Transforming African economies through smart trade and industrial policy

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African Trade Policy Centre

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Summary: key messages and policy recommendations

In the *2015 Economic Report on Africa* of the Economic Commission for Africa, a clear case was established for the increased and improved use of trade and trade policy as tools to drive the continent's industrialization. The present report builds on the recommendations of the report through a thorough assessment of what is required of African economies to industrialize smartly through trade. The assessment is informed by an analysis of whether current trade policies and tariff structures positively contribute to Africa's broader industrialization policy.

The remainder of this summary provides an overview of the content, key messages and policy recommendations of the report. The recommendations are targeted at African policymakers and provide important insights for international donors, academia, Africa's trading partners, the private sector, civil society and others with a stake in Africa's industrialization through trade.

Report structure

Section I. *Introduction:* The report explains the rationale for the report, defines smart industrialization through trade and discusses the important role of manufacturing and services in supporting the shift to rethinking trade policy as a means to drive industrial development.

Section II. *Literature review:* The report provides an overview of industrial strategies at the regional economic community level and the industrial pillar under the Continental Free Trade Area (CFTA), along with a discussion on constraints to industrialization through trade and other trade agreements that will influence how well the continent can use trade to industrialize.

Section III. *Descriptive statistics and analysis:* The report assesses the status of industrialization and export diversification in Africa and analyses the continent's industrial exports, imports and tariff structures, providing a comparison between nominal tariffs and the effective rate of protection.

Section IV. *Targeting industries for smart industrialization:* The report discusses tools used to target industries for smart industrialization, including an analysis of productive capacity and comparative advantage, export restrictions, and utilizes the concept of effective rate of protection to design supportive tariff structures.

Section V. *Case studies:* A number of case studies are presented on how African countries have successfully used smart trade policies, supported by complementary domestic interventions, to further their industrialization agendas.

Section VI. *Assessment on how to industrialize smartly:* The report's conclusion, in which a set of priority policy recommendations is provided on what African economies need to do to industrialize smartly through trade.

Key messages

Importance of industrialization

Africa's experience with industrialization has been disappointing

Globally, the share of manufacturing in total output rises with per capita income until countries reach upper-middle-income status and then declines, as services become more prevalent at higher incomes. This has not been the case in Africa. In 2014, Africa's average share of manufacturing value added in gross domestic product (GDP) was 9.8 per cent, 3 percentage points less than the 12.8 per cent figure of 1990. The share of manufacturing exports in Africa's total exports similarly declined, from 25.6 per cent in 1995 to 18.9 per cent in 2014. Africa's exports remain concentrated largely in primary commodities and raw materials (fuels, ores and metals and agricultural raw materials). The Herfindahl-Hirschman Index on product concentration shows Africa's exports as less diversified than the rest of the world.

Both manufacturing and services sectors have key roles to play in Africa's industrialization

Manufacturing is a high value-added sector in which labour can flow into and deliver high productivity. The sector has strong forward and backward linkages with other sectors of the economy, including agriculture and the external sectors. The services sector is gaining significant importance. It is the main contributor to GDP in the majority of African countries and has been the continent's fastest-growing sector during the past two decades. A thriving service sector is essential for attracting investors into African businesses and driving growth in the manufacturing sector, given that it allows local sourcing of needed support services such as logistics, telecommunications and financial services.

Industrialization has gained increasing importance in African development policies and frameworks in recent years

The Action Plan for the Accelerated Industrial Development of Africa serves as the main agenda for Africa's industrialization. Agenda 2063 of the African Union calls for the promotion of sectoral and productivity plans, and regional and commodity value chains to support the implementation of industrial policies. African countries, in recognition of this, have designated industrialization as the central pillar of the CFTA project. The continent's regional economic communities also recognize that industrialization needs to take centre stage in regional integration and development agendas. The Southern African Development Community (SADC) and the East African Community (EAC) have stand-alone industrial strategies to guide the regional industrialization process.

Using trade as a tool to drive Africa's industrialization

More fresh thinking is needed on how to achieve Africa's industrialization objectives

Trade has a key role to play. Intraregional trade has the potential to facilitate increased economies of scale, diversification and value addition. In 2014, manufactured goods accounted for 41.9 per cent of intra-African exports, compared with only 14.8 per cent of Africa's exports outside the continent. Intra-African trade, however, is underexploited owing to high trade costs in the region. Intra-African trade, as a share of total African trade, was only 15.3 per cent in 2015. ECA modelling exercises indicate that establishing the CFTA would boost intra-African trade in goods by 52.3 per cent. Estimated increases are highest for industrial products (53.3 per cent).

Although the idea of actively using trade and trade policy to support industrialization is not new, it has recently experienced a resurgence

Trade has greater prominence in the Sustainable Development Goals than the Millennium Development Goals, with trade-related targets included as a means of implementation. The African Union's vision contained in Agenda 2063 calls for developing productive capacities, boosting intra-African trade, the establishment of the CFTA and improved regional infrastructure, among other trade-related priorities. African countries recognize the role that the CFTA can play in achieving its industrialization and have designated industrialization as the central pillar of the CFTA project.

Africa's industrialization is influenced by non intra-African trade agreements

Preference-granting countries determine the products and terms for granting preferences covered under preferential trade arrangements

In many African countries, there is an imbalance between productive capacity and stringent rules of origin and product standards. This calls for improvements in the design of the preferential trade arrangements to support Africa's industrialization and development.

Shifts towards greater reciprocity in preferential trade arrangements are expected during the coming decade

Rapid full liberalization risks reducing the competitiveness of African producers, which may undermine efforts to industrialize and diversify, if the adjustments that are necessary are insufficiently managed. This is because

foreign products would be granted increasingly favourable treatment in African markets and, in some cases, more favourable treatment than products from other African countries.

Mega-regional trade agreements have implications for Africa's industrialization agenda

ECA modelling indicates that the establishment of envisaged mega-regional trade agreements will result in loss of market share by African countries through preference erosion and competitiveness pressures. African economies will also find it more difficult to industrialize through building supply relationships with rapidly growing emerging markets such as China.

Africa faces significant constraints to industrialization through trade

Africa has less trade integration than other developing regions

Africa's total trade as a share of GDP was 40.0 per cent in 2015, compared with 47.3 per cent for developing economies as a whole. Intra-African trade also underperforms, compared with other developing regions. Intra-African trade as a share of total African trade was 15.3 per cent in 2015, whereas, for example, trade among developing economies in Eastern Asia as a share of total Eastern Asian trade was 32.1 per cent.

Prevailing tariff rates significantly underestimate both Africa's internal and external trading costs

The continent's cost of trading with the world was 283 per cent in ad-valorem tariff equivalent in 2013, higher than that of all other regions except Central Asia, which has a higher share of landlocked countries. The reason for this is the prevalence of non-tariff measures and physical market access barriers, such as poor infrastructure affecting African countries.

Legitimate standards are important for Africa's industrialization through trade

Compliance with standards helps to encourage industrialization through enhancing trade capacity and competitiveness, facilitating mutually beneficial trade in industrial products and the integration of firms into regional and global value chains, and improving the efficiency of production and trade. There is, however, an increasing trend in the misuse of overly burdensome technical barriers to trade as non-traditional protectionism measures. Meeting these standards have challenged capacity-constrained African countries with inadequate quality infrastructure.

Design of Africa's industrial tariff structures is important

High industrial tariffs increase the costs of industrialization in Africa

Overall, the import-weighted tariffs on Africa's imported intermediates are significantly higher than Eastern and South Eastern Asia (a region experiencing rapid industrialization) and the rest of the world. This difference is large for processed industrial supplies, parts and accessories of capital goods and parts and accessories of transport equipment, all of which are important inputs for manufacturing industries. The tariffs on intermediates imported into Africa from outside are significant. This limits their use in production processes and therefore reduces the possibilities for the export of transformed products.

There is a weak relationship between effective rate of protection and revealed comparative advantage

To assess the amount of protection granted to African industries by import tariffs, it is important to analyse both nominal tariffs and the effective rate of protection, which is a measure of the total effect of the entire tariff structure on the value added per unit of output in each industry, when both intermediate and final goods are imported. Higher protection of specific sectors is not always awarded to specific sectors in which countries have comparative advantages in production. This suggests that the targeting of high rates of effective rate of protection could be improved.

Comparative advantage and export restrictions can be useful tools for targeting smart industrialization through trade

Analysis of revealed comparative advantage can identify potential areas of specialization

Various studies use a region-revealed comparative advantage analysis to help to identify potential areas of specialization for a group of countries and individual countries in the regional economic communities. This can help to guide trade and industrialization strategies and maximize the mutual gains from regional trade. As an indicator of a country's productive capacity, however, revealed comparative advantage is a static concept. As countries' endowments change, productive capacities evolve. Targeted policy actions can help countries to shift their productive capacities towards goods that embody more value added and can generate more linkages with and spillovers to the rest of the economy.

Export taxes can help to encourage value addition by reducing or banning the export of raw materials and unprocessed goods

African countries do not make extensive use of this tool. Although export taxes can promote industrial development, they must target industries with comparative advantage and supported by other industrial policies to ensure that selected industries in Africa take off. Indefinite exports taxes, however, risk providing a permanent benefit to domestic producers, which could reduce incentives to improve competitiveness overtime.

Policy recommendations

Articulating smart choices in trade agreements

African countries need to articulate smart choices in trade agreements and insist on using new trade agreements to promote industrialization

African countries should use ex ante and ex post industrial impact assessments as tools to support the mainstreaming of industrial priorities into Africa's trade agreements. For example, in many African countries there exists an imbalance between productive capacity and stringent rules of origin and product standards. Industrial impact assessments could help to resolve this issue by assessing whether the requirements contained in trade agreements and arrangements are consistent with the productive capacities of African countries.

Imperative of advancing Africa's industrialization should be central to the Continental Free Trade Area negotiations process

The final CFTA agreement should aim to commit member States to an ambitious liberalization agenda for trade in goods and trade in services. This will be crucial for boosting intra-African trade in intermediates, ensuring competitively priced service inputs and developing manufacturing regional value chains. The agreement should also include provisions that are consistent with the imperative of industrial development under the CFTA industrial pillar. For example, flexible rules of origin with generous cumulation requirements would help to encourage local and regional processing and the development of African industrial supply chains.

Africa should smartly sequence its trade policy reforms

Africa needs to implement the CFTA quickly to avoid any trade losses from the changing trade landscape faced by African countries, specifically the emergence of mega-regional trade agreements and growing reciprocity with Africa's trade agreements with trading partners outside the continent. This will allow African countries to harness the economies of scale and learning by doing that is necessary to develop competitive regional value chains and industries, well positioned to compete internationally and integrate into global value chains. Reciprocal trade agreements should be well managed with phased tariff reductions on imports into Africa to enable African industries to adapt.

Using trade policy to promote industrialization

African countries should base their industrial development strategies on comparative advantages

There is a weak relationship between the effective rate of protection and revealed comparative advantage. This indicates that there may not always be protection for a sector in a country that has comparative advantage in its production. Nevertheless, higher rates of protection do not guarantee that the sectors will grow. Tariff structures should instead be aimed at ensuring that sectors can achieve international competitiveness. Comparative advantage should also be considered as a dynamic concept: countries can also "build" their comparative advantage in sectors that are deemed strategic for their growth. In such circumstances, trade policy tools, such as lower tariffs on key inputs, and time-bound and well-targeted export restrictions can be used. These tools should be accompanied by relevant complementary policies in order to be successful and achieve durable results.

Import and domestic tariffs should be structured in a way that supports industrialization

In 2012, the mean effective rate of protection was greater than the mean most favoured nation tariff for 42 African countries for which data were available, with the exception of Sao Tome and Principe. Tariff structures are often defined in a way that provides additional protection on top of the nominal tariff. A total of 21 cases, however, of the 500 analysed throughout all sectors and countries have negative effective rates of protection and 65 cases have effective rates of protection lower than the nominal rate of protection. In general, all products that have effective rates of protection lower than the nominal rate of protection face a tariff structure that discourages domestic production, value addition and industrialization. This could be due to high tariffs on the inputs utilized by specific industries and sectors, but also due to low tariffs on final products. Increasing tariffs on a sector's outputs may help to promote domestic production in the short term, but risks hampering improvements in real industrial competitiveness. A more suitable and sustainable solution would be to remove, or at least reduce, import tariffs on the inputs used by the sectors with negative or low effective rates of protection.

Tariff rates should be reduced on important industrial intermediate inputs for which regional production capacity does not exist

Africa imports the large majority of its industrial intermediates from outside the continent at high tariff rates. In 2015, intermediate goods imported into Africa from outside faced a tariff rate of 7.5 per cent, compared with 4.5 per cent for intra-African imports of intermediates. Tariff rates are particularly high for industrial supplies and processed food and beverages. This significantly increases the costs of industrialization. A review of the domestic intermediate import tariff structures is required to ensure consistency with industrial development needs and current domestic and regional supply capacities. The CFTA should be geared towards significantly reducing internal tariffs on industrial intermediates.

African firms should industrially upgrade through participating in global value chains

This would allow African firms to gain the ability to produce and export higher value added products quickly. Enabling participation in global value chains requires overcoming the constraints to industrialization through trade, such as inadequate infrastructure and border-related and local distribution deficiencies (e.g., corruption, cumbersome customs requirements and inefficient services). Trade policy should also be used to create an attractive environment, for example, by reducing or eliminating tariffs on the imports to be used for processing. Several countries in Africa have established export processing zones, which use trade policy to promote the processing of goods. In order to develop these zones, trade policy tools need to be accompanied by complementary policies.

Complementary policies for industrialization through trade

Interventions to reduce non-tariff trade costs are needed to tackle the binding supply-side constraints to industrialization

In 2012, the African Union Commission, with the support of ECA, designed the Action Plan for Boosting Intra-African Trade to deal with constraints to intra-African trade through identifying a number of key programmes and activities under seven clusters. These clusters are trade policy, trade facilitation, productive capacity, trade-related infrastructure, trade finance, trade information and factor market integration. To date, implementation of the Action Plan has been relatively disappointing, slow and uncoordinated. To reduce Africa's non-tariff trade costs, the clusters must be mainstreamed into the development policy and programmes of African countries and regional economic communities. A weak relationship between effective rates of protection and exports in African countries suggests that high levels of effective rate of protection are not having the desired effect of supporting industrialization, laying emphasis on the need for such complementary measures.

Africans must be equipped with the skills needed to engage in skill-intensive manufacturing industries

A shortage of relevant skills is constraining the growth of Africa's industrial firms. A poorly skilled and educated labour force is the top supply bottleneck by global executives when considering manufacturing investment in Africa. Regular training needs assessments and national labour force surveys are required to identify the skill gaps of African industries and guide skills development. Skill-intensive manufacturing industries could include the manufacture of apparel, machinery and equipment.

Efforts to ensure an efficient and competitive trade facilitation framework should continue to receive attention

African leaders should take full ownership of the infrastructure agenda and mobilize the funds required for its implementation. New and innovative sources of financing are needed to raise the $68 billion estimated cost of immediate investment in the African Union's Programme for Infrastructure Development in Africa, required through 2020. The focus should be on connecting African countries at the continental level. This will be crucial for facilitating intra-African trade gains made possible by the CFTA. African leaders should also consider other behind-the-border inefficiencies such as customs operations. Electronic single windows should be rolled out throughout all African countries under a pan-African approach that ensures harmonized electronic single window practices and operations. The 2013 World Trade Organization Agreement on Trade Facilitation provides an opportunity for improved targeting of Aid for Trade activities towards objectives on trade facilitation.

Enhancing access to affordable credit will be important for laying the groundwork for rapid industrialization

Affordable credit is key to driving industrialization and supporting the integration of export-oriented firms into time-sensitive regional and global value chains. The continent should exploit the potential of the rapidly increasing penetration of information and communications technology (ICT) to increase financial access. This will require the establishment of adequate institutional and regulatory frameworks to attract private actors and guarantee prudential supervision.

African countries should invest in developing the infrastructure necessary to support services

More strategic thinking is required on how to deal with services under the framework of trade agreements involving African countries. Many African services firms need technical support to comply with quality and other standards requirements for market access for services of export, in particular developed countries. Mutual recognition agreements for services standards can help, as can improvements to domestic regulatory standards and institutions governing the services sector (including around competition policy). Domestic regulatory frameworks for services in African countries should be non-trade-distorting. The continent should adopt an open trade policy towards services, including services imports.

Strengthening links among national development strategies, industrial policy and trade policy

African counties must increase the coherence between trade policy and industrial and national development policies

For most African countries, industrial development remains just one of many objectives of trade policies. In order for trade policy to foster industrialization effectively, industrial development must become the core objective of trade policy. This coherence is important because trade policy alone, without appropriate complementary policies, cannot deliver on the levels of industrialization needed for meaningful structural transformation in Africa. A positive example is the Plan national de d***éveloppement*** for Chad, launched in April 2013 to provide major orientations on industrial and trade aspirations.

African countries should align their regional integration and trade policies with development and industrial policies that incorporate key country attributes

For Asia, regional integration has been successful because it has been supported by efforts to enhance productivity and diversify and structurally transform the region's economies. Investment in productive capacities and technology transmission and adoption has been key to driving innovation and competitiveness and the integration of Asian firms into global value chains. African countries must align their regional integration and trade policies with industrial policy that reflects the opportunities, challenges and resources that they have.

Industrial parks and special economic zones can be used to exploit linkages between trade and industry

Ethiopia, for example, has actively and effectively aligned its trade and industrial policies through developing a number of industrial parks that target investment and production in manufacturing export sectors, such as textiles and apparel, leather products, pharmaceuticals and agro-processing. These parks are located along key economic corridors and are connected to ports, airports, railways and universities. They also provide incentives to both manufacturers and developers to encourage expansion and production for export. Other African countries should adopt a similar approach. Special economic zones and industrial parks, organized on a cross-border basis, could be used to provide incentives for local and foreign industry-related investments to take full advantage of trade liberalization under the CFTA.

