (Online Annex 3.3). Empirical analysis also suggests that there is significant room for further trade integration in certain subregions and industries. Several RECs—such as CEMAC, the Arab Maghreb Union (AMU), the Common Market for Eastern and Southern Africa (COMESA), and the Economic Community of West African States (ECOWAS)—cover a large share of African countries and trade less than the top-performing RECs on the continent, which suggests the potential for additional trade integration within these subregions (Figure 3.11).

Figure 3.10. Role of Country Features in Regions' Trade
*(Median and interquartile range of country fixed effects from the gravity model)*
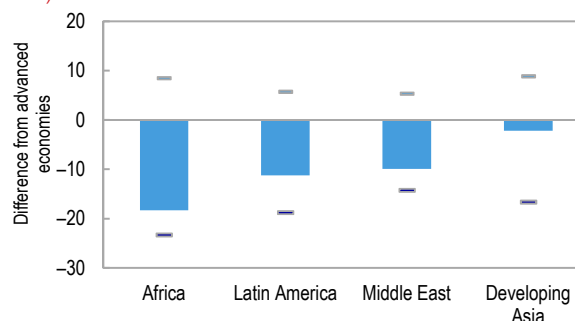
Source: IMF staff estimates.

Note: Contribution of country characteristics is measured using the pooled importer-industry and exporter-industry fixed effects for each region from a gravity regression (Online Annex 3.3). The lines above and below indicate the 25 percent and 75 percent quartiles of the fixed effects.

Empirical estimates also show that intraregional trade in goods such as food, forestry products, other primary products, and manufactured products is lower than predicted by the gravity model, signaling room for further trade expansion in these industries. (Figure 3.12)

Intraregional trade exhibits such gaps despite the positive effect on trade of the RECs and their near-zero preferential tariffs. This may reflect the persistence of significant nontariff bottlenecks within these communities, along with hurdles such as differing trade regimes that hinder trade between the communities.

Figure 3.11. Trade Gaps in African Subregional Economic Communities
(Difference in trade elasticity relative to SADC)
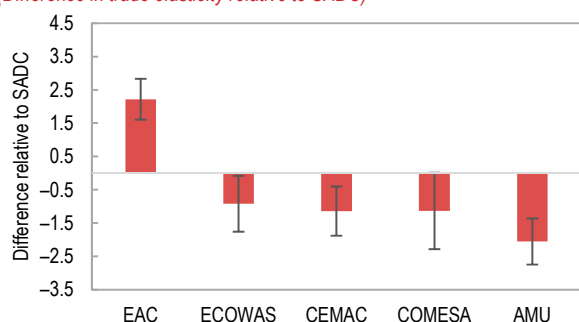
Source: IMF staff estimates.

Note: Whisker lines indicate 95 percent confidence intervals. See Online Annex 3.3 for details of the gravity regression. AMU = Arab Maghreb Union; CEMAC = Central African Economic and Monetary Community; COMESA = Common Market for Eastern and Southern Africa; EAC = East African Community; ECOWAS = Economic Community of West African States; SADC = Southern African Development Community.

Figure 3.12. Africa: Intraregional Trade Gap by Industry
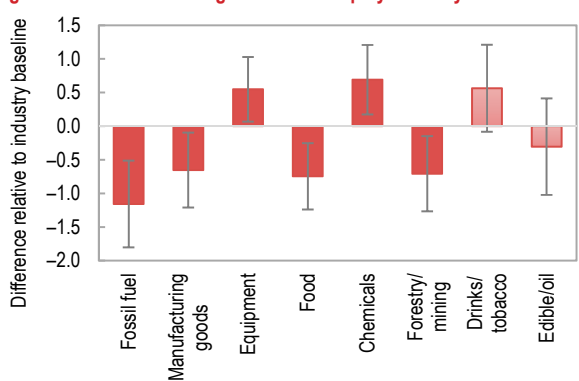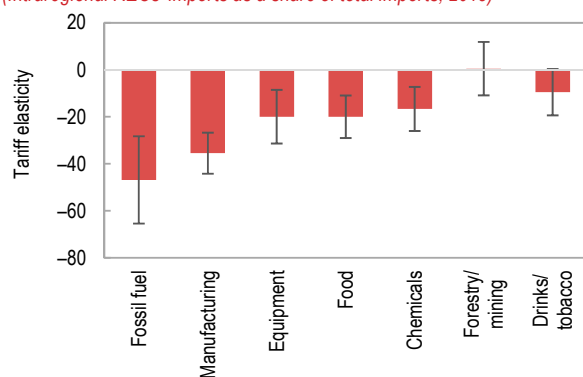

Source: IMF staff estimates.

Note: Industries ordered from highest to lowest share of intra-Africa trade. Bars indicate gap within each industry relative to intra-Africa trade from gravity model (Online Annex 3.3). Whisker lines indicate 95 percent confidence intervals. Light red = nonsignificant coefficient.

