EMnet Africa Meeting:
5 October 2017

POLICY NOTE ON AFRICA

THE FUTURE OF AFRICA: INDUSTRIALISATION, TECHNOLOGY AND ENTREPRENEURSHIP

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The Future of Africa: Industrialisation, Technology and Entrepreneurship

This edition of the OECD Emerging Markets Network (EMnet) Africa Policy Note provides insights and policy recommendations from the private sector on ways to support industrialisation, entrepreneurship and technology development in Africa. The note gives an overview of recent regional, economic and business trends, and highlights current public policy efforts and private sector insights on how policy makers can promote sustainable industrialisation in the continent. The analysis builds on discussions from the business meeting held at the OECD Headquarters in Paris on 5 October 2017 and organised by EMnet, as well as on analysis carried out by the Africa Unit of the OECD Development Centre, desk research and bilateral discussions with EMnet members.

Key messages include:

- Industrialisation is an important topic on Africa's policy agenda. Participants at the EMnet Africa meeting identified some critical factors that can support the industrialisation process and unlock more private investment, including skills development, entrepreneurship, infrastructure, access to energy and digitalisation.
- Finding the right skill set remains a challenge. Investment in skills development, education and training programmes can provide the private sector with a more qualified African workforce for their businesses.
- Entrepreneurship is critical. Government policies can support entrepreneurs particularly in high-growth potential industries, where African countries have a competitive advantage.
- Infrastructure development projects can support industrialisation and regional trade, if properly planned and appropriate policy reforms reduce the risk for private investors.
- Domestic resource mobilisation towards long-term investments can reduce currency volatility and investment risks.
- Africa's power shortages remain a key bottleneck to industrialisation. The development of renewable energy solutions is an encouraging prospect to improve access.
- Government policies in support of the development of the digital economy will be key to harnessing productivity and technology gains supporting industrialisation.

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EMnet gathers top executives (chief executive officers, vice presidents, managing directors, chief financial officers, heads of strategy, chief economists) of multinational companies from diverse sectors, willing to engage in debates with high-level policy makers, including heads of state and ministers, and OECD experts.

EMnet events are closed to the public and media and operate under Chatham House Rule to encourage open and dynamic discussions on doing business in Africa, Asia and Latin America.

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ACKNOWLEDGEMENTS

This Policy Note was written under the guidance of Lorenzo Pavone, Head of the Partnerships and Networks Unit (a.i.) (OECD Development Centre). The report was prepared by Robbert van Eerd (Policy Analyst) and Pamela S. Addo (Trainee) of the EMnet team.

The report also benefitted from comments from colleagues from the OECD Development Centre, notably Thang Nguyen (Junior Policy Analyst; Europe, Middle East and Africa Desk), Kate Eklin (EMnet Policy Analyst) and Miguel Castro (EMnet Co-ordinator). The team is furthermore grateful to the OECD Development Centre's Communications and Publications Unit for their support in producing the note.

Finally, special thanks go to Grace Dunphy, Sonja Märki, Hae Kyeung Chun and Thibault Vasse (OECD Development Centre) for their valuable assistance throughout the drafting and publishing process.

ABBREVIATIONS AND ACRONYMS

AEO	African Economic Outlook
AfCTFA	African Continental Free Trade Area
AfDB	African Development Bank
AGOA	African Growth and Opportunities Act
AU	African Union
CAR	Central African Republic
CEMAC	Economic and Monetary Community of Central Africa
CEN-SAD	Community of Sahel-Saharan States
COMESA	Common Market for Eastern and Southern Africa
CwA	Compact with Africa
DFI	Development finance institution
DRC	Democratic Republic of the Congo
EAC	East African Community
ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of West African States
EU	European Union
FDI	Foreign Direct Investment
FTA	Free trade agreement
GDP	Gross domestic product
G2P	Government to person
ICT	Information and communications technology
IEA	International Energy Agency
IGAD	Intergovernmental Authority on Development
IMF	International Monetary Fund
MENA	Middle East and North Africa
MSE	Micro and small scale enterprise
OCP	Office Chérifien des Phosphates
ODA	Official development assistance
OECD	Organisation for Economic Co-operation and Development

PPP	Public-private partnerships
RCEP	Regional Comprehensive Economic Partnership
REC	Regional Economic Community
SACF	Sino-Arab Chemical Fertilizers Company
SADC	Southern African Development Community
SDGs	Sustainable Development Goals
SMEs	Small and Medium-Sized Enterprises
SOE	State-owned enterprise
STEM	Science, technology, engineering and mathematics
UMA	Arab Maghreb Union
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
VOA	Visa on arrival
WAPP	West African Power Pool

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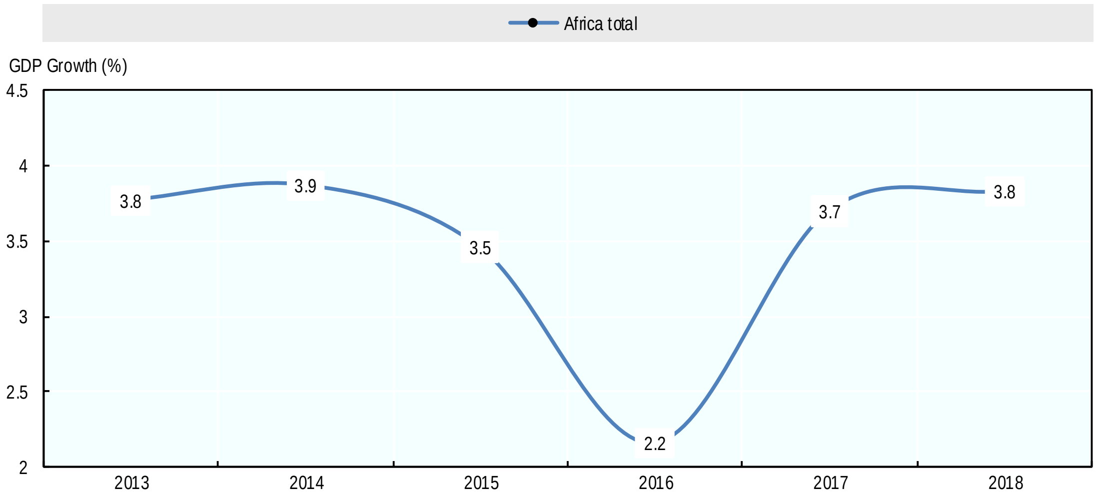
AFRICA'S BUSINESS AND ECONOMIC OVERVIEW

Growth prospects of the African continent are promising overall

Africa's economic outlook remains positive after a period of slowdown. The recovery is on a par with global economic growth and estimates show an increase of 3.7% and 3.8% in 2017 and 2018 (IMF, 2018). This situation is an improvement from the 2.2% growth recorded in 2016, which was the slowest rate in the last decade. Moreover, for the 2018-2022 period, Africa's real GDP growth is projected at 3.9%, which, though positive, is significantly below the goal fixed by African leaders of 7% over the long term (AUC/OECD, 2018). The recovery is not sufficient, to raise GDP-per-capita in many countries in the region. Growth remains heterogeneous, and in some countries, population growth outpaces economic growth (AfDB/OECD/UNDP, 2017).