I. Introduction

Africa's experience with industrialization has been disappointing. Globally, the share of manufacturing in total output rises with per capita income until countries reach upper-middle-income status and then declines, as services become more prevalent at higher incomes (Newman and others, 2016). This has not been the case in Africa. In 2014, Africa's average share of manufacturing value added in GDP was 9.8 per cent, 3 percentage points less than the 12.8 per cent figure of 1990[1]. The share of manufacturing exports in Africa's total exports similarly declined, from 25.6 per cent in 1995 to 18.9 per cent in 2014. Moving forward, structural transformation of African economies through industrialization will be key to achieving economy-wide productivity improvements, job creation and sustained progress in growth and poverty reduction. Both theory and history verify this.

In the ***2015 Economic Report on Africa*** of the Economic Commission for Africa (ECA), a clear case for the increased and improved use of trade and trade policy as tools to drive the continent's industrialization was established. The present report builds on the recommendations of the 2015 report through the provision of a thorough assessment of what is required of African economies to industrialize smartly through trade. The assessment is informed by an analysis of whether current trade policies and tariff structures positively contribute to Africa's broader industrialization policy.

A. Defining "smart industrialization through trade"

Although the idea of actively using trade and trade policy to support industrialization is not new, it has recently experienced a resurgence and boost, sometimes under the tag of "smart industrialization through trade". Various people may interpret and define this label in different ways.

The report provides an interpretation of smart industrialization through trade as a way to utilize trade policy as a means to drive industrial development and value addition, in the context of successive bilateral, regional and multilateral trade negotiations having constrained the use of traditional trade policy instruments once used by developed countries to promote industrialization. It involves the articulation of smart choices in trade agreements and the reversal of trends in policy space erosion when negotiating new trade agreements by insisting on the need to use trade policy instruments to promote industrial upgrading and active participation in global value chains. These choices cover the design of trade policies that promote the dynamic efficiency of mature firms, which depend on international markets for industrial inputs, and the promotion of the efficiency of infant industries and emerging innovative ventures through the provision of temporary shields from fierce competition.

Smart industrialization through trade should not be confused with "smart protectionism", which advocates for increased protectionism in order to develop competitive industries. This one-sided approach does not take into consideration the anti-competitiveness effects that can result from high import costs and the over-sheltering of domestic infant industries.

B. Role of manufacturing

The declining share of manufacturing in GDP raises concerns for the continent's structural transformation agenda. Manufacturing is key to promoting product and trade diversification and industrialization. Labour can flow into and deliver high productivity in this high value-added sector. The sector also has strong forward and backward linkages with other sectors of the economy, including agriculture and the external sector. Unlike the services or agriculture sectors, manufacturing exhibits unconditional convergence, meaning that its productivity will catch up to that of developed economies and is not conditional on country-specific economic variables. This is applicable to Africa and

1 Figures are computed using the World Bank world development indicators database. Averages are calculated in African countries for which data are available.

highlights the potential of African manufacturing to generate growth (Rodrik, 2013). Output per worker in African manufacturing is six times that of agriculture. This shows enormous potential for the movement of labour into the manufacturing industry to boost growth of income per capita on the continent (Newman and others, 2016).

The manufacturing sectors of most African countries face similar challenges, including inadequate transport and energy infrastructure, human capital deficiencies and bureaucratic institutions. The commodity boom in the 2000s served to aggravate these challenges, resulting in a large influx of foreign currency and appreciating the real exchange rate of the majority of African economies, thereby harming the competitiveness of the regions' manufacturing exports. This phenomenon is commonly referred to as "Dutch Disease" (Economist Intelligence Unit, 2016). High returns on commodities also provided a significant boost to growth rates, reducing the pressure to industrialize[2].

The continent's population of young people, improvements in education, expanding intra-African trade, increasing urbanization and a large agricultural base offer significant potential for manufacturing. Acknowledging and harnessing this potential will be key to achieving smart industrialization through trade in Africa and ensuring continued growth in the face of lower commodity prices. Continental efforts to reduce tariff and non-tariff barriers to trade in the region can support this process (see section II (B)).

C. Role of services

The services sector is gaining significant importance. It is the main contributor to GDP in the majority of African countries and has been the continent's fastest-growing sector during the past two decades. The presence of a thriving service sector is essential for attracting investors to African businesses and driving growth in the manufacturing sector, given that it allows for local sourcing of needed support services. This is demonstrated by the high correlation between growth in services value added and growth in manufacturing value added throughout African countries, which was 0.85 during the period 2000-2012 (Pesce and others, forthcoming). Efficient services sectors contribute to industrial development through support for production. For example, financial services help to facilitate capital accumulation and foster innovation (Levine, 1997) and effective telecommunications services help to support knowledge transfer, which can raise productivity in industrial sectors. Similarly, removing trade barriers in logistics and other services can help to eliminate inefficiencies in markets for services, thereby reducing trade costs and improving the competitiveness of a range of other sectors, including manufacturing.

Services will play an important role in supporting the shift to rethinking trade policy as a means to drive industrial development. Africa's exports of services grew considerably during the past decade, increasing from $32.7 billion in 2002 to $100.2 billion in 2015 (Pesce and others, forthcoming). Globally, including in Africa, an increasing share of the value added generated by the services sector is embedded in other products. Between 1992 and 2012, the share of services value added in goods exports had grown by approximately 6 percentage points, from 16 per cent to 22 per cent. In some African countries, such as Ethiopia, the value of services embedded in goods trade is actually greater than the value of services exported directly. Competitive, efficient and effective services are important for the coordination of production processes, both within and between countries. They are therefore key to facilitating trade and aiding the integration of African firms

2 The continent grew at an average of at least 5 per cent above the global average of 3 per cent during the Millennium Development Goal period (Economic Commission for Africa and others, 2015).

into regional and global value chains (Balchin and others, 2016c).

The quality of services in Africa will need to improve to become regionally and internationally competitive. The continent is increasingly becoming a net importer of services, in particular for transport, construction and insurance. African imports of services jumped from $76.9 billion in 2005 to $184.74 billion in 2014. These trends contributed to a continental services trade deficit of $79.0 billion in 2014. A total of 33 of 44 countries for which data were available had services trade deficits in 2014, with notable exceptions, including Egypt, Kenya, Morocco and Tunisia[3]. Many services firms in African countries require support to comply with the quality and other standards required in order to gain access to markets for services exports, in particular developed countries. There is significant potential for increased intra-African trade in services, which the CFTA agreement on trade in services should help to support.

3 ECA calculations using the United Nations Conference on Trade and Development statistics (UNCTADstat) data for BPM6 exports and imports of total services.

II. Literature review

A. Industrialization strategies at the regional economic community level

The importance of industrialization and structural transformation has gained increasing importance in African development policies and frameworks in recent years. The African Union dedicated its 2008 Summit to the theme of "the industrialization of Africa". It was during that Summit that the Action Plan for the Accelerated Industrial Development of Africa was adopted, which now serves as the main agenda for Africa's industrialization. In 2010, the Programme for Infrastructure Development in Africa was launched, which is aimed at enhancing cross-border collaboration in the design and implementation of regional energy and transport infrastructure projects. The African Union reaffirmed the continent's commitment to industrialization with its Agenda 2063, calling for the promotion of sectoral and productivity plans and regional and commodity value chains to support the implementation of industrial policies. The Heads of the African Development Bank (AfDB), United Nations Industrial Development Organization and ECA have since agreed to work together to help Africa to deliver on its industrialization agenda. Under this framework, the AfDB initiative, "Industrialization strategy for Africa 2016-2025: industrialize Africa", outlines what it will take to industrialize Africa and how AfDB plans to assist the process (African Development Bank, 2016).

The continent's regional economic communities now also recognize that industrialization needs to take centre stage in regional integration and development agendas. This is reflected in the regional economic community treaties, protocols, development plans, action plans, policies and regulations[4]. Industrialization initiatives at the regional economic community level are usually underpinned by national industrialization policies and strategies and guided by international programmes and agendas, in particular, Agenda 2063 and the Action Plan for the Accelerated Industrial Development in Africa.

Regional economic community-level industrialization strategies can help to, support the collective action needed to leverage abundant resources and comparative advantages to unlock regional potential, and deal with the binding constraints to intraregional trade and industrialization, such as inadequate productive capacities of industries and deficient cross-border infrastructures.

The Southern African Development Community (SADC) and the East African Community (EAC) are the only two regional economic communities with standalone industrial strategies to guide the regional industrialization process. Both strategies are formulated as part of coordinated approaches that include trade, investment and infrastructure. Boxes 1 and 2 provide more details on these strategies.

4 For example, articles 79 and 80 of the Treaty for the Establishment of East African Community, common principles of the Protocols on the Establishment of the East African Community Common Market and the 2011-2016 East African Community development plan clearly and unambiguously articulate the region's commitment to economic structural transformation through industrialization. This primary commitment to industrialization is also reflected in other subsidiary policies, regulations and action plans (East African Community, 2012).

Box 1: Southern African Development Community Industrialization Strategy and Road Map, 2015-2063

The strategy is designed as a modernization scheme to exploit comparative advantage and create enduring conditions for competitive advantage at the enterprise level. Essential prerequisites and interventions for industrialization are emphasized in the strategy. They include improvements in factor productivity; technological upgrading and innovation; active involvement of the private sector, including small and medium-sized enterprises; and the removal of the binding constraints to industrialization (infrastructure, productive capacities and financing). It also prioritizes the development of regional value chains, in particular agriculture and minerals, capable of interacting with global value chains. The strategy is premised on three growth phases. Phase 1 (2015-2020) constitutes a period of active frontloading to lay the foundations for long-term industrial development; phase 2 (2021–2050) focuses on diversification and the enhancement of productivity and competitiveness; and phase 3 (2051–2063) is innovation-driven and characterized by advanced technologies and increased business sophistication (Southern African Development Community, 2015).

Box 2: East African Community Industrialization Strategy, 2012-2032

The strategy document outlines key interventions necessary for the effective implementation of objectives contained in the East African Community (EAC) industrialization policy for the period 2012–2032. The region has identified six strategic sectors that have potential comparative advantage: iron ore and other mineral processing; fertilizers and agrochemicals; pharmaceuticals; petro-chemicals and gas processing; agro-processing; and energy and biofuels. These sectors are to be promoted through collaborative efforts between partner States and the private sector. EAC also envisages the establishment of a special investment scheme to stimulate investments in strategic sectors

The strategy outlines interventions for transformation, including sector-specific master plans for the development of strategic value chains; the enhancement of manufactured products quality, certification and product conformity to regional and international standards; and e-measures to increase locally manufactured exports, including the establishment of regional free trade zones and special economic zones. EAC also identifies four pilot projects (as set out in the strategy), which are aimed at achieving a coordinated region-wide approach to implementing these interventions. Of specific importance are development corridors and spatial development pilot initiatives, sector clustering and agglomeration projects (East African Community, 2012).

B. Continental Free Trade Area and the industrial pillar

African export markets are more diversified and industrialized and therefore offer significant opportunity for industrial upgrading. In 2014, manufactured goods accounted for 41.9 per cent of intra-African exports, compared with only 14.8 per cent of Africa's exports outside the continent. Although substantial strides have been made to drive integration and industrialization at the regional economic community level, enhanced cooperation at the continental level is needed to provide the economies of scale necessary to make African products globally competitive.

The CFTA, for which negotiations were launched on 15 June 2015, is aimed at creating a single African market of more than 1 billion people and with a total GDP in excess of $3 trillion. This promises to enable sufficient economies of scale, drive competitiveness and attract significant investment into Africa. The ambitious tariff liberalization envisaged under the CFTA will boost incentives to source inputs and intermediates from within Africa, which is expected to support the expansion of manufacturing sectors and enhance the productivity of African goods and services. This is needed for the development of competitive regional value chains and to better position the continent to integrate into global value chains and benefit from the global trading system. The collaboration and cooperation of regional economic communities through the CFTA should also help to accelerate progress in regional projects aimed at unlocking the binding constraints to intra-African trade and industrialization.

ECA modelling exercises indicated that establishing the CFTA would boost intra-African trade by 52.3 per cent. Estimated increases are highest for industrial products (53.3 per cent) and substantially higher with supportive trade facilitation measures (Economic Commission for

Africa, 2012). The following three trends suggest that the potential for Africa's industrialization through the CFTA is well grounded:

a. Africa imports approximately 83 per cent of the processed food that it consumes, indicating untapped opportunities for industrialization through agribusiness (Lopes, 2016);

b. Africa exports mainly raw materials with little or no value addition, offering significant potential for adding value and participating in global value chains at higher rungs of the ladder. The continent contributed only 2.2 per cent to global trade in value added in 2011 (Economic Commission for Africa, 2015);

c. The global commodity boom has ended and labour costs are rising for many Asian firms, in particular China. This offers opportunities for labour abundant Africa to diversify into the export of low value-manufactures and services and integrate into global value chains.

African countries recognize the role that the CFTA can play in achieving its industrialization and have designated industrialization as the central pillar of the CFTA project. This is to ensure that provisions are built into the agreement consistent with the imperative of industrial development, building on the current trade-led industrialization objectives of the regional economic communities. Africa's vision for industrial development in Agenda 2063 and the Action Plan for the Accelerated Industrial Development of Africa prioritizes value addition and agro-industry, and can serve as a springboard for building the industrial pillar of CFTA. The first and second of the five CFTA objectives are to:

a. Enhance competitiveness at all levels, specifically at the industry and enterprise levels, through exploiting opportunities for scale economies, reducing business costs, continental/global market access and the improved reallocation of resources, including through the development of trade-related infrastructure;

b. To overcome dependence on exportation of primary products and promote social and economic transformation for inclusive growth, industrialization and sustainable development, in line with Agenda 2063.

The scope of the CFTA agreement covers trade in goods, trade in services, investment, intellectual property rights and competition policy. This wide scope reflects the importance that African leaders attach to using the CFTA as a vehicle for promoting industrialization, modernization and the development of regional value chains. The inclusion of trade in services in the CFTA agreement is crucial to reducing intra-African trade costs and developing competitive African industries (see section I [C]).

C. Industrialization in the context of other trade agreements

Africa's trade agreements with the rest of the world, along with other trade agreements to which Africa is not party, will influence how well the continent can use trade to industrialize.

Preferential trade arrangements: coverage and conditions

Most African countries benefit from preferential trade arrangements with developed countries. Developing African countries receive non-reciprocal preferential treatment for exports to a large number of developed countries under the World Trade Organization (WTO) Generalized System of Preferences. African least developed countries also receive duty-free treatment from specific emerging economies such as Chile, China and India[5].

Preference-granting countries determine the products and countries covered under the preferential trade arrangements, along with the terms for granting preferential access. In many African countries, there is an imbalance between productive capacity and stringent rules of origin and product standards. Improvements in design are therefore necessary to support Africa's industrialization and development effectively. Many trade arrangements have rules

5 For a full list of countries, see the World Trade Organization, "Preferential Trade Arrangements." Available at http://ptadb.wto.org/ptaList.aspx.

of origin that impose minimum levels of local production and costly certification processes that are unattainable for most African producers. For example, the European Union Generalized System of Preferences requires a two-stage transformation process for textile and clothing products to qualify for preferential rates under the rules of origin for least developed countries. Such cumbersome rules of origin hold back the continent's industrialization through constraining Africa's exports of manufactured goods. They can be unpredictable and differ among trade arrangements, making it even harder for countries to meet export requirements. There is also an increasing trend for overly burdensome product standards and rules of origin serving as non-traditional protectionism measures (Economic Commission for Africa, 2015).

Growing reciprocity under the African Growth and Opportunity Act and Economic Partnership Agreements

As an extension of the United States of America Generalized System of Preferences, since 2000, the country has provided duty-free access for additional products to qualifying African countries (excluding North Africa), under the African Growth and Opportunity Act. These products include items such as apparel and footwear, wine, specific motor vehicle components, a variety of agricultural products, chemicals and steel[6]. In addition, African regional groupings are signatories to Economic Partnership Agreements with the European Union. These African regional groupings are West Africa, Central Africa, East and Southern Africa, EAC and the SADC Economic Partnership Agreements Group[7]. Economic Partnership Agreements also go beyond the European Union Generalized System of Preferences, given that agreements are designed to support trade diversification and development. The use of Economic Partnership Agreements in Africa has traditionally fully opened up European Union markets but allowed African countries long transition periods to open up partially to European Union imports.

Preferential trade arrangements are expected to shift towards greater reciprocity during the coming decade. Recently agreed Economic Partnership Agreements contain calls for the partial and gradual asymmetric opening of African markets to European Union imports. It is expected that the African Growth and Opportunity Act will be succeeded in 2025 by an agreement with a reciprocal structure. This has important implications for the continent's industrialization agenda.

ECA modeling suggests that the implementation of new Economic Partnership Agreements in West Africa and the East and Southern Africa region would see a significant influx of European Union exports to African countries in almost all sectors (especially in industrial goods), a reduction in intra-African trade and tariff revenue loss (Mevel and others, 2015). Rapid full liberalization therefore risks reducing the competitiveness of African producers, which may undermine efforts to industrialize and diversify, if the necessary adjustments are not managed well. This is because European products would be granted increasingly favourable treatment in African markets and, in some cases, more favourable treatment than products from other African countries.

Increased reciprocity should be managed and tariff reductions appropriately phased so that African industries have time to adapt and build productive capacities and competitive industries before they fully open to more developed competitors (Sommer and Luke, 2016). Implementing the CFTA before significantly opening Africa's market is also recommended. Specific recommendations on these issues are in section V (A).