Benefits from the AfCFTA and Significant Scope for Policies to Foster Regional Trade Integration

Understanding the drivers of the substantial gaps in intraregional trade and identifying policies to help boost the region's trade will be key to the success of the AfCFTA.

The most observable and measurable form of trade barrier—and one of the AfCFTA's focal points—is the tariff level. Do tariffs represent a significant obstacle to intraregional trade in Africa? Empirical analysis using a gravity model for African countries shows that tariff reductions may boost intraregional trade in the region, particularly for the mineral, manufacturing, and agriculture-related sectors (Figure 3.13). While the estimated elasticity of trade flows to tariffs in Africa is somewhat limited, the overall effect of an extensive reduction in tariffs, as planned under the AfCFTA, may be sizable. Eliminating tariffs on 90 percent of currently taxed intraregional trade flows would increase intraregional trade by about US$16 billion or about 16 percent over recent average levels (Online Annex 3.3). More limited tariff reductions would of course have smaller overall effects on trade.[5]

Figure 3.13. Elasticity of Intraregional Trade to Tariffs by Industry
(Intraregional RECs' imports as a share of total imports, 2015)

Sources: UNCTAD Trade Analysis Information System; and IMF staff estimates.

Note: Industries ordered from highest to lowest share of intra-Africa trade. Bars indicate the tariff sensitivity of trade from gravity model (OnlineAnnex 3.3). Whisker lines indicate 95 percent confidence intervals.

---

[5] Under the AfCFTA, countries are expected to eliminate tariffs on 90 percent of products, leaving open the possibility of applying the reduction to either tariff lines or import values. The potential impact of these two options on the extent of trade liberalization is quite different. Targeting tariff lines could yield tariff reductions as low as 15 percent only in terms of import values (UNECA 2018).

Beyond tariffs, distance appears to be a greater barrier to intraregional trade in Africa than in other regions of the world (Online Annex 3.3). This indicates that factors other than tariffs make trading goods particularly costly for African countries and likely contribute to regional trade gaps. A key factor is the poor trade facilitation services, including logistics and transportation infrastructure, border processes, and customs practices. Typical nontariff barriers such as quotas, licenses, and complex or dissimilar rules of origin—as well as sanitary, phytosanitary, and technical barriers—also play a key role along with an inadequate business and regulatory environment. In this respect, African countries have among the highest nontariff trade costs in the world (Figure 3.14).

Which nontariff factors help explain intraregional trade gaps in Africa? To shed light on this question, the gravity model is augmented to include determinants such as quality of infrastructure and logistics. In line with the literature, the augmented gravity model also considers factors indirectly affecting trade, such as the level of credit available to the private sector and indicators of the business climate and education.[6] These factors are found to play a significant and stronger role than tariffs in hindering intraregional trade in Africa. All else equal, better logistics and infrastructure, along with easier access to credit and a more supportive business environment, are associated with higher intraregional trade flows (Figure 3.15). Looking at logistics, customs-related services—including clearance procedures and, to some extent, activities of typically regulated sectors such as brokerage services—are particularly important (Online Annex 3.3).

Although nontariff factors are key bottlenecks to intraregional trade, an important question for policymaking is which factors matter most. To address this issue, this chapter relies on principal component analysis and machine-learning techniques to capture the complex nature of the various trade-facilitating factors and the nonlinear interactions between these factors and trade flows, which are usually ignored in standard gravity models.
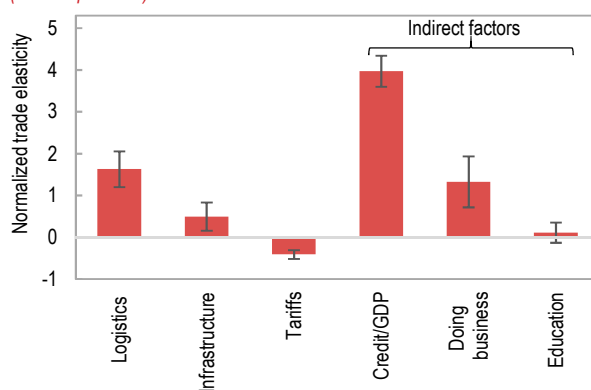
Figure 3.14. Nontariff Trade Costs, 2015
(Tariff equivalent)
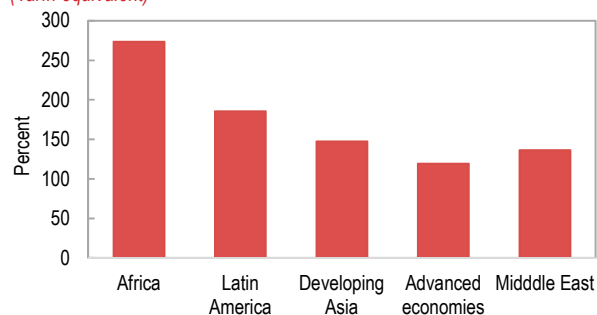
Sources: ESCAP - World Bank Trade Cost database.

