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Key Issues:

- **Industrialisation** is important for sustainable development and employment-led growth in Africa.
- **Greater Integration** of the manufacturing sector in global value chains will build more resilient economies.
- **Digitalisation and ICT** can further the goal of industrialisation and harness Africa's natural and human resources.

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The Role of Industrialisation and ICT in Africa's Growth and Integration into Global Value Chains

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Industrialisation is important for Africa's growth and sustainable development. Deepening the manufacturing sector and greater integration in global value chains will build more resilient economies. Industrialisation will harness Africa's huge resources – in agriculture, mining, and maritime resources, as well as a youthful labour force. Suitable and focused policies can harness these resources. African countries can leverage digitalisation and information and communication technologies to further their goal of industrialisation. Industrial development will be the key to sustained and inclusive employment-led development

Introduction

The Infrastructure development and industrialisation are recognised pathways for narrowing development gaps amongst regions. They are also the basis for the participation of a country/region in international production networks and bringing innovation to different sectors of the economy.

Industrial agglomeration and urban amenities are key to stimulating and upgrading innovation. Infrastructure development for industrial agglomeration and urban amenities are essential for an industrial and innovative society (Kimura and Ueki, 2015). Industrialisation supported by information and communication technology (ICT) will be the chosen pathway for Africa's development, and its integration into global markets for goods and services.

Africa is urbanising faster than any other region – its cities are expected to gain 24 million people each year until 2045. It also has a young population and a growing labour force, which is a highly valuable asset in an ageing world. By 2034, the working-age population is expected to be 1.1 billion, larger than that of either China or India (McKinsey Global Institute, 2016). To meet these growing needs, the African Development Bank has estimated that Africa needs at least $130 billion for infrastructure development each year (African Development Bank, Organisation for Economic Co-operation and Development (OECD), and United Nations Development Programme, 2017). The policy challenge will be to ensure inclusive growth and minimise development gaps in the region.

Africa faces development gaps at two main levels: geographical and industrial. Geographical development gaps are the differences in income levels and development stages amongst countries or regions within a country. Industrial development gaps refer to differences in productivity and development stages between multinational and local firms, large firms and small and medium-sized enterprises (SMEs), and manufacturing and non-manufacturing sectors (Kimura, 2015). Planned infrastructure development and connectivity improvements can positively exploit the diversity amongst countries and subregions to narrow these development gaps in Africa. Geographical development gaps can be reduced through participation in production networks. Infrastructure enhancements enable countries or subregions to attract manufacturing industries. They also allow people to move from rural to urban areas. The smooth movement of people from agricultural informal occupations in rural areas to formal non-agricultural occupations in urban areas is an effective way to raise incomes and supply competitively priced labour to the industrial and modern services sectors.

The concept of connectivity is also at the centre of Africa's industrialisation. Africa has development needs and an aspirational demography at the cusp of a leap, which is similar to East Asia a few decades ago. Infrastructure for connectivity makes regions competitive in global value chains (GVCs).

Some 15 African countries and more than 400 million of its people are landlocked. Industrialisation and connectivity can unlock the economic potential of these countries and connect their people to the rest of the world.

Current Trends in Africa

Industrialisation contributes significantly to the accumulation of physical and human capital. It integrates the informal and formal economy and generates substantial backward and forward linkages with other sectors, providing a wealth of opportunities for suppliers, distributors, retailers, and business services (Signé and Johnson, 2018). For example, the inputs needed for different kinds of industrial production generates demand for agriculture, mining, and oth¬er raw materials, as well as energy and infor¬mation technologies, while it increases the supply of products for consumer markets, construction, and other sectors.

Manufacturing is at the heart of industrialisation, although industrial activities around the processing and refining of raw commodities would continue to be a significant aspect of industrialisation in Africa. Growth in manufacturing has lagged in Africa, however, except in very few countries. Manufacturing's share of sub-Saharan Africa's total gross domestic product is less than 10%.