6 For more information about the African Growth and Opportunity Act, see https://agoa.info/about-agoa.html

7 The status on the five African economic partnership agreements is varied. For West Africa, stepping-stone economic partnership agreements with Côte d'Ivoire and Ghana are being provisionally applied. Negotiations for the regional agreement have been concluded and the signature process is now ongoing. For Central Africa, a provisional economic partnership agreement is applied in Cameroon and meetings are ongoing between the sub-region and the European Union on accession to this economic partnership agreement by other Central African States. The East and Southern Africa economic partnership agreement is applied in Madagascar, Mauritius, Seychelles and Zimbabwe. East and Southern Africa and the European Union are now jointly defining the scope and objectives of possibly deepening the current economic partnership agreement. For EAC, the ratification process is ongoing, with Kenya having ratified and Rwanda having signed. All the EAC members will discuss the signing of the economic partnership agreement at the next EAC Summit to consider how to move ahead as a region. The SADC Economic Partnership Agreement Group and the European Union signed the agreement, but ratification by all European Union member States is pending. It has entered provisionally into force.

Rise of the mega-regional trade agreements

The recent emergence of mega-regional trade agreements between large trading powers has implications for Africa's industrialization agenda. ECA modelling indicates that, if implemented as currently planned, the three main mega-regional trade agreements, namely, the Trans-Pacific Partnership, the Transatlantic Trade and Investment Partnership and the Regional Comprehensive Economic Partnership, will result in a loss of market share by African countries through preference erosion and competitiveness pressures. Africa would see its total exports reduce by $3 billion by 2022, compared with the baseline scenario without these agreements.

Although the total trade diversion effect represents only a 0.3 per cent reduction in Africa's exports, the continent's exports to the Regional Comprehensive Economic Partnership countries would fall by 5.4 per cent, with reductions concentrated in exports of industrial products. This suggests that African economies will find it more difficult to industrialize through building supply relationships with rapidly growing emerging markets, and further highlights the need for expeditious implementation of the CFTA (Mevel and Mathieu, 2016). It is also important to note that uncertainty surrounds the successful completion of the Trans-Pacific Partnership and the Transatlantic Trade and Investment Partnership, while the Regional Comprehensive Economic Partnership is the most likely to be rapidly concluded, and is also the mega-regional trade agreement that is expected to have the most negative impact on African countries.

D. Constraints to industrialization through trade

African economies tend to trade less as a share of GDP than other developing economies. Africa's total trade as a share of GDP was 40.0 per cent in 2015, compared with 47.3 per cent for developing economies as a whole. Intra-African trade also underperforms, compared with other developing regions. Intra-African trade as a share of total African trade was 15.3 per cent in 2015, whereas, for example, trade among developing economies in Eastern Asia as a share of total Eastern Asian trade was 32.1 per cent. These figures reflect high costs for African countries to trade both on the continent and with non-African trading partners (see section III (C))[8].

African countries benefit from duty-free and quota-free access in their main foreign markets: China, India, Japan and the United States, as well as the European Union. Prevailing tariff rates, however, significantly underestimate both Africa's internal and external trading costs. The continent's cost of trading with the world was 283 per cent in ad-valorem tariff equivalent in 2013, higher than that of all other regions except Central Asia, which has a higher share of landlocked countries[9]. The reason for this is the prevalence of non-tariff measures and physical market access barriers that affect African countries. Non-tariff measures are broadly defined as measures that fall outside ordinary customs tariffs but that have some economic effect on trade flows. They include some traditional trade policy instruments such as quotas and import restrictions. These measures are often termed non-tariff barriers for their purely discriminatory and protectionist nature. Non-tariff measures are also comprised of measures that stem from non-trade objectives. These are applied to both foreign and domestic producers in an effort to meet a specific policy objective, such as protecting against health or environmental risks. Although not the specific objective, these measures may also affect trade flows. In some cases, however, they may be diverted to protectionist uses, serving as non-traditional non-tariff barriers.

Technical barriers to trade and sanitary and phytosanitary measures account for the largest share of non-tariff measure ad valorem tariff equivalents for almost all product groups. These measures impose proportionately high trade costs on exporters of low-income developing countries that are less able to comply with technical requirements at a low cost and that are more likely to rely on agricultural exports (which

8 ECA calculations using data from UNCTADstat.

9 ECA calculations based on the Economic and Social Commission for Asia and the Pacific–World Bank trade cost database. The database computes symmetric bilateral trade costs using the inverse gravity framework, which estimates trade costs for each country pair using bilateral trade and gross national output.

face higher ad valorem tariff equivalents) (United Nations Conference on Trade and Development, 2016a). According to a recent International Trade Centre (2015) survey, more than half of African exporting and importing firms were affected by non-tariff measures, the most affected being small companies and companies in the agro-food sector.

Non-technical non-tariff measures also raise trade costs in Africa. For example, many trade preference schemes have rules of origin that impose minimum levels of production, that most African countries cannot attain (see section II (C)). Technical and non-technical non-tariff measures can therefore reduce the potential for African countries to use trade to meet industrialization and development goals. Recent estimates point to $6 billion in gains from a 25 per cent reduction in non-tariff measure-related trade costs in the SADC region (United Nations Conference on Trade and Development, 2016a). The importance of technical barriers to trade, particularly product standards, is explored in more depth in box 3.

Physical market access barriers, such as poor infrastructure, increase the production costs for industries that rely heavily on imported intermediates and undermine the competitiveness of African export firms. They also discourage the participation of African countries in global value chains, which can offer a key entry point for their industrialization.

Box 3: **Importance of legitimate standards for facilitating Africa's industrialization through trade**

The importance of standards and conformity assessment for both domestic and international trade is emphasized in the World Trade Organization (WTO) 1994 Agreement on Technical Barriers to Trade. Standards and technical regulations define what can (or cannot) be exchanged and they outline the procedures under which such exchanges are or are not permissible*. It is not possible to participate in global or regional trade without complying with technical requirements applicable to traded products. The significance of technical barriers to trade and sanitary and phytosanitary measures has increased in recent years. At the same time as tariffs are steadily declining, Governments worldwide are introducing more regulatory requirements to address health, safety and environmental concerns.

Compliance with standards and technical regulations is important for signalling and guaranteeing the quality of traded goods and offering proof that products adhere to the requirements of Governments or the marketplace. This helps to encourage industrialization through enhancing trade capacity and competitiveness; facilitating mutually beneficial trade (in particular industrial products) and the integration of firms into regional and global value chains; improving the efficiency of production and trade; and reducing variety and therefore allowing for greater economies of scale. When standards are used effectively, they can facilitate trade and contribute to technology upgrading and absorption (Innovation Policy Platform, 2013). An intervention on the topic "Trading through value chains: standards winning markets" was presented during the United Nations Industrial Development Organization General Conference, held in Lima on 30 November 2013. In that intervention, the former ECA Executive Secretary emphasized that standards were crucial for the orderly and efficient flow of goods and services in domestic and international trade and that, for Africa to industrialize, it must adopt standards (Economic Commission for Africa, 2013b).

There is, however, an increasing trend for overly burdensome technical barriers to trade to be misused as non-traditional protectionism measures. For example, stringent product standards may be used to discriminate against imports in order to protect domestic industries. Product labelling practices have also grown more complex in recent years, with traders and Governments raising concerns about potentially negative implications for market access. Technical barriers to trade and sanitary and phytosanitary measures usually serve important and legitimate policy objectives. Instead of simply abolishing them, there is a need to use the most suitable regulatory techniques, observe international trade commitments, analyse carefully the potential consequences of draft product regulations and be more transparent when adopting such measures (Erasmus, 2017).

At present, Africa faces a challenge of variation in certification, testing, inspection practices and standards used by regional economic communities and countries, which create unnecessary barriers to trade. The need to comply with various standards and technical regulations involves significant costs for exporters and producers. In 2012, the African Union and ECA advocated for the harmonization of standards and other procedures to ensure that standards facilitate the movement of goods under the CFTA. In the Action Plan for Boosting Intra-African Trade, it is stated that "The CFTA members will need to appreciate and recognize the importance of standards, metrology, conformity assessment and accreditation… CFTA members will need to harmonize their practices in this area to achieve mutual product recognition… Cooperation with national, regional and international standards bodies will need to be promoted. Members will thus need to develop and adopt a policy framework consistent with the provisions of the relevant World Trade Organization agreement" (African Union Commission and Economic Commission for Africa, 2012). Such an approach would be similar to that adopted under the Single European Market.

The CFTA negotiations provide a platform for African countries to discuss and cooperate on technical barriers to trade and sanitary and phytosanitary-related matters in a more effective manner in order to support the regional integration and development processes. One concern, however, is that African Governments may introduce an increasing number of (and possibly overly burdensome) regulatory requirements to address health, safety and environmental issues in accordance with the WTO 1994 Agreement (Erasmus, 2017), which could be inconsistent with compliance capacities and the continent's industrialization and trade agendas.

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* In the Agreement on Technical Barriers to Trade, a standard is defined as a "document approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for products or related processes and production methods, with which compliance is not mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method".

At present, ECA is supporting the African Regional Organization for Standardization, which has a mandate to facilitate intra-African and global trade through harmonized standards, conformity assessment and procedures. The Organization offers an important platform that can be utilized as an anchor for joint action and continental harmonization of standards, and is participating in the CFTA technical working group on technical barriers to trade and sanitary and phytosanitary. The Organization notes the following key challenges in the area of standards in Africa:

a. Poor understanding among the public, consumers, policymakers and small and medium-sized enterprises on the benefits of standards;
b. International standards that largely reflect the interests of developed countries that developed them during the Uruguay Round in 1994. Developing countries lack the local experts who can participate in international standardization activities. In addition, they do not have the money, workforce or infrastructure needed to abide by the standards created;
c. Low levels of investment in quality infrastructure, which undermines standardization activities;
d. A lack of policy guidelines on standards development, implementation and compliance;
e. Inadequate information channels to ensure the dissemination of standards and the trade requirements of products, which further aggravates compliance issues.

Physical market access barriers create further constraints for industrialization through trade in Africa. These include costs associated with inadequate infrastructure and border-related and local distribution deficiencies (e.g., corruption, expensive settlement payments, cumbersome customs requirements and inefficient services) and non-changeable factors such as peripheral and landlocked locations. Africa's infrastructure deficits have been estimated to cost the continent up to 2 percentage points of annual economic growth (African Union Commission, 2015). A total of 26 African countries rank among the worst 25 per cent of the 190 economies covered by the 2016 World Bank Doing Business indicator on the ease of trading across borders.[10]

10 This indicator reflects the time and monetary costs of documentary and border compliance.

III. Descriptive statistics and analysis

A. Status of industrialization

Economic transformation is the process of raising productivity in an economy. McMillan and others (2017) define economic transformation as the process of moving labour and other resources from lower-productivity to higher-productivity activities and raising within-sector productivity growth. On the basis of this definition, economic transformation has two main components: within-sector productivity-growth and between-sector changes (also referred to as structural transformation).

Within-sector productivity growth

Within-sector productivity growth is extremely important to achieve economic transformation. Recent research shows, however, that this has not played an important role in productivity increases in Africa. Most of the recent growth in African countries has been driven by structural transformation, rather than within-sector productivity growth. This is problematic, given that it raises issues of sustainability that risk leading to an eventual decline in overall growth (Diao and others, 2017).

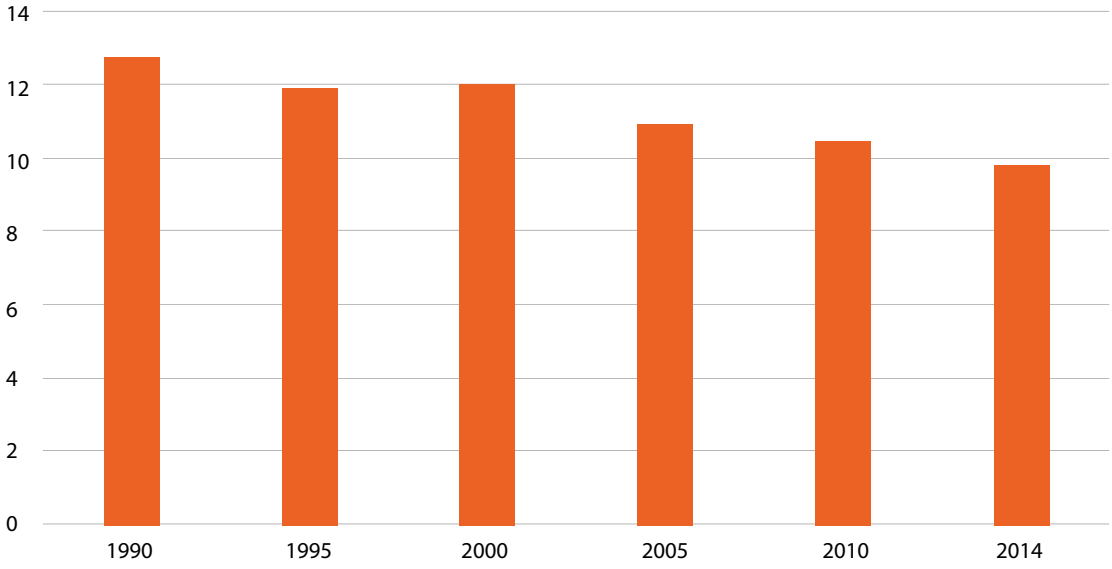
Structural transformation

Structural transformation characterizes a reallocation of resources from lower-productivity to higher-productivity sectors, shifting typically from agriculture to industry and modern services. It is closely linked to and usually involves industrialization and is associated with shifting people and resources into transforming and processing raw materials. With this definition, this section provides an assessment of the status of industrialization through structural transformation in Africa. Focus is attached to the manufacturing sector, which is typically associated with greater scope for value addition, productivity growth and industrial transformation than other industry subsectors, such as mining and quarrying.[11] Although structural transformation has been more important than within-sector productivity growth in explaining Africa's recent growth, the section highlights that there is still much more to be gained from sectoral shifts.

In 2014, Africa's average share of manufacturing value added in GDP was 9.8 per cent, 3 percentage points less than the 12.8 per cent figure of 1990 (see figure I). Employment growth in manufacturing has also been limited. Globally, manufacturing is now peaking at earlier levels of income than in the past, but most severely in African counties. Industrialization peaked in Western European countries such as Italy, Sweden and the United Kingdom at income levels of approximately $14,000 (in 1990 United States dollars). Many African countries (excluding North Africa) appear to have reached their peak manufacturing employment shares at income levels of just $700 (Rodrik, 2015).

11 The industry sector contains five subsectors: mining and quarrying, manufacturing, electricity, water and construction.

Figure I: Manufacturing value added in Africa (Percentage of GDP)



Source: ECA calculations using the world development indicators database of the World Bank.

Although Africa's average share of manufacturing value added in GDP is decreasing, total manufacturing production, exports and foreign direct investment in Africa are on the increase.

Between 2009 and 2014, manufacturing production increased by 28.5 per cent, from $161.4 billion to $207.4 billion, growing at an average annual rate of 5.1 per cent in real terms[12].

Manufacturing production performed particularly well in Chad, the Democratic Republic of the Congo, Ethiopia, Nigeria, the Niger and the Sudan, increasing by more than 60 per cent between 2009 and 2014 in all countries.

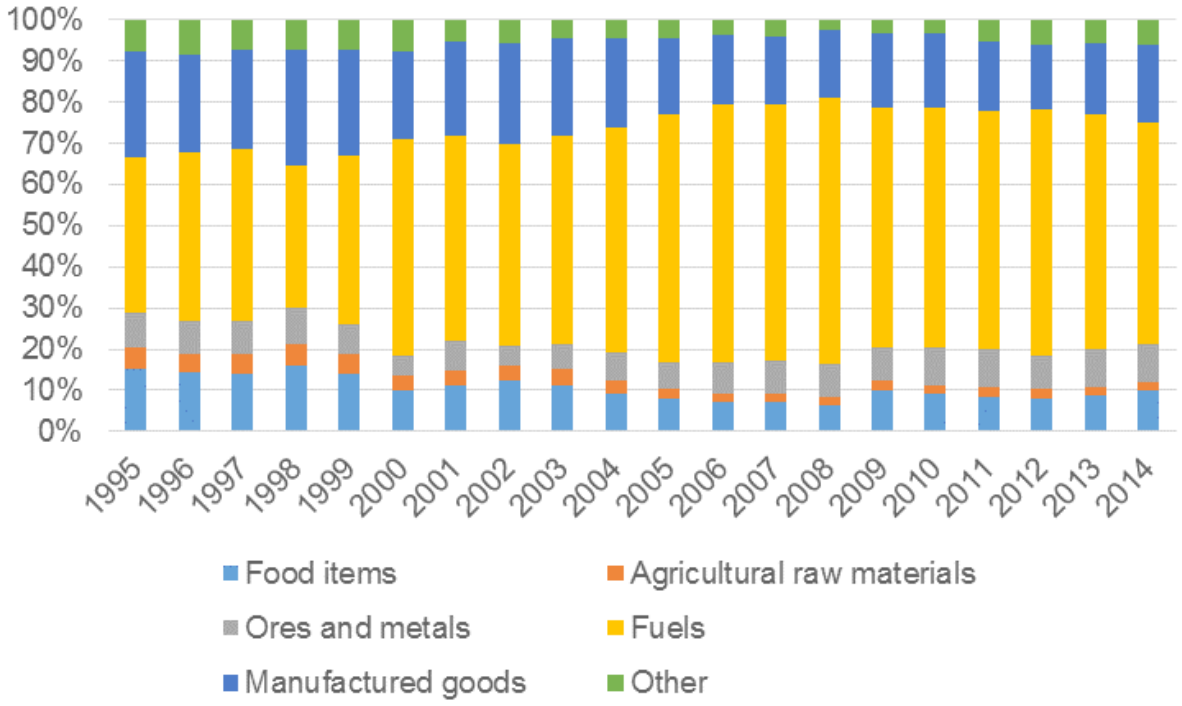
In 2014, the manufacturing sector contributed 20 per cent to Africa's inward foreign direct investment (FDI) stock. Services, which are crucial to supporting manufacturing competitiveness and industrialization, contributed 51 per cent. Low commodity prices are depressing FDI into the primary sector. To reduce the vulnerability of Africa to commodity price developments, countries are reviewing policies to support FDI into the manufacturing sector. For 2015, the announced greenfield capital expenditure into Africa's manufacturing sector totalled $18.8 billion, covering industries such as food and beverages, petroleum and chemical products and motor vehicles (United Nations Conference on Trade and Development, 2016b)[13].