Figure 3.15. Elasticity of Intraregional Trade
(Tariff equivalent)

Sources: UNCTAD Trade Analysis Information System; and IMF staff estimates.

Note: Bars indicate coefficients normalized by the standard deviation of each variable. The whisker lines indicate 95 percent confidence intervals. Tariffs elasticity refers to the non-augmented model.

Results based on world trade patterns confirm that trade logistics are the most important nontariff factor in predicting international trade, followed by infrastructure and other factors such as credit, education, and the business climate (Figure 3.16; see also Online Annex 3.4).

Focusing on intraregional trade, results from the gravity model confirm that, for Africa (Figure 3.17)

- Trade logistics are the most significant direct impediment to intraregional trade. Bringing the quality of logistics to the global average level (an improvement of about 19 percent) would lower the cost of cross-border movement of goods and increase intraregional trade by

---

[6] Nontariff factors are broadly defined to include factors that make trade difficult or costly, such as typical nontariff barriers (for example, quotas, subsidies, licenses, and restrictive application of nontariff measures such as rules of origin and sanitary and phytosanitary measures); logistics and transportation infrastructure; and other factors that may indirectly affect trade (for example, credit, human capital, business climate).

Figure 3.16. Importance of Nontariff Bottlenecks
(Optimized random forest importance ranking)
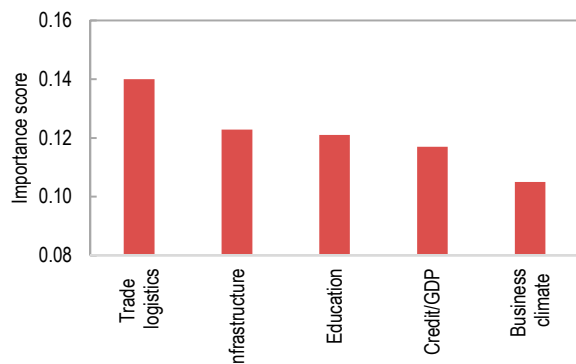
Sources: World Bank, Logistics Performance Index database; World Economic Forum; and IMF staff calculations.

Figure 3.17. Africa: Potential Increase in Regional Trade
(Percent change in trade flows)
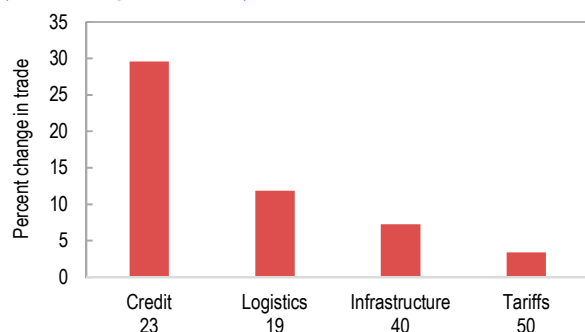
Source: IMF staff estimates.
Note: Numbers on the horizontal axis indicate percent change in each indicator to reach the world mean.

over 12 percent. Improving customs services, including clearance procedures and to some extent the quality of operating and brokerage services, is particularly important for intraregional trade flows in Africa (Online Annex 3.3).

- Infrastructure is another important nontariff bottleneck to trade flows, although its impact is more limited. Gravity estimates for Africa suggest that bringing the quality of infrastructure to the global average (an improvement in infrastructure quality of about 40 percent) would spur a 7 percent increase in intraregional trade flows. In this respect, the recent efforts by many African countries to close the infrastructure gap can help countries reap the benefits of the AfCFTA.

- Access to credit for the private sector, the business climate, and human capital also have important roles in supporting intraregional trade. Further financial deepening to a level comparable to the global aggregate would support a significant expansion in trade. To support trade, financial integration should focus on developing the regional financial infrastructure. This includes developing and harmonizing regional payment systems to further facilitate cross-border payments; creating swap arrangements across central banks and a multicurrency clearing center in the region to reduce risks from trading in several different regional currencies; and further coordinating the supervision of pan-African banks that can facilitate intraregional trade (Online Annex 3.9). Such an expansion would need to be accompanied by adequate prudential frameworks to manage the corresponding risks. Further efforts to improve the business climate and human capital would also have a favorable effect. This requires medium-term policies to address the continent's education and skills gaps and obstacles to business.

The Importance of Tackling Nontariff Bottlenecks to Reap the Benefits of Tariff Reductions

Nontariff factors may also shape the effectiveness of tariff policies. For example, reducing tariffs may have limited effects on trade flows if there are significant logistical bottlenecks. To gauge the extent to which nontariff bottlenecks reduce the effectiveness of tariff policies, this chapter relies on empirical analysis using a global panel threshold model covering more than 120 countries during 1990–2017 (Online Annex 3.4).