As a corollary, Africa is also lagging in two crucial aspects of industrial development: manufacturing value added (MVA) and manufacturing exports. The contrast with East Asia – often cited as the growth model for Africa – could not be starker. MVA in East Asia and developing Asia is much higher than in Africa. Resource-based manufacturing accounts for about half of total MVA and manufacturing exports. Geographically, industrial activities and MVA are reported from the more industrialised regions of North and South Africa. However, these weaknesses offer an opportunity for Africa to realise its potential for industrialisation and the resultant growth.

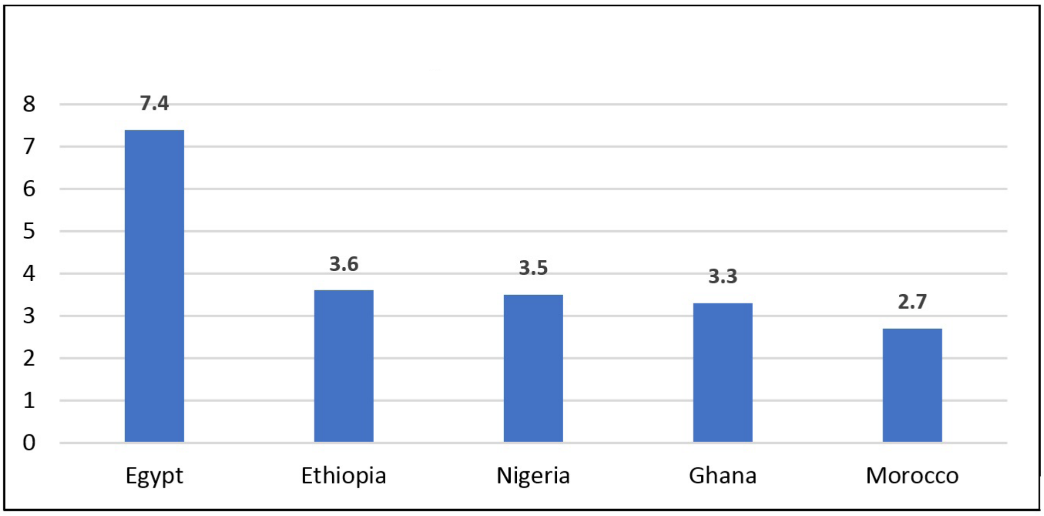
Integrating Africa into Regional Value Chains through Industrialisation and Manufacturing

International value chains function around a regional hub. This is particularly true in China and Europe, giving rise to the terms 'Factory Asia' and 'Factory Europe'. International value chains are mostly regional, giving rise to the notion of regional value chains, where regional hubs mainly trade in parts and components (International Trade Centre, 2017). While international value chains tend to be regional in Europe, Asia, and North America, the situation is different in Africa. Most of the domestic value added is exported outside Africa. Africa's impetus for industrialisation can be strengthened through creating conditions and investing in regional value chains. Greater participation in regional trade reduces the additional costs of doing business abroad, transportation and production, reduce regulatory burden which together lowers the fixed costs of internationalisation.

Investment for Industrialisation

Increased investments in Africa are required for its industrialisation, moving up the value chain of production and consumption, and its integration in GVCs

Figure 1: FDI Flows into Top Five Host Economies. 2017
($billion)



Source: United Nations Conference on Trade and Development (2017), World Investment Report 2017: Investment and the Digital Economy. Geneva: United Nations Conference on Trade and Development.

Investments in industrialisation must match the development priorities of African countries. In this way, the development strengths of Africa can be shared and dovetailed with the development priorities of the countries and/or subregions of Africa and with growth centres in Asia and Europe. Currently, Africa attracts more official development assistance (ODA) than investment.

Industrial growth in Asia offers a model for industrial development in Africa. The investment-led industrialisation in East Asia and the Association of Southeast Asian Nations (ASEAN) was mainly through foreign direct investment (FDI). Through the 1970s and 1980s, the levels of ODA and FDI were roughly equal in this region. By the 1990s, investment in connectivity infrastructure and production networks had created conditions in which FDI accelerated, leaving ODA-led growth behind.