The total value of African manufacturing exports more than doubled during the period 2004-2014, increasing from $50.9 billion to $106 billion. African countries are increasingly exporting manufactures to one another: 33.7 per cent of Africa's total manufacturing exports were destined for other African countries in 2014, compared with only 19.1 per cent in 2004. African export markets are relatively more diversified and industrialized than markets outside the continent, and therefore offer significant opportunity for industrial upgrading. In 2014, manufactured goods accounted for 41.9 per cent of intra-African exports, compared with only 14.8 per cent of Africa's exports outside the continent.

12 ECA calculations using World Bank world development indicators on manufacturing value added (constant 2010 United States dollars). Total manufacturing production excludes Algeria, Angola, Cabo Verde, Djibouti, Equatorial Guinea, Eritrea, Guinea-Bissau, Libya, Madagascar, Mali, Somalia and South Sudan owing to issues of data availability

13 The announced greenfield capital expenditure into Africa's auto industry amounted to $3.1 billion in 2015. Major automotive firms are expanding into Africa. This is driven by industrial policies in countries such as Morocco, growing urban consumer markets, improved infrastructure and favourable trade agreements.

Figure II: Share of main products in Africa's total exports, 1995-2015
(Per cent)



Source: ECA calculations using UNCTADstat data.

In terms of the product composition of Africa's exports, primary commodities and raw materials (fuels, ores and metals and agricultural raw materials) still dominated largely (see figure II). Fuels alone accounted for 53.9 per cent of the value of Africa's exports in 2014. The share of manufacturing exports in Africa's total exports declined over time, from 25.6 per cent in 1995 to 21.8 per cent in 2004 and to only 18.9 per cent in 2014. These figures illustrate that, although the total value of African manufacturing exports increased significantly, there is still need for further diversification and structural transformation to better support the continent's industrialization through trade.

Export diversification

Modern industrialized economies are usually associated with higher levels of export diversification, with a growing share of manufactured and services exports and a lower share of agricultural exports. Mechanization and transformation create new opportunities and new markets for producers. This diversification tends to be self-reinforcing, leading to further quality upgrading, owing to the strong forward and backward linkages associated with industrial production[14]. In addition, countries that rely on the export of natural resources tend to have fewer incentives to invest in technical progress, diversification and industrialization. Analysing the levels of export diversification in Africa can therefore provide interesting insights into the degree of industrialization in the region.

Figure III shows the normalized Herfindahl-Hirschman Index on product concentration for Africa, Eastern and South Eastern Asia and the rest of the world[15].

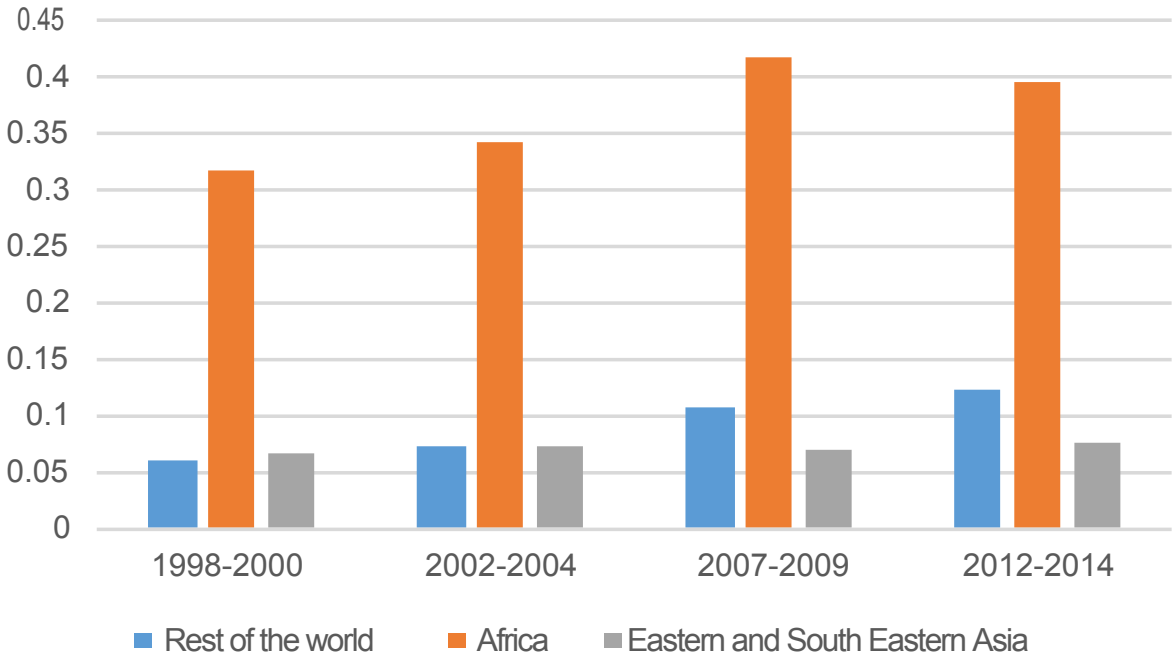
14 Evidence has shown that diversification is closely connected to structural transformation, especially countries in the early stages of economic development (International Monetary Fund, 2014).

15 This indicator is a measure of the dispersion of trade value throughout an exporter's products ranging from 0 to 1. A higher index indicates that exports are concentrated in fewer sectors, whereas a country with a completely diversified portfolio will have an index close to 0. One limitation is that a low index may not be a true indicator of a diversified trade portfolio if the number of products is low, it simply implies that it exports similar values of each product.

According to this Index, Africa's exports are less diversified than the rest of the world and Eastern and South Eastern Asia (a region that has experienced significant growth in industrial production). The concentration of exports from the rest of the world consistently increased from the period 1998-2000 to the period 2012-2014, owing in large part to increasing commodity prices. The same pattern has occurred in Africa, although export concentration reduced during the period 2012-2014.

The still very low level of export diversification in Africa reflects high levels of commodity dependence, which, in many countries, was intensified by the commodity super-cycle of the 2000s. There is significant scope to upgrade the quality of African countries' export baskets, in particular through the introduction of new higher value-added products. Commodity-based industrialization in particular offers potential (Economic Commission for Africa, 2013a).

Figure III: Normalized Herfindahl-Hirschman Index on product concentration by region

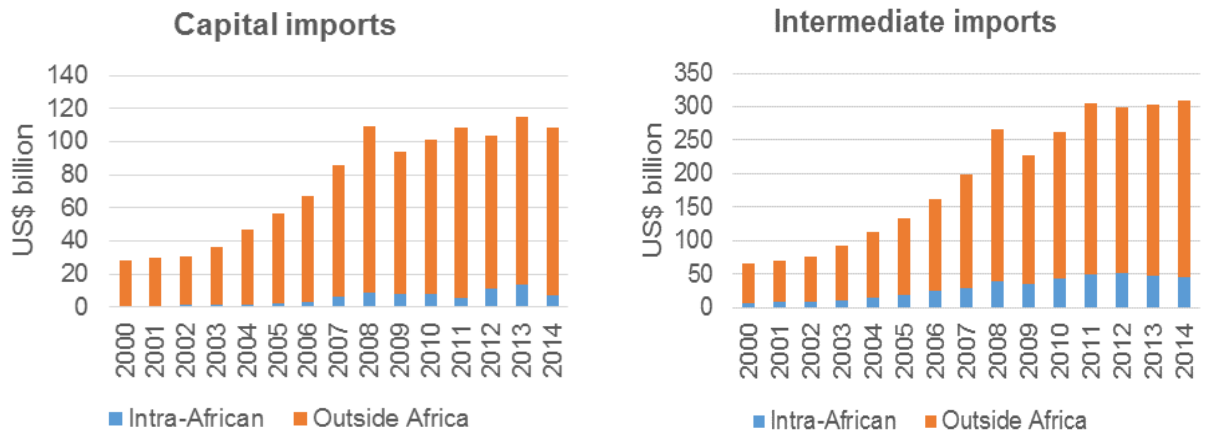


Source: ECA calculations using raw data for the Herfindahl-Hirschman Index.

B. Industrial exports and imports

Capital goods and capital-intensive intermediate inputs are crucial ingredients for industrialization. They are required directly in industrial production processes, but also promote industrialization indirectly through contributions to the development of supportive infrastructure such as roads and energy pipelines. During the past decade, Africa's demand for capital and intermediate goods more than doubled, indicating growing levels of industrialization (see figure IV). Most of this demand was met through external trading partners owing to the comparatively low technological base and supply capacities of many African countries.

Figure IV: Africa's capital and intermediate imports, 2000-2014
(Billions of United States dollars)



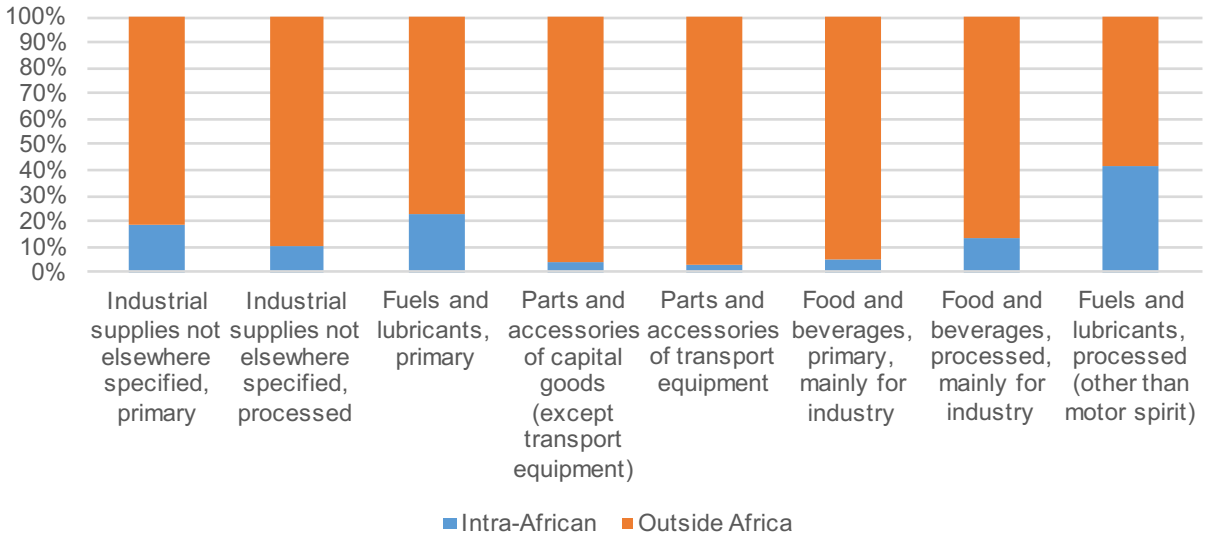
Source: ECA calculations using CEPII BACI database, HS96.

The share of capital and intermediate goods sourced on the continent is rapidly growing. In 2014, 7.0 per cent and 14.5 per cent of Africa's capital and intermediate imports, respectively, originated from Africa, compared with only 2.8 per cent and 11.4 per cent in 2000 (see figure IV). Nevertheless, in 2014, approximately three quarters of intra-African capital imports originated from the Southern African Customs Union (51.2 per cent), the Congo (15.2 per cent) and Côte d'Ivoire (8.2 per cent)[16]. Intra-African imports of intermediates were also concentrated by origin: 22.8 per cent, 20.7 per cent and 7.7 per cent originated from Nigeria, the Southern Africa Customs Union and Algeria, respectively, in 2014. This indicates that the provision of important inputs into emerging regional value chains is dominated by only a few major African countries at present.

The types of intra-African imports of intermediates is also concentrated (see figure V). In 2015, Africa imported 41.6 per cent and 22.6 per cent of processed fuels and lubricants and unprocessed fuels and lubricants, respectively, from within the continent. This figure was much lower for other types of intermediates and is particularly low for some important industrial intermediates. In 2015, only 10.6 per cent, 4.4 per cent and 2.7 per cent of Africa's imports of processed industrial supplies, parts and accessories of capital goods and parts and accessories of transport equipment, respectively, were sourced from within the continent. Africa therefore still relies on external trading partners for the large majority of industrial-related inputs, indicating the still-infant stage of the development of industrial regional value chains on the continent. In 2015, 70.4 per cent of Africa's imported intermediates from outside the continent were industrial supplies (processed or not) or parts and accessories of capital goods and transport equipment.

16 The CAPII BACI database used considers the Southern Africa Customs Union as one trading partner and does not provide disaggregated data for the individual Union members (Botswana, Lesotho, Namibia, South Africa and Swaziland).

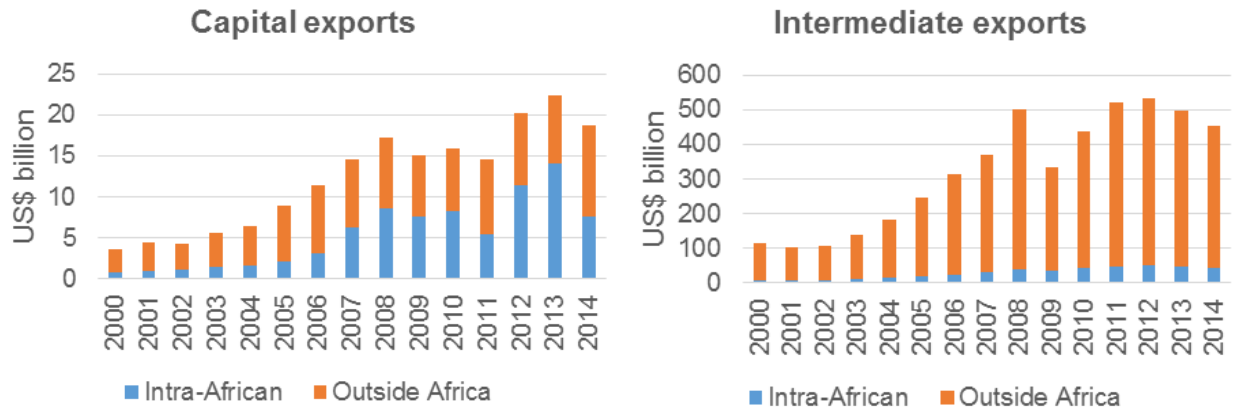
Figure V: Shares of Africa's intermediate imports by separate intermediate, 2015
(Per cent)



Source: ECA calculations using CEPII BACI database, HS12.

Africa's exports of capital and intermediate goods increased significantly during the past decade (see figure VI). In 2014, more than 90 per cent of Africa's intermediate exports were destined for countries outside the continent, which contributed to a continental trade surplus in intermediates of $143.2 billion. This reflects the large value of Africa's fuel exports to the rest of the world, which totalled $275.4 billion in 2014 and contributed 58.0 per cent of Africa's exports outside the continent. By contrast, Africa's capital exports are growing at a much slower rate than Africa's capital imports. The continent's trade deficit in capital goods more than tripled between 2000 and 2014 and now stands at $89.6 billion.

Figure VI: Africa's capital and intermediate exports, 2000-2014
(Billions of United States dollars)



Source: ECA calculations using CEPII BACI database, HS96.

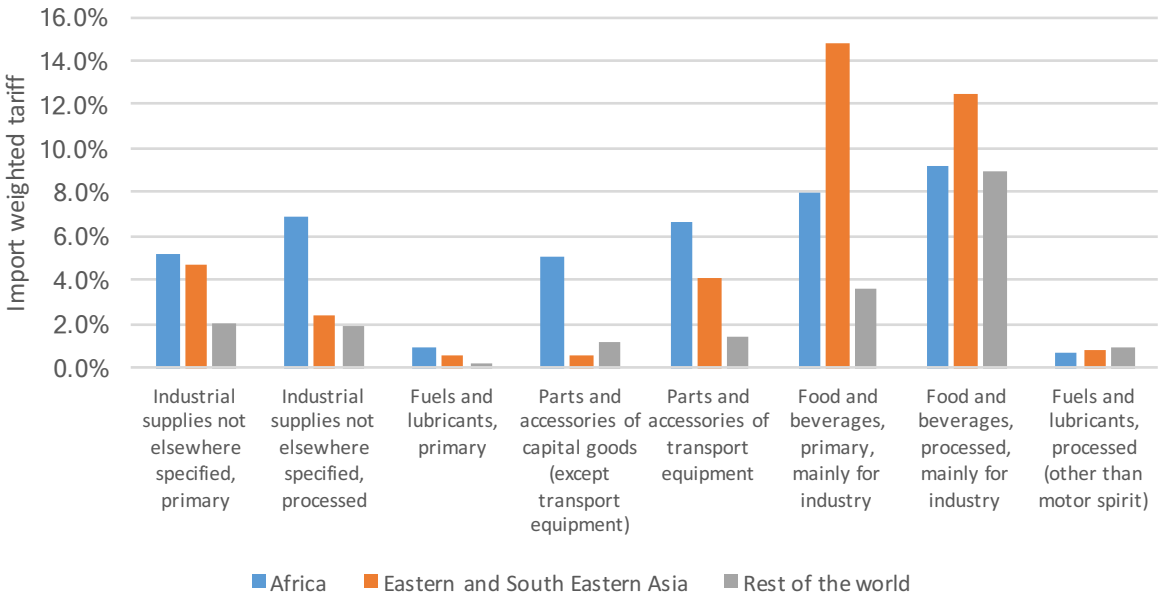
C. Industrial tariff structures

This section will provide an assessment of whether Africa's tariff structure for imported capital and intermediate goods is supportive of the continent's industrialization.

The import weighted tariffs on Africa's imported intermediates are significantly higher than those for Eastern and South Eastern Asia (a region experiencing rapid industrialization) and the rest of the world (with the exception of food and beverages in the case of Eastern and South Eastern Asia, and processed fuels and lubricants) (see figure VII).

