China-Africa Investment Cooperation: A New Impetus to Africa's Industrialization

2024 Chinese Investment in Africa

CHINA–AFRICA BUSINESS COUNCIL

China-Africa Business Council

3rd Floor, Building 27, ABP Block 18, No. 188 S4th Ring W Rd, Fengtai District, Beijing, P.R.China 100070
Web: en.cabc.org.cn
Email: research@cabc.org.cn
Tel: 0086-10-6416 9865

Contents

Preface

The trade, economic and investment cooperation between China and Africa entered a new stage of development in 2024. Since the Forum on China-Africa Cooperation (FOCAC) was launched in 2000, notable progress has been made in trade, economic and investment cooperation between the two sides, registering a significant growth in bilateral trade and investment. In particular, China has played a critical role investing in Africa's infrastructure development, offering solutions for key issues holding Africa back from reaching its full development potential. The Eight Major Initiatives proposed at the FOCAC 2018 Beijing Summit, which was held in Beijing in September 2018, the Nine Programs proposed at the 8th FOCAC Ministerial Conference, held in Dakar in November 2021, and the Initiative on Supporting Africa's Industrialization launched at the China-Africa Leaders' Dialogue, held in Johannesburg in August 2023, have guided and driven a number of competent Chinese enterprises to invest in various production sectors in Africa, and consequently enhanced the productivity of local manufacturing. In 2024, domestic economic reforms in China and African countries are further advanced while the global economic conditions are constantly changing. Under this backdrop, the next meeting of FOCAC will be held soon and trade, economic and investment cooperation between China and Africa will usher in a new cycle, across more areas, and deliver more new results. The friendship between China and Africa will be carried forward from generation to generation and bring actual benefits to the peoples of the two sides.

Looking back at the past three years, the trade, economic and investment cooperation between China and Africa, in which Chinese enterprises played an important part, has been dynamic and constantly developing. Despite the challenges brought about by the COVID-19, Chinese enterprises have been transforming and upgrading their investment structure in Africa and bringing new capital and technology to the continent's emerging industries. The development of China-Africa Business Council (CABC) member companies presents a vivid picture of the sectorial shift of the investment made by Chinese private enterprises in Africa: from the four traditional investment attracting industries, i.e. manufacturing, infrastructure, industrial parks and trade, to new arenas such as health care, transportation and logistics, e-commerce and the processing of agricultural products.

Meanwhile, Africa has been proactively improving its business environment to attract more Chinese investment. China's model of reform and opening up and attracting foreign investment shows that active government support for foreign investors, the training and retraining of local employees, and the stabilizing of foreign exchange markets and rates are all efficient ways to improve the business environment. The ultimate goal, of course, is to enhance the competitiveness of attracting foreign investment. In these respects, the governments of African countries have worked to see that the market plays the leading role, introduced a series of policies to attract foreign investment, continued to accelerate the integration of the African Continental Free Trade Area (AfCFTA), and at the same time, continuously promoted the efficiency of government services. These measures will create a more enabling environment for Chinese enterprises to invest and grow in Africa.

The 2024 meeting of FOCAC will be held in Beijing this autumn. Completing the research and preparation of the Chinese Investment in Africa 2024 report before this historically significant event is timely and highly relevant. We hope that this report will not only help foster pragmatic trade, economic and investment cooperation between China and Africa, which suits the realities of Africa, promotes the diversified economic development of the continent and enhances its development capacity, but also create an international platform for the world to learn about and showcase the achievements and potential of China-Africa business cooperation.

Ding Jianlin
Executive Chairman of CABC; Chairman and General Manager of Zhejiang Financial Assets Exchange

Wu Yanmin
Chairman of CABC; President of Wynca Group

Wang Jiandong
Executive Chairman of CABC; Chairman of the Board of Fang Tongzhou Holdings

Abbreviations

AAAM	African Association of Automotive Manufacturers
ACFIC	All-China Federation of Industry and Commerce
AES	Alliance of Sahel States
AFAP	African Fertiliser and Agribusiness Partnership
AfCFTA	African Continental Free Trade Area
AfDB	African Development Bank Group
APIEx	Investment and Exports Promotion Agency
APIP	Private Investment Promotion Agency
APIX	Agency for the Promotion of Investments and Large Projects
ARISE IIP	ARISE Integrated Industrial Platforms
AU	African Union
AUDA-NEPAD	African Union Development Agency - New Partnership for Africa's Development
BDC	China Development Bank
BEAC	Bank of Central African States
BIEC	Export-Import Bank of China
BIT	Bilateral Investment Treaty
BITC	Botswana Investment and Trade Centre
CABC	China-Africa Business Council
CADFund	China-Africa Development Fund
CAETE	China-Africa Economic and Trade Expo
CACCF	China-Africa Production Capacity Cooperation Fund
CAPIPP	China-Africa Private Investment Promotion Platform
CEMAC	Central African Economic and Monetary Community
CET	Common External Tariff
CFC	Casablanca Finance City
CGTN	China Global Television Network
DR	Development Reinmagined
EAC	East African Community
ECOWAS	Economic Community of West African States
EG	Environmental goods
EPI	Export Potential Indicator
FDI	Foreign Direct Investment

FOCAC	Forum on China-Africa Cooperation
GDIZ	Glo-Djigbé Industrial Zone
GER	Global Enterprise Registration
GIPC	Ghana Investment Promotion Centre
GSMA	Global System for Mobile Communications Association
HIFU	High-Intensity Focused Ultrasound
ICBC	Industrial and Commercial Bank of China
ICSID	International Centre for Settlement of Investment Disputes
IEA	International Energy Agency
ILO	International Labor Organization
IRENA	International Renewable Energy Agency
IRP	Integrated Resource Plan
ITC	International Trade Centre
NIPC	Nigerian Investment Promotion Commission
OECD	Organization for Economic Co-operation and Development
OHADA	Organization for the Harmonization of Business Law in Africa
PEBEC	Presidential Enabling Business Environment Council
PIDA	Programme for Infrastructure Development in Africa
REIPPPP	Renewable Energy Independent Power Producer Procurement Programme
RIDMP	Regional Infrastructure Development Master Plan
SAJOREC	Sino-Africa Joint Research Center
SAPP	Southern African Power Pool
SDGs	Sustainable Development Goal
TAAT	Technologies for African Agricultural Transformation
TFP	Total Factor Productivity
UNCTAD	UN Trade and Development
WAEMU	West African Economic and Monetary Union
ZDA	Zambia Development Agency

Executive Summary

Industrialization is an essential path to a country's economic development, and economic growth and structural change driven by industrialization are key drivers of modernization and sustainable development. Accelerating the industrialization process in Africa has increasingly attracted significant attention from various players within and outside the continent and has been translated into action, resulting in a strong synergy of efforts to support Africa's industrialization.

In recent years, the scale of China's investment in Africa has been growing steadily, areas of investment have been expanding, and various investment projects have taken root, reflecting the trend of the extensive development and diversification of China's economic and trade cooperation with Africa. This has not only boosted Africa's economic growth, but also contributed significantly to the process of Africa's industrialization. Chinese enterprises are engaged in Africa's industrial system through market-oriented investment and investment in infrastructure and new areas, improving Africa's industrial system, promoting the progress of Africa's industrialization and upgrading its overall quality.

At the same time, the industrial structure and resource markets of China and Africa are deeply complementary. China's experience of cutting-edge industrial development can meet the urgent needs of African countries for industrial development and upgrading their industrial structure, help African countries cultivate their own production capacity, and thus promote the deep integration and synergistic upgrading of China and Africa in the global industrial chain. Through the implementation of the FOCAC and the Belt and Road Initiative (BRI), the creation of China-Africa economic and trade cooperation zones, the China-Africa Economic and Trade Expo (CAETE) and other mechanisms and initiatives, China is working to promote China-Africa cooperation in developing production capacity, and providing long-term support for the process of industrialization in Africa.

Due to a weak economic foundation and other practical factors, the manufacturing industry in most African economies is currently underdeveloped, but Africa's advantages in human resources, mineral resources, energy costs and transport costs provide great potential for the development of the manufacturing industry and achieving industrialization. From an industrial point of view, mineral processing, agriculture and agro-processing, automobile manufacturing, textiles, building materials, chemicals, pharmaceuticals, new energy and other industries are all sunrise industries endowed with certain advantages for Africa's benefit. This also provides a unique opportunity for Chinese investors to transfer these production capacity to Africa.

Regionally, the dynamics of investment and the means used to improve the business environment vary from one part of Africa to another, as a result of regional differences in economic, political and social foundations. Overall, however, Africa has made significant progress in improving the business environment through the development of modern infrastructure in all parts of the continent, as well as through the continued advancement of the integration process, the implementation of investment incentives and the enhancement of administrative efficiency. In this regard, Chinese investment in Africa's infrastructure, energy and IT sectors has also played an important role.

In order to meet Africa's core concern of accelerating industrialization, the practical requirements of addressing the food crisis, narrowing the trade deficit and reducing the debt burden, as well as the common vision of building an integrated market, the future of China-Africa investment and cooperation in financing should be focused on assisting Africa in building high-quality infrastructure, developing clean energy sources, promoting the modernization of agriculture, increasing the added-value of resource goods and expanding the export of African commodities to China. The Chinese government will continue to uphold the principle of non-interference in the internal governance of partnering countries in Africa, and encourage its African partners to independently explore their own development paths based on their own national conditions, with a view to achieving the goals of industrialization and industrial transformation and upgrading.

Aims and objectives:

Compiled and published by the China-Africa Business Council (CABC) and written in collaboration with renowned think tanks and experts in China and overseas, this report aims to study how to advance the development of Africa's industrialization and thus promote economic recovery and growth, create jobs, improve people's livelihoods and eradicate poverty, so as to achieve the United Nations' 2030 Sustainable Development Goals (SDGs) and the African Union's (AU) Agenda 2063.