Figure 1. **Africa's economic growth, 2013-2018**



Source: Adapted from AUC/OECD (2018), *Africa's Development Dynamics*, calculations based on IMF (2018), *World Economic Outlook* (database) http://dx.doi.org/10.1787/888933782411, Latest data update 2 July 2018.

A recovery in the global economy leads Africa's growth

Africa's economic rebound can be attributed to three main factors. First, a recovery in the global economy; second, increasing domestic demand coupled with public investment in infrastructure; and third, a decline in fiscal and current account deficits. Economic diversification through industrialisation can help to maintain growth. Industrialisation strategies can help countries prioritise other sectors of the economy beyond natural resource extraction, given that commodity prices are volatile and over-reliance on commodities may negatively affect growth (AfDB/OECD/UNDP, 2017).

Public investment in Africa is boosting demand

Favourable growth can also be attributed to increased public investment in infrastructure by many of the countries in the region as well as a steady increase in domestic demand. Infrastructure funding needs in Africa are estimated to be USD 1.2 trillion from 2017 to 2025, with a yearly funding gap of USD 30-40 billion (Africa 50, 2016). To address the gap, African countries such as Ethiopia have started to ramp up public investment in various infrastructure projects. Overall, public investment stands at about 7% of gross domestic product (GDP) in 2009-2016, while private investment accounts for 15% of GDP in the same period (AfDB/OECD/UNDP, 2017). In addition to increasing investments, more attention should be given to delivering quality infrastructure (OECD, 2015). For instance, only one-third of rural inhabitants live within 2 km of an all-weather road, compared with two-thirds in other developing regions (AfDB/OECD/UNDP, 2017).

Improving fiscal situation

Fiscal and current account deficits are declining in Africa. This is contributing to a positive performance of the continent’s economy. Current account balances have improved following the rise in oil and other commodity prices as well as a better export performance in 2017 (IMF, 2017a). Exchange rate pressures have eased in many countries including Nigeria (Africa’s largest economy) and improved financing conditions have brought frontier economies in Africa back to the market, with some of them issuing foreign currency bonds (Harvard Business Review, 2016; Sow, 2017). Côte d'Ivoire, Nigeria and Senegal issued Eurobonds in the first half of 2017 (IMF, 2017a). There has also been an effort at greater revenue balancing by African governments, both through reduction in spending and through domestic revenue mobilisation, by establishing better tax policies and a better administration (OECD/ATAF/AUC, 2017).

East Africa is maintaining the lead in Africa

Greater economic diversification and lower dependence on commodities have helped East and North Africa perform well (Table 1). East Africa maintained a lead in regional growth rates with (estimated) rates of 5.1% in 2016, 5.4% in 2017 and 5.8% in 2018. Growth in East Africa is driven mainly by increased domestic demand, private investment and more public spending in infrastructure. Djibouti, Ethiopia, Kenya, Rwanda and Tanzania recorded growth rates above 6% in 2016, with Ethiopia leading the pack with an impressive 8%. North Africa ranks second in growth with 3.1% in 2016 and 2017 with a projected 3.6% in 2018. Recoveries in Egypt, Morocco and Algeria in particular aided in the positive performance of the overall region (AfDB, 2017b).

Commodity-dependent regions have experienced weaker economic performance, although improvements are expected. Following the increase in mining output and rising commodity prices, growth in Southern Africa is expected to reach 2.0% and 2.3% in 2017 and 2018 respectively, up from 0.9% in 2016. West and Central Africa were hardest hit in 2016 owing to the dominance of oil production in the local economy (AfDB, 2017b).

Nigeria is the largest contributor to the GDP of West Africa: it makes up 72.4% of the region's GDP. In 2016, the recession in Nigeria led to a contraction of the region's growth rate, closing at 0.4% in 2016, which was the lowest among all African regions. In 2017 and 2018, however, with oil production in Nigeria recovering and broader increases in commodity prices, West Africa is expected to record improvements with projections of 2.5% and 4.0% of growth in 2017 and 2018 respectively (AfDB, 2017b).

Central Africa closely followed West Africa; it had a growth rate of 0.5%. The Economic and Monetary Community of Central Africa (CEMAC) countries - Gabon, Cameroon, the Central African Republic (CAR), Chad, the Republic of the Congo (hereafter "Congo"), and Equatorial Guinea – continue to experience slow growth in 2017 due to lower oil prices, the consequent low revenues, and rising debt levels (World Bank, 2017a). Armed conflicts have also played a role in this more subdued growth, notably in the CAR, Cameroon and the Democratic Republic of the Congo (hereafter "DRC") (AfDB/OECD/UNDP, 2017).

Table 1. **Regional GDP growth, 2016-2018**

Region	2016	2017(e)	2018(p)
East Africa	5.1	5.4	5.8
North Africa	3.1	3.1	3.6
Southern Africa	0.9	2.0	2.3
Central Africa	0.5	1.6	3.1
West Africa	0.4	2.5	4.0
Africa	**2.2**	**3.0**	**3.7**

Note: (e) estimates; (p) projections
Source: Author's design based on AfDB (2017b), *Africa's Economic Performance improves in 2017*, African Development Bank, Abidjan
https://www.afdb.org/en/news-and-events/africas-economic-performance-improves-in-2017-17424/.

African governments are making efforts to improve the general outlook of their countries. Armed conflicts and civil wars have wound down, and the political situation has improved in a number of countries including South Africa, Zimbabwe, and Kenya. These developments, together with other improvements to the general business and investment climate, are driving growth (NEPAD, 2017). Moreover, African governments are reducing their dependency on natural resources by promoting economic diversification, specifically across sectors such as wholesale, retail, transportation, telecommunication and manufacturing (NEPAD, 2017). The economic data discussed above from 2016 demonstrated that diversification efforts remain important, as the trend of lower commodity and oil prices contributed to depressed growth in the region and remains a risk. Moreover, despite growth prospects in the near future, certain challenges in the region remain. They include the challenge of demographics and an over-reliance on resource extraction. It should be noted however, that population growth can both act as a catalyst for domestic demand while also being a driver of growth.