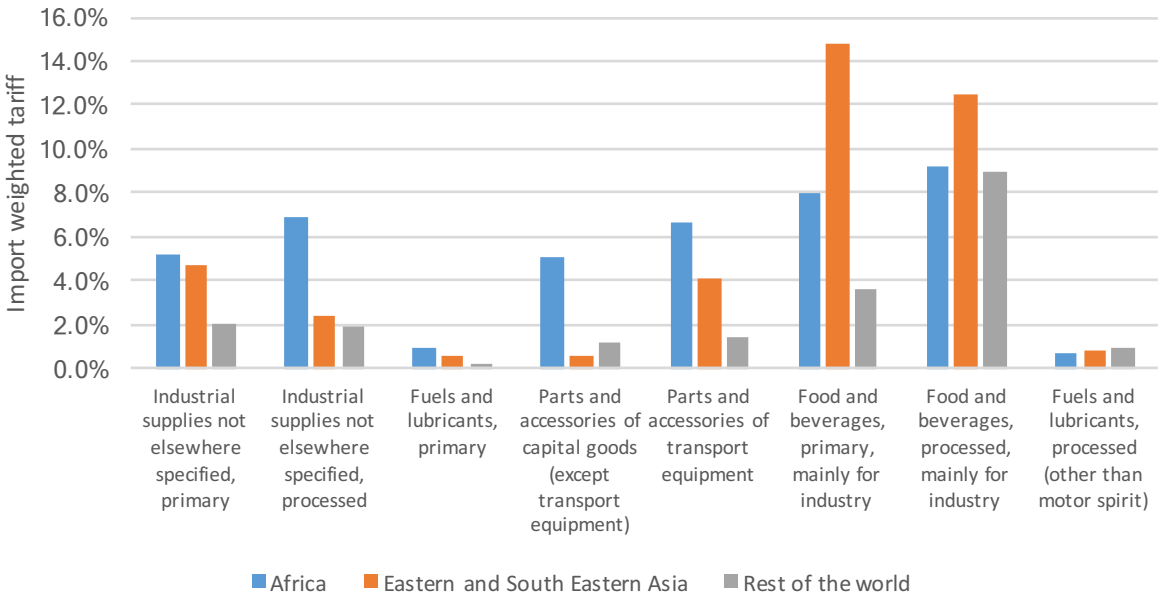
This difference is particularly large for processed industrial supplies, parts and accessories of capital goods and parts and accessories of transport equipment, all of which are important inputs for manufacturing industries. These high industrial tariffs therefore increase the costs of industrialization in Africa.[17]

Figure VII: Tariffs on intermediate imports by separate intermediate by region, 2015 (Per cent)



17 Import-weighted tariffs provide a satisfactory reflection of the quality specialization of a bilateral relationship (if there is no mistake on the trade value) but usually have serious endogeneity issues and tend to underestimate protection. The observations are, however, the same when reference group-weighted tariffs are considered. Reference group-weighted tariffs limit endogeneity bias between trade and protection and measurement errors.

Figure VII: Tariffs on intermediate imports by separate intermediate by region, 2015 (Per cent)



Source: ECA calculations using MAcMAp database, HS12.

Table 1 provides a comparison of the tariffs imposed on intra-African imports and Africa's imports from outside the continent. The average tariff rate imposed on consumption goods is much higher for imports originating from outside Africa. High tariffs on consumption goods imported externally can be justified on the basis of encouraging domestic value addition and processing in African countries. The difference in tariffs for capital goods imported from within Africa and imported from outside Africa is only marginal. Not having excessively high tariffs on external capital imports help to encourage industrial production by reducing the costs of machinery and other capital inputs for producers, which are still sourced in large part from outside the continent (see section III (B]). The costs of industrialization could be reduced further if tariffs on capital goods were even lower. For example, the EAC common external tariff imposes a 0 per cent tariff rate on capital goods.

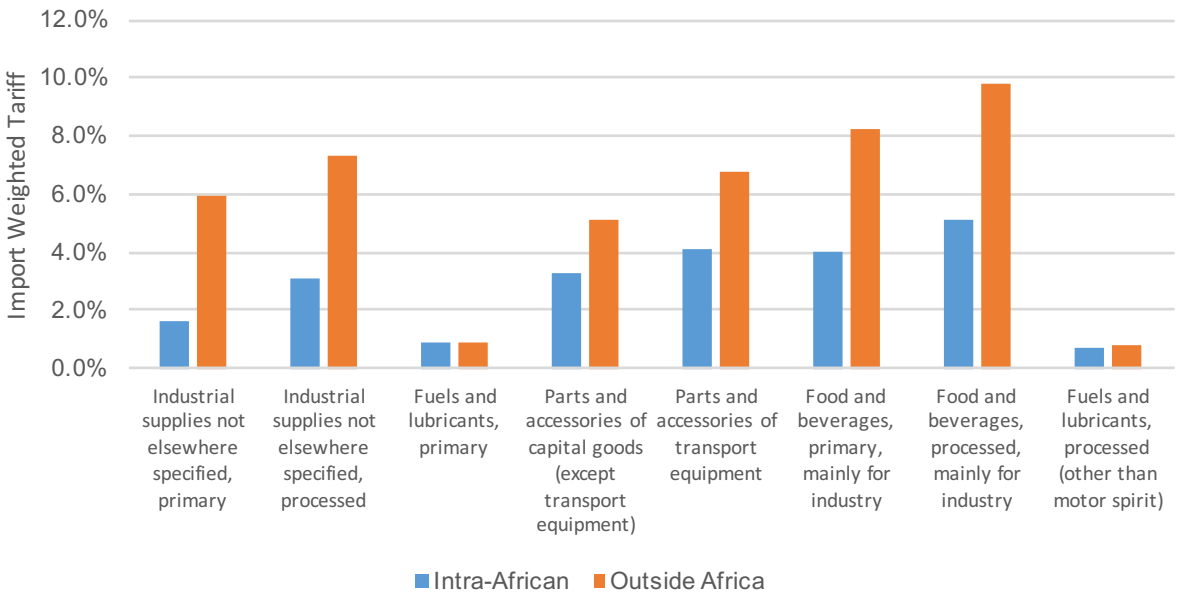
Table 1: Import weighted tariffs on Africa's imports, 2015 (Per cent)

	Intra-African	Outside Africa
Capital	4.2	4.9
Consumption	7.0	14.7
Intermediate	2.1	5.8
Other	5.8	17.4

Source: ECA calculations using MAcMAp database, HS12.

By contrast, the difference in tariffs for intermediates imported from within Africa and imported from outside Africa is quite significant. Intermediate goods imported into Africa from outside face a tariff rate of 5.8 per cent, which risks negatively affecting Africa's industrial firms. The protection imposed by African countries on imported intermediate goods likely limits their use in production processes and therefore reduces possibilities for the export of transformed products. This will constrain the development of

Figure VIII: Tariffs on Africa's intermediate imports by separate intermediate, 2015 (Per cent)



Source: ECA calculations using MAcMAp database, HS12.

industries such as agro-processing and textiles, which rely heavily on imported machinery and other intermediate inputs. Intra-African tariffs on intermediates are much lower (see table 1), which should support the development of Africa's industrial regional value chains. The successful conclusion of the CFTA would lower these internal tariff barriers even further and help to boost intra-African trade in intermediates and the development of African industrial supply chains.

Figure VIII provides a breakdown for intermediate import tariffs by the type of intermediate. Fuels and lubricants face low import tariffs, whereas industrial supplies, parts and accessories of capital goods and transport equipment and foods and beverages (mainly for industry) face tariff rates of at least 4 per cent, irrespective of the source. Tariff rates are particularly high for industrial supplies and processed food and beverages. The tariffs on intra-African intermediate imports are lower than the tariffs imposed on Africa's intermediate imports from outside for all intermediates, with the exception of fuels. This increases the costs of industrialization, in particular for African countries that have limited local or regional production capacities in intermediates.[18]

D. Nominal tariffs vs. effective rate of protection

To assess the amount of protection granted to African industries by import tariffs, it is important to analyse both nominal tariffs and the effective rate of protection, which is a measure of the total effect of the entire tariff structure on the value added per unit of output in each industry, when both intermediate and final goods are imported. This section calculates the mean effective rate of protection for African countries using most favoured nation tariffs. Although most favoured nation tariffs may vary from the applied tariffs, they are suitable for effective rate of protection calculations because the prices of value added are affected by the marginal unit of inputs.

In 2012, the mean effective rate of protection was greater than the mean most favoured nation for all 42 African countries included in the sample, with the exception of Sao Tome and Principe (see figure IX)[19]. This implies that the tariff rate on final products produced in Africa on average exceeds the tariff rates on the imported inputs used in their production. Tariff structures tend to be defined in a way that provides additional

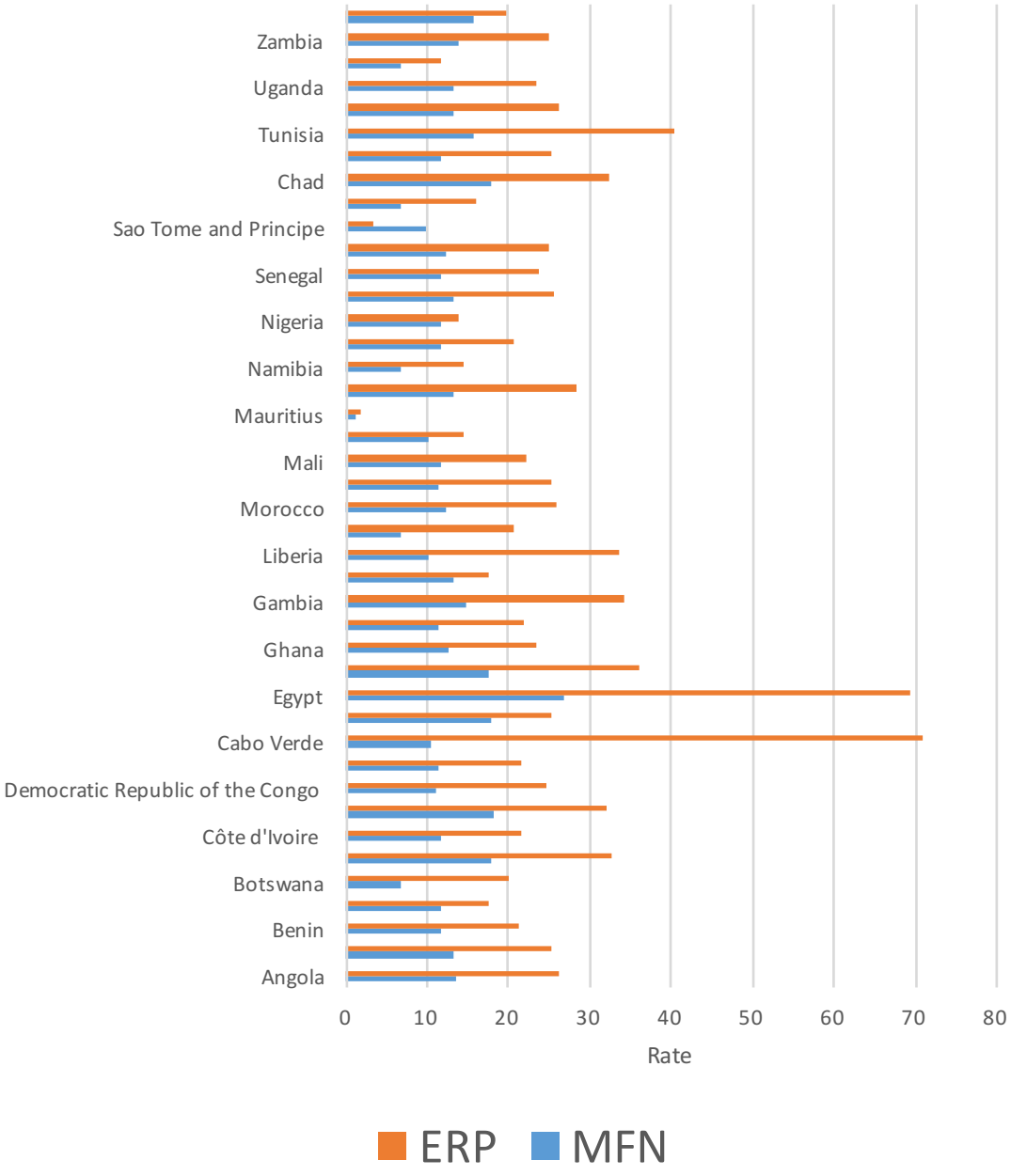
18 These observations are also the same when reference group weighted tariffs are considered.

19 The effective rate of protection presented are overestimated, given that the calculations do not consider services.

protections on top of the nominal tariff. In general, African Governments allow imports of raw materials, intermediate goods and other essential industrial inputs duty free or at a lower rate than finished goods. An example of this is the common external tariff charged by the EAC that applies the lowest rate on raw materials and the highest rate on finished products. This tariff is aimed at encouraging domestic value addition and reducing production costs, thus promoting industrialization at the expense of supplying raw materials.

The effective rate of protection varies considerably throughout the African countries covered, ranging from 1.8 per cent in Mauritius to 70.8 per cent in Cabo Verde. The difference between the effective rate of protection and most favoured nation also varies in countries. For countries in which the effective rate of protection only marginally exceeds the most favoured nation tariff (or does not exceed in the case of Sao Tome and Principe), such as Nigeria and Zimbabwe, the protective effect of tariffs on final products could be strengthened by reducing tariff rates on imported intermediates.

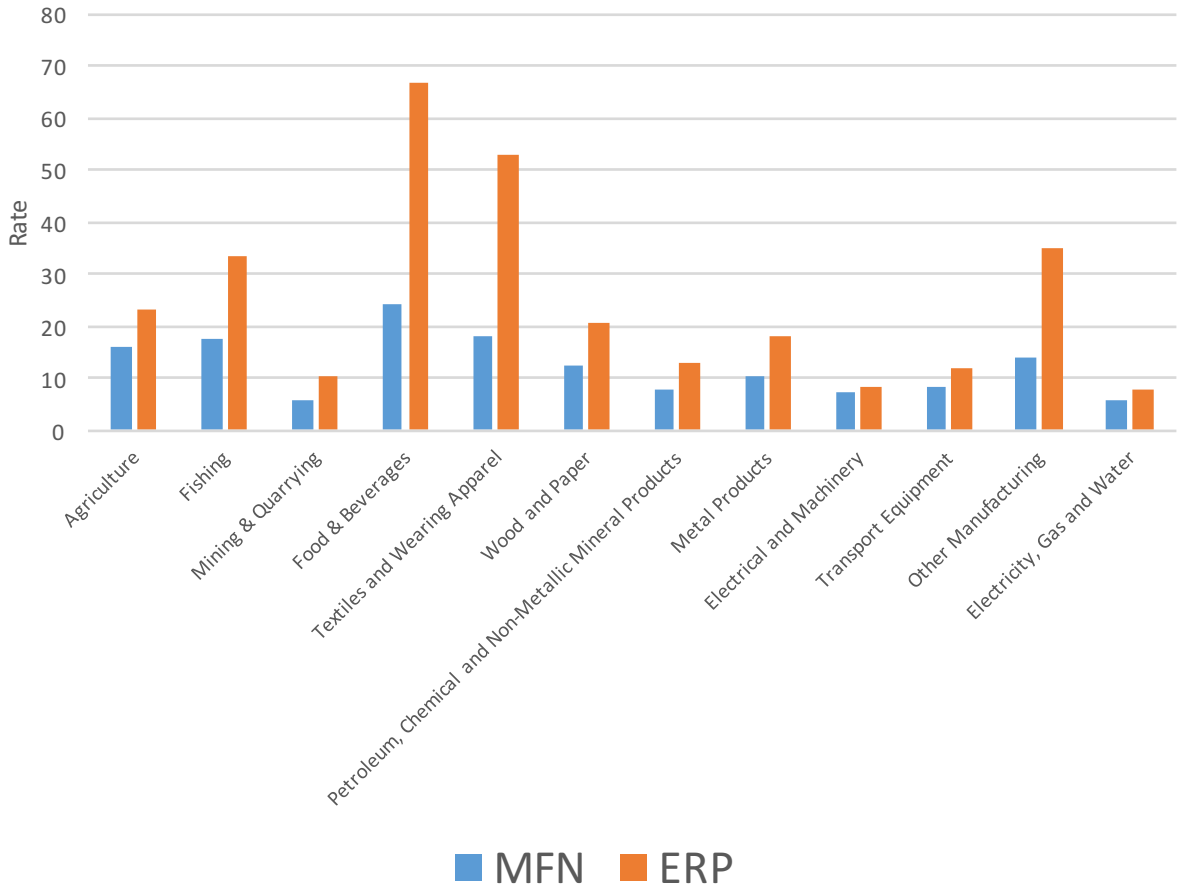
Figure IX: Mean nominal and effective rates of protection for African countries, 2012 (Per cent)



Source: Overseas Development Institute calculations using the World Integrated Trade Solution.

Figure X shows that, in 2012, the mean effective rate of protection exceeded the mean most favoured nation for all sectors when considering Africa as a whole. The effective rate of protection was highest for food and beverages, textiles and wearing apparel and other manufacturing sectors. It was much lower for the electrical and machinery, electricity, gas and water, transport equipment, and mining and quarrying sectors. In those sectors, the effective rate of protection exceeded the most favoured nation only marginally. The protective effect of tariffs on the final products of those sectors were constrained by the relatively high costs of imported intermediates, whether owing to the tariff or production structure.