This report will explore the impact of China-Africa policy frameworks and existing cooperation modes on Africa's industrialization, based on a review of the current situation, requirements, advantages, opportunities and challenges of industrialization in Africa. It will then focus on clarifying the role of Chinese enterprises in the transformation of Africa's economic development and indicate the future potential of China-Africa investment cooperation.

Approach and methodology:

The compilers of this report mainly use an analysis of literature and data and a case study methodology to draw conclusions based on authoritative information gathered from a wide range of sources. The sources used for the literature analysis include, but are not limited to, policy documents, research papers and also information and statistics from industry players, reputable institutions, and multilateral and regional financial organizations. The data analysis mainly applies predictive analytics methods in statistics and econometrics to predict the future of China-Africa investment and financing cooperation based on the historical data of China's investment in Africa. The case studies included in the report mainly come from related public information and surveys of CABC member enterprises, and the types of enterprises represented cover a variety of fields, such as agriculture, energy and mining, infrastructure construction, manufacturing, the digital economy, and pharmaceuticals. Most of these enterprises are relatively visible and are highly representative of enterprises in their sectors.

The report is structured as follows:

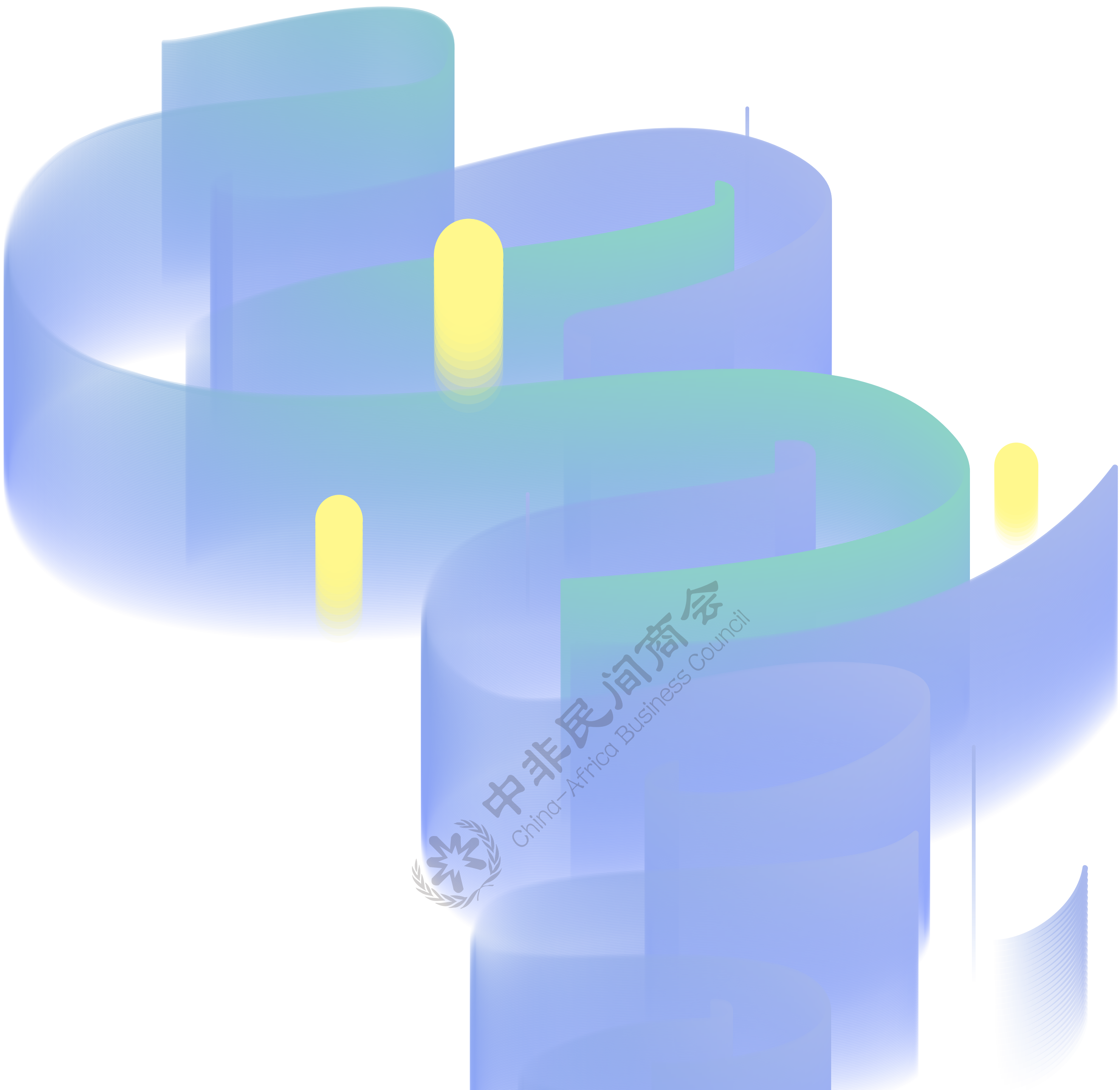
Chapter 1 outlines the achievements and outlook of Chinese enterprises' investment in Africa, including an analysis of China's investment in Africa and a forecast regarding Africa's attraction of foreign investment. It is written in Chinese by the expert research team of China-Africa Business Council

Chapter 2 discusses the mechanisms, dynamics and innovation of China-Africa industrial cooperation. It is written in Chinese by the Department of International Relations at Tsinghua University team.

Chapter 3 describes the development of industrialization in Africa, especially the challenges and opportunities facing the development of the manufacturing industry, and proposes relevant suggestions to Chinese investors from the perspective of industrial development. It is written in English by Development Reimagined team.

Chapter 4 demonstrates the trends in the development of the business environment in various regions of Africa and the contribution made by China's investment in Africa to help improve the business environment in Africa. It is written in French by the Bank of Africa – BMCE Group.

Finally, Chapter 5 looks ahead to the prospect of China-Africa cooperation in investment and financing, analyses the core concerns of Africa's promotion of industrialization and indicates the likely future direction of China-Africa cooperation. It is written in English by Dr. Mwangi Wachira, former economist from the World Bank and policy advisor of the Kenya government.



China-Africa Investment Cooperation: A New Impetus to Africa's Industrialization

2024 Chinese Investment in Africa

Chapter one is written in Chinese by the expert research team of China-Africa Business Council

Chapter 1 Achievements of Investment by Chinese Enterprises in Africa and Future Prospects

1.1 Chinese enterprises' extensive and diversified investment in Africa

China's investment in Africa has not only promoted Africa's economic and social development, but also deepened the friendly relations between China and African countries. The steady growth in the scale of investment, the continuous expansion of areas of investment, and the extent to which Chinese investment projects have taken root in Africa reflects the extensive development and diversification trend of China's economic and trade cooperation with Africa. This has laid a solid foundation for the two sides to carry out broader and deeper cooperation in the future.

1.1.1 Steady growth in investment cooperation

China is the largest developing country investing in Africa, and China-Africa investment cooperation has been growing steadily. By the end of 2022, China's Foreign Direct Investment (FDI) in Africa exceeded $47 billion, and more than 3,000 Chinese enterprises had invested and developed their business in Africa.[1] In the first half of 2023, China's FDI in Africa exceeded $1.82 billion, a year-on-year increase of 4.4 percent. At the same time, Africa was China's second largest market for overseas contracted projects, with Chinese enterprises having signed contracts for projects in Africa with a total contract value of more than $700 billion.[2] In 2023, China's FDI in Africa maintained its growth trend, with the construction of industrial parks providing sustained impetus for the growth of investment. The China-Egypt TEDA Suez Economic and Trade Cooperation Zone, the Hisense South Africa Industrial Park, Nigeria's Lekki Free Trade Zone, the Holley Industrial Group's North Africa Industrial Park and other parks continue to demonstrate the effects of industrial agglomeration, attracting a number of

1 MOFCOM (2023). Li Fei Attends Press Conference of State Council Information Office to Introduce the Third China-Africa Economic and Trade Expo and the State of China-Africa Economic and Trade Co-operation(in Chinese). http://interview.mofcom.gov.cn/detail/202306/ff80808186b9e9f40188c20d40b10145.html

2 MOFCOM (2023). Statistics on China-Africa Trade and Economic Cooperation in the First Half of 2023 (in Chinese). https://xyf.mofcom.gov.cn/tjsj/zhsj/art/2023/art_b72473f1c83945039eed1747d891bf0f.html

Chinese-funded enterprises to go to Africa to invest and develop business. These projects cover a variety of fields, such as building materials, automobiles, household appliances, and agro-processing.

1.1.2 Investment projects taking roots

Chinese enterprises have invested in Africa in a variety of fields, including infrastructure construction, energy development and healthcare. In the field of infrastructure construction, Chinese enterprises have helped build a large number of roads, railways and bridges in Africa, such as the Mombasa Nairobi Railway in Kenya, Senegal's Foundiougne Bridge and other mega-projects, which have greatly improved Africa's transportation networks, facilitated the movement of people and materials, and injected new vitality into Africa's economic development. Private enterprises have actively increased their investment particularly in Africa's digital infrastructure in response to China's BRI, specifically with investment in undersea cables, data centers, mobile communication networks and other areas. These investments have not only upgraded the network infrastructure in African countries, but also promoted China-Africa economic and trade cooperation and the development of the digital economy.