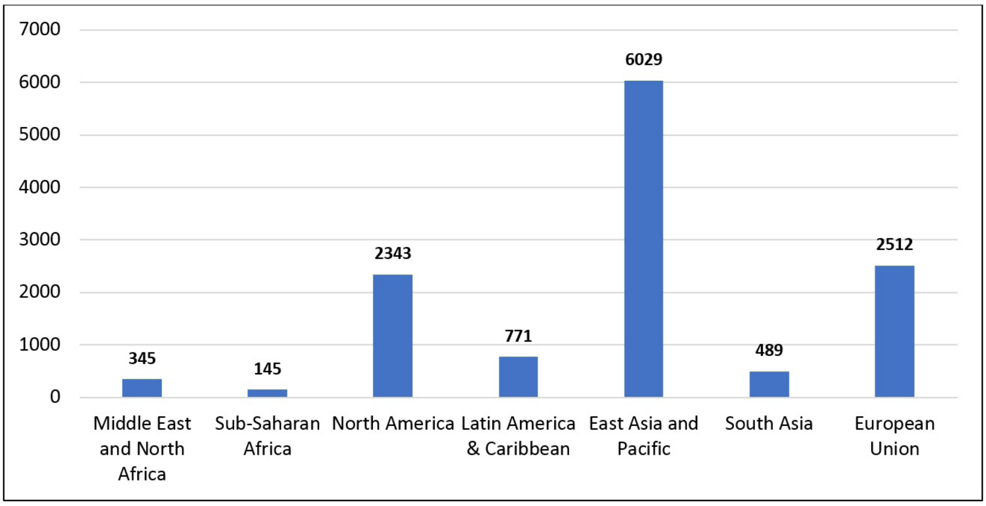
Intra-African investment is becoming increasingly significant – another reminder of the East Asian growth model, where intra-ASEAN investments are the highest in the region. South Africa and Morocco lead in intra-African investment, targeting their operations towards production for the African market.

Diversify the Manufacturing Sector

FDI in Africa's manufacturing sector must diversify away from current centres in Nigeria, South Africa, Egypt, and Morocco. In other important production locations in Angola, Kenya, Côte d'Ivoire, Ghana, and the Democratic Republic of the Congo, manufacturing activities have developed around the production of equipment and other industrial inputs necessary to support mining and resource ex¬traction (FDI Intelligence, 2018).

As Africa attracts more investments in manufacturing away from Asia, its industrial markets are slowly diversifying from extraction-related industries. Sub-Saharan Africa has continued to increase FDI steadily over the past two decades. The policy issue, therefore, is to increase FDI and improve the MVA, which continues to remain low (Figure 2).

Figure 2: Manufacturing Value Added in Africa, 2017 ($billion)



Note: Data for the Middle East and North Africa and North America are from 2016. The rest are 2017 data.
Source: World Bank (2018), World Development Indicators.

Improving MVA and Increasing Exports

Despite the recent expansion of and investments in its manufacturing sector, MVA per capita in Africa is still amongst the lowest in the world, and indicative of the challenges of investing in industry and manufacturing in Africa.

Two important indicators of industrial development – MVA and manufacturing exports –require policy attention in Africa. In 2017, sub-Saharan Africa's MVA was about $145 billion (Figure 2). In contrast, developing countries in East Asia are far ahead and nearing OECD members' levels.

Weaning the industrial production in Africa away from resource-based manufacturing will be important for all stakeholders – policymakers, investors, and consumers alike. In 2017, resource-based manufacturing accounted for half of the total MVA and manufacturing exports. As a corollary, diversifying the investments in industries amongst the subregions will be essential. Some 78% of Africa's total MVA is driven by the higher level of industrial development and value chain trade in North and South Africa (Conde, Heinrigs, and O'Sullivan, 2015).

Importantly, though, manufacturing continued to grow by more than 3% annually from 2005 to 2014 – putting Africa ahead of all the other regions in the world. In 2017, transport vehicles, electronics, and machinery (HS Code 84-89) constituted 10% of Africa's total exports to the world by value. While construction and resources continue to attract the largest investments, manufac¬turing is now amongst the top sectors for investment flows into Africa, accounting for about a quarter of total FDI in 2017 (FDI Intelligence, 2018). This reflects significant potential for Africa's industrial growth in the next decade. Nonetheless, some important regional and international policy impetus are further needed, as discussed below.