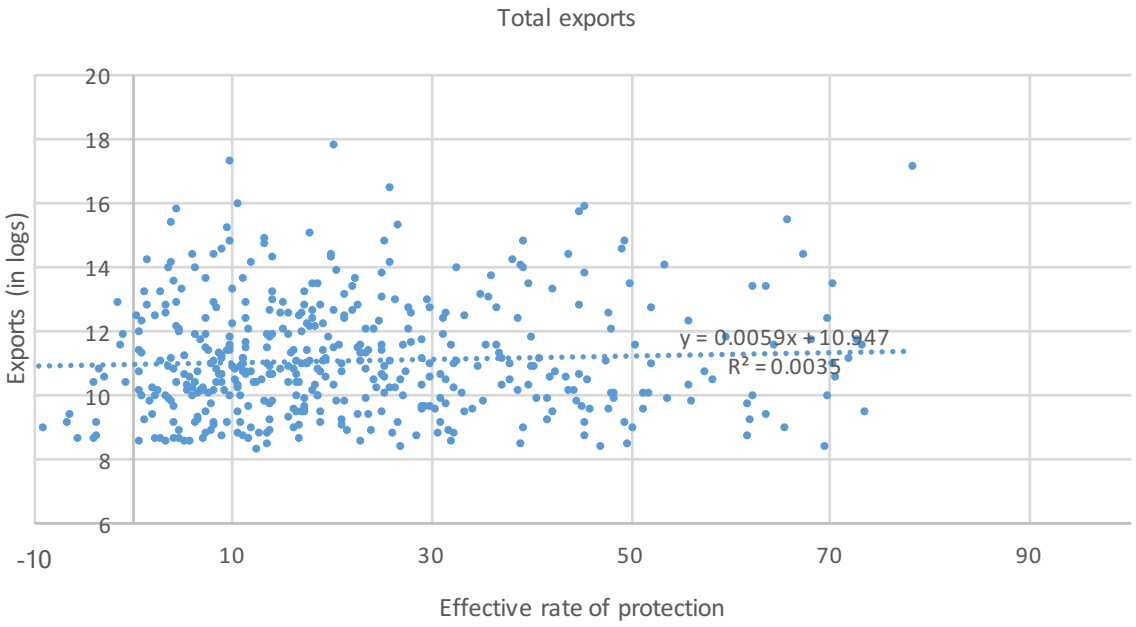
Figure X: Mean nominal and effective rates of protection by sector, 2012 (Per cent)



Source: Overseas Development Institute calculations using the World Integrated Trade Solution.

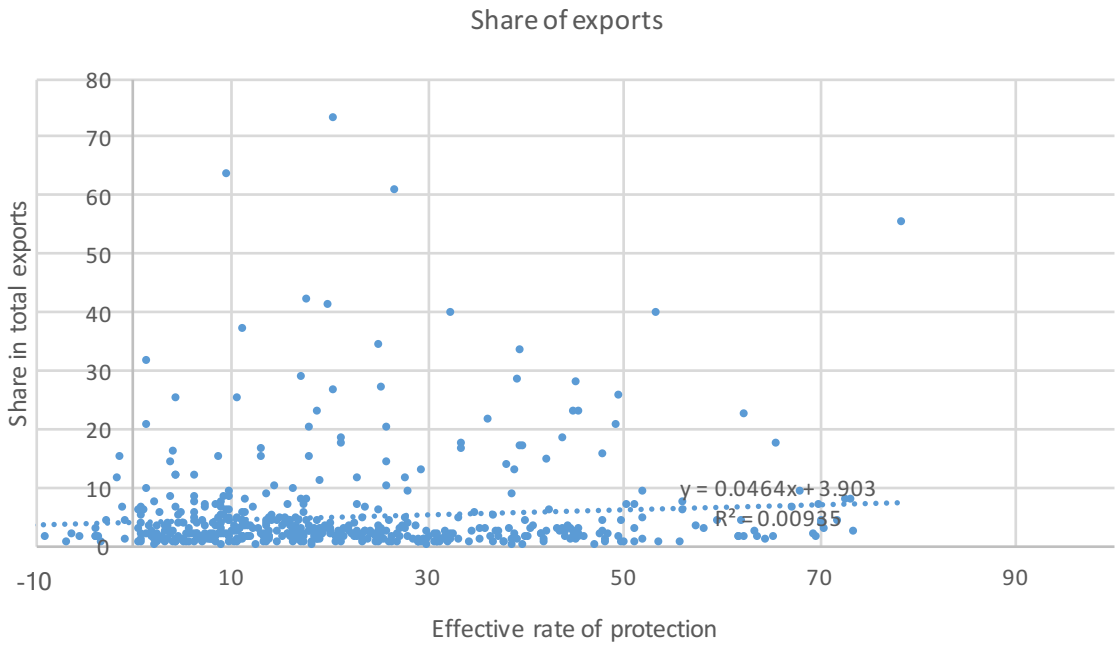
Figures XI, XII and XIII show that the effective rate of protection has very limited power in explaining the total value of exports, the exports of each sector as a share of the country's total exports and the output of each sector. This suggests that high levels of effective rate of protection are not effective and are not having the desired result of supporting industrialization. Other determinants of African producers' competitiveness, such as productive capacities, access to affordable credit and supportive trade infrastructure, are likely to be more important and complementary to high effective rates of protection.

Figure XI: Relationship between effective rates of protection and total exports, 2012



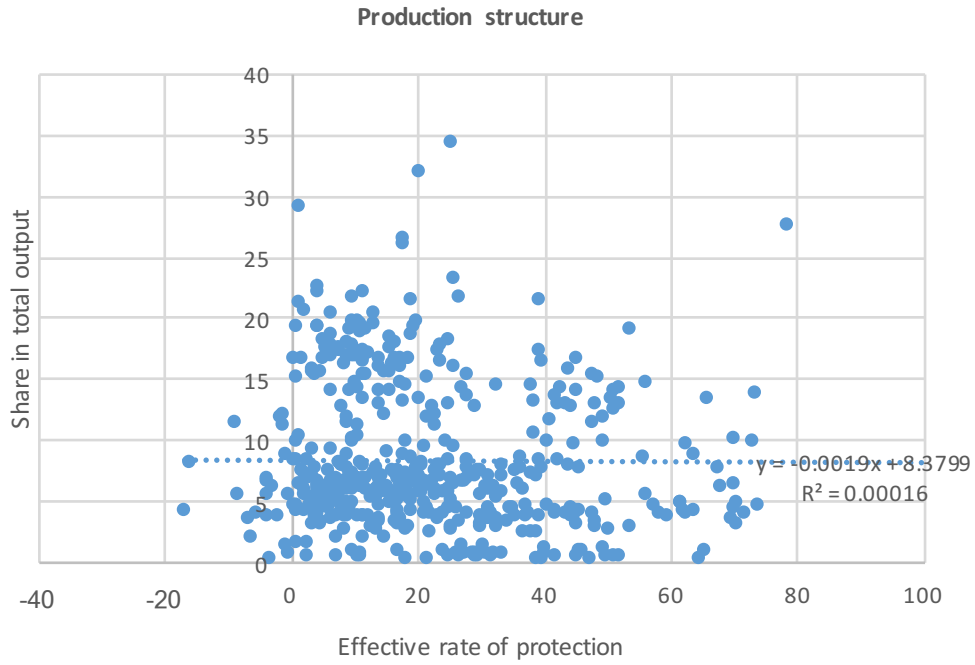
Source: Overseas Development Institute calculations using the World Integrated Trade Solution.

Figure XII: Relationship between the effective rates of protection and the share of exports, 2012 (Per cent)



Source: Overseas Development Institute calculations using the World Integrated Trade Solution.

Figure XIII: Relationship between the effective rate of protection and output by sector, 2012 (Per cent)

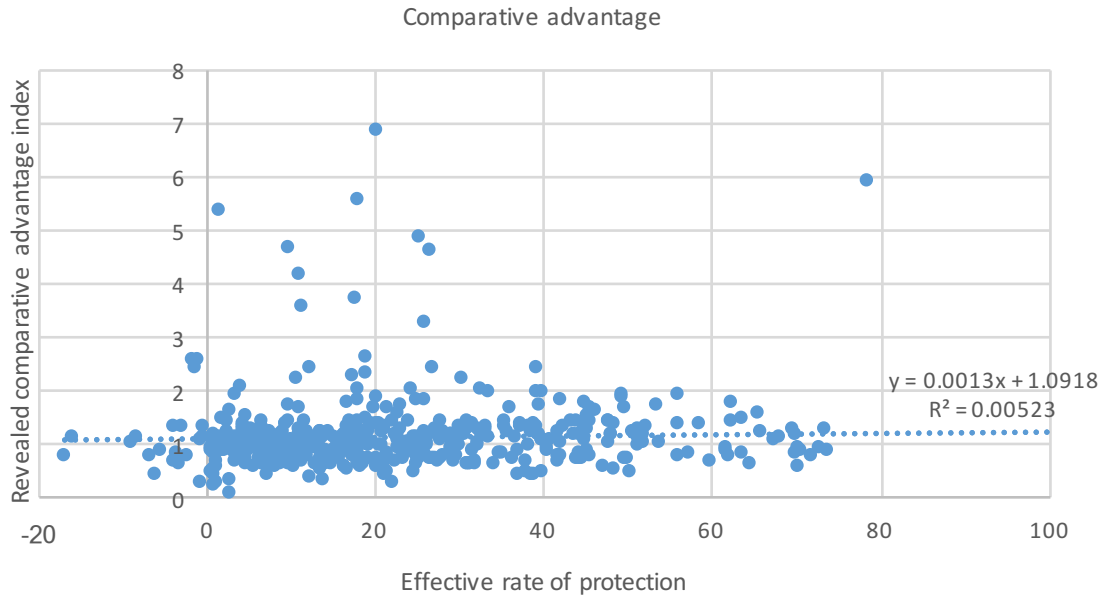


Source: Overseas Development Institute calculations using the World Integrated Trade Solution.

A country has a comparative advantage in the production of a commodity if their production costs are lower than that of an international competitor. Sources of comparative advantage may include better technologies, an abundance of primary or intermediate inputs and economies of scale from large size operations. The concept of comparative advantage implies that countries should specialize in producing and exporting the tradable goods in which it can produce most efficiently relative to other goods within its own economy.

Owing to the difficulties associated with measuring comparative advantage and its underling sources, the present paper estimates comparative advantage using the definition by Balassa (1965) of revealed comparative advantage, namely, an empirical application of the definition of comparative advantage, given that it looks at the export patterns of a country to "reveal" the country's areas of comparative advantage. This is based on the idea that, if a country exports more than the global average exports of a specific product, then the country has a comparative advantage in that product. For example, the United Republic of Tanzania would have a revealed comparative advantage in cotton if cotton represented 6 per cent of its exports but only 2 per cent of global exports. Using this definition, figure XIV shows the weak relationship between the effective rate of protection and comparative advantage. Higher protection of specific sectors is not always awarded to specific sectors in which countries have comparative advantages in production. This suggests that the targeting of high rates of effective rate of protection could be improved.

Figure XIV: Relationship between the effective rate of protection and output by sector, 2012



Source: Overseas Development Institute using the World Integrated Trade Solution.

IV. Targeting industries for smart industrialization

A. Local productive capacities and comparative advantage

A country's productive capacity determines what it will be good at producing and, consequently, exporting. An analysis of comparative advantage is useful to assess countries' potential areas of strength in industrial development and therefore guide trade and industrialization strategies. African Governments can use it to make strategic decisions on what goods and products to specialize in for production and export. This section provides an overview of literature on comparative advantage for East, South and West Africa.

Chingarande and others (2013) studied revealed comparative advantage for the five EAC countries (Burundi, Kenya, Rwanda, Uganda and the United Republic of Tanzania). The authors calculated the average revealed comparative advantage during the period 2007-2010 and defined revealed comparative advantage following Balassa (1965) (see section III (D) for details). The analysis identified that, among these countries, Kenya had comparative advantage in a larger number of product lines (778), followed by the United Republic of Tanzania (471), Uganda, (431), Rwanda (275) and Burundi (152). Looking at the top 10 product lines for each country, it emerged that East African countries had revealed comparative advantage in primary products, mostly with very low value addition. These include tea, coffee, minerals, hides and skins, agricultural products and cotton.

Similarly, Mzumara and others (2013) calculated revealed comparative advantage for countries in the Southern African Customs Union (Botswana, Lesotho, Namibia, South Africa and Swaziland). The authors found that South Africa had comparative advantage in the production of 727 product lines, followed by Botswana (268), Swaziland (243), Namibia (213) and Lesotho (85). Revealed comparative advantage for South Africa was in a mix of manufactured, semi-manufactured and primary products (with a strong presence of minerals), as was Swaziland's. Botswana and Namibia both have more revealed comparative advantage in primary products, although Botswana also has revealed comparative advantage in some manufactured products. Lastly, manufactured products dominated revealed comparative advantage for Lesotho. These findings mirrored those of Keane and others (2010), who calculated revealed comparative advantage for selected SADC countries (Botswana, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, Swaziland, South Africa, the United Republic of Tanzania, Zambia and Zimbabwe). They found that revealed comparative advantages for Southern African countries include traditional commodity exports such as tobacco, salt, ores, slag and ash, but also manufactured goods (e.g., automotive parts).

Keane and others (2010) also looked at the West African region, calculating the revealed comparative advantage for 14 members of the Economic Community of West African States (ECOWAS), namely, Benin, Burkina Faso, Cabo Verde, Côte d'Ivoire, the Gambia, Ghana, Guinea, Guinea-Bissau, Mali, the Niger, Nigeria, Senegal, Sierra Leone and Togo. They found that revealed comparative advantage in the West African region tends to be in traditional commodity exports such as tobacco, salt, ores, slag, ash and precious metals, as well as edible vegetables, fruit and fish.

Regional analysis similar to that shown above can help to identify potential areas of specialization for a group of countries and for the individual countries in the regional economic communities. This can help to guide trade and industrialization strategies and maximize the mutual gains from regional trade. A global analysis of revealed comparative advantage for a specific country may identify other promising sectors that are quite different to those identified at the regional level. Box 4 provides an example of this approach to identifying potential areas of specialization.

As an indicator of a country's productive capacity, revealed comparative advantage is

a static concept providing only a snapshot of what a country can efficiently produce at a given point in time. As countries' endowments change, productive capacities evolve. Targeted policy actions can help countries to shift their productive capacities towards goods that embody more value added and can generate more linkages with and spillovers to the rest of the economy. An example of this is the industrial policy for the automotive sector in South Africa, developed under the Motor Industry Development Programme. Through a series of targeted incentives, the Programme has pushed South African firms to catch up with the global frontier in automotive production (Barnes and others, 2004), thus developing an advantage that would not otherwise have existed. The Programme is an example of a "vertical" policy that targets a specific sector, as opposed to "horizontal" policies that are aimed at creating a conducive environment for all sectors.

How can sectors with the potential for dynamic comparative advantage be identified? One way is to look at what products a country is already producing and exporting and to identify products that require a similar productive structure and that could be viable options for diversification. The product space theory (Hausmann and Klinger, 2007; Hidalgo and others, 2007) takes this approach to identifying promising sectors. The idea is that, when diversifying into new products, countries are most likely to produce goods that require productive capacities similar to those they already possess. The product space (developed in Hidalgo and others, 2007) provides a graphic representation of the distance between couples of goods. Goods that require similar productive capabilities are closer on the product space. Products in the central areas of the product space are those that are closer to a large number of products and therefore provide more opportunities for diversification. On the contrary, products in the periphery require specialized productive capacities, which can be difficult to employ with other products.

Balchin and others (2016a) combined revealed comparative advantage and product space approaches. The authors investigated the potential for export-based manufacturing in selected African countries (Ethiopia, Ghana, Kenya, Mozambique, Nigeria, Rwanda, Uganda, the United Republic of Tanzania and Zambia) and compared the promising sectors identified by the two techniques. Although the product space approach takes a more dynamic view than revealed comparative advantage, for the short run it builds on what countries already produce to identify products that require similar productive capacities. For example, it was argued in a study by Hidalgo (2011) on five countries in Eastern and Southern Africa (Kenya, Mozambique, Rwanda, the United Republic of Tanzania and Zambia) that an analysis of the product space supported further development of the agricultural sector, rather than an increased focus on manufacturing. Similarly, recent work on the product space in Morocco suggested a focus on phosphate-based fertilizers, electronics and automotive industries sectors in which Morocco is already producing (Rodarte and Lofren, 2015). In the long run, for countries to expand into other sectors, they need to develop appropriate policies to build capabilities in those sectors.

Box 4: Using revealed comparative advantage to identify promising sectors: an example from the United Republic of Tanzania

Balchin and others (2016b) used production-based and trade-based techniques to analyse areas of comparative advantage for the United Republic of Tanzania to support national-level planning. The study relied on the definition of revealed comparative advantage given by Balassa (see section III (D)) and calculated the Balassa index (an index measuring revealed comparative advantage) for the period 2005-2013. The results showed that the country had a strong comparative advantage in the precious stones sector (revealed comparative advantage of 13.31), vegetable products (6.80) and agro-processing (2.25). Nevertheless, exports are not only determined by what a country can supply, but also by what other countries demand. Simply analysing what a country can produce efficiently can help to identify potential areas of specialization, but it is also important to assess what products among those that a country can produce are demanded in the global market. The authors therefore also explored the trends in global demand for the sectors in which the United Republic of Tanzania exhibits revealed comparative advantage. This is necessary to enable the exploitation of not only a country's specific strengths, but also the opportunities offered by the global market.a Tracking both world demand and the evolution of the country's normalized RCA over time resulted in products classified under four main categories (see table 2).

"Increasing" and "falling" demand need to be approached with caution. First, even when demand is falling for a specific product or sector, it might still be very strong. Similarly, when demand for a specific product is increasing, it might be doing so from a very low base. Second, classifying demand as increasing or falling in specific products does not reflect the dynamic aspects of the global demand, which changes rapidly. With these cautions in mind, considering what the trends are in global demand when identifying promising sectors is a good indication for countries that might want to avoid the risk of investing significant resources in building capabilities in sectors that may be diminishing in importance.

Ideally, a country should specialize in the production of goods for which it both has a comparative advantage in and for which global demand is growing. For the United Republic of Tanzania, this includes precious stones, minerals, nuts, fruits and seeds. If a country specializes in products for which the world demand is falling, it is likely to not only capture a larger share of these markets, but also be faced with greater risk because the demand for these products is weak (although, if demand is falling from relatively high levels, it might still be relatively strong). Some products can have decreasing country comparative advantage but increasing global demand.

Global demand is useful when identifying products for export on world markets but less so when identifying goods to be produced to meet domestic and regional demands. In particular, the United Republic of Tanzania might consider producing some of the products listed in the bottom left box for the region (EAC) or the planned CFTA African market (see table 3).