Feature 1 Chinese Private Enterprises Investing in Africa's Digital Economy

Some enterprising wealthy Chinese pioneers have already made farsighted plans for Africa's digital economy, and the Hengtong Group has invested 2.7 billion yuan in the international submarine PEACE Cable System, connecting the three continents of Asia, Africa and Europe, which it is now rapidly building. Tencent has invested in financial technology companies Paystack, TymeBank and Ozow, in education technology companies uLesson and Kukua, as well as digital healthcare companies Remedial Health and Reliance Health. Transsion Holdings has rapidly established mobile internet in Africa, and also jointly invested in a range of enterprises in conjunction with other internet companies and venture capital firms. Enterprises invested in include PalmPay, a digital payment platform known as the "African version of China's Alipay," Boomplay, Africa's leading music streaming platform known as the "African version of China's QQ Music," and Phoenix Browser, a comprehensive content distribution application. Chinese venture capital firms Hillhouse Group and Crystal Stream Capital have invested in Lori Systems, a digital freight transport platform, to support the creation of an African version of China's Lalamove. In terms of cross-border e-commerce between China and Africa, Ants Capital has invested in Kilimall and HSRH Venture Capital in Tospino, while Chinese early-stage investor Roselake, has placed particular emphasis on investing in Africa's fintech, logistics technology and health technology sectors.[3]

3 Zhang, Tailun (2023). The value of investment in Africa's digital economy. China Investment (in Chinese). (Z9):88-89.

Feature 2 TBEA Powering African Industrialization Through Advanced Electrical Infrastructure

TBEA is a leading manufacturer of power transformers and other electrical equipment and a prominent developer of transmission projects. TBEA has successfully completed numerous transmission and substation projects across various African countries, including Angola, Tanzania, Kenya, Togo, Gambia, Chad, Cameroon, the Democratic Republic of the Congo (DRC), Zambia, and Burundi.

A notable project by TBEA is the Pensulo-Kasama & Pensulo-Msoro-Chipata West 330 kV transmission line in Zambia. The project, funded by a $300 million concessional buyer's credit from the Industrial and Commercial Bank of China, involved the construction of three new 330 kV substations in Kasama, Msoro, and Chipata West, the expansion of the Pensulo 330 kV substation, and approximately 670 km of 330 kV transmission lines. Besides improved the stability of the power supply in Zambia's eastern and northern regions, the project established crucial corridors for future interconnections between Tanzania and Zambia, the Southern African Power Pool (SAPP), the East African Power Pool, and the power interconnections for Zambia-Malawi, and Zambia-Mozambique.

By providing a stable and reliable power supply, they enable the establishment and growth of industries that require consistent electricity, specially manufacturing and processing plants. Additionally, the improved infrastructure supports the development of regional power pools, enhancing energy trade and cooperation among African countries.

In the field of energy development, Chinese enterprises have participated in the construction of a number of large-scale power stations, such as the Merowe Dam in Sudan and the Kafue Gorge Lower Hydropower Station in Zambia, which have provided African countries with a stable power supply.

Feature 3 East African Electricity Highway

In November 2022, the ±500 KV Ethiopia-Kenya DC Power Transmission Project, implemented under the general contract of China Electric Power Equipment and Technology Co., Ltd. of the State Grid Corporation of China, entered the commissioning stage. The project is known as the Eastern Electricity Highway Project and is the first transnational DC interconnection project in East Africa. As a result, Ethiopia has been able to export surplus hydropower, and the tension in Kenya's domestic power supply has also been effectively alleviated. The project has become a successful example of interconnecting transnational power grids for mutual benefit.

In the field of healthcare, China has assisted in the construction of medical facilities and schools and has dispatched medical teams to provide medical services to people in Africa, upgrading the level of medical education in Africa and making positive contributions to social progress.

Feature 4 Addis Ababa Silk Road General Hospital, an International Chinese-Funded General Hospital

In order to meet the medical needs of the Ethiopian people and improve the overall medical level in Ethiopia, Afei Holding Group established Addis Ababa Silk Road General Hospital (Afei Hospital) in Addis Ababa, the capital of Ethiopia. Officially opened in November 2019, Afei Hospital is the first Chinese-funded general hospital in Ethiopia and one of the most advanced hospitals in the region in terms of quality of medical care. The hospital integrates emergency treatment, first aid, general outpatient care, surgery, intensive care, a diagnostic center and a rehabilitation and physiotherapy center. It has 15 departments and 120 beds (including 6 intensive care beds) and an annual capacity of 65,000 outpatient (including emergency) visits and 5,000 inpatient visits. The medical team at Afei Hospital comes from eight countries, including China, Ethiopia, the United States, Germany, Russia, Belarus, Ukraine and Kyrgyzstan, and many internationally renowned medical organizations have established good cooperative relationships with the hospital. As the service base of Chinese Medical Volunteers in Africa, Afei Hospital is able to mobilize China's top medical experts to provide services to patients. Afei Hospital has become a high-end medical service provider in Ethiopia and has been praised by the Ethiopian people for its outstanding performance in responding to the COVID-19 pandemic.

In terms of actual projects, China's investment in Africa is generating increasingly significant economic and social benefits. For example, in the areas of transport, energy, electricity, housing and livelihood infrastructure, China has implemented a number of landmark projects and so-called small and beautiful projects, which have firmly stimulated local economic development and improved people's livelihoods. Meanwhile, the active participation of Chinese enterprises in the construction of digital infrastructure, e-commerce, mobile payment and other areas, has also promoted the digital transformation and industrial upgrading of African countries.

In terms of investment modes, China's investment in Africa has become increasingly flexible and diversified. In addition to sole proprietorships and joint ventures, equity participation and mergers and acquisitions are also gradually increasing. This diversity investment modes makes Chinese enterprises more competitive in the African market, while also providing more choices and opportunities for the economic development of African countries.

The main body of China's investment in Africa is also becoming increasingly diversified. According to the statistics of China's Ministry of Commerce (MOFCOM), at present, more than 70 percent of the enterprises investing in Africa are private enterprises, and private enterprises have become the new driving force of China's investment in Africa. This not only enriches the main body of investment, but also enhances the vitality and innovation of China-Africa economic and trade cooperation. The participation of private enterprises not only brings more capital and technical support, but also more flexible and efficient business models and management experience, which helps to enhance the competitiveness of Chinese enterprises in the African market and promote the extensive development of China-Africa economic and trade cooperation.

1.1.3 Continued broadening of investment areas

China is investing in increasingly diverse projects in Africa, gradually expanding from traditional sectors such as construction, mining, electrical power and engineering into a wider range of areas. This includes not only traditional areas such as manufacturing, technology, wholesale and retail, agriculture and real estate, but also covers emerging areas such as the digital economy, green development, aerospace and aviation, and financial services. In this sense a new vigour has been injected into China-Africa economic and trade cooperation. China and Africa have joined hands to expand cooperation in "Silk Road E-commerce," successfully holding the African Goodies Online Shopping Festival, where they implemented the "100 African stores and 1,000 African products on e-commerce platforms" initiative, stimulating Chinese enterprises to help the development of e-commerce, mobile payment, media and entertainment industries in Africa. China has also actively supported the development of the Great Green Wall of Africa, and Chinese enterprises have participated in the construction and operation of green energy projects in Africa, creating a demonstration zone for low-carbon development in Africa. In addition, China has signed civil air transport agreements with 27 African countries and has successfully built and launched meteorological communication satellites for countries such as Algeria and Nigeria. This diversified investment pattern has helped Africa to achieve economic diversification and improve the resilience and competitiveness of its economies and has also provided Chinese enterprises with more investment options and opportunities. This trend of diversified investment demonstrates that China's investment in Africa is developing at a deeper level and in a wider range of areas than previously.

Feature 5 China-Africa Private Investment Promotion Platform

After active preparations, the All-China Federation of Industry & Commerce (ACFIC) formally established the China-Africa Private Investment Promotion Platform in order to thoroughly implement the agreed outcomes of the 8th Ministerial Conference of FOCAC held in Dakar in November 2021. With ACFIC as the leading organization, the Platform consists of 28 members, including relevant think tanks and research institutions, financial institutions, chambers of commerce, and service organizations. The office of the Platform is jointly composed of ACFIC's International Cooperation Department and the CABC.

The Platform focuses on the implementation of investment-driven projects, and uses approaches such as pooling wisdom, integrating businesses and financing to increase the quantity and quality of investment by Chinese private enterprises in Africa. It also helps enterprises solve critical or concerning problems in their investment and project operation in Africa. Through trade finance and debt-equity combination forms, it helps small and medium-sized enterprises to carry out trade and investment businesses in Africa.

According to preliminary statistics, under the coordination of the Platform, since 2022, new investments made in Africa by the key enterprises served by the CABC have amounted to over $800 million. In particular, relevant member enterprises have implemented projects such as the export of African avocados to China, agro-product cultivation, "big logistics" fleets, the construction of large hydropower projects, demonstration zones of industrial parks for emerging sectors, the study of cross-border asset securitization and other financial instruments.

1.2 Chinese enterprises' investments and Foreign Direct Investment in Africa: analysis and prospects

1.2.1 Model selection and basic set up of analysis

The ARIMA (autoregressive integrated moving average) model is a powerful tool used in statistics and econometrics to predict future values based on past data points. The model consists of three components, the first of which is the AR autoregressive component, which describes the relationship between the current values of the time series and its past values. The autoregressive term is a linear combination of p lagged values (i.e., past observations) in the model. The second component is the difference component, which is used to smooth non-stationary time series data. If the time series data are non-smooth (i.e., their statistical properties vary over time), differencing may be required to smooth the data. The difference order, d, indicates the number of times the difference was performed. The third component is the moving average (MA) component. This describes the relationship between the current value of the time series and the past forecast error (i.e., the difference between the actual value and the forecast value). The moving average term is a linear combination of the q forecast errors in the model. Thus, p, d, and q in the ARIMA (p, d, q) model represent the number of autoregressive terms, the order of the difference, and the number of moving average terms, respectively.

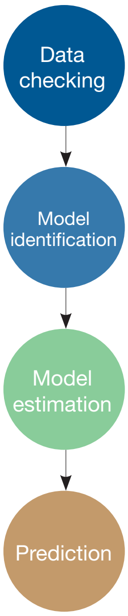
China's FDI flow and stock data in Africa often show certain time trends and cyclical changes, and at the same time may be affected by a variety of factors, such as policy changes, market demand, and the economic environment. The ARIMA model is able to find a mathematical model that can describe the laws of the data by analyzing and fitting these data to the model, so as to achieve predictions of future data. By analyzing the historical data, the ARIMA model can capture the trend of China's FDI flows and stock data to Africa and predict future trends accordingly. This is important for developing long-term investment strategies and planning. In addition to this, the ARIMA model can analyze cyclical changes in the data, such as seasonal fluctuations. This is informative in understanding the cyclical demand in the African market and formulating corresponding investment strategies.