Strengthening SMEs

SMEs form the backbone of the African economy, representing more than 90% of businesses and employing about 60% of workers, many of whom are women and youth. Helping more SMEs connect to international markets would help to ensure that the gains from trade are broadly distributed across the workforce. Their role in providing employment-led growth in Africa can be particularly powerful, as more than 900 million new workers are expected to enter the labour market by 2050. As many in developing countries, however, African SMEs are less productive than larger companies and often struggle to survive and grow. Future growth nonetheless depends on greater SME productivity.

For industrialisation to contribute to sustainable development and growth in Africa, the role of SMEs is very important. SMEs employ the vast majority of any local labour force and have an integral role in any sustainable growth trajectory. They provide 'the missing link' for inclusive growth (International Trade Centre, 2017. SMEs generate more and better jobs when they can access new investments, build trade capacity and skills, and are empowered to become more competitive and connect to international markets. SMEs in Africa will be instrumental in the backward integration of industries, which in turn promote greater participation in regional value chains and improved MVA. Well-integrated SMEs provide higher per capita domestic value added in exports and lead to greater diversification of exports over time (Conde, Heinrigs, and O'Sullivan, 2015).

SMEs are the local suppliers for major investors, and a stable and reliable SME network is attractive to potential international investors. Industrial growth must depend on SMEs that meet quality, quantity, and time requirements, and which are financially stable and/or may be able to expand or move up the value chain. The capacity and skills of local suppliers are considered important or critically important by investors and are the most significant factor determining relationships between foreign firms and local suppliers.

SMEs provide better jobs and higher pay in the low-wage segments of the economy. A stable and reliable SME network requires policy support and access to finance. Improving productivity will require greater skill development and linkages with foreign markets – mainly through local firms.

Improving Human Capital

Human capital is an integral part of an effective business and investment ecosystem. The quality of a country's work¬force, or its stock of human capital, is related to the country's flexibility, productivity, and ability to innovate. Investors value skills and the productive capacity of companies, and multinationals tend to consider supplier skills when making investment decisions. More productive firms can maximise the benefits of foreign investment and are better able to use relevant information and streamline their operations. While many sub-Saharan African countries have greatly improved their educational systems in recent decades, some 15- to 19-year-olds in these countries still lack the foundational skills needed to complete primary and secondary education. Dropout rates are high and gender gaps are apparent. Youth perceive vocational and technical education as unappealing and few enrol in this track.

The allocation of resources for the improvement of human capital is a supply-side investment for Africa. Investors seeking to scale up an acquisition will assess whether the labour force in the target country has the skills they need. Empirical evidence suggests that the availability of skilled workers contributes to FDI. National investment in schools, universities and vocational training institutions can therefore encourage FDI. A targeted approach works best, especially for smaller economies. For example, strategically selecting sectors with export or investment potential, and then investing in courses to equip people with the skills they need to be productive, can be a powerful combination.

Human capital is basic to innovation. Only through continuous innovation, either in formal product development or improvement of management processes, can growth be achieved over the long term.

Trade Policy and Free Trade Agreement

Industrialisation prospers when markets for goods and services are available. MVA as a share of gross domestic product is a proxy for the level of industrialisation, especially in low-income countries of Africa. The limited size of the domes¬tic market for manufactured products is a significant constraint. At the same time, income levels and household spending patterns are improved by growth in manufacturing more than any other individual economic sector, since it helps to create a large number of stable and well-paying jobs.

Income levels in Africa have already started to rise substantially, with household consumption projected to grow by 3.8% to reach nearly $2.1 trillion per year by 2025. The rate of urbanisation is even faster. Most countries will experience rapid growth in demand for manufac¬tured products in the near future – from processed food and beverages to electronics, appliances, and labour-intensive goods such as clothing and footwear. This implies greater movement of intermediate goods amongst African countries. Thin trade borders and low tariffs are conducive for freer movement of goods, people, and capital across the continent. Regional economic communities such as the Southern African Development Community (SADC), the East Africa Community (EAC), the Economic Community of Western African States (ECOWAS), and the Arab Maghreb Union (AMU) have already shown that intra-regional trade facilitation is important for increased trade in goods.