Domestic demand and reforms are driving growth, while exports are diversifying

The Africa region currently has the second-fastest growing economies behind South Asia (AfDB, 2017c). This is linked to an increase in domestic demand (AfDB/OECD/UNDP 2017). The increase in domestic demand encompasses both private consumer spending – the largest factor – and to a lesser extent an increase in public infrastructure investment. The increase in domestic demand is largely driven by the growing population and growing disposable incomes. The expanding middle class in Africa is currently estimated at 350 million (McKinsey Global Institute, 2016).

There is a strong drive to improve the business environment in African countries, which has further contributed to growth. A number of countries for instance have moved up in the general rankings in the World Bank *Doing Business* report for 2017 following the implementation of reforms (AfDB/OECD/UNDP, 2017). Mauritius and Rwanda ranked in the top-50 countries for ease of doing business, but Uganda, Kenya, Mauritania, Senegal and Benin were among the top ten reformers. Keeping this in mind, it is noteworthy that sub-Saharan Africa had the highest number of implemented reforms, showing a commitment to improve their macroeconomic and investment climate and attract more investors. Out of the ten economies showing the most notable performance with respect to their ranking in the *Doing Business* indicators in 2017, four were African: Malawi, Zambia, Nigeria and Djibouti (World Bank, 2017b).

The continent gradually moved away from its dependence on natural resources and primary commodities (AfDB/OECD/UNDP, 2017). This development has improved African countries' resilience to external shocks. Even though natural resources and primary commodities are still substantial sources of revenues in several African countries, their role as a driver of growth is diminishing. In Nigeria for example, oil now accounts for 10% of GDP compared with 25.6% in 2000 (AfDB/OECD/UNDP, 2017).

Downside risks remain

Commodity price recovery is weak

African economies are often still dependent on commodity exports and the decline in their prices that began in mid-2014 affected the overall economic performance of many countries. Commodity prices have once more picked up from late 2016 to date. However, subdued growth in China has had an adverse effect on Africa. Most of the continent's exports to emerging economies are dominated by China, which accounts for 27% of Africa's global exports (Pigato and Tang, 2015). With respect to crude oil, the picture is mixed. The United States has continued to increase production, which has the possibility of increasing the global supply of crude. This can put the current rise in prices at risk in the medium to long term (AfDB/OECD/UNDP, 2017). Following these trends, it has become necessary for oil-exporting countries to generate more non-commodities related revenues. Such revenues represented still only about 9% of GDP for sub-Saharan Africa in 2016 and even less in countries such as the following: only 3.3% of GDP in Nigeria and 4.5% of GDP in Equatorial Guinea (IMF, 2017a).

Table 2. **Selected commodity price data**

Indicators	Jan 14-Dec 14	Jan 15-Dec 15	Jan 16-Dec 16	July-17	Aug-17	Sep-17
Energy						
Crude oil, Brent ($/bbl)	98.9	52.4	44.9	48.7	51.4	55.2
Agricultural Commodities						
Wheat ($/mt)	285	205	166	202	171	179
Rice ($/mt)	423	386	395	417	393	402
Sugar, world (Cents/Pound)	37	30	40	32	32	32
Coffee, robusta (Pound)	222	194	199	231	230	219
Cocoa (Cents/kg)	306	314	284	199	199	200
Tea, Kolkata auctions (Cents/kg)	258	242	237	289	279	261
Cotton (Cents/kg)	183	155	165	185	175	178
Metals and Minerals						
Aluminium ($/mt)	1 867	1 665	1 665	1 903	2 030	2 096
Copper ($/mt)	6 863	5 510	5 510	5 985	6 486	6 577
Gold ($/toz)	1 266	1 161	1 161	1 237	1 283	1 314
Iron ore, spot (c/dmtu)	97	56	56	68	76	72
Lead (Cents/kg)	210	179	179	227	235	237
Silver ($/mt)	1 910	1 572	1 572	1 615	1 695	1 743
Zinc (Cents/kg)	216	193	193	279	298	312

Note: $ = US dollar; bbl. = barrel;; dmtu = Dry Metric Ton Unit; kg = kilogram, mt= metric ton; toz = troy oz.
Source: Adaptation from Development Prospects Group, World Bank and AfDB Statistics Department, October 2017, AfDB (2017a) Statistical Brief on selected socio-economic indicators on Africa, African Development Bank, Abidjan; latest data released 12 October 2017.
https://www.tralac.org/images/docs/12275/statistical-brief-on-selected-socio-economic-indicators-on-africa-afdb-october-2017.pdf.

The economic performances of regional heavyweights are important for Africa's overall performance

Nigeria and South Africa account for 18% and 12% of Africa's total GDP respectively (AfDB/OECD/UNDP 2017). The sharp decline in the growth rate for West Africa was influenced primarily by the rapid decline in oil prices in Nigeria, by exchange rate and policy uncertainties, and by the attacks on oil fields in the Delta region (Jenkins, 2017). Low growth in Southern Africa was mainly driven by a slow-down in South Africa, the most important economy in the region. This lagging performance in 2016 was in large part due to power deficits, the El Niño-induced drought that crippled agricultural production and low prices for commodities that affected the mining sector (AfDB/OECD/UNDP, 2017).

Domestically, some African countries are struggling with high costs of public debt. Nigeria is projected to spend significant amounts of its revenue in 2017 to service debt, to the detriment of other priorities. Countries such as Angola, Congo, Gabon, Mozambique and Zambia received a downgrade in 2016 from rating agencies concerned about debt levels (AfDB/OECD/UNDP 2017). Notwithstanding the situation in some of the countries, there has also been an improvement in the external financing conditions since 2016. Nigeria, in spite of its debt levels, managed to issue its Eurobond in the first half of 2017 (IMF, 2017a). South Africa recorded a boost in mining, which helped its fiscal position, while a good harvest was expected following an improvement in weather conditions. In general, fiscal deficits are broadly stabilising in 2017. In 2018, on the other hand, growth is estimated to be lower than projected in spite of reports of relatively strong levels of consumer confidence and a normalisation of the mining and agriculture production after 2017. The International Monetary Fund (IMF) warned that ongoing policy uncertainties in Nigeria and South Africa hinder a strong rebound from the previous growth plunge. Furthermore, growth is not expected to increase much further in 2019 (IMF, 2017a).