Empirical analysis shows that nontariff factors, such as infrastructure and trade logistics, undermine tariff policies' potential to promote trade, possibly reducing the impact of the AfCFTA on intraregional trade.[7] Specifically, lower tariffs would have relatively limited effects on trade flows if the quality of infrastructure is low (for example, below some minimum threshold). For countries with poor

---

[7] All indices are synthetic measures of existing indicators, for example, the infrastructure index covers eight indicators, including road and railroad quality and access to electricity.

infrastructure, improvements in this area could potentially double the trade-increasing effect of tariff reductions. This effect is particularly strong in landlocked countries. These results are relevant for Africa. Most African countries rank relatively low in terms of infrastructure quality (Figure 3.18), and about a third of countries are landlocked, suggesting that poor infrastructure in Africa lowers the effectiveness of tariff reductions in boosting trade on the continent. For landlocked countries, logistics also play an important role. It has a greater effect on their ability to trade than in other countries, and basic logistical services greatly enhance the impact of tariff reductions on trade. Overall, improvements in infrastructure and basic trade logistics are particularly important for landlocked countries to reap the benefits of tariff reductions.

For low-income countries, several nontariff factors influence the effectiveness of tariff reductions. In these countries, both the low quality of infrastructure and level of human capital hinder the effectiveness of tariff reductions in boosting trade integration.

Overall, the empirical investigation suggests that policies to reduce nontariff bottlenecks are central to boosting intraregional trade in Africa. The analysis so far relies on partial equilibrium approaches and does not allow for feedback effects. Computable general equilibrium (CGE) models

allow for trade-diverting and trade-creating effects in response to tariff and nontariff shocks by exploiting countries' comparative advantage and wage and price adjustments worldwide.[8] When applied to intraregional trade in Africa, CGE models uniformly confirm that reducing nontariff trade costs has a much larger impact on trade flows than eliminating tariffs. The elimination of tariffs on intraregional trade is estimated to increase trade in the region by about 15–25 percent over the medium term, whereas reducing nontariff barriers by half would more than double such effects. Models also show that tariff reductions have a limited effect on welfare, and only simultaneous reductions in tariffs and nontariff bottlenecks can have significant beneficial effects on countries' welfare and GDP (Online Annex 3.5).[9]

The AfCFTA debate has mainly focused on trade in goods, but liberalization of trade in services, including financial services, is just as important for countries' welfare. Lack of data, however, often hinders in-depth analysis. In most African countries, the services sector is the largest part of the economy (IMF 2017b), and trade in services can therefore play a key role in countries' development. In addition, it may have a positive impact on trade in goods as it allows countries to better exploit their comparative advantage (World Bank 2012). Barriers to trade in services in Africa, however, remain relatively high (AfDB 2019), and services often

Figure 3.18. Infrastructure and Trade Logistics Gaps in Africa
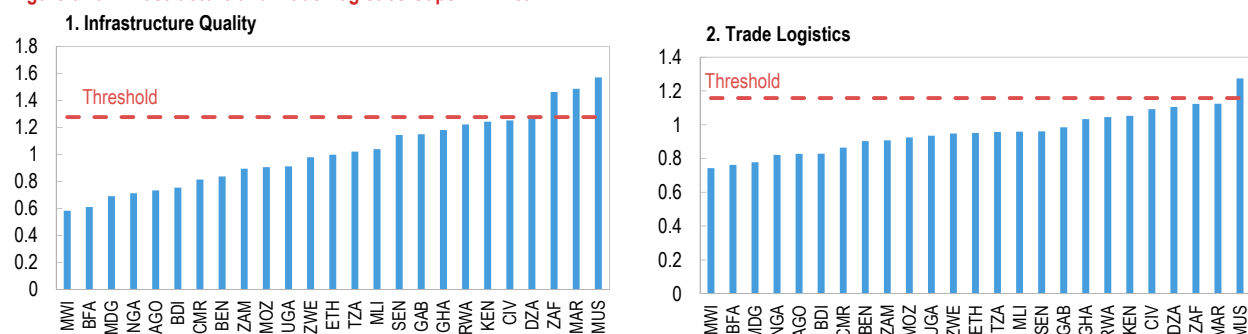
1. Infrastructure Quality

2. Trade Logistics

Sources: World Bank, Logistics Performance Index database; World Economic Forum; and IMF staff calculations.

Note: Thresholds are estimated using the fixed-effect panel threshold model by Hansen (1999). The thresholds identify structural breaks that divide the estimation equation into two regimes with different tariff-trade elasticities. See page vi for country abbreviations table.

---

[8] While capturing various economic interactions, these models still do not account for the potential transformative effect of trade on countries' economies.

[9] A review of recent studies suggests that eliminating tariffs on intraregional trade would increase welfare up to 0.5 percent over the medium term. Combining the elimination of tariffs with reducing nontariff barriers by half would increase welfare over the medium term up to 0.6–3.8 percent, and GDP by about 1 percent (Online Annex 3.5).

cover activities that are typically regulated. Therefore, further liberalizing trade in services requires coordinating trade policies and domestic regulatory reforms. This process may be complex because it entails detailed information on regulations and trade restrictions in each sector and considerable technical capacity, which is often lacking in many countries.