Exports to the regional markets can be extremely different to exports at the global level. Looking at the exports from the United Republic of Tanzania, the top 10 exports to EAC at the two-digit level include both agricultural goods (coffee and tea, fruits and nuts) and manufactured products (electrical machinery and equipment, textile and yarn, paper and paper products) (see table 3). When looking at the country's global exports, these are less diversified and complex and are instead dominated by natural resources (precious stones, metals and minerals) and primary goods (vegetables, tobacco, fruits and nuts, fish and crustaceans).

Looking at the product space for United Republic of Tanzania, Balchin and others (2016b) concluded that the sectors that offered better opportunities for diversification were machinery and transport equipment, chemicals and related products, manufactured goods classified chiefly by material (e.g., glass sheets) and miscellaneous manufactured articles (e.g., microscopes). These are not only "close" to the country's current production structure, but are also at the centre of the product space, thus allowing for further future diversification.

[a] This is estimated by looking at the growth in global demand during the period 2008-2013.

Table 2: Strong and weak areas of specialization for the United Republic of Tanzania, main products

	World demand increasing	World demand falling
United Republic of Tanzania comparative advantage increasing	• Nuts and oil seeds • Gold, precious and semi-precious stones • Coconuts • Cocoa beans • Cereals	• Jute and other textile bast fibres, • Special purpose motor vehicles, bulldozers, excavators, etc. • Ceramic sinks, wash basins, wash basin pedestals • Containers (including. containers for transport) • Printers, copying machines, etc.
United Republic of Tanzania comparative advantage falling	• Beer made from malt • Vegetable fats and oils • Tanned and crust hides and skins • Boxes, cases, crates and other packaging • Iron and non-alloy steel • Footwear	• Wood and wooden furniture • T-shirts, singlets and other vests • Durum wheat • Items of iron and non-alloy steel • Electrical transformers

Source: Adapted from Balchin and others (2016b).

Table 3: United Republic of Tanzania exports to the East African Community and to the rest of the world, 2015

Export to the EAC		Export to the rest of the world	
Product	**Value (millions of United States dollars)**	**Product**	**Value (millions of United States dollars)**
Electrical machinery and equipment and parts thereof; sound recorders and reproducers and televisions, among others	370	Natural or cultured pearls, precious or semi-precious stones, precious metals and metals clad, among others	1 460
Wadding, felt and nonwovens, special yarns, twine, cordage, ropes and cables and articles thereof	171	Ores, slag and ash	471
Coffee, tea, maté and spices	42	Edible vegetables and specific roots and tubers	360
Edible vegetables and specific roots and tubers	38	Animal or vegetable fats and oils and their cleavage products, prepared edible fats and animals, among others	339
Paper and paperboard, articles of paper pulp, of paper or of paperboard	32	Tobacco and manufactured tobacco substitutes	294
Wood and articles of wood, wood charcoal	24	Residue and waste from the food industries and prepared animal fodder	271
Mineral fuels, mineral oils and products of their distillation, bituminous substances and minerals, among others	24	Edible fruit and nuts and peel-off citrus fruit or melons	256
Other made-up textile articles, sets, worn clothing and worn textile articles, rags	24	Fish and crustaceans, molluscs and other aquatic invertebrates	233
Edible fruit and nuts, peel-off citrus fruit or melons	23	Coffee, tea, maté and spices	187
Residues and waste from the food industries and prepared animal fodder	23	Oil seeds and oleaginous fruits, miscellaneous grains, seeds and fruit and industrial or medicinal, among others	162

Source: Overseas Development Institute calculations based on International Trade Centre trade map data.

B. Export taxes and other export restrictions

Export taxes and other export restrictions are commonly seen in developing countries as ways to encourage value addition by reducing or banning the export of raw materials and unprocessed goods. Apart from taxes, export restrictions can include export quotas and bans, licensing requirements, dual pricing systems and many others. The reason why these restrictions are applied may not always be linked to value addition. The most common justifications to export restrictions are to raise government revenue, secure domestic supply and promote domestic value addition (Mendez-Parra and others, 2016).

African countries do not make extensive use of this tool. Of almost 2,900 export restrictions introduced, increased or extended during the period 2000-2012 (as surveyed in Mendez-Parra and others, 2016), only some 260 (less than 10 per cent) were applied by African countries. By comparison, China (the country that applies most restrictions) had 841 restrictions, followed by India, which had 693. Even with this limited application, export taxes and restrictions have been an object of debate in recent negotiations of African countries. For example, during the Economic Partnership Agreement negotiations between the European Union and EAC, one of the main points of contention was the ability for EAC countries to introduce export taxes.[20] It was stipulated in the final agreement that new export duties and taxes could not be introduced. Nevertheless, temporary export taxes and restrictions could be allowed if they fulfil specific roles.

Although export taxes can promote industrial development, they will not be enough on their own to ensure that selected industries in Africa take off. They must be targeted at industries with comparative advantage, and other supportive industrial policies will be needed to ensure adequate financial resources, infrastructure and skilled labour. The application of export taxes should also be limited in time to avoid a permanent benefit to domestic producers, which could reduce incentives to improve competitiveness overtime (Mendez-Parra and others, 2016).

C. Low or negative effective rate of protection

The targeting of industries for smart industrialization not only requires the identification of products for export based on comparative advantage, but also the presence of a supportive tariff structure to enable such products to effectively compete on regional and global markets. As discussed in section III (D), the effective rate of protection is a more useful tool than the nominal rate of protection when assessing the amount of protection granted to African industries by import tariffs, given that it also considers the protection of imported inputs. When the production of a specific product requires imported inputs, the tariffs applied to these inputs will cause the effective rate of protection to decrease.[21] A higher rate of protection of the inputs will cause the effective rate of protection to decrease or sometimes even to be negative.

In section III (D), only a handful of sectors (21 cases of the 500 analysed throughout all sectors and the 42 countries) were identified as having negative rates of protection. Aquaculture and fishing is the sector with the highest occurrence of a negative effective rate of protection (in 9 of the 42 African countries sampled). In terms of countries, Sao Tome and Principe faces negative effective rates of protection in 5 sectors of the 12 under analysis. The tariff structure imposed on the inputs that are used in the 21 cases with a negative effective rate of protection forces them to be more competitive than the global average to succeed.

In general, all products that have an effective rate of protection lower than the nominal rate of protection face a tariff structure that discourages domestic production, value addition

20 Additional information on the European Union and the EAC agreement is available at **www.ictsd.org/bridges-news/bridges-africa/news/eu-and-eac-seal-epa-deal**.

21 If the nominal rate of protection of inputs required to produce a product is the same as the nominal rate of protection of the output, then the effective rate of protection is identical to the nominal rate of protection.

and industrialization. In the sample, 65 cases of the 500 analysed throughout all sectors and countries face this situation. Among these, the sectors occurring most frequently are the manufacture of food products (16 cases), mining-related services (15 cases) and fishing and aquaculture (11 cases).[22] The low or negative effective rate of protection either results from high tariffs on inputs, low tariffs on the final products or both. For the 65 cases with negative or low effective rates of protection mentioned above, the average most favoured nation tariff is approximately 5 per cent, compared with the average most favoured nation tariff for all cases, which is approximately 12.3 per cent.

In order to promote the production of goods in these sectors, countries should consider reducing or eliminating the tariffs necessary on imported inputs that are not available locally. in section III (D), a weak relationship between the effective rates of protection and revealed comparative advantage was also found. The targeting of high rates of effective rates of protection should be improved by reducing tariffs on imported intermediates that are required in the production of goods that exhibit revealed comparative advantage, which can be identified using a similar methodology to that presented in section III (C).

Given the weak association between the effective rate of protection and the total value of exports and output in Africa, however, reducing tariffs on crucial imported intermediates is unlikely to have the desired impact without complementary interventions to support industrialization (see section V (C)).

22 This occurs more often in Sao Tomé and Principe, with six cases.

V. Case studies

This subsection presents a number of case studies on how African countries have successfully used smart trade policies, supported by complementary domestic interventions, to further their industrialization agendas. The case studies were selected to ensure geographical representation of all African sub-regions (see boxes 5 to 8). Central Africa was not covered because the authors were unable to identify a strong case study example.

Box 5: Diversification and global value chain strategy of Lesotho

Lesotho is Africa's top garment exporter. Textiles and clothing is the country's main manufacture and exporting industry, and accounted for 45 per cent of its total exports in 2014. The United States is the main market for the country's textiles and clothing exports. Lesotho has actively taken advantage of the African Growth and Opportunity Act and its third-country fabric provision, which relaxes rules of origin for textiles (Economic Commission for Africa, 2015). The 2008 global economic and financial crisis, however, revealed vulnerabilities in the country's economy created by an overreliance on the apparel sector and a few export markets.

In response, an active policy decision was made to take advantage of the opportunities provided by being landlocked in the diversified South African economy. This involved the development of a regional value chain strategy in which Lesotho would attach itself to the South African manufacturing sector's value chain, with a specific emphasis on labour-intensive sectors such as agro-processing, light assembly, manufacturing and business process outsourcing.

Countries tend to diversify successfully by moving from products that they already produce to other more sophisticated ones that require more productive knowledge (Hausmann and Klinger, 2007). In this light, the Government of Lesotho decided to concentrate efforts on sectors that could leverage the skills and experience from more than two decades of apparel manufacturing. It identified the auto industry as offering the most promising opportunities in the context of the booming auto industry in South Africa. The initial investment was in the car seat manufacturing sector in 2012, and car seat covers for brands such as BMW, Nissan and Ford were produced as part of the South African auto sector value chain. Lesotho has since secured new investment from manufacturers that supply auto manufacturers in Europe and elsewhere outside South Africa.

The successful integration of Lesotho into regional and global value chains is the result of six smart actions:

A prioritized approach to value addition. Government prioritized support for sectors with strong linkages with the already well-developed apparel sector.

An efficient and competitive trade facilitation framework. This involved the examination of behind-the-border inefficiencies (in particular, customs operations and logistics systems) and required upgraded dry port facilities and customs systems.

Alignment of the tax regime with industrial policy. Domestic taxes and external tariff structures were designed to ensure the accessibility and affordability of critical inputs.

Effective coordination. There was a clear vision and mandate to improve coordination among government departments and ensure private sector involvement.

Support of small and medium-sized enterprises. A comprehensive incentive regime was used to support the development of these enterprises and therefore the growth of a competitive supply chain network among small and medium-sized enterprises to be absorbed into regional value chains and global value chains.

Skills development. A skills review was carried out to inform the upgrading of the country's skills development framework to direct resources towards non-traditional technology-based skills such as engineering (Setipa, 2016).

Box 6: Launching the aeronautical industry in Morocco

In 1997, Seddik Belyamini, the Boeing Executive President for Worldwide Sales in Seattle, led an internal search in Boeing to identify what aerospace components could be produced in Casablanca. The study led to the creation of a joint venture, Matis, between Boeing, Royal Air Maroc and the Moroccan firm Labinal to outsource the assembly of wire harnesses to Morocco. This marked the beginning of the country's aeronautical industry, which has grown significantly during the past decade.

Morocco now hosts more than 100 aeronautical companies, including big names such as Safran, Bombardier, Boeing and Airbus. In 2013, the industry generated a $1 billion turnover and was the main source of employment for 10,000 people. Aeronautics exports accounted for 6 per cent of the country's total exports in 2013, compared with only 0.5 per cent a decade earlier. The sector should double in size by 2020.

The success of the aeronautical industry in Morocco is driven by the following list of targeted policy actions and a supportive environment.[a]

National development priority. Aeronautics was one of the six key segments targeted for development under the 2008-2015 national pact for industrial emergence. It was also prioritized in the 2014-2020 industrial acceleration plan, which is aimed at encouraging increased value addition in manufacturing.

Private sector governance. The private sector industry group, the Moroccan Association of Aeronautics and Aerospace, has helped to lobby for policy changes in support of the aeronautical industry.

Industrial zones. The Government of Morocco established Midparc in 2013, an offshore industrial zone to develop the local aeronautics industry. The zone makes land available for sector operators and offers a 100 per cent tax exemption during the first five years of operation and a reduced rate of 8.75 per cent in the following 25 years.

Local procurement. Supplier events have been used as a tool for boosting local procurement. The first such event was held in June 2014 for Safran. Local procurement is important for establishing the entire value chain locally and reducing the need to import inputs, therefore encouraging suppliers to locate in Morocco.

Productive capacities. The Moroccan Aerospace Institute was established in 2011 by the Moroccan Association of Aeronautics and Aerospace, in partnership with the French Union of Metal Industries, the Government of Morocco and the French Development Agency. The institute has trained up to 1,500 people, of whom 99 per cent have been hired upon course completion. The country's main public provider of professional training is the Bureau of Professional Training and Employment Promotion. The Bureau embarked on specialized training in aeronautics in 2013, establishing the Specialized Institute for Aeronautics and Airport Logistics, in partnership with Royal Air Maroc. Industry players also make efforts to work together with universities and engineering schools.

Research and development. Safran signed an agreement in June 2014 with the Ministry of Higher Education and Scientific Research and Rabat's Académie Hassan II des Sciences et Techniques to allocate €1 million during the coming five years to develop technological research.

Trade policy. Free trade agreements with the United States, the European Union and several Arab States have supported the development of the aeronautical industry in Morocco. The country's geographic proximity to Europe has also been an advantage.

Moving forward, Morocco will need to build on these successes and expand into the manufacture of more complex components to meet the demands of global aircraft manufactures. Several low-priced labour countries are now competing in the aeronautical subcontracting market such as India, Malaysia and Mexico. This will create pressure for Morocco to improve the efficiency of its local supply chain and begin to produce the complex parts required for the industry (Larmandieu, 2015).

[a] For additional information on the aeronautical industry in Morocco, see Oxford Business Group, "Aeronautical industry growing in Morocco". Available at www.oxfordbusinessgroup.com/analysis/aeronautical-industry-growing-morocco.

Box 7: Tradable services: an alternative to manufacturing-led industrialization in Rwanda

The services industry in Rwanda provides an interesting case study of how services can provide an alternative vehicle for industrialization through trade in contexts in which traditional manufacturing is at a disadvantage. Developing a competitive manufacturing industry is challenging for landlocked Rwanda, which also faces significant non-tariff barriers and high transport costs. The Government therefore decided to target service subsectors, including information and communications technology, tourism and finance, and is now aiming to develop a service-based hub in Rwanda to serve regional markets. Services take a central place in the Government's Vision 2020, both as an important source of growth and an enabler of other sectors, such as agriculture and manufacturing.

There has already been encouraging developments in the services sector. The country's services exports increased from $59 million in 2000 to $395 million in 2011. Tourism has performed well and has been the main foreign exchange earner since 2007. Exports of travel and tourism accounted for 63 per cent of total services exports and 29 per cent of merchandise and services exports in 2011. Tourism receipts should grow at a compound annual rate of 25 per cent until 2017. The Government is now diversifying tourism products beyond their main tourism attraction of gorillas. Improvements in the country's infrastructure and telecommunications have also helped to sell Rwanda as an attractive destination for conference tourism (Economic Commission for Africa, 2015).

The success of the country's tourism industry has been driven by strong commitment by the Government to promote the industry through developing a clear tourism strategy, successfully marketing Rwanda as a tourism destination, involving the private sector in the policy dialogue and supporting general improvements in the country's business environment.

For example, from the year 2000 onwards, Rwanda participated in many tourism fairs, and an aggressive public relations and marketing strategy has been pursued, including contracting international public relations and marketing agencies in the United Kingdom and the United States and the launch of a new website in 2003. A 10-year sustainable tourism master plan for Rwanda has been developed with support from the World Tourism Organization (Rwanda, 2009). A tourism working group is in place comprising private and public stakeholders in the tourism industry. A number of incentives are offered to private investors, such as tax exemptions for airplanes imported to transport tourists, import and excise duty exemptions for specialized vehicles such as hotel shuttles and import duty exemptions on equipment (e.g., bedroom fittings, swimming pools, outdoor leisure equipment) for investors in the tourism and hotel industry (Nielsen and Spenceley, 2010). The Government has also worked to develop the skills demanded by the tourism sector, most notably through the establishment of the Rwanda Tourism University College in 2006.

Although the country's industrial policy for the tourism sector has been a success, it is unlikely that it will be able to sustain economic development without significant improvements in the manufacturing sector, which has higher productivity, greater scope for innovation and greater tradability (Economic Commission for Africa, 2016c).

Box 8: **Moving up the rungs of the cocoa value chain in Côte d'Ivoire**

At a global level, Africa remains the largest cocoa producing region. For the 2013-2014 crop year, it was estimated that the continent produced roughly 3.2 million tons of cocoa beans, representing 73 per cent of global production. Côte d'Ivoire is the leading global producer of cocoa.

Previously, the grinding of cocoa beans had entirely taken place in traditional importing countries located in Europe and North America, in which cocoa processing companies were able to meet chocolate manufacturers' requirements cost effectively. Processing now, however, also takes place in Côte d'Ivoire because of government incentives and investment by national and transnational corporations. For example, origin grindings in Côte d'Ivoire increased by 40 per cent between 2005-2006 and 2013-2014.

The development of local and regional markets for chocolate products in West African producing countries, driven by the growing middle class, has enhanced investment opportunities for manufacturers. In May 2015, the French CEMOI Group inaugurated the first industrial-scale chocolate factory in Côte d'Ivoire, with the objective of stimulating and supporting growing West African markets for chocolate products. These developments have allowed Côte d'Ivoire to create greater value addition, participate in higher rungs of the cocoa global value chain and retain a greater share of the returns from the cocoa global value chain (Gayi and Tsowou, 2016).