Conflict and political instability remain a drag on growth

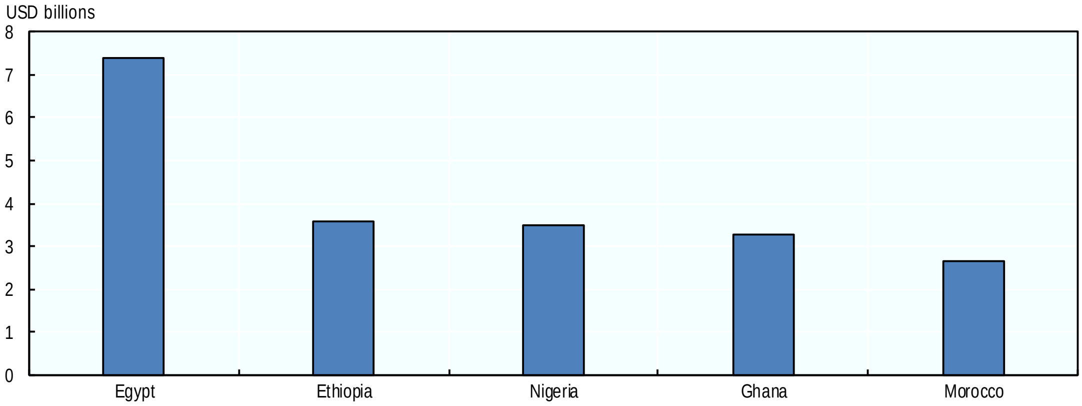
The continued presence of armed conflict and political instability remain important risks to economic growth hindering economic activity and investment in the region. Africa still accounts for the largest share of armed conflicts in the world (AfDB/OECD/UNDP, 2017). In 2017, pockets of conflict continue to linger. Low-level violence is also an issue as it continues for example in the border regions of Ethiopia as well as in Kenya following the re-run of the presidential elections. Tensions also continue in the northern region of Cabo Delgado in Mozambique, in South Sudan, in the Central African Republic and in Cameroon (AfDB/OECD/UNDP, 2017).

Private flows continue to drive growth in external finance to Africa

FDI is projected to increase

Between 2015 and 2016 foreign direct investment (FDI) flows to Africa declined, with resource-rich countries suffering the most. Inflows remained unevenly distributed; the top five receiving countries were Egypt, Ethiopia, Nigeria, Ghana and Morocco (Figure 2).

Figure 2. **Top FDI recipients in Africa, 2017**



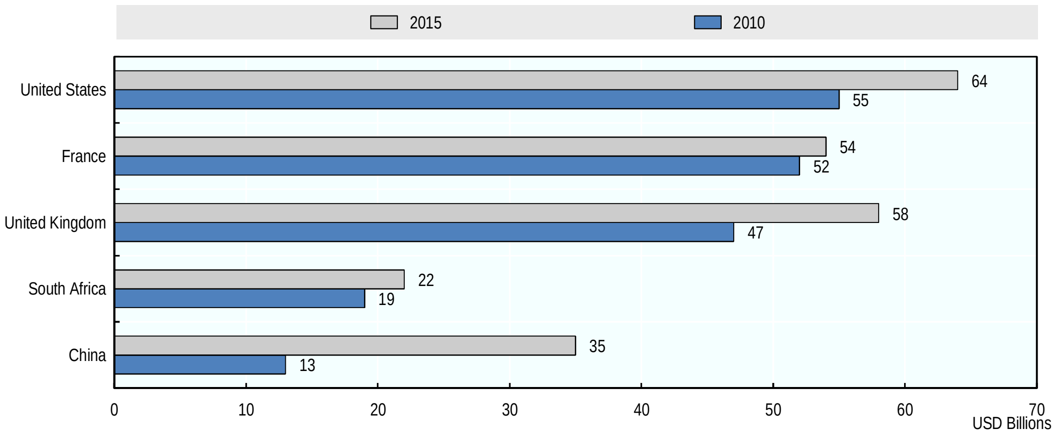
Source: Adapted from UNCTAD (2018), *World Investment Report 2018: Investment and New Industrial Policies*, United Nations Conference on Trade and Development, Geneva, https://unctad.org/en/PublicationsLibrary/wir2018_overview_en.pdf.

In 2017, FDI flows to Africa decreased to USD 42 billion, down 21% from 2016. The decline was concentrated in the large commodity exporters (UNCTAD, 2018). This was lower than 2016, when the figure stood at USD 59 billion, and significantly lower than 2014 when FDI peaked at USD 71 billion (UNCTAD, 2017). Lingering effects from the commodity bust and weak oil prices were interpreted to have been a factor in the 2017 drop (UNCTAD, 2018). Diverse economies such as Ethiopia and Morocco proved more resilient than commodity exporters such as Nigeria, Angola, and Egypt (UNCTAD, 2018).

In spite of the relevance of the extractive sector, countries like Morocco, for example, received FDI flows towards the auto industry, amounting to about USD 1.3 billion, mainly from PSA Peugeot-Citroën and Renault (France) and Ford (United States) (UNCTAD, 2017). Other countries are also reviewing policies to attract FDI in the manufacturing sector. Ethiopia for example is attracting investment in manufacturing and services. The Hawassa Industrial Park opened in July 2016 presents an example. It was built by a Chinese corporation and includes 35 manufacturing facilities and a fabric mill (Nicolas, 2017).

The United States is still the largest source of FDI for Africa (Figure 3). In recent years, investments from the Far East and Middle East have been increasing. China's investment in Africa has more than doubled in the last five years (AfDB/OECD/UNDP, 2017). Chinese companies announced more than USD 30 billion in investment in greenfield projects across Africa in 2016, according to desk research (fDi Markets, 2017). In 2016, for example, a major USD 20 billion deal was signed between the Egyptian government and the China Fortune Land Development Company in order to develop and manage 5 700 hectares of farm land east of Cairo (Reuters, 2016). Chinese investment in Africa is mainly diversified into oil, transport, construction and clothing (AfDB/OECD/UNDP, 2017).

Figure 3. **Top FDI investor economies in Africa, 2010 and 2015**



Source: Adapted from UNCTAD (2017), *World Investment Report 2017: Investment and Digital Economy*, United Nations Conference on Trade and Development, Geneva, http://unctad.org/en/PublicationsLibrary/wir2017_en.pdf.

In 2016, Intra-African FDI was driven by South African and Moroccan firms. Notable deals included South Africa's Sanlam purchasing a 30% stake in Morocco's Saham Finances for USD 375 million and Morocco's Office Chérifien des Phosphates (OCP), the world's largest phosphate exporter, signing a joint-venture agreement with Ethiopia to build a USD 3.7 billion fertiliser plant in Ethiopia (UNCTAD, 2017).

Africa's outward investment

It should be noted that Africa is not only a recipient of FDI. African countries are also investing abroad themselves beyond the continent's shores. Even though China has been Africa's largest trading partner since 2009 and continues to increase its investments, African companies have also made considerable investments in China, totalling USD 14.2 billion in 2012 (Bo Li, 2015).