IMPLICATIONS OF THE AfCFTA FOR AFRICAN COUNTRIES: WELFARE, INCOME DISTRIBUTION, AND FISCAL REVENUE

While there is ample room to expand trade in Africa, benefits and costs from trade expansion may not be evenly distributed across and within countries. The trade integration agenda for the continent will succeed if it benefits all and if it considers the adjustment costs that trade openness entails. This section assesses the AfCFTA's potentially differential effects on African countries, as well as the impact on income distribution within countries and on countries' fiscal revenue. It also identifies complementary policies to ensure that trade integration works for all.

Strengthening the Impact of the AfCFTA Using Structural Reforms

A key question for policymakers is whether the AfCFTA will improve countries' welfare. Several studies based on CGE models conclude that the ability of African economies to benefit from the AfCFTA depends on their economic structure. More diversified and manufacturing-oriented economies, existing regional trade hubs, and small economies—already relatively more open to international competition—are likely to benefit more from regional trade integration than agriculture-oriented and natural-resource-based economies (Online Annex 3.5).

What can countries do to take full advantage of the opportunities offered by the AfCFTA? The trade literature suggests that greater trade can trigger deep structural change by increasing production efficiency and spreading knowledge and technologies across countries (IMF 2016). In this context, complementary structural reforms that boost

efficiency in sectors where developing economies have competitive advantage (for example, agriculture) may amplify the positive effect of deeper trade and increase GDP more than trade alone. While structural reforms may be helpful for all countries, the question is whether they may help agriculture-oriented and less-diversified economies benefit more from trade liberalization.

To examine this question, a stochastic general equilibrium model with multiple sectors and different sectoral productivities is used. The model is calibrated for a stylized African agriculture-exporting economy. The model baseline is modified by reducing tariffs, reflecting the impact of the AfCFTA, and by increasing the productivity of the agriculture sector, where the economy already has a competitive advantage, while allowing the workforce to shift across sectors. Such an increase in productivity can reflect structural reforms that, for example, increase yields in key agricultural exports (Online Annex 3.6),

The analysis suggests that complementing the AfCFTA with structural reforms would significantly increase the impact of the AfCFTA on the GDP of developing and agriculture-based economies. The additional effect of trade on GDP through complementary structural reforms increases with the effectiveness of the reforms. Effective structural reforms can raise the impact on GDP of expanded trade by as much as one-third (Figure 3.19). Hence, even developing and agriculture-based economies can get substantial gains from trade integration if the appropriate structural reforms are implemented.

Figure 3.19. Additional GDP Impact of Trade Expansion under Structural Reform Scenarios, Agricultural Exporter
(Percent)
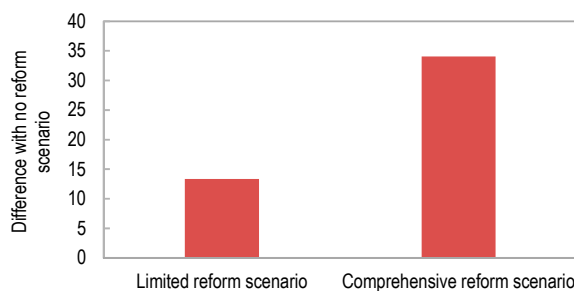
Source: IMF staff estimates.

Note: Trade expansion is defined as the increase in openness (exports plus imports to GDP). "Limited reform scenario" implies a 3 percent additional long-term effect on GDP levels, while "comprehensive reform scenario" implies a 7 percent additional increase in GDP.

Regional Trade Integration Affects Income Distribution

Inequality in Africa is very high, and it is worth examining the possible impact on the region's inequality of expanded trade flows associated with the AfCFTA.[10]

The entry of many developing economies into the world market in recent decades coincided with significant changes in income inequality. While on a global level inequality decreased as millions of workers were lifted out of poverty, particularly in Asia, inequality within countries often increased. Although globalization was expected to help the less skilled and improve income distribution, the wage gap between skilled and unskilled labor has widened, and the share of labor income in total value added has declined, contributing to higher inequality in several countries (Ravallion 2017).

To gauge the effects of increased trade openness from the AfCFTA on income inequality, this section reexamines this critical issue using a two-pronged approach. It employs the stochastic general equilibrium model of the previous section, calibrated on stylized African economies (for example, agriculture- and natural-resource-based economies) to lay out the channels through which trade integration may affect inequality. It then empirically tests

the model predictions using cross-country panel regressions covering more than 100 countries during 2000–14.

Model estimates suggest that the impact of increased trade on income inequality over the medium term is in general limited, but the effects differ across economies (Figure 3.20):

• In agriculture-oriented and, to some extent, natural-resource-exporting economies, trade openness decreases income inequality slightly.[11] More agricultural exports translate into higher incomes in rural areas where a large share of the poor live. The effect is larger if tariffs on intermediate inputs for agricultural production (for example, fertilizers and equipment) are reduced because this lowers production costs and further increases rural incomes.[12]

• In manufacturing exporters, trade openness somewhat increases inequality. Increased manufacturing exports tend to benefit firms that hire high-skilled and better-paid workers, thus increasing income inequality. Reducing tariffs on intermediate inputs would amplify this income effect.