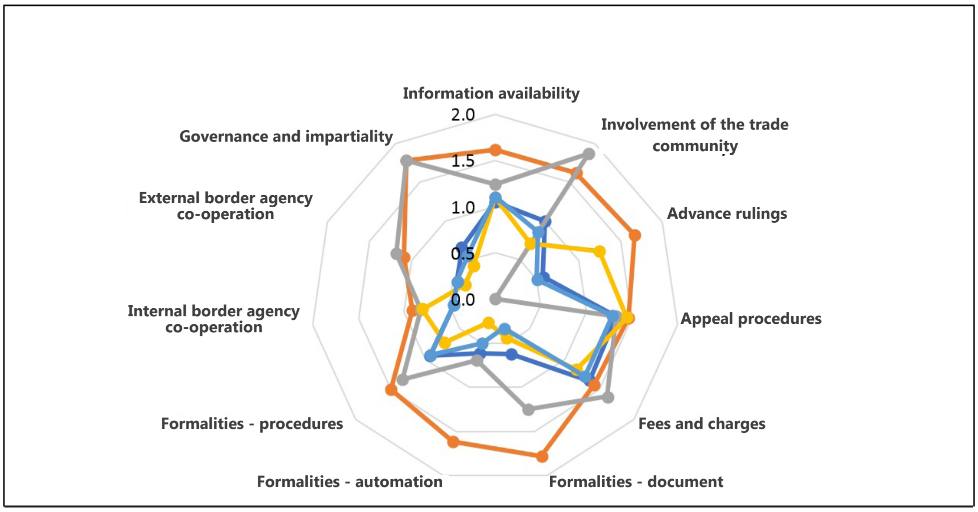
In Africa, although the East African Community and the Southern African Development Community have achieved strong reductions in barriers to trade, tariffs remain relatively high for intra-regional trade, sometimes higher than between Africa and the rest of the world (Conde, Heinrigs, and O'Sullivan, 2015).

The proposed African Continental Free Trade Area (ACFTA) is crucial to maximising intra-regional trade and investment. It can create a single continental market for goods and services as well as a customs union with free movement of capital and natural persons. Regional free trade agreements facilitate a competitive manufacturing sector and promote economic diversification. The removal of tariffs will create a continental market that allows companies to benefit from econo¬mies of scale. A pan-African market could increase intra-Africa trade and African manufacturing exports manifold.

The ACFTA underpins the economic integration of Africa. This brings the focus on both the scale and quality of economic growth and overall industrial development in Africa. Further, Africa has 15 landlocked countries and more than 400 million of its people are landlocked. The ACFTA could unlock the economic potential of these countries and connect the people to the rest of the world.

On the trade facilitation front, the OECD's measurement of the trade facilitation performance of the top 10 economies of Africa (Figure 3) shows that these measures need to improve very quickly, without waiting for the conclusion of the ACFTA.

Figure 3: Trade Facilitation Analysis of Top Five African Economies



Note: OECD (2018), Trade Facilitation Indicators.

Advantage Africa: ICT can Leapfrog Africa through Stages of Industrialisation

Africa has the opportunity to include dense and rich digital connectivity and digital innovation in its growth plans, which was unavailable for regions and countries in Asia, Europe, and Latin America during their growth phases in the 1980s and 1990s. Digital infrastructure, knowledge, and devices will bring in innovative businesses and market processes for Africa.

Changes in the technological paradigm have transformed the patterns of industrialisation in different parts of the developing world. The international division of labour for the production and consumption of goods and services transcends national borders and propels countries towards greater integration into regional and global value chains. Africa can use ICT in its development strategy for increased participation in the trade of goods and services.

Forerunners amongst ASEAN Member States – Singapore, Malaysia, and Thailand – have been successful in aggressively using the mechanics of the second unbundling[1] to accelerate their economic growth and poverty alleviation. With some time lags, Indonesia, the Philippines, and Viet Nam have tried to deepen their involvement in the second unbundling. Latecomers including Cambodia, the Lao People's Democratic Republic, and Myanmar have recently shown signs of engaging in the second unbundling (Kimura, 2018). Africa reflects a similar pattern, in which countries are placed along different stages of industrial dynamism. Overall, however, large areas of Africa are still in the pre-globalised economy or in the first unbundling – marked by their core industry or export commodity.