Apart from China, African companies are active elsewhere. Nigeria's Dangote Group is projected to invest between USD 20-50 billion in the United States and Europe by 2025 in the renewable energy and petro-chemical industries (Bloomberg, 2017). African countries also saw cross-border mergers and acquisitions with companies from India and the United Kingdom. South Africa's Brait invested USD 966 million in the United Kingdom (UK) fashion retailer New Look and USD 852 million in the UK gym chain Virgin Active (UNCTAD, 2017) to highlight some examples.

INDUSTRIALISATION IN AFRICA: OPPORTUNITIES AND CHALLENGES

A new wave of industrialisation

The industrialisation process in Africa has been confronted with several challenges. Renewed thinking necessitated new and improved strategies to change course in the future. In the years following independence, most industrialisation policies of African governments focused on large state-owned enterprises (SOEs) and prioritised capital-intensive manufacturing while protecting the enterprises from foreign competition. Many of these large enterprises failed because countries focused on industries that were heavily dependent on capital and high skills (AfDB/OECD/UNDP, 2017) while not matching the comparative advantage of countries. A wave of privatisation and de-industrialisation followed in the 1980s and 1990s when government support dwindled, prompted by fiscal concerns, often pushed by international financial institutions.

Despite this history, industrialisation remains a priority in Africa as it has potential to provide better-paid jobs for its population. Governments must ensure that economic growth improves the living standards of the entire population. With an estimated 29 million new entrants to enter the job market every year, job creation should be a top priority for African governments. Industrialisation can consequently serve as a catalyst for job creation, greater productivity and innovation. Tunisia and Mauritius are two examples of countries that have been able to push industrialisation by creating special economic zones and by attracting foreign direct investment for exporting industries. The efforts have contributed to pushing them to middle-income status (AfDB/OECD/UNDP, 2017).

Promoting a competitive private sector is essential to achieve the level of industrialisation that Africa needs. It is a key driver and catalyst for industrialisation through the provision of technical know-how, financing and innovation (AfDB/OECD/UNDP, 2017). Under this new wave of industrialisation efforts the private sector must be engaged at the forefront to enable Africa to maximise its intended benefits.

New opportunities are emerging for Africa's industrialisation

New strategies for Africa's industrialisation must be tailored, taking into consideration global economic trends and new opportunities brought about by the Fourth Industrial Revolution, in which information and communications technology (ICT) tends to replace medium and low skilled workers, while requiring more highly skilled workers (AfDB/OECD/UNDP, 2017). African industrialisation strategies can tap into the potential of manufacturing without neglecting other sectors where African economies can have a comparative advantage. Agro-industry and horticulture, for example, show potential for countries to produce value-added products on a larger scale. Agriculture contributed 16% of total GDP in Africa as compared to 11% for manufacturing in 2015 (AfDB/OECD/UNDP, 2017).

The dynamic population growth in Africa – from 1.2 billion in 2015 to 2 billion in 2050 – presents another opportunity for industrialisation. Within this growing population, entrepreneurs are essential agents of industrialisation (AfDB/OECD/UNDP, 2017). Currently, 22% of Africa's working–age population are starting new businesses compared with 13% in Asia and 18% in Latin America. Around 20% of new African entrepreneurs are innovating with a new product or service

(GEM, 2017). Promoting high productivity entrepreneurship is one of the main ways that Africa can advance its quest to industrialise. Entrepreneurs are most successful in creating employment when firms are still small and young – with less than five years of experience. Governments are encouraged to direct financing and support to help high-growth firms realise their potential (AfDB/OECD/UNDP, 2017).

The service sector is a significant contributor to Africa's GDP; as a sector, it has almost doubled from USD 140 billion in 2005 to USD 270 billion in 2015. Improving the service sector will be essential to the industrialisation of the continent; its progress will depend on the adoption of the technologies listed above (AfDB/OECD/UNDP, 2017).

Rising labour costs in East Asia present a further opportunity for Africa to develop competitive investment conditions and become a manufacturing hub in the near future. This opportunity notwithstanding, Africa can still be perceived as an expensive option because a number of relevant costs are high. These are partly driven by insufficient infrastructure leading to high operational costs and the difficulty of doing business in some countries as well as the absence of certain core skills (AfDB/OECD/UNDP, 2017).

Several challenges are hindering efforts to industrialise

Inadequate infrastructure has hindered the establishment of a competitive industrial sector in Africa, resulting in high production and transaction costs. The development of infrastructure at national and regional levels is essential if the continent is to be successful at industrialisation. Regional co-operation in the development of infrastructure can lower transaction costs, enhance regional markets and make production and exports more competitive while facilitating the integration of African manufacturers into global and regional value chains (UNECA, 2015).

In addition, despite efforts by many African governments to improve education, skills remain a prominent issue that negatively affects industrialisation opportunities. Limited capital, particularly in higher education and training, is a hindrance to productivity and the ability of companies to move up the value chain. The Fourth Industrial Revolution is increasing the use of advanced technology and will require new, targeted skills. In order to meet the growing needs of the competitive world economy and to advance industrialisation, there should be more focus on Science, Technology, Engineering, and Mathematics (STEM) related subjects and ICT in educational curricula (AfDB/OECD/UNDP, 2017).

Underdeveloped financial markets in Africa are a challenge to industrialisation and must be developed further to encourage private sector investment through reduction of lending costs and the provision of more favourable terms of lending (AfDB/OECD/UNDP, 2017). The development of an economy's financial markets is closely related to its overall development. Well-functioning financial markets provide easy access to relevant business information. This lowers transaction costs, which in turn improves resource allocation and boosts economic growth (World Bank, 2001). Furthermore, there is room to improve private equity investment, which is not as developed in Africa as it is in the rest of the world (AfDB/OECD/UNDP, 2017).

PUBLIC POLICIES TO SUPPORT INDUSTRIALISATION IN AFRICA

Regional and national agendas now include industrialisation policies

Industrialisation is back on Africa's policy agenda. At least 26 African countries have included industrialisation strategies as part of their national economic policies as of 2017 (AfDB/OECD/UNDP, 2017). Structural transformation remains the highest priority on the agenda of the continent with industrialisation being the top strategy for achieving it in practice (UNECA, 2016). In 2015, regional bodies outlined implementation strategies for accelerating the industrialisation of the region. The African Union (AU), for example, released the "Agenda 2063: The Africa we want", and ECOWAS released its West Africa Common Industrial Policy (WACIP 2015-2020). As a response, industrial policy has resurfaced in the development agenda of the individual countries despite some of the perceived failures of the past.