The ARIMA model can be written as:

$$(1-\sum_{i=1}^{p}\varphi_i L^i)X_t=(1+\sum_{i=1}^{q}\theta_i L^i)\varepsilon_t$$

where X_t denotes the time series, which in this report mainly represents China's outward investment flows to African countries, or China's outward investment stock to African countries, and ε_t denotes the residual series.

In the analysis which follows, the report follows the following modelling procedure:



(1) Data checking: In the process of data analysis, the first thing that needs to be checked is whether the time series data are smooth. If the data are not smooth, then the difference order d needs to be determined to make the data smooth. In the process of data analysis, if the time series itself is smooth, then the ARMA model is used for modelling, and you move to step (2) for the determination of the ARMA model order. If the time series itself is not smooth, as determined by the above process when using a difference order of d, then ARIMA (p, d, q) is used for modelling. It should be noted that during data examination, there are cases where some indicators are modelled using the ARMA model and some are modelled using the ARIMA model, which is mainly based on the relative smoothness of the time series. The choice of model does not affect the effectiveness of model forecasting.

(2) Model identification: Determine the number of autoregressive terms p and the number of moving average terms q. This is usually done by using the AIC criterion and the SIC criterion to determine the optimal order. In the process of specific judgement, since the AIC and SIC criteria are both better the lower they are, so in the calculation process this report will set the upper limit of the number of autoregressive terms p and the number of moving average terms q as the unit root of the length of the time series, and calculate the AIC and SIC values of various combinations of parameters by iterating the calculation of p and q step by step, and then determine the model order by minimizing the AIC and SIC values according to the principle of minimizing the AIC and SIC values.

(3) Model estimation: According to the lag order of the model calculated in step (2), Matlab software is used to estimate the model parameters using the maximum likelihood estimation method for the Chinese FDI flow data and Chinese FDI stock data to each African country.

(4) Prediction: Based on the model estimation results calculated in step (3), use the estimated model to predict the sample data, and calculate the corresponding R-square, mean absolute error, and mean relative error of the estimated model, and use each parameter of the model estimation to evaluate the effect of model prediction.

1.2.2 Data modelling and predictive effectiveness analysis

The ARMA and ARIMA models are each used to study the flow data and stock data of China's FDI in Africa. In the process of calculation, the ADF test was firstly used to analyze the smoothness of the time series. Secondly, the ARIMA model lag order test was carried out based on AIC and SIC criteria, and the model prediction was carried out using the modelling results. Overall, based on the results of the model calculations, the following main conclusions were drawn:

> (1) The use of the ARIMA model enables the modelling and forecasting of flow data as well as stock data of Chinese FDI in Africa.

The ARIMA model is able to capture the characteristics of trend, seasonality and random fluctuations in the data. The flow data and stock data of China's investment in Africa show directionality, cyclicality and stochasticity. For example, with the deepening development of China-Africa economic and trade relations, China's investment flow and stock in Africa will show a growing trend; at the same time, due to the changes in the international political and economic situation, these data will also be affected by cyclical or stochastic factors. The ARIMA model is able to identify these characteristics by analyzing the historical data and build a suitable model accordingly to predict future data. In the modelling process, the smoothness of the data needs to be checked first, and if the data are not smooth, they need to be transformed into smooth data by methods such as differencing. Then, according to the relevant characteristics of the data, the appropriate autoregressive order (p) and moving average order (q) are selected. Finally, by fitting the model and evaluating the predictive effect of the model, the prediction results of the flow data and stock data of China's FDI in Africa can be obtained.

(2) The ARIMA model is more effective in modelling and predicting the stock data of China's FDI in Africa compared with the flow data of China's FDI in Africa.

Stock data usually reflects the cumulative effect over a period of time, and changes in this data are smoother and more stable compared to flow data. The ARIMA model is often able to capture the intrinsic pattern of the data more accurately when dealing with smoother or more directional data, so as to construct a more effective prediction model. The stock data of China's FDI in Africa is affected by more long-term and stable factors, such as policy environment, economic fundamentals, and natural resource endowment. These factors do not change significantly in the short term but can have a significant impact on the investment stock in the long term. The ARIMA model is able to handle such long-term trends and cyclical changes by using its difference (I) part to eliminate non-stationarity in the data, and by capturing the long-term trends and cyclical characteristics through the autoregressive (AR) and moving average (MA) parts, thus obtaining a more accurate prediction result. In terms of data characteristics, flow data tend to be affected by more short-term fluctuations and random factors, such as changes in the international political and economic situation and unexpected events. These factors lead to large fluctuations in flow data in the short term, making it challenging for ARIMA models to capture these short-term fluctuations. In contrast, stock data are more stable and predictable, and therefore ARIMA models may be more effective in modelling and forecasting them.

1.2.3 Predictive analysis of investment in Africa by Chinese enterprises and investment absorption by African countries

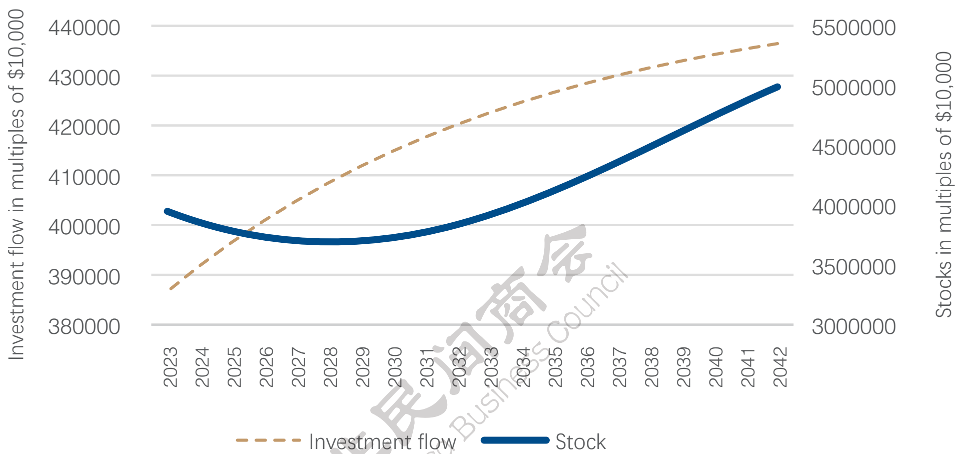
As a whole, China's investment in African countries exhibits a clear growth trend.

A forecast of China's flow of FDI in Africa and stock of direct investment in Africa for the next 10 years is shown in the figures below. These forecasts are based on the ARIMA model identified in this report and use the latest available data for 2022 as a benchmark.[4] Through the results below it can be seen that the future flow of China's investment in Africa exhibits a clear growth trend, but its overall growth rate is convex, meaning that the growth rate of investment in Africa will first increase before going stable. The forecast value of the flow of China's investment in Africa in 2032 is $4.201 billion.

4 All raw data in this section are from the WIND database.

In contrast with this, China's investment stock in Africa has been growing for a long time, but the scale is set first to decline and then grow later. The stock of Chinese investment in Africa in 2032 is forecast to be $39.247 billion. Although China's investment flow to Africa continues to be positive, the converted stock will suffer some losses due to depreciation and amortization, investment losses and other reasons. Therefore, there will be a degree of short-term decline, but with the continued advancement of China's investment flows in Africa, there is a tendency for long-term growth in the scale of China's stock.

Figure 1 Projected Flows and Stock Size of Chinese Investment in Africa



The scale of China's investment in African varies from country to country

The scale of China's FDI in the following countries is relatively high: Sudan,[5] the DRC, Nigeria, Ethiopia, Lesotho,[6] Rwanda, Angola, Zimbabwe, Algeria, Namibia, Togo[7], Morocco and Egypt.[8]

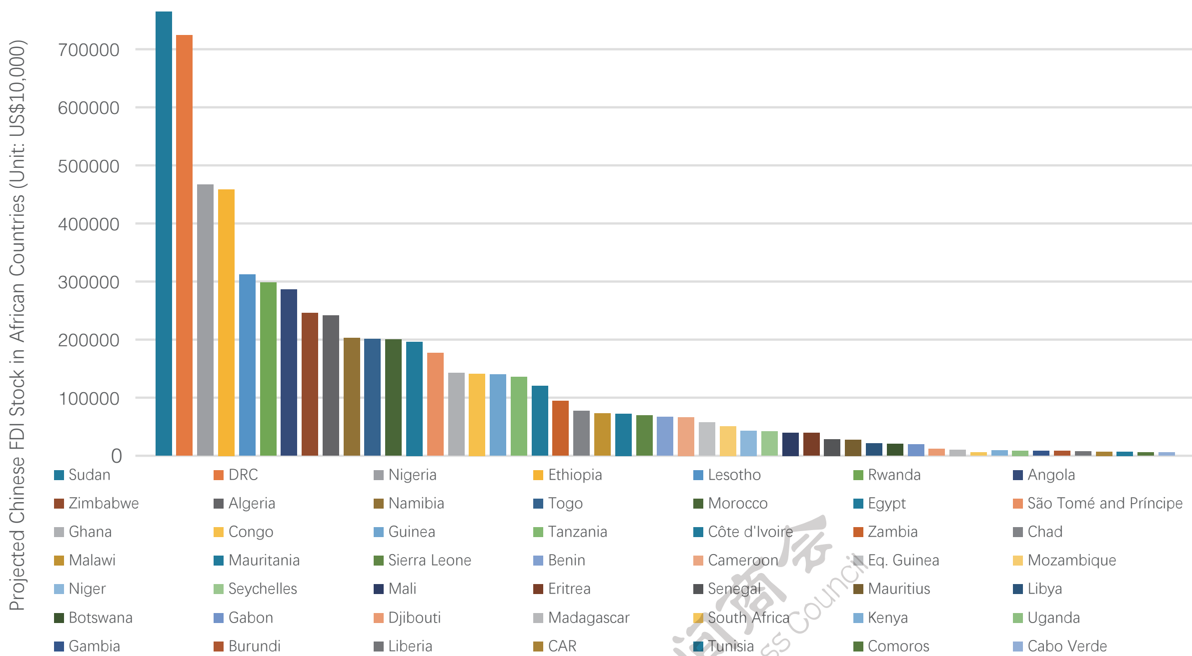
5 Sudan is rich in natural resources such as oil, natural gas, gold and agricultural products, and, coupled with ongoing infrastructure development, its investment potential is huge.