Every stage of development has reduced the cost of production and consumption of goods and services. However, ICT-enabled production and consumption of goods and services has arrived in the developing world, including Africa, where agriculture and the resource-based economy still hold sway. These economies have an opportunity to use ICT in many instances to leapfrog from agriculture and a resources-based economy to a digital economy, however, and to transform and modernise their agriculture and resources-based industry. These operations may be limited in size and location, but countries/regions should capture any new business opportunities arising from the two-way application of ICT into the industrial dynamism of Africa.

While leapfrogging to the digital economy is possible and even recommended, the step-by-step or sequential approach towards the digital economy has advantages in terms of the policy environment, infrastructure development, and human resources development. It prepares a minimal level of policy environment and infrastructure for advanced industrial dynamism and trains the human resources required for the digital economy. However, ICT helps to overcome distance and generates dispersion forces. This will allow African industries to become innovative hubs – making them attractive to international firms.

Policy Focus for Expediting Industrialisation and the Use of ICT for Industrial Dynamism in Africa

As substantial scope for growth and expansion remains in Africa's industrialisation, and as opportunities arrive at its doorstep because of the rising cost of labour in other develop¬ing regions, Africa can attract manufacturing industries in the coming decades. Building on the experience of industrial development in East Asia, and analysing the current state of industrial activities in Africa, this policy brief recommends a policy focus on six important areas: (i) investing in infrastructure and industries; (ii) diversifying manufacturing and industrial activities, (iii) increasing the MVA and exports, (iv) strengthening SMEs, (v) allocating resources for and expanding human capital, and (vi) the importance of trade facilitation and a regional free trade agreement. Consumer protection and privacy, competition policy, taxation systems, and cybersecurity are other important policy areas where Africa must stay tuned in with international partners. These will help the African economy to achieve sustainable and inclusive growth and to keep pace with the industrial dynamism in other parts of the world. Importantly, these policy actions will enhance Africa's domestic and external integration simultaneously.

Focus Areas Recommended for Industrialisation in Africa

High-value agriculture, ranging from horticulture and floriculture to new bio-economy products, is highly feasible in the African environment. The ACFTA provides further opportunities for the development of regional and global value chains in Africa, providing opportunities to leverage the agricultural and manufacturing potential of the region. Countries could fast-track the implementation of trade and investment facilitation measures to enhance trade, and thus strengthen the capability of African firms and producers. A calibrated combination of trade and investment facilitation measures preparing the job market – especially the youth – with the skill sets required for the new digital economy, is required in every country. Policies for creating an attractive investment climate for industries are also important.

[1] First unbundling is defined as the separation of production and consumption that was primarily caused by a rapid decrease in trade costs for goods. The first unbundling, seen roughly from 1870 to the present, is the experience that motivated the traditional view of globalisation. The second unbundling, observed since around 1985, is defined as the unbundling of factories and offices, which means that not only goods but also tasks are traded. The principal cause of the second unbundling is a drastic fall in trade costs for goods, people, and especially for ideas. The trade costs related to people have fallen the least, which is why the second unbundling (also called fragmentation) has happened mainly on a regional rather than global basis. (Baldwin, 2007).

Infrastructure for connectivity makes regions competitive. It enables countries and regions to attract industries for manufacturing and facilitates the movement of people domestically from rural to urban areas. The smooth movement of people from the agricultural/rural/informal sector to the non-agricultural/urban/formal sector is effective in raising incomes and providing competitively priced labour to the manufacturing and modern services sectors. Infrastructure will be central to industrialisation. Investing in sustainable and quality infrastructure will also be important.

There is huge scope for African countries to exploit the tourism and creative industries to sustain and showcase the diversity of African cultures and geography, as these industries have huge growth potential. These industries should receive a special policy focus and investment from businesses and governments.

In summary, the current trends indi¬cate that Africa is poised for rapid industrialisation in the coming years. Soon, the region will possess a more productive and cost-efficient workforce, improved transport infrastructure and regulations, larger and more developed supply networks, and consumer markets to support a range of manufacturing subsectors. The process of industrialisation, investment, and integration has rolled out in Africa.

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