One of the reasons the effect of increased trade integration on inequality is limited is the presence,

Figure 3.20. Change in Gini Coefficients and Income Shares
(Percent change from 1 percent increase in trade openness)
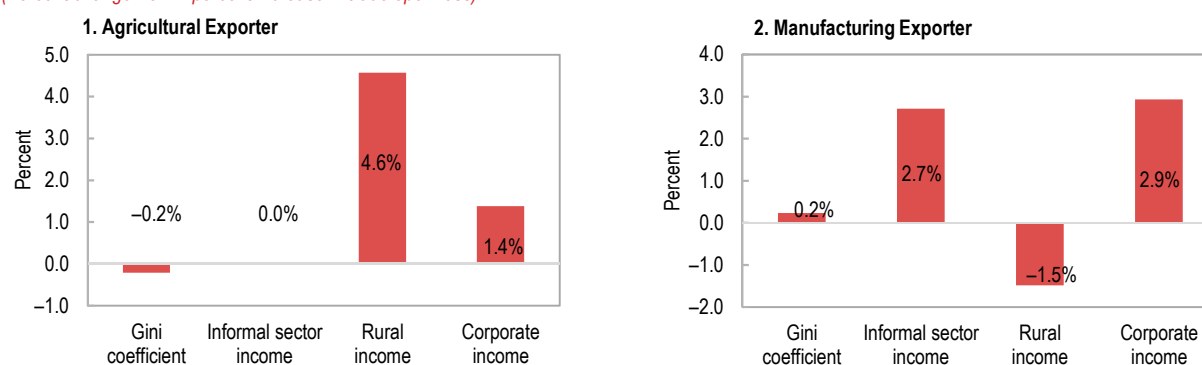
Source: IMF staff estimates.

---

[10] Seven of the ten most unequal countries in the world are in Africa. www.indexmundi.com/facts/indicators/si.pov.gini/rankings.

[11] The Gini coefficient is estimated to decline by 0.2 percent for each 1 percent increase in trade flows. Hence, if the AfCFTA is expected to increase trade flows by 16 percent (see previous sections), the Gini coefficient could decline by as much as 3 percent from its initial level.

[12] In natural resource exporters, inequality decreases less than in the case of an agricultural exporter. While natural resource activities are capital intensive and favor richer capital owners, these activities are also taxed more heavily, providing additional resources for redistribution.

in African countries, of large informal sectors. By nature, the informal sector is associated with higher inequality (if concentrated in low-skill activities), but it is also concentrated in nontradable goods and services and is therefore relatively insensitive to the effects of trade integration, thus insulating a large share of the population from the impact of trade (Online Annex 3.6).[13]

The empirical analysis largely confirms model predictions, with some important insights. In aggregate, greater trade integration is not associated with increased income inequality over the medium term. But greater trade integration does come with higher inequality in the short term, with a possible decline in the share of income accruing to the poorest.[14] This suggests that the initial adverse distributional effect of trade openness fades away as economies adjust over time. In this respect, African economies do not substantially differ from other countries. Moreover, there is some indication that increased trade integration is not associated with higher poverty. As with the model, empirical estimates confirm that trade liberalization is associated with better income distribution in economies with relatively larger agricultural sectors and that while informality is associated with greater income inequality, it tends to mitigate the short-term effects of trade liberalization on income distribution (Online Annex 3.7).[15]

Limited Reductions in Fiscal Revenue with a Few Exceptions

One of the concerns with the AfCFTA is that tariff reductions may lead to fiscal revenue losses and budget pressures. Will the AfCFTA carry significant revenue losses, and what can countries do to preserve fiscal sustainability?

The investigation of African countries' fiscal revenue and trade data suggests that, on average, fiscal revenue losses due to the AfCFTA are likely to be limited. Overall customs revenues in Africa are relatively low, and only a small portion of such revenue depends on regional trade (Figure 3.21). During 2010–15, customs revenue averaged about 2.5 percent of GDP (16 percent of total tax revenue), and overall regional imports, including zero-rated imports within RECs, averaged about 17 percent of total imports. The picture was radically different only two decades ago before many African countries joined the World Trade Organization (WTO) and signed several trade agreements (Online Annex 3.8).

However, low averages mask considerable heterogeneity and important exceptions across countries. During 2010–15, most countries' customs revenues averaged less than 2 percent of GDP, but in a few countries they exceeded 5 percent of GDP. Moreover, for some countries, imports from the region exceed 35 percent of total imports (for example, Côte d'Ivoire, Malawi, Zambia, Zimbabwe), suggesting risks of large revenue losses.