Low- and lower-middle income countries aim at shifting from resource-based activities such as agriculture and mining to more productive light manufacturing (e.g. consumables, textiles, wood products, leather, or footwear) while the middle-income countries in North and Southern Africa are upgrading their manufacturing sectors to compete globally in more technology-intensive, high-value added activities. Rwanda for example has had its National Industrialisation Policy in place since 2011 (MINICOM, 2011), while in 2017 the new government of Ghana amended the existing industrial policy to the "One District, One Factory" policy aimed at establishing a factory in each of the 216 districts of the country (Government of Ghana, 2017). These efforts by the governments are perceived as encouraging but governments also have fiscal and monetary policy tools at their disposal that can further underscore industrialisation as a priority, not least by boosting infrastructure (AfDB/OECD/UNDP, 2017).

Currently, some countries are already revolutionising the services sector. In Kenya for example, the start-up scene is booming. In its Vision 2030, the government advocated transforming Kenya into the African Silicon Savanah. Konza Techno City near Nairobi is an embodiment of this vision (Kenya Vision 2030, 2014). Companies are revolutionising the service industry and coming up with innovations. Mobile money and other finance technology solutions such as mobile payments systems are becoming extremely popular. M-Pesa, the famous mobile money payment platform, is now used to pay for a large number of services including transport fares. Reforms in the South African telecommunications industry and innovation in the Nigerian banking industry are steps in the right direction towards further adaptation of new technologies (AfDB/OECD/UNDP, 2017).

Automation is expected to replace medium- and low-skilled workers while more job opportunities will be created for a highly skilled workforce. New technologies open up the possibilities for new sectors to emerge, especially in large urban hubs such as Cape Town, Lagos and Nairobi. New technologies also facilitate small-scale manufacturing. The increased use of the Internet will also help firms participate more in global trade (World Bank, 2016a): for every 10% increase in Internet use in the exporting country, the number of products traded increases by 0.4% (AfDB/OECD/UNDP, 2017).

Attracting private investment in infrastructure

The continent is estimated to have an infrastructure funding gap of USD 87 billion to USD 112 billion annually (Bloomberg, 2018). Africa's infrastructure deficit exists particularly in the energy, transportation and ICT sectors and has had a negative impact on the productivity of businesses. Most firms, for example, are generating their own power using diesel generators, which increases production costs (World Bank, 2016b). According to a World Bank survey, more than 50% of the firms in sub-Saharan Africa own a generator compared with 11% in high-income OECD countries (World Bank, 2016b). This general lack of infrastructure is estimated to decrease overall productivity by 40% (AfDB/OECD/UNDP, 2017).

The Addis Ababa Action Agenda, the African Union 2030 Agenda for Sustainable Development and the G20 Compact with Africa (CwA) have put a renewed focus on private infrastructure investment in Africa. The CwA specifically brings together international organisations such as the World Bank Group, AfDB, IMF, and 11 African countries including Ethiopia, Senegal, Morocco and Rwanda in an effort to increase the attractiveness of private investments. The Compact seeks substantial improvements of the macro, business and financing frameworks in these countries (Compact with Africa, 2017). There have been some significant investments from the private sector in the region in recent years including Blackstone Group's USD 2 billion investment in infrastructure projects in Ethiopia, Mozambique, Nigeria and Togo (AfK Insider, 2016), for example. Private equity firms have shown some interest, as highlighted by the recent USD 115 million deal between Helios Investment Partners and Oando Power and Gas in Nigeria (Africa Business, 2016). In spite of these efforts, there is a need to bring together more private financiers, Development Finance Institutions (DFIs) and equity providers to provide alternative forms of financing for investment in infrastructure (AfDB/OECD/UNDP, 2017).

Financing and supporting entrepreneurship to support industrialisation

Firms with fewer than 20 employees and less than five years' experience provide the most jobs in Africa's formal sector (AfDB/OECD/UNDP, 2017). The majority of early-stage entrepreneurs include companies in trade, hotels and restaurants; agriculture, forestry and fishing; and (light) manufacturing. Some African industrialisation strategies already prioritise private sector development, including entrepreneurship. In Kenya, for instance, where the Micro and small scale enterprise (MSE) sector is the largest employer aside from agriculture (Muirui, 2014), there is a long history of government policies that promote small-scale businesses and enterprises (Mbaza, 2017). The Nigerian government has also implemented strategies and established institutions such as the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) to provide support to entrepreneurs (NADDC, 2014).

Table3. **Examples of strategies and initiatives to foster entrepreneurship in African countries**

Country	Strategies and initiatives
Algeria	National Agency for Investment Development, National Agency for SME Development
Burkina Faso	National Strategy for the Promotion of Women's Entrepreneurship
Cameroon	Strategy for the Development of SMEs and the Social and Artisanal Economy
Egypt	Technology innovation and entrepreneurship strategy 2011-2014, Social Fund for Development (for micro and small enterprises), General Authority for Investment (for small and medium enterprises)
Ethiopia	Micro and Small Enterprises Development Strategy (2011), Ethiopian Entrepreneurs Development Centre
Ghana	Yes Initiative, Graduate Entrepreneurial Business Support Scheme, Youth Employment Agency
Kenya	Micro and Small Enterprises Act 2012, Fund for Inclusion of the Informal Sector 2011
Morocco	Law 114-13 on self-employment status 2015
Nigeria	National Policy on Micro, Small and Medium Enterprises
Rwanda	Small and Medium Enterprises Development Policy
Senegal	Charter for the Small and Medium Enterprises
South Africa	National Small Business Act, Small Enterprise Development Agency, Black Industrialists Policy 2015, Broad-Based Black Empowerment, Youth Enterprise Development Strategy
Tunisia	State Bank for SME Financing, Agency for the Promotion of Industry and Innovation (without a specific mandate for SMEs)

Source: AfDB/OECD/UNDP, *African Economic Outlook 2017*, OECD Publishing, Paris, http://dx.doi.org/10.1787/aeo-2017-en.

PRIVATE SECTOR INSIGHTS ON INDUSTRIALISATION IN AFRICA

Industrialisation is critical to promote competitiveness, economic growth and job creation. Tapping into the private sector's full potential requires a sustained effort from governments to create a sound enabling environment. Participants at the EMnet Africa meeting identified some critical factors in support of industrialisation, including entrepreneurship, skills, access to energy, infrastructure and digitalisation.

Further industrialisation in Africa can boost economic growth

Industrialisation is key to lifting Africa's economic potential. The private sector sees several important priority factors that include ensuring legal protection for private investment, lowering competition barriers, addressing the role of state-owned enterprises (SOEs) and reducing persistent skills gaps.

Ensure legal protection for private investment

Companies mentioned the need to enhance legal protection for their investments and level the playing field between domestic and foreign investors. In some countries, even when the overall legal protection may be officially granted, the lack of clarity in the legal framework and delays in enacting reforms can be a source of concern, which can militate against private investment and further industrialisation. In line with this approach, OECD analysis highlights the importance for investment laws in host countries to incorporate the principles of equal and fair treatment of investors, transparency, good faith and the granting of guarantees against denials of justice (OECD, 2015).