6 Lesotho is actively promoting reform in its energy market, accelerating the implementation of its textile revival program and adopting a series of liberal and open economic policies to attract foreign investors.

7 The annual average growth rate of China's investment in Togo is 23.97%. Based on this level, the growth rate can double in 3 to 4 years, therefore the forecast results of China's investment in Togo are relatively high.

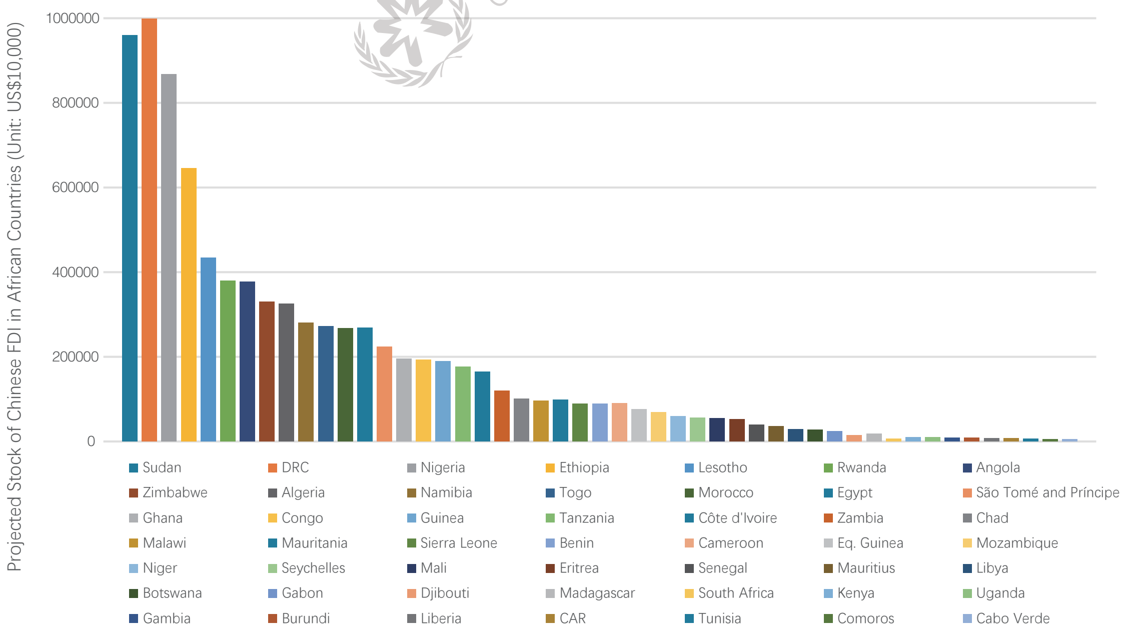
8 As a mathematical model and derivation tool for describing data patterns, the ARIMA model's prediction and simulation results are both objective values.

Figure 2 Projected Chinese FDI Stock in African Countries in 2032



Note: The forecast results of China's FDI stock in African countries are in the same order as the legend.

Figure 3 Projected Stock of Chinese FDI in African Countries in 2042



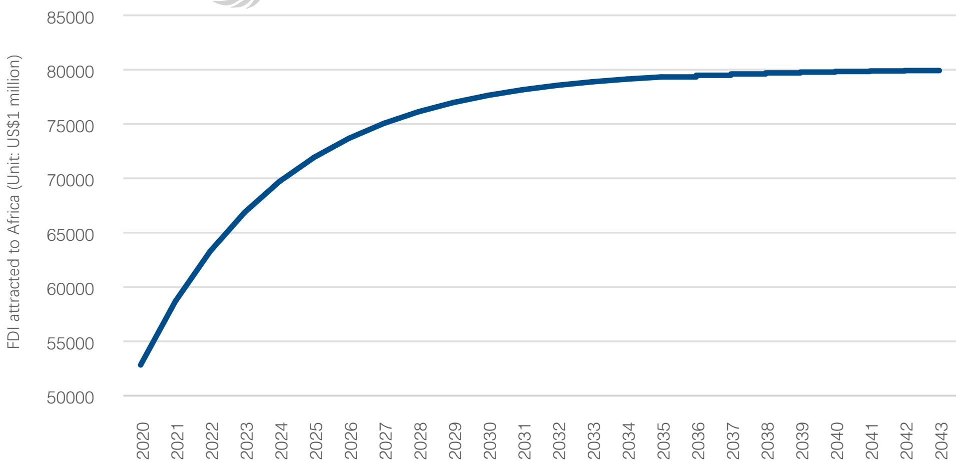
Note: The results of the projections of China's investment stock in African countries are in the same order as in the legend.

Firstly, African countries have attracted different scales of Chinese investment due to economic, political and resource-related differences. For example, countries such as Kenya, the DRC, South Africa, Ethiopia and Nigeria have consistently been the focus of Chinese investment in Africa over the past few years. In addition, the scale of Chinese investment in different countries in Africa is also related to the political and economic relations between each country and China. Some countries have established close economic and trade cooperation with China, jointly developing resources and building infrastructure through joint ventures and co-operation, and the scale of Chinese investment in these countries tends to be large. Other countries, on the other hand, have relatively little Chinese investment and less cooperation with China for political and economic reasons, and the scale of Chinese investment in these countries is relatively small. Secondly, some countries have attracted large investments from China in energy and minerals because of their abundant natural resources, such as minerals and oil. Others, on the other hand, have attracted more investment in manufacturing and infrastructure development because of their abundant labour force and high infrastructure needs. Finally, the policy environment of African countries has also had a significant impact on the scale of Chinese investment in them. Some countries have offered favorable policies, such as tax breaks and land concessions, in order to attract FDI, and these policies have attracted more investment.

Overall upward trend in Africa's attraction of FDI

Below follows a forecast of Africa's attraction of FDI flows over the next 10 years based on the ARIMA model, using the latest available data for 2022 as the baseline. There is a clear growth trend in Africa's attraction of FDI, but overall the curve is convex, in that Africa's FDI attraction growth rate is set first to increase and then leveled. In terms of the precise value, the level of FDI attracted to Africa is forecast to be $78,559 million.

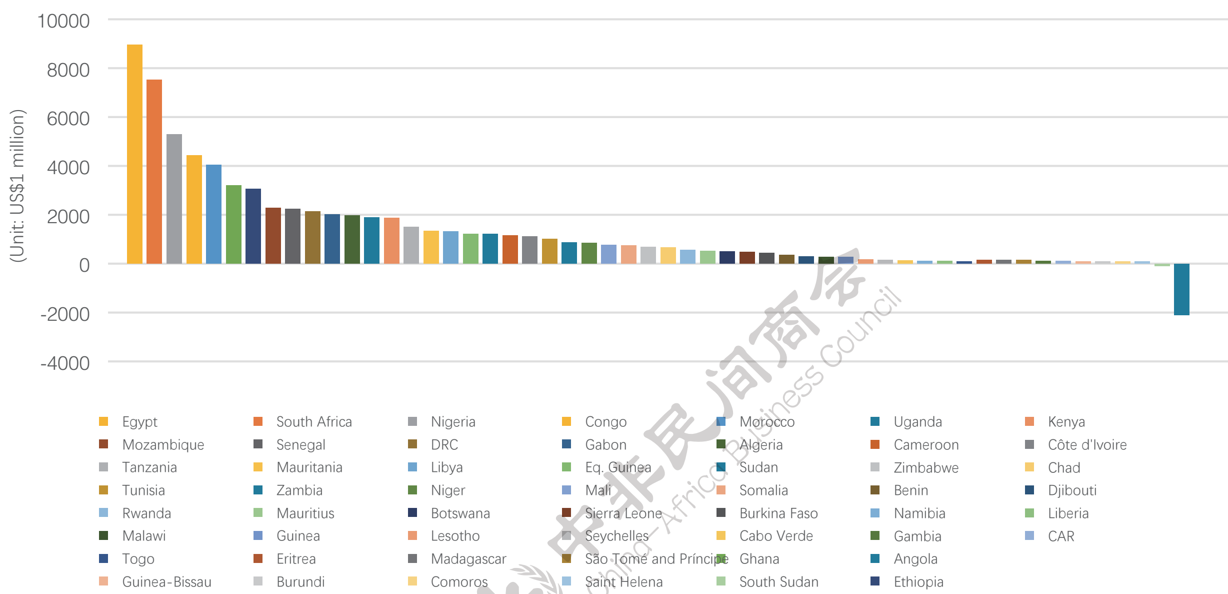
Figure 4 Forecast of the Level of FDI Attracted to Africa