To gauge the direct impact of the AfCFTA on fiscal revenue, this chapter applies the effective average tariff rate to countries' import data by individual product.[16] Assuming the elimination of all tariffs on intraregional imports, and accounting for VAT losses as a result of smaller tax bases, the average estimated revenue loss is low, at about 0.3 percent of GDP (Online Annex 3.8).[17] However, given existing tariffs and regional trade links, revenue losses in some countries could be large, exceeding 1 to 2 percent of GDP (for example, Democratic Republic of the Congo, Sierra Leone, Zimbabwe).

---

[13] The informal sector is assumed to produce mainly nontradable goods and services, which are not affected by trade. For an analysis of informality in Africa, and its large size in sub-Saharan Africa, see Medina, Jonelis, and Cangul (2017).

[14] Some recent studies have found that trade openness is associated with low inequality (Jaumotte, Lall, and Papageorgiou 2013). However, these studies cover data only up to the early 2000s, and the use of more recent data explains the different conclusion (Online Annex 3.7).

[15] It is worth noting that although the analysis focuses on aggregate measures of income inequality, inequality across regions and social groups—such as women and young people—in countries may change substantially, depending on countries' circumstances

[16] For each country i, total customs revenue is calculated as the sum (over all types of products and all countries) of the average effective tariff imposed by country i on good Z imported from country y^* multiplied by the value of such imports. This process takes into account tariff differences due to bilateral or subregional economic communities.

[17] This represents an upper bound for possible revenue losses since the AfCFTA requires elimination of tariffs on only 90 percent of trade items. Results are confirmed by using most-favored-nation (MFN) effective rates; that is, the maximum tariff a country can impose on other countries under the WTO. In this case, the average loss is estimated at about 0.5 percent of GDP.

Figure 3.21. Customs Revenue in African Countries, 2010–15
*(Percent change from 1 percent increase in trade openness)*
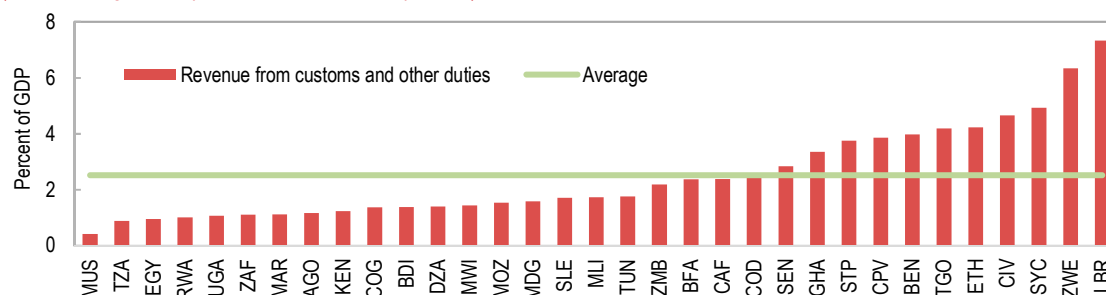
Source: IMF, Fiscal Affairs Department Tax Revenue Indicators database.
Note: Excluding Southern African Customs Union (SACU) countries, except South Africa as SACU countries' customs revenue is pooled. See page vi for country abbreviations table.

The static revenue losses estimated above do not account for the possibility that AfCFTA countries may find it convenient to divert trade and substitute imports from high-tariff countries with imports from AfCFTA members and that the AfCFTA may increase countries' GDP. Using conservative growth and trade diversion elasticities to tariffs estimated in the literature, the analysis shows that these dynamic effects may imply larger, although still somewhat limited, revenue losses. On average, the revenue loss would amount to about 0.5–0.8 percent of GDP, depending on the assumed elasticities. However, in a few countries revenue losses may be as large as 3–5 percent of GDP (Figure 3.22; Online Annex 3.8 for details). For these countries, authorities should define clear domestic revenue mobilization policies on entering the AfCFTA.

Figure 3.22. Estimated Static and Dynamic Revenue Losses from Tariff Reductions
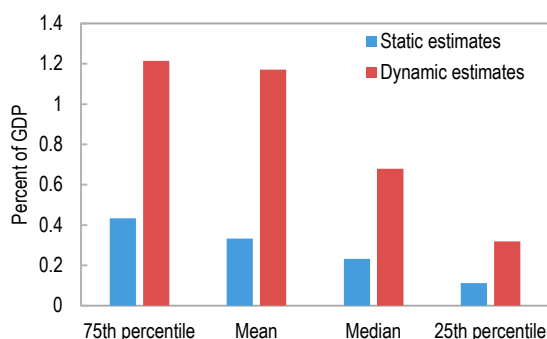
Sources: UNCTAD Trade Analysis Information System database; and IMF staff estimates.
Note: Losses include losses from tariff reduction and value-added tax. Dynamic losses account for trade diversion and GDP changes.

SUMMARY AND POLICY IMPLICATIONS

This chapter suggests that Africa's fast-growing intraregional trade has significant room for further expansion. Reducing tariffs and, more important, addressing nontariff bottlenecks would support further regional trade integration. Poor trade logistics and, to a lesser extent, infrastructure have the largest potential to boost regional trade integration, especially for landlocked and low-income countries. RECs' experience in Africa confirms that reducing tariffs alone may not suffice to boost intraregional trade since nontariff factors also hamper trade flows.