Competition policies are key to attracting private investment

Companies emphasised the need to lower competition barriers across the continent. The OECD has looked at the role of competition authorities in regulating infrastructure sectors. Research suggests for instance that a competition commission can help prevent anti-competitive behaviours in procurement processes and potential conflicts of interest (OECD, 2015).

African integration efforts that include a strengthened competition policy framework have the potential to enhance overall competitiveness, and can help to exploit opportunities for companies to scale (AfDB/OECD/UNDP, 2017). Lastly, competition policy should also include a set of clear, unified rules for the governance of SOEs and their overall engagement to prevent undue influence, particularly with regards to public procurement (OECD, 2016).

State-owned enterprises play a pivotal role in Africa's industrialisation

SOEs were central to the early industrialisation process of many African countries in the 1960s and the 1970s, targeting in particular capital-intensive manufacturing. Many of these investments were then dismantled in the late 1970s and 1980s during structural adjustment programmes. A number of SOEs remain, however, serving a specific industry and sometimes creating barriers to competition (AfDB/OECD/UNDP, 2017).

Nonetheless, EMnet participants discussed how a number of SOEs have the necessary know-how to render an industry more effective and better serve African efforts to produce higher value-added goods and services. OECD research does recognise that state-owned enterprises form a critical component of infrastructure development in most African countries, highlighting their perceived relevance to the continent's industrialisation. Legislation, and increased private participation, should be tailored to improve SOEs efficiency as well as promoting a level playing field for the private sector (OECD, 2014a).

Partial or full privatisation can be a means to increase efficiency of SOEs. Utility markets, for example, can often be characterised in Africa by an interdependence between SOEs and the private sector (OECD 2015). Given this interdependence, participants agreed that undue government intervention in such markets can distort competition, and create an uneven playing field for private companies wishing to enter the market and compete on an equal basis with public enterprises (OECD, 2015).

Businesses continue to point to the challenge of lack of skills

Participants reaffirmed insights from previous EMnet meetings on Africa, highlighting the lack of skills in the local labour force as a main challenge for the private sector (OECD, 2016) and in this particular case to underpin any efforts to foster industrialisation. A lack of managerial skills is still persistent across Africa and there is evidence that the education sector still lags behind the global average (AfDB/OECD/UNDP, 2017).

Businesses discussed how finding the right skill set remains a challenge in some African countries. Some solutions addressed included equipping staff with skills through on the job training and creating the conditions for skilled Africans, who live abroad, to come back with their talents to the continent. Companies did note nevertheless that it is at times possible to recruit locally and find the right people. Some companies have furthermore decided to invest in training for digital skills for young Africans. Google, for example, has publicly committed to train 10 million people – at least 40% women – over the next five years in online skills, offering programmes in Swahili, Hausa, and Zulu (Google, 2017).

Entrepreneurship is key for industrialisation in Africa

Africa is considered the most entrepreneurial continent: 22% of Africa's working-age population is estimated to be currently starting new businesses, higher than any other region. Entrepreneurs innovate, create employment, provide services, and form an important tax base for governments (AfDB/OECD/UNDP, 2017). This gives governments reasons to create an enabling environment for entrepreneurs, stimulate high-potential businesses and facilitate their growth.

Excessive regulations and red tape can create barriers to entrepreneurship

Participants in the EMnet meeting mentioned how excessive regulations and red tape can block growth opportunities for entrepreneurs. Discussions were centred in particular around challenges in the fields of licensing, insufficient and unclear land and property rights, weak contract enforcement, and policy uncertainties in certain countries. It was agreed how these institutional bottlenecks combined with infrastructural problems and fragmented and small markets create challenges for the development of entrepreneurship across the continent. Participants in the EMnet Africa meeting also confirmed that more open markets, increased regional connectivity and higher inter-regional trade could enhance entrepreneurial potential across the continent. Cumbersome registration processes can be simplified to encourage more people to start a business. Companies pointed specifically at the examples of Mauritius, Rwanda and Morocco, who ranked comparatively high on the *Doing Business* 2018 index (World Bank, 2017b).

Access to finance is essential to support entrepreneurship

Participants in the EMnet Africa meeting suggested focusing public policies on access to finance for entrepreneurship as an important component to promote industrialisation. Discussions addressed how governments could in particular work to encourage domestic finance, given an understanding that local banks are close to the field and are highly knowledgeable regarding local entrepreneurial needs.

Businesses discussed how governments should implement policies to incentivise banks to issue more credit to SMEs and start-ups. Public authorities could also offer state grants and loans that target particularly disadvantaged categories of entrepreneurs, such as women and early-stage entrepreneurs. Governments can also encourage more support to entrepreneurship by non-governmental organisations and foundations. The Tony Elumelu Foundation in Nigeria, for example, provides seed capital each year to outstanding high-growth potential African entrepreneurs (Tony Elumelu Foundation, n.d.). Too often, government support for entrepreneurs has a focus of poverty alleviation or job creation rather than more specifically industrialisation (AfDB/OECD/UNDP, 2017).

Developing infrastructure is a key enabling factor for Africa’s industrialisation

EMnet participants highlighted how the infrastructure deficit in Africa can hinder private investment and become a key impediment to industrialisation. This gap costs as much as 2% of GDP growth every year on the continent (World Bank, 2017d). Moreover, the infrastructure deficit is expected to increase over time thanks to a rapidly growing population and urbanisation. The OECD has recommended some policies and risk-sharing arrangements to ensure that infrastructure projects are effectively designed and managed (OECD, 2013; OECD, 2014a; OECD, 2014b; OECD, 2015).

Businesses discussed the relevance of an open consultation process to select the right projects. In this regard, transparent public procurement guidelines and mechanisms, as well as clear PPP frameworks, can facilitate this choice (OECD, 2015). Within the African context OECD analysis highlights the importance of supporting the infrastructure projects that can ultimately provide the most value for money for end-users (OECD, 2015).

EMnet participants agreed that planning is a key component of infrastructure projects. Recent analysis from the International Transport Forum also confirms the importance of strategic planning for infrastructure development. Designing sectoral master plans for infrastructure at the national level, for example has in many cases increased the clarity on political priorities and reduced planning and political risks for investors (ITF, 2017).

Promoting cross-border infrastructure is beneficial to landlocked regions

Transport corridors and cross-border infrastructure are key requisites to lower infrastructure gaps, promote regional trade and integrate global value chains (ICTSD, 2017). Corridors are particularly important for landlocked regions, such as the Nacala corridor connecting inland Mozambique and Malawi to Nacala port in Mozambique, the Entebbe-Mombasa railroad connecting Uganda to the Indian Ocean, and Tanzania's Central Corridor connecting Rwanda, Burundi and the eastern DRC to Dar es Salaam port. Although the perception by business is that progress has been made with respect to the effectiveness of the performance of these physical infrastructures, issues with customs procedures remain a bottleneck to further developing regional transport infrastructure (USITC, 2015).