Level of FDI attracted in Africa varies markedly from country to country

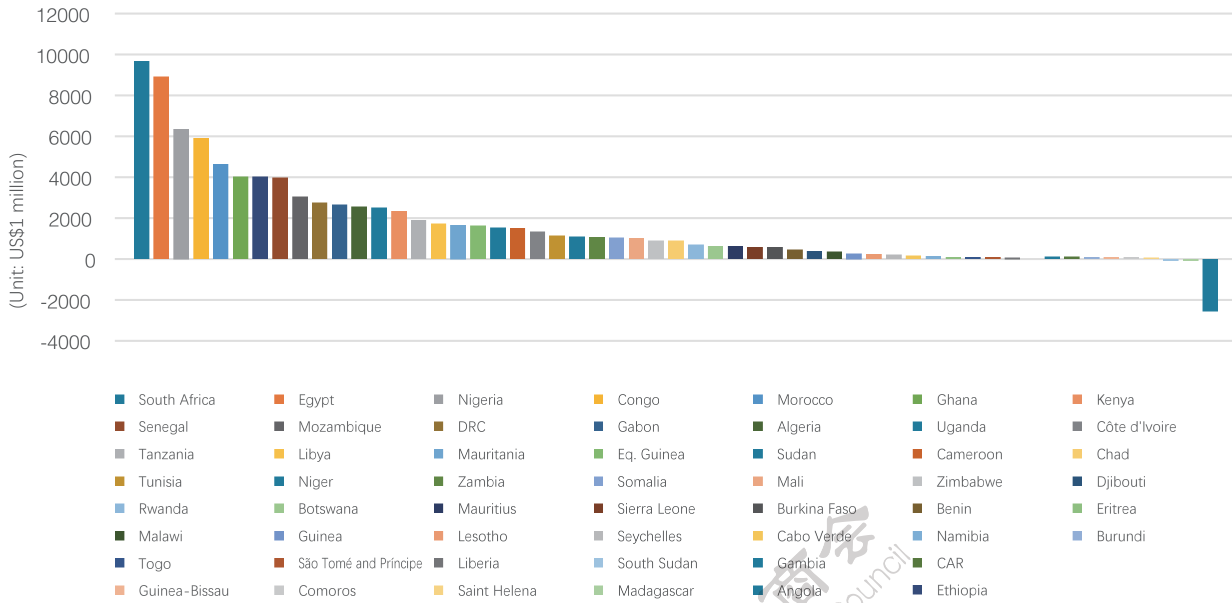
There are large variations in the capacity of African countries to attract FDI, with the following countries, including South Africa, Egypt, Nigeria, the Republic of the Congo, Morocco, Ghana, Ethiopia, Senegal, Mozambique, the DRC, Gabon, Algeria, Uganda, and Kenya attracting a higher level of FDI.

Figure 5 Forecast of FDI Stock Attraction by African Countries in 2032



Note: The results of the projections of the stock of FDI attracted by African countries are in the same order as in the legend.

Figure 6 Forecast of FDI Stock Attraction by African Countries in 2042



Note: The results of the projections of the stock of FDI attracted by African countries are in the same order as in the legend.

1.3 Three major features of Chinese enterprises' contribution to Africa's industrialization

With the continual deepening of China-Africa economic and trade cooperation, Chinese enterprises' investments in Africa have become increasingly diversified, which has not only promoted economic growth in Africa, but also significantly boosted the process of Africa's industrialization. Through market-oriented investment, infrastructure investment and investment in new fields, Chinese enterprises are improving Africa's industrial system, promoting the progress of Africa's industrialization and upgrading its quality.

1.3.1 Investment in infrastructure strengthens the foundations for industrialization and development

Infrastructure is an important underpinning for industrialization, and investment in infrastructure by Chinese enterprises in Africa has provided a solid foundation for the process of industrialization in Africa. The scale of China's annual FDI in Africa's manufacturing industry has remained above $400 million, and the scale of cooperation in infrastructure construction has stayed above $37 billion, which has helped Africa's industrialization and its process of economic diversification. In the field of transport, Chinese enterprises have constructed numerous highways, railways and ports, the completion of which has greatly improved the efficiency of intra-African logistics, reduced logistical costs and provided strong support for Africa's industrialization and regional integration. For example, the Mombasa Nairobi Railway has reduced Kenya's logistics and transport costs by more than 40 percent, greatly boosting the local economy.

Feature 6 Greenroad's Africa Logistics Program and Global Network Operations Model

Greenroad International Logistics has been developing outside China for 16 years, with branches in 31 African countries. Greenroad Africa is closely linked with the company's branches in Asia, Europe, the Americas and the Middle East, forming an efficient international network operations model. It focuses on engineering and overseas warehousing logistics, as well as contract logistics and others, and is ranked among the top 50 private Chinese logistics enterprises.

The company has completed logistics support for key national engineering projects including the Gouina Hydroelectric Plant in Mali, the Huzibazi hydropower station in Burundi, and the Lusaka Airport in Zambia. The company has also promoted the development of China-Africa trade through the introduction of state-supported logistics solutions, participated in the operation of the Hunan-Guangdong-Africa rail-sea intermodal transport corridor, and built hundreds of thousands of square meters of overseas warehouses and supervisory warehouses in Africa.

Meanwhile, China and African countries have jointly planned industrial projects linked to infrastructure, so as to improve the effectiveness and yields from infrastructure. For example, in the construction of the Addis Ababa-Djibouti Railway, the Chinese Government has guided enterprises to combine large-scale infrastructure construction with the construction of industrial parks and special economic zones, and endeavored to build industrial belts along the routes, so as to form a positive interaction between large-scale infrastructure and industrial development. China Merchants Group has also participated in the construction of a new port in Djibouti, with the aim of significantly increasing the port's throughput capacity to cope with the ever-increasing cargo volume of the new railway. In the energy sector, Chinese enterprises have invested in a number of power and oil and gas projects in Africa, providing Africa with a stable energy supply. This not only solves the problem of energy shortages in Africa, but also provides robust energy security for Africa's industrialization and development.

1.3.2 Market-oriented investment improves local industrialization systems

Chinese enterprises are increasingly focusing on market demand and industrial development trends in their investments in Africa and are improving Africa's local industrial system through market-oriented investment. Making full use of Africa's resources and strong labour market, Chinese enterprises have set up local production bases to produce products that meet the needs of the local market, drive the development of related industrial chains, and promote the upgrading and transformation of African industries.

One example is the home appliance project invested in by Hisense Group. Hisense Group entered the African market in 1996, with a focus on product trading and low brand recognition. It set up an African trade and production company in 2013, which has gradually constructed production lines in South Africa in accordance with the idea of "trade to drive investment and investment to promote development." It has relied on the strengths of Chinese domestic R&D and industrial chain management, and gradually expanded the African company into a home appliance industrial park. At present, Hisense's home appliances achieves a leading market share in countries such as South Africa, Nigeria, Ghana, Tanzania, Uganda, and Algeria. Following the industrial park in South Africa, Hisense has signed a deal in August 2024 to build a TV factory in Egypt. The factory is expected to begin production in 2025, expanding the reach of Hisense products to 21 countries and regions including North Africa, East Africa, and the Arab League.. Through technology transfer and personnel training, it has driven the development of local supporting industries and upgraded the level of local home appliance manufacturing. At the same time, some Chinese enterprises provide production technology, industrial R&D, raw and auxiliary materials, production modes, production management and other industrial support in the process of production and operation in Africa. This has been done in order to improve the competitiveness and added value of local industries, enhance production capacity and efficiency in Africa, and help African countries to establish more complete industrial systems.

1.3.3 Investing in new fields promotes industrial transformation, upgrading and efficiency gains

With the advancement of science and technology and the reorganization of the global industrial chain, Chinese enterprises have continued to expand their investment in Africa into new fields, promoting the transformation and upgrading of African industries and enhancing quality and efficiency. In the field of new energy, Chinese enterprises have invested in the construction of a number of solar and wind power generation projects in Africa. For example, the Longyuan South Africa De Aar Wind Power Project is the first wind power project independently invested, constructed and operated by a Chinese state-owned power generation enterprise in Africa. After the project is put into operation, it will provide a stable annual supply of clean power of about 760 million kWh for the local area, which can satisfy the power consumption needs of 300,000 local households. The new energy project not only provides clean energy for African countries, but also drives the development of the local new energy industry. At the same time, the enterprises also actively promote new energy technologies and products, helping African countries to improve their utilization rate of new energy. In the field of green industry, China has implemented hundreds of clean energy and green development projects in Africa, and the cumulative installed capacity of photovoltaic power plants constructed by Chinese enterprises in cooperation with African countries has exceeded 1.5 gigawatts (GW), placing these companies at the forefront of international green partnerships with Africa. In Morocco, the Noor II and Noor III photothermal power stations built by Chinese enterprises have provided clean energy for more than 1 million Moroccan households, completely changing the situation of Morocco's long-term dependence on imported electricity. At the same time, Chinese enterprises actively promote the concept of environmental protection and related technologies to help Africa achieve a higher level of eco-friendly technology and promote sustainable industrial development in Africa. In addition, Chinese enterprises' investment in Africa also reaches to the digital economy, e-commerce and other emerging fields, helping African countries build digital infrastructure and promoting the digital transformation and upgrading of African industries.

Chapter two is written in English by the Department of International Relations at Tsinghua University team.

Chapter 2 Supporting the Industrialization of Africa: Mechanisms, Dynamics and Innovation in China-Africa Industrial Cooperation

2.1 Mechanisms and paths of China-Africa industrial cooperation

In recent times, industrial chains have become one of the focal points of global strategic competition. Owing to such practical factors as its weak economic foundation, Africa faces long-term challenges in industrial development and transformation. As a firm and reliable partner of Africa, China has always been committed to linking its cooperation with Africa to Africa's Agenda 2063 and the industrial development strategies of African countries, and to supporting Africa's industrialization and process of industrial transformation and upgrading.

2.1.1 Innovative cooperation mechanisms

Institutional innovation in the framework of China-Africa industrial cooperation

In 2015, the Chinese Government published its Guiding Opinions of the State Council on the Promoting International Cooperation in Industrial Capacity and Equipment Manufacturing which clearly proposed international industrial cooperation as an important element of the new round of the high-standard opening-up of China to the world and enhancing international competitive advantages. Under the framework of FOCAC and the BRI, industrial cooperation has become an important focus of China-Africa cooperation. The Ten Major China-Africa Cooperation Plans include the Program for China-Africa Cooperation in Industrialization and the Program for China-Africa Cooperation in Infrastructure Construction. The first of the Eight Major Initiatives is the Industrial Promotion Initiative, and the Nine Programs include the Trade Promotion, Digital Innovation and Capacity Building programs. These all constitute a series of action plans and projects that are closely related to China-Africa industrial cooperation.