What does this mean for the AfCFTA, and what can countries do to foster and take advantage of regional integration and help promote productivity and growth in Africa? The findings presented in this chapter suggest that tariff reductions can play a significant role in fostering intraregional trade if applied to a large proportion of trade flows. However, tariff reductions should be complemented with policies to reduce nontariff bottlenecks to trade. Such policies should take center stage in the effort to foster regional trade integration in Africa. Trade within many RECs is already virtually tariff-free, so addressing poor infrastructure and trade logistics, including customs services and clearance procedures, would provide much-needed support for intraregional trade growth. Addressing these bottlenecks would be particularly beneficial for landlocked and low-income countries. Moreover, establishing a mechanism to identify and monitor the removal of other nontariff barriers,

such as quotas, licenses, subsidies, and restrictive application of nontariff measures such as rules of origin and sanitary and phytosanitary measures, would greatly enhance the effectiveness of the AfCFTA. Further developing regional payment systems and introducing swap arrangements across central banks and a multicurrency clearing center could support trade integration. More generally, liberalizing trade in services may require coordinating trade policies and domestic regulatory reforms. In this context, the AfCFTA could be the catalyst that will spur efforts to tackle such bottlenecks and coordination issues at both the national and subregional levels.

To ensure that the economic and welfare benefits of deeper regional trade integration are shared by all, policies should address the adjustment costs that integration may entail. The analysis in this chapter suggests that for agriculture-based and less diversified countries to reap the benefits of trade integration, trade policies should be combined with structural reforms that boost agricultural productivity to better leverage existing comparative advantage. Deeper regional trade integration is also likely to adversely affect fiscal revenues in a few countries, which will need to design domestic tax revenue-raising strategies while being mindful of possible growth and distributional effects (IMF 2018c). To be successful, regional trade integration policies should mitigate the possible adverse effects of trade integration on income distribution, particularly in the more diversified economies, through targeted social programs (for example, income support) and training programs to ease worker mobility across industries and promote employment.

REFERENCES

African Development Bank (AfDB). 2012. "Informal Cross Border Trade in Africa: Implications and Policy Recommendations." *Africa Economic Brief* 3 (November).

———. 2019. *African Economic Outlook 2019*. Abidjan.

Cherif, R., F. Hasanov, and L. Wang. 2018. "Sharp Instrument: A Stab at Identifying the Causes of Economic Growth." IMF Working Paper 18/117, International Monetary Fund, Washington, DC.

Hansen, B. 1999. "Threshold Effects in Non-Dynamic Panels: Estimation, Testing, and Inference." *Journal of Econometrics* 93 (2): 345–68.

International Monetary Fund (IMF). 2015. "Global Value Chains: Where Are You? The Missing Link in Sub-Saharan Africa's Trade Integration." *Regional Economic Outlook: Sub-Saharan Africa*. Washington, DC, April.

———. 2016. "Global Trade, What's behind the Slowdown?" *World Economic Outlook*. Washington, DC, October.

———. 2017a. "Restarting the Growth Engine." *Regional Economic Outlook: Sub-Saharan Africa*. Washington, DC, April.

———. 2017b. "Fiscal Adjustment and Economic Diversification." *Regional Economic Outlook: Sub-Saharan Africa*. Washington, DC, October.

———. 2018a. "Growth Challenges for the Next Decade and Beyond." *Regional Economic Outlook: Asia Pacific*. Washington, DC, October.

———. 2018b. "Domestic Revenue Mobilization and Private Investment." *Regional Economic Outlook: Sub-Saharan Africa*. Washington, DC, May.

———. 2018c. "Regional Spillovers in Sub-Saharan Africa." IMF Spillover Note 18/01, Washington, DC.

———. 2019. "Online Annexes— Opportunities and Challenges of the AfCFTA" Background Paper: https://www.imf.org/~/media/Files/Publications/REO/AFR/2019/April/English/backgroundpapers.ashx?la=en

Jaumotte F., S. Lall, and C. Papageorgiou. 2013. "Rising Income Inequality: Technology, or Trade and Financial Globalization?" *IMF Economic Review* 61 (2): 271–309.

Medina, L., A. W. Jonelis, and M. Cangul. 2017. "The Informal Economy in Sub-Saharan Africa: Size and Determinants." IMF Working Paper 17/156. International Monetary Fund, Washington, DC.

Ravallion M. 2017. "Inequality and Globalization: A Review Essay." ECINEX Working Paper 2017/435. Society for the Study of Economic Inequality, Milan.

United Nations Economic Commission for Africa (UNECA). 2018. "African Continental Free Trade Area: Towards the Finalization of Modalities on Goods." Addis Ababa.

World Bank. 2012. "De-Fragmenting Africa." Washington, DC.