Businesses see electricity as a key bottleneck for Africa's industrialisation, although green energy investment opportunities are growing

The participants have highlighted electricity as a key bottleneck for Africa's industrialisation. Africa accounts for 13% of the world's population, but only 4% of global energy demand (IEA 2017b). In sub-Saharan Africa, 290 million out of 915 million people do not have access to electricity (IEA, 2017b). In spite of numerous efforts to increase electrification, many areas in Africa are not yet connected to the grid, or suffer from frequent outages. Predictions by the International Energy Agency (IEA) show that more than 600 million Africans will remain without energy access by 2030, even though countries such as Ethiopia, Ghana and Kenya will come close to having universal access (IEA, 2017a).

Business participants confirmed that irregular power supply remains a problem, because it adversely affects production costs. In Nigeria, for example, USD 17 per month is spent on average on the electricity bill, while the cost of generator fuel adds another USD 48 to the overall electricity cost (NOIPolls, 2015).

Despite these difficulties, investments in Africa's electricity generation are expected to increase. In 2014, for the first time Africa's electrification efforts outpaced population growth (IEA, 2017a). In East Africa the construction of the Grand Ethiopian Renaissance Dam is expected to generate 6 000 MW of electricity once completed for the entire region (Water Technology, n.d.). There is still much work to be done, however, as the total energy demand is forecast to double by 2040 (IEA, 2017a).

In order to unlock energy investments further, businesses indicated regional co-operation as a potentially successful way forward to achieving this. The West African Power Pool, an agency of ECOWAS, is an example in West Africa where national utilities co-operate to establish a reliable regional grid and a common market for electricity (WAPP, 2018). Other parts of Africa could benefit from this approach as well. The East Africa region, for example, is improving transmission lines and intra-regional connections, so neighbouring countries can benefit from Ethiopia's large hydroelectricity potential (Reuters, 2015).

An integrated approach is necessary to develop energy infrastructure

EMnet participants also stressed that the power sector needs an integrated approach, especially in cities, delivering smart solutions that improve the control of energy flows and provide a more efficient energy supply.

The private sector highlighted the role of national and local governments as key partners for smart grids solutions. They also stressed the importance of investing in skills, enhancing the necessary competencies to design and implement these projects. In order to support policy makers in designing and implementing smart grids solutions at national, regional and municipal level, the IEA published the *How2Guide for Smart Grids in Distribution Networks*, which highlights the importance of a clear roadmap to smart grid deployment in distribution networks, including planning, stakeholders' involvement and implementation (IEA, 2015).

The digital economy is generating new business opportunities

EMnet participants highlighted how the development of the digital economy will generate significant opportunities for the private sector that foster greater levels of industrialisation. The association of global mobile operators, GSMA, expects that the largest increases of mobile subscribers up to 2025 will occur Africa, owing to a growing mobile network coverage in rural areas and increasing affordability of mobile devices and tariffs (GSMA, 2018).

Increased connectivity will help fill information gaps on products and services

Companies present at EMnet meeting agreed that digitalisation will contribute to filling information gaps on products and services, and help develop businesses. There are large information gaps with respect to prices and quantities, which was partly attributed to low mobile subscriptions and mobile Internet penetration rates. Sub-Saharan Africa, with a 44% penetration rate of mobile subscribers lags behind other emerging economies, such as MENA (62%), Latin America and Asia/Pacific (both 67%) (GSMA, 2018).

Improving digital connectivity therefore represents an important opportunity for businesses, enabling them to reach new markets. Companies mentioned how governments should further encourage investments in digital infrastructure to help the private sector adapt towards the local African context, in terms of products, marketing and technology application. Examples of adapting e-commerce to African markets include allowing for cash-on-delivery, mobile money schemes such as Kenya's M-Pesa (OECD, 2017b), or the development of mobile applications that function well without excessive electricity requirements or data consumption, such as YouTube Go (Google, 2017).

Digitalisation is improving healthcare and government services delivery

The OECD has identified mobile health as one of the fastest growing segments of ICT-based health-care delivery systems in Africa. It cites that Ghana, Kenya, South Africa and Tanzania have all been able successfully to integrate the use of mobile phones as a support mechanism in community-based health-care systems (OECD, 2017c).

Participants discussed how governments have also used digitalisation to improve their service provision. E-governance makes tax systems more efficient, reduces costs and workload for the tax authority but also improves efficiency for companies and individuals to comply. Electronic tax systems, e-filing, the use of mobile technology and other digital innovation in the field of taxation offer prospects for governments and tax-paying businesses alike (OECD/ATAF/AUC, 2017). Mobile payments are also providing new ways to pay utility bills. The French-African start-up Wizall, for example, provides citizens of Senegal and Côte d'Ivoire with the possibility of paying water and electricity bills using mobile money. Apart from facilitating payments, the system also works the other way around. Government-to-person (G2P) payments enable the public administration to transfer money directly into people's mobile accounts. Examples of applications of the G2P technology include payments of pensions, social protection, school subsidies and salaries (CGAP, n.d.).

Governments should reform norms and regulations to accompany the digital age

EMnet companies mentioned the importance of implementing policies to accompany the digitalisation process. In this context, many African countries are leapfrogging stages of development, for example by going from having no phones to having mobile phones, or from no bank accounts to mobile money. This specific and fast-paced phenomenon requires a high degree of adaptation and flexibility from policy makers.

Companies mentioned several important areas for policy reforms in this regard, including consumer and data protection and cyber security. Governments could also encourage infrastructure sharing, particularly in telecommunications. Examples include cell phone towers in rural or sparsely populated districts.

CONCLUSION

The 2017 Emerging Markets Network business meeting on Africa focused on the dual themes of industrialisation and entrepreneurship. This policy note highlighted key topics brought forward by EMnet members and other companies during the discussions of the day.

Promoting industrialisation is back on Africa's economic policy agenda. In the 21st century, industrialisation will go beyond traditional manufacturing, and include other sectors with high-growth potential. To promote a successful industrialisation process, EMnet participants highlighted the importance of removing constraints on entrepreneurship, and bottlenecks such as unreliable electricity service for the private sector at large.

Companies have voiced in particular the need for governments to focus on policies that can support the development of a sound enabling environment for businesses, in particular looking at investment and competition policies, skills, infrastructure, access to energy and digitalisation to drive overall industrialisation policies and growth forward.

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