In addition, China has set up the China-Africa Production Capacity Cooperation Fund to undertake cooperation relating to Africa's "three networks and industrialization" (high-speed railway network, highway network, regional aviation network and industrialization). By 2021, China had established industrial cooperation mechanisms with 15 African countries, helping them to improve the level of their industrialization.

Innovative initiatives by provincial governments in China for cooperation with Africa

Under the guidance of national top-down design, provincial governments in China have successively introduced policies related to industrial cooperation with Africa. In Hunan, the China-Africa Economic and Trade Cooperation Pilot Zone and the CAETE, two national-level platforms for cooperation with Africa, are accelerating the pace of growth in Hunan-Africa industrial cooperation. The China-Africa Economic and Trade Cooperation Pilot Zone aims to explore new paths and modes of cooperation, focusing on the construction of six centers,[9] such as the African non-resource-based products distribution and trading center, the China-Africa cross-border e-commerce cooperation center, and the China-Africa industrial chain cultivation center. CAETE is the first concrete initiative of the Eight Major Initiatives and the largest economic and trade cooperation platform under the framework of FOCAC. Since 2019, CAETE has been held in Changsha three times, with a total of 336 co-operation projects signed, amounting to $53.32billion, making it a new window for China's local economic and trade cooperation with Africa.[10]

In Guangdong, overseas economic and trade cooperation zones are an important vehicle for Guangdong-Africa industrial cooperation. Four of Guangdong Province's first seven provincial-level overseas economic and trade cooperation zones are in Africa, and the Financial Service Measures to Support the Development of Guangdong Province's Overseas Economic and Trade Cooperation Zones have been introduced to support the financing of overseas economic and trade cooperation zones.[11]

In addition, Guangdong has held two Guangdong-Africa Exchange and Cooperation Week's to showcase the results of Guangdong-Africa cooperation in industrial projects and industrial cooperation.[12] The Zhejiang provincial government, relying on the advantages of a prosperous private economy and flexible institutional mechanisms, has also demonstrated initiative by publishing its Action Plan for Zhejiang Economic and Trade Cooperation with Africa (2019-2022) nationwide. It did this to encourage businesses in Zhejiang to implement the Chinese

9 China.gov.cn (2024). New Opportunities, New Phenomena, New Patterns - Hunan-Africa Economic and Trade Cooperation on the Fast Track (in Chinese). https://www.gov.cn/lianbo/difang/202402/content_6929515.htm

10 China Financial Information Network (2024). China-Africa Economic and Trade Expo Attracts Attention in Africa for the First Time (in Chinese) https://www.cnfin.com/hg-lb/detail/20240526/4053367_1.html

11 Southcn.com (2023). Guangdong Brands Enter Africa, Guangdong-Africa Cooperation Breeds New Opportunities (in Chinese). https://news.southcn.com/node_b6acdc8047/3ba00b61a0.shtml

12 China.gov.cn (2019). Guangdong Province to Build an 'Upgraded Version' of Guangdong-Africa Cooperation in the New Era(in Chinese). https://www.gov.cn/xinwen/2019-11/22/content_5454441.htm

Government's "going global" strategy by going out and meeting unmet needs in Africa with industries from Zhejiang[13].

2.1.2 Promoting trade and investment

China has remained Africa's number one trading partner for 15 consecutive years. In 2023, China's FDI in Africa continued to grow[14], with China-Africa trade reaching a historical peak of $282.1 billion, up 1.5 percent year-on-year.[15] In 2021 and 2022, China-Africa economic and trade cooperation overcame the impact of the COVID-19 pandemic, and total bilateral trade grew, bucking wider trends. This demonstrated the resilience and vitality of China-Africa economic and trade cooperation in the face of the complex international situation[16]. In terms of overall industry distribution, China's investment in Africa in recent years has focused on energy, mining and manufacturing.[17]

Strong support for the sustainable development of the energy sector in Africa

There is great potential for the development of mining in Africa. By the end of 2021, China's FDI stock in Africa's mining industry had reached $9.99 billion, accounting for 22.6 percent of China's investment stock in Africa.[18] China's cooperation with Africa's energy and mining industries has driven the development of local industrialization. On the one hand, China-Africa energy cooperation brings economic benefits to Africa. Africa is rich in mineral resources, possessing a total value of about 23 percent of global mineral resources, but it accounts for only about 9 percent of global output. In this context, the development of the mining industry plays a pivotal role in GDP growth and addressing unemployment issues and exports of a large number of African countries.[19] On the other hand, China strongly supports the development of green energy and green mining in Africa, and in 2021, President Xi Jinping announced at the UN General Assembly that he would strongly support the green and low-carbon development

13 Zhejiang Province Department of Commerce (2019). Zhejiang-Africa Economic and Trade Cooperation Exchange Meeting Held in Hangzhou (in Chinese). http://www.zcom.gov.cn/art/2019/3/1/art_1389631_30579812.html

14 MOFCOM (2024). MOFCOM Holds Press Conference on China-Africa Economic and Trade Cooperation Pilot Zone (in Chinese). http://www.scio.gov.cn/xwfb/bwxwfb/gbwfbh/swb/202402/t20240202_831745.html

15 People.com.cn (2024). China Has Remained Africa's Top Trading Partner for 15 Consecutive Years - China-Africa Economic and Trade Cooperation Has Achieved Fruitful Results (in Chinese). http://world.people.com.cn/n1/2024/0221/c1002-40180237.html

16 People.com.cn (2022). China Has Remained Africa's Top Trading Partner for 15 Consecutive Years - China-Africa Economic and Trade Cooperation Has Achieved Fruitful Results (in Chinese) http://world.people.com.cn/n1/2022/0301/c1002-32362455.html ; National Development and Reform Commission (2022). China's trade with African countries, January-November 2022 (in Chinese). https://www.ndrc.gov.cn/fgsj/tjsj/jjmy/dwjmzt-fx/202212/t20221230_1345145.html

17 Chinese Academy of International Trade and Economic Cooperation (2023). China-Africa Economic and Trade Relations Report 2023 (in Chinese). https://www.caitec.org.cn/upfiles/file/2023/6/20230710163247545.pdf

18 Ibid.

19 People.com.cn (2022). Large-Scale Mining Investment Conference in Africa Calls for Enhanced Cooperation to Tap Africa's Mining Potential (in Chinese). http://world.people.com.cn/n1/2022/0607/c1002-32439644.html

of energy in developing countries and would not build any new coal-fired power stations outside China.[20] The Declaration on China-Africa Cooperation on Climate Change adopted at the 8th FOCAC Ministerial Conference also reaffirms the commitment to long-term support for the sustainable development of Africa's energy and mining sectors.[21]

Multi-sector investment in African manufacturing

In recent years, China's investment in Africa's manufacturing industry has continued to expand, with the scale of annual FDI remaining at more than $400 million. This has played an important role in promoting Africa's economic development and industrialization process.22 The latest data show that by the end of 2021, China's FDI stock in Africa's manufacturing sector had reached $5.93 billion, accounting for 13.4 percent of China's FDI stock in Africa.[23] In the field of building materials manufacturing, the production of ceramics, cement and other materials has become a point of special interest for Chinese enterprises to invest in Africa. For example, Wangkang Group has invested in four ceramic production lines in Nigeria, with an average daily output of 140,000 m2, which is the largest production level of any single enterprise in Africa.[24] In the field of light industry, China makes full use of its capital and technological strengths to help Africa translate its rich human resource strengths into strong economic development. In addition to traditional labour-intensive industries, Chinese enterprises are also focusing on investment in healthcare and pharmaceuticals, new energy, IT and other high-tech manufacturing industries, injecting new vitality into China-Africa economic and trade cooperation.

20 China.gov.cn (2021). Xi's speech at general debate of 76th session of the UN General Assembly (in Chinese) https://www.gov.cn/xinwen/2021-09/22/content_5638597.htm

21 Xinhua (2021). Declaration on China-Africa Cooperation to Address Climate Change (full text) (in Chinese). http://www.news.cn/2021-12/02/c_1128121935.htm

22 CCTV (2024). MOFCOM: China's Direct Investment in Africa to Maintain Growth in 2023 (in Chinese). https://news.cnr.cn/native/gd/20240411/t20240411_526660510.shtml

23 Chinese Academy of International Trade and Economic Cooperation (2023) China-Africa Economic and Trade Relations Report 2023 (in Chinese). https://www.caitec.org.cn/upfiles/file/2023/6/20230710163247545.pdf

24 Huang Jinlong (2019). China Building Materials' African Advantage. China Investment (20): 28-30. (in Chinese)

Feature 7 Nearly 20 Years in Africa for Reyoung Pharmaceuticals

Founded in 1966, Reyoung Pharmaceuticals began to develop its business in Africa almost 20 years ago in around 2006. In order to meet both its corporate development goals and domestic and international legal and regulatory requirements, Reyoung initially worked mainly with pharmaceutical and healthcare companies to transship OEM and self-branded products for export to the African market.

As the production and supply partner of Humanwell Healthcare in the African market, Reyoung mainly produces penicillin and cephalosporin tablets, capsules, and various small-volume injections, as well as some antipyretic, analgesic and antihypertensive medicines. At present, penicillin and cephalosporin tablets produced by Reyoung are already the best-selling brands on the Malian market. Meanwhile, some of Reyoung Pharmaceutical's own brand medicines are also gradually entering Africa through Humanwell Healthcare's platform.

2.1.3 Improvement in infrastructure

In its cooperation with Africa, China has always prioritized investment in infrastructure construction, supported Africa in making infrastructure construction a priority development direction for economic revitalization, and made important contributions to Africa's industrialization process.