In 2012, the Government of Côte d'Ivoire launched the National Cocoa and Coffee Public-Private Partnership Platform, which is aimed at enhancing policy dialogue between the Government agencies, the industry, non-governmental organizations and international donors involved in cocoa development; setting common priorities; and leveraging resources and investments to support the development of the cocoa sector. This has helped to create a strong relationship between the cocoa industry and other relevant stakeholders for transforming the sector and supporting greater value addition.[a]

The Government is also taking measures to drive improvements in cocoa quality and yields, which is crucial for meeting the requirements of regional and global value chains. The country's Coffee and Cocoa Council has embarked on a national campaign to improve quality, targeting some 1 million small-scale cocoa farmers. The Council has instituted quality checks at the farm gate and in the processing and export of cocoa beans, and is working with the agriculture extension service to train farmers, providing them with phytosanitary products, including insecticides and bags for storing dried beans, to avoid contamination. It has also provided the high-yielding drought-resistant "Mercedes" variety of cocoa to small producers under a national policy enacted in 2011 to boost quality and promote value addition (Bafana, 2016).

[a] See World Cocoa Foundation, "Côte d'Ivoire launches its first cocoa PPP platform", 6 June 2012. Available at www.worldcocoafoundation.org/cote-divoire-launches-its-first-cocoa-ppp-platform/.

VI. Assessment on how to industrialize smartly

A. Articulating smart choices in trade agreements

Making trade agreements work for Africa's industrialization

African countries need to articulate smart choices in their current trade agreements and insist on using new trade agreements to promote industrialization of their economies. They should undertake comprehensive ex ante and ex post industrial impact assessments to inform these choices and help to shape future trade-agreement negotiations. Donor technical assistance should be targeted at helping capacity constrained African Governments to conduct such impact assessments, similar to the Diagnostic Trade Integration Study under the Enhanced Integrated Framework. Industrial impact assessments can be used as effective tools to support the mainstreaming of industrial priorities into Africa's trade agreements through the following:

a. Assessing whether the trade agreement will contribute to the achievement of African countries' industrialization agendas (national, regional and continental levels);

b. Assessing whether the rules of origin and product standards contained in trade agreements and arrangements are consistent with the productive capacities of African industries;[23]

c. Demonstrating the need to harmonize rules of origin, which will help to deal with the lack of capacity to implement and enforce them;

d. Reviewing the flexibilities embedded in current trade agreements, with a view to taking maximum advantage of them;[24]

e. Estimating the impact on trade (including intra-African trade, which offers specific potential for industrialization and value addition) and tariff revenue from the implementation of a trade agreement;

f. Identifying industries with comparative advantage to be included in strategic exclusion lists contained in reciprocal trade agreements;

g. Demonstrating a need for development cooperation commitments in the form of transitional contributions linked to boosting the industrial competitiveness of African firms, in particular those that may be adversely affected by the opening up of Africa's markets.

Using the Continental Free Trade Area as a vehicle for industrialization

The imperative of advancing Africa's industrialization should be kept in mind throughout the CFTA negotiations process. In particular, the final CFTA agreement should be aimed at the following:

a. Committing member States to an ambitious liberalization agenda for trade in goods, reflecting the importance of securing market access for African countries in African countries, which is crucial for boosting intra-African trade in intermediates, developing manufacturing regional value chains and reducing Africa's import bill for processed foods;

b. Including provisions that are consistent with the imperative of industrial development under the CFTA industrial

23 Lower requirements for domestic value added and cumulation zones extending beyond narrow regional groupings can help to encourage diversification, local and regional processing and integration into global value chains. The third-country fabric provision in the African Growth and Opportunity Act, which allowed 24 of the 38 Act-eligible countries to source fabric from third countries for making clothing that could then be exported duty-free to the United States market, provides a good example of how more generous rules of origin can boost exports. Less stringent preferential rules of origin are consistent with the voluntary guidelines adopted at the ninth World Trade Organization Ministerial Conference in December 2013 as part of the Bali Package (Economic Commission for Africa, 2015).

24 For example, the new EAC economic partnership agreement includes provisions that could be used for industrialization purposes, but there is a relatively short time limit for improving capacity. The EAC countries can use infant industry measures within 10 years of the agreement entering into force. The time period may be extended by a further five years. The use of temporary export duties is allowed under the agreement for protection of the domestic industry (Economic Commission for Africa, 2016b).

pillar. The Action Plan for the Accelerated Industrial Development of Africa should serve as a building block for the industrial pillar, in particular the Plan's six objectives. Those objectives are to integrate industrialization into national development policies, maximize the use of local productive capacities and inputs, add value to abundant natural resources, develop small-scale and rural industries, take maximum advantage of Africa's partnerships to enable the transfer of technology and establish and strengthen financial and capital markets;

c. Including a framework agreement on trade in services to help to boost intra-African trade in services, harness the capacities of African services suppliers and ensure competitively priced service inputs for African manufacturers. This can be achieved through progressive liberalization that consolidates and builds on the achievements of the regional economic communities;

d. Containing a framework agreement on investment that provides common rules for State parties in introducing incentives for attracting investments to accelerate development and industrialization, helping to avoid any race to the bottom, and that recognizes government procurement as a key policy tool for promoting the use of local suppliers;

e. Including provisions for the free movement of economic operators, such as traders, business people and investors, involved in the trade in goods and services and investment. This is needed to transform the opportunities provided through the liberalization of trade in goods, services and investment and maximize the use of regional productive capacities in industrial production;

f. Harmonizing product standards, conformity assessment and accreditation practices to achieve mutual product recognition and facilitate intra-African trade in manufactured goods, in particular agro-processed foods;

g. Including flexible rules of origin with generous cumulation requirements to encourage local and regional processing and the development of African industrial supply chains.

Smartly sequencing trade agreements

It will be important for Africa to smartly sequence its trade policy reforms to ensure that deeper regional integration takes place before the inevitable gradual opening up of African markets to the rest of the world and the full establishment of the main mega-regional trade agreements. This will allow African countries to harness the economies of scale and learning by doing that is needed to develop competitive regional value chains and industries, which are then well positioned to compete internationally and integrate into global value chains. This calls for the following:

a. Expeditious implementation of CFTA to avoid any trade losses from the anticipated increase in reciprocity in Africa's trade agreements with the rest of the world and from the rise in mega-regional trade agreements (see section II (C));[25]

b. Well-managed and phased tariff reductions on imports into Africa to allow African industries to adapt. African countries must make smart choices when negotiating the reciprocal versions of Economic Partnership Agreements and the African Growth and Opportunity Act, and also when negotiating new trade agreements with trading partners outside the continent. Tariffs on intermediate and capital goods not produced locally should be removed first.[26] This would cut the costs of industrialization and

25 ECA modelling shows that effective and timely implementation of CFTA would offset the negative outcomes of the three mega-regional trade agreements on Africa. Instead of reducing, Africa's total exports would increase by $27.5 billion. Intra-African trade would expand by $40.6 billion and the majority of this increase would be found in industrial products such as electronics, machinery and transport equipment, chemical, textile and metal products and processed food. This would help to support industrialization and structural transformation on the continent (Mevel and Mathieu, 2016).

26 Possible examples are fertilizers, machines, spare parts and packaged materials.

foster domestic value addition. Tariffs on intermediates and capital goods for which some domestic and regional production exists should be removed next, followed by tariffs on finished products. This sequencing would not only support Africa's industrialization, development of regional value chains and technological catch-up, but would also provide temporary protection for local producers to guard against premature de-industrialization (Sommer and Luke, 2016).

B. Using trade policy to promote industrialization

In section V (A), the potential ways in which trade agreements can promote industrialization were discussed. Domestic trade policy tools, such as the targeted use of tariffs and other trade restrictions, can be and have been used for the same purpose. African countries should assess how they can make the best use of these tools to support structural transformation and value addition.

Import and domestic tariffs should be structured in a way that supports industrialization. As previously discussed, the effective rate of protection is low or negative in some sectors in several African countries. Firms in sectors facing low or negative effective rates of protection are at a disadvantage, compared with firms in countries with higher rates in the same sectors. This implies that, to export the product on the global market, these firms need to be more efficient than the competition. Low or negative effective rates of protection could be due to high tariffs on the inputs utilized by specific industries and sectors, and to low tariffs on the final products. Increasing tariffs on a sector's outputs will raise effective rates of protection and can help to promote domestic production, at least in the short term. Such protectionist policies also have high costs and have generated mixed results in terms of fostering real industrial competitiveness and inducing durable industrial development. Accordingly, in order to encourage domestic production and industrial competitiveness, a suitable and sustainable solution would be to remove, or at least reduce, import tariffs on the inputs used by the sectors with negative or low effective rates of protection.

Tariff rates should be reduced on important industrial intermediate inputs for which regional production capacity does not exist. Following on from the previous recommendation, as demonstrated in sections III (B) and III (C), Africa imports the large majority of its industrial intermediates from outside the continent at very high tariff rates. This significantly increases the costs of Africa's industrialization. Domestic intermediate import tariff structures should be reviewed to ensure consistency with industrial development needs and current domestic and regional supply capacities. High external tariff rates on intermediates for which significant African production already exists should be maintained. This would help to support future growth in intra-African trade in these intermediates. The CFTA should also be aimed at significantly reducing internal tariffs on industrial intermediates.

African countries should base their industrial development strategies on comparative and competitive advantages. Drawing from the discussion on comparative advantage in section IV (A), countries can decide to specialize in products in which they already have comparative advantage and can decide to "build" their comparative advantage in sectors that are deemed strategic for their growth. In such circumstances, trade policy tools, such as lower tariffs on key inputs, and export restrictions can be used. Nevertheless, to be successful and to achieve durable results, these policies need to be accompanied by relevant complementary policies. For example, the EAC recently increased tariffs on second-hand clothes in order to promote textile and garment manufacture in the East African region (East African Community, 2016, para. 16). The increase in tariffs alone, however, is unlikely to promote the regional manufacturing sector, unless the current binding challenges faced by textile and garment industries in East Africa are overcome.

African firms can industrially upgrade through participating in global value chains. Taking part in a global value chain allows firms to gain

the ability to produce and export higher value added products quickly. If done correctly, firm participation in global value chains can also generate beneficial horizontal and vertical spillovers to the rest of the economy. Enabling participation in global value chains requires overcoming the constraints identified in section II (D). Trade policy should also be used to create an attractive environment, for example, by reducing or eliminating tariffs on the imports to be used for processing. Several countries in Africa have established export-processing zones, which use trade policy to promote the processing of goods. In order to develop these zones, trade policy tools need to be accompanied by complementary policies of the type described below. In particular, this should include improvements in soft infrastructure (through trade facilitation) and hard infrastructure and an additional set of incentives (e.g., of a fiscal nature).

C. Complementary policies for industrialization through trade

Smartening Africa's trade agreements and trade policy will go only so far in supporting the continent's industrialization agenda. Complementary measures will be needed to overcome the constraints to industrialization through trade, as outlined in section II (D), and maximize the gains from a smartened approach towards trade. Although the CFTA will significantly reduce the demand-side constraints to industrialization, targeted industrialization initiatives are still needed to tackle the binding supply-side constraints to industrialization. The limited association between effective rates of protection and exports in African countries suggests that high levels of effective rates of protection are not having the desired effect of supporting industrialization, laying emphasis on the need for complementary measures.

The African Union member States adopted the Action Plan for Boosting Intra-African Trade in 2012. The Plan is designed to tackle the constraints and challenges of intra-African trade through identifying a number of key programmes and activities under seven clusters: trade policy, trade facilitation, productive capacity, trade-related infrastructure, trade finance, trade information and factor market integration. To date, implementation of the initiative has been relatively disappointing, slow and uncoordinated. To reduce Africa's non-tariff trade costs, the clusters must be mainstreamed into the development policy and programmes of African countries and regional economic communities.

Alongside effective implementation of the Action Plan, African countries should focus on complementary measures for industrialization through trade, as discussed below.

Productive capacities. A shortage of relevant skills is constraining the growth of Africa's industrial firms. A poorly skilled and educated labour force is the top supply bottleneck by global executives when considering manufacturing investment in Africa (African Centre for Economic Transformation, 2014). Africans must be equipped with the skills needed to engage in skills-intensive manufacturing industries (e.g., the manufacture of apparel, machinery and equipment). Regular training needs assessments and national work force surveys are required to identify the skill gaps of African industries and guide skills development.

Efficient and competitive trade facilitation framework. Efforts to enhance internal and cross-border infrastructure should continue to receive attention. African leaders should take full ownership of the infrastructure agenda and mobilize the funds required for its implementation. New and innovative sources of financing are needed to raise the $68 billion estimated costs of immediate investment in the Programme for Infrastructure Development in Africa required through 2020. The Presidential Infrastructure Champion Initiative is an indication of what is achievable if leaders work together to remove bottlenecks to progress. Focus should be on connecting African countries at the continental level. There already is a number of relatively well-developed intraregional infrastructures, such as the Walvis Bay Corridor in South Africa and the Northern Corridor in East Africa, but connecting infrastructures beyond the regional level are also needed. This will be crucial for facilitating intra-African trade gains made possible by the CFTA. Other behind-the border inefficiencies, such as customs operations, should also be addressed. A

number of African countries now have electronic single windows for trade documentation. These windows should be rolled out throughout all African countries under a pan-African approach that ensures harmonized electronic single windows practices and operations (Sommer and Luke, 2016).

Effective implementation of the WTO Agreement on Trade Facilitation. The 2013 Bali Ministerial Conference concluded negotiations on the Agreement on Trade Facilitation, which entered into force on 22 February 2017. Nineteen African countries ratified the Agreement.27 The Agreement contains special and differential treatment measures linking the requirement to implement with the capacity of developing and least developed countries to do so. The WTO Trade Facilitation Agreement Facility was established in 2014 to support developing and least developed country members to assess their specific needs and identify development partners that can help to meet those needs. It will be important for development partners to honour their commitments in terms of technical and financial support to least developed countries for the effective implementation of the agreement. Trade facilitation still accounts for only 1 per cent of Aid for Trade disbursements according to the Organization for Economic Cooperation and Development Creditor Reporting System (de Melo and Wagner, 2016). The Agreement should be used to target Aid for Trade activities towards the objectives on trade facilitation.

Access to affordable credit. Africa's trade is, in general, constrained by poorly developed financial markets and a lack of widely available trade finance for African industrial firms. Enhancing access to affordable credit will be important for laying the groundwork for rapid industrialization and supporting the integration of export-oriented firms into time-sensitive regional and global value chains. The continent should exploit the potential of the rapidly increasing penetration of ICT to increase financial access. This will require the establishment of adequate institutional and regulatory frameworks to attract private actors and guarantee prudential supervision. Increasing access to finance and ensuring financial inclusion is consistent with the commitments contained in the Addis Ababa Action Agenda of the Third International Conference on Financing for Development and the priorities contained in the 2030 Agenda for Sustainable Development. For example, Sustainable Development Goal 9 on industry, innovation and infrastructure includes a target to "Increase the access of small-scale industrial and other enterprises, in particular developing countries, to financial services, including affordable credit and their integration into value chains and markets" (United Nations, 2015, para. 9.3).

Efficient and effective services. African countries should invest in developing the infrastructure necessary to support services and create an enabling environment in which services sectors can flourish. This will help to encourage investment into value-added services in African countries (Saez, and others, 2015). More strategic thinking is required on how to deal with services under the framework of trade agreements involving African countries. Many African services firms need technical support to comply with quality and other standards and requirements for market access for services exports, in particular developed countries. Mutual recognition agreements for services standards can help, as can improvements to domestic regulatory standards and institutions governing services sectors (including around competition policy). Domestic regulatory frameworks for services in African countries should be non-trade-distorting. The continent should adopt an open trade policy towards services, including services imports. This will help to generate transformative productivity effects in African services sectors and support a smart industrialization agenda.

27 In chronological order of ratification, the countries are Mauritius, Botswana, the Niger, Togo, Côte d'Ivoire, Kenya, Zambia, Lesotho, Seychelles, Mali, Madagascar, Senegal, Swaziland, Gabon, Ghana, Mozambique, Nigeria, Chad and Rwanda.

D. Strengthening links among national development strategies, industrial policy and trade policy

Regional integration and trade policies are most successful if aligned with development and industrial policies that incorporate the country's key attributes (opportunities, challenges, resources, linkages and synergies among sectors, etc.). Regional integration in Asia has been successful because it has been supported directly by efforts to enhance productivity and diversify and structurally transform the region's economies. Investment in productive capacities and technology transmission and adoption have been key to driving innovation and competitiveness and the integration into global value chains (Economic Commission for Africa, 2016a).

For most African countries, industrial development remains just one of many objectives of trade policies. In order for trade policy to foster industrialization effectively, industrial development must become the core objective of trade policy. ECA case studies from the *2015 Economic Report on Africa* suggest the need to increase coherence between trade policy and the national development policy and between trade policy and other policies, especially industrial policy (Economic Commission for Africa, 2015). This coherence is important, given that trade policy alone, without appropriate complementary policies, cannot deliver on the levels of industrialization needed for meaningful structural transformation in Africa (see section VI (C)).

There is, however, an increasing move to link trade and development agendas and to see trade as a tool for industrialization in Africa. This is reflected in recent efforts to mainstream trade into the national development strategy and for African least developed countries to participate in the Enhanced Integrated Framework and its programme of Diagnostic Trade Integration Studies. For example, the 2013–2015 national development plan of Chad (launched in April 2013) provides major orientations on industrial and trade aspirations, and the Ministry of Trade of the Republic of the Congo has drafted a trade national development plan, which fits into the country's national development plan.

Ethiopia provides an example of an African country that has actively and effectively aligned its trade and industrial policies (see box 5 for the experiences of Lesotho). In particular, the country has developed a number of industrial parks that target investment and production in manufacturing export sectors such as textiles and apparel, leather products, pharmaceuticals and agro-processing. These parks are located along key economic corridors and connected to ports, airports, railways and universities. They also provide incentives to both manufacturers and developers to encourage expansion and production for export. The country's model for industrial parks explicitly recognizes and exploits the linkages between trade and industry and targets key industries on the basis of comparative advantage. Such an approach should be adopted in other African countries and regionally. For example, special economic zones and industrial parks organized on a cross-border basis could be used to provide incentives for local and foreign industry-related investment to take full advantage of trade liberalization under the CFTA.

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