Africa's infrastructure development needs to attract Chinese investment

Infrastructure comprises the set of facilities and systems that serve social production and people's livelihoods, and it is the basic system on which society depends for its survival and development. Much of Africa lags behind the rest of the world in terms of infrastructure development and, according to the latest World Bank data, by 2021 only 51 percent of the population of sub-Saharan Africa had electricity and only 36 percent was connected to the internet.[25] At the same time, African countries are in a period of rapid industrialization and urbanization, and generally have a strong need for infrastructure development. It is estimated that if sub-Saharan Africa wants to achieve its SDGs, it needs to invest about 7.1 percent of its GDP in infrastructure construction every year, but the investment level in 2023 was only 3.5 percent. Against this backdrop, infrastructure investment in Africa has become an important topic for China-Africa industrial cooperation.[26]

Significant milestones in infrastructure investment in Africa

Under the guidance of a series of Chinese government policies on investment in Africa, a large proportion of China's investment in Africa is now in infrastructure construction, with the scale of

25 World Bank (2021). Sub-Saharan Africa. https://data.worldbank.org/region/sub-saharan-africa

26 International Finance Cooperation (2023). Infrastructure in Africa. https://www.ifc.org/content/dam/ifc/doc/2023/working-paper-infrastructure-in-africa.pdf

cooperation in infrastructure construction remaining at more than $37 billion per year.[27] Since the establishment of the dialogue mechanism of the FOCAC in 2000, Chinese enterprises have built more than 10,000 km of railways, nearly 100,000 km of roads, nearly 1,000 bridges, nearly 100 ports and a large number of hospitals and schools in Africa.[28] One of the reasons why infrastructure can benefit Africa's industrialization lies in the strong complementarity between infrastructure and industrial parks. As the pace of China's investment in industrial parks in Africa steadily progresses, China's investment in infrastructure in Africa can also produce a linkage effect, serving as a powerful impetus in Africa's industrialization and industrial upgrading.

2.1.4 Cultivating industrial talent

It is better to teach a man to fish than to give him a fish, and the process of industrialization in Africa cannot be separated from the cultivation of industrial talent. In the area of human resources development, China has provided diversified, high-quality education and training support to African countries through policy guidance and enterprise participation. This has a positive and far-reaching impact on Africa's industrialization process.

Feature 8 China Civil Engineering Construction Corporation Nigeria Builds West Africa's First Electrified Metro System

China Civil Engineering Construction Corporation (CCECC) has been rooted in Nigeria for more than 40 years and has become an important witness of economic and trade cooperation between China and Nigeria. Over the years, the CCECC has gradually won the recognition of the Lagos State Government through its good technical strength, brand image and performance ability, and in 2009, the Lagos State Government awarded the Lagos Rail Mass Transit Blue Line project to the CCECC Nigeria.

The opening ceremony for Phase I of the Blue Line of Lagos Rail Mass Transit, constructed by the CCECC, was held on 24 January 2023. The CCECC Nigeria strictly controlled the construction quality, overcame many difficulties, and ensured the successful completion of the first phase of the project by the end of 2022 with efficient and high-quality project construction. This project also means that the first electrified metro system in West Africa has been built in the most populous city in Africa.

Chinese Government's emphasis on cooperation in vocational education and training

China places great importance on the cultivation of manpower for industrialization in Africa and has cooperated with Africa in vocational education and training.[29] China encourages young

27 MOFCOM (2024). MOFCOM Holds Regular Press Conference. (11 April, 2024) (in Chinese) http://cz.mofcom.gov.cn/article/zytz/202404/20240403503203.shtml

28 People.com.cn (2023). African Countries Accelerate Infrastructure Development (in Chinese). http://world.people.com.cn/n1/2023/1011/c1002-40092637.html

29 Ministry of Foreign Affairs (2021). Forum on China-Africa Cooperation - Dakar Action Plan (2022-2024). (in Chinese) https://www.mfa.gov.cn/web/ziliao_674904/1179_674909/202112/t20211202_10461174.shtml.

Africans to go to China to receive high-quality education through the provision of government scholarships, so as to cultivate industrial talent for Africa possessing professional knowledge and an international outlook. China has also carried out a series of vocational and technical training programmes, strengthened knowledge sharing and technology transfer, and implemented vocational skills training programs such as the "Lu Ban Workshop" through mechanisms such as the "Future Africa - China-Africa Vocational Education Cooperation Program," cultivating a large local workforce and tangibly benefitting the industrialization process of African countries.[30]

Chinese-funded enterprises' efforts in talent training in Africa

Being on the front line of Africa's industrialization, Chinese-funded enterprises in Africa are able to cultivate in a targeted way the technical workforce needed for production. For example, Huawei has invested more than $150 million in a series of talent cultivation programs to provide professional training and practical opportunities for African youth, covering more than 150 countries and benefiting more than 1.54 million people[31]. These talent training programs not only provide talent protection for Huawei's business expansion in Africa, but also cultivate an industrial workforce with professional skills and a spirit of innovation for the benefit of African countries. This robustly promotes the integrated development of informatization and industrialization in Africa.

Feature 9 Huawei's "Seeds for the Future" Program Takes Root in Tanzania

Huawei launched its 'Seeds for the Future' program in 2008, with the aim of helping to develop local information and communications technology (ICT) talent and encouraging countries and regions to participate in building digital communities. To date, the program has grown to reach 139 countries and regions around the world.

In 2016, Huawei launched this program in Tanzania to help develop the local digital economy and bridge the gap between academia and industry. By the end of 2023, the program had provided more than 240 Tanzanian university students with the opportunity to learn cutting-edge ICT. Through the program, Huawei is actively fostering Tanzanian ICT talent, helping Tanzania achieve technological self-reliance and participating substantially in the development of the country's communications technology.

30 Ministry of Education (2021). Tianjin Establishes 12 "Lu Ban Workshops" in Africa - Contributing China's Approach to Vocational Education in Africa. (in Chinese) http://www.moe.gov.cn/jyb_xwfb/s5147/202112/t20211202_584025.html

31 Huawei (2021). Promoting Digital Talent Cultivation, Crossing the Digital Divide, and Promoting Sustainable Development-Huawei Sustainability Report - 2021 Chairman's Message (In Chinese). https://www.huawei.com/cn/sustainability/the-latest/views/message-from-chairman-of-the-board

2.2 Complementarities and dynamics of China-Africa industrial cooperation

The volatile international situation has led some critics to have pessimistic expectations of Chinese investment in Africa, but these views are often not based on facts. In fact, the industrial structures of China and Africa are deeply complementary, and China's investment in Africa still has a strong impetus and can provide long-term support for the process of industrialization in Africa.

2.2.1 Complementarity of industries and structures

The urgent need to upgrade Africa's industrial structure

For a long time, the transformation of Africa's industrial and economic structure has been slow, and the overall industrial structure has not changed significantly after many years of development. At the early stage of the industrialization process, some countries in Africa relied on the abundance of their natural resources to achieve initial industrial development and had certain advantages in the upstream of the industrial chain. At the same time, however, this type of economic model can lead to the formation of a monolithic economic structure in a country, which is less stable in the face of complex changes in the international economic situation and has a high degree of economic vulnerability. For example, Nigeria, Angola and Sudan are vulnerable to fluctuations in international oil prices, and Zambia and the DRC are also vulnerable to international mineral price shocks. These countries are on the fringe of the global industrial chain, and most of them can only export various raw materials or products requiring a low degree of processing. As a result, there is significant room for development and upgrading in the downstream links of the industrial chain and an extremely urgent need for upgrading the industrial structure at the macro level.

China-Africa industrial structure development shows compatibility and complementarities

China's experience of cutting-edge industrial development can meet the urgent needs of African countries for industrial development and upgrading of their industrial structures. For example, the level of infrastructure in African countries lags behind other countries and they lack relevant technical resources. As a country which has achieved major advances in its infrastructure, China has accumulated rich technical and construction experience. It can use various financing methods to provide the missing link in the financing chain of infrastructure construction in Africa and promote the sustainable development of its infrastructure construction. The industrial structure of both sides is highly complementary, and the prospects for cooperation are very broad.

Feature 10 China Road and Bridge Corporation Constructs East Africa's First Expressway

Invested in, developed, constructed and operated by China Road and Bridge Corporation, the Nairobi Expressway is 27.1 km long, connecting Jomo Kenyatta International Airport, the Nairobi Terminal of the Mombasa Nairobi Railway, Nairobi Ring Road and downtown. It is the first high-grade highway built in Kenya using the public-private partnership mode and also the first expressway in East Africa. The road has been operational since May 14, 2022 on a trial basis.

The Nairobi Expressway has significantly reduced traffic congestion in Nairobi, lowered logistical costs and boosted economic development. It has also attracted more international investment to Kenya and helping it become an economic, transport, diplomatic and tourism hub in the East African region.

2.2.2 Complementarity of resources and markets

Promoting the expansion and upgrading of local industries in Africa

With its accumulation of competitive industries, China is able to provide African countries with opportunities for technological optimisation and industrial upgrading, cultivate their independent productive capacity, and thus improving their position in the global industrial chain.

In the area of agriculture, as Chinese consumer demand continues to grow, China has a strong demand for high-quality and diversified agricultural products and is a huge potential market for high-quality African agricultural products. Africa is rich in natural resources, and its agricultural resources are very distinctive and of high quality. However, at the same time, local agriculture is facing the problems of low productivity and low added value. In light of this, China has been actively implementing industrial matching and cooperation in Africa in line with the concepts of providing infrastructure to facilitate investors and skills to support self-sufficiency, in order to support the modernization process of African agriculture.[32]

Africa's overall mineral reserves account for about 30 percent of the global total, but total financing is less than 5 percent of the global total.[33] In contrast, China's consumption of metal products accounts for more than 50 percent of the global total, but some key mineral varieties (such as sulphur, potassium, boron, lithium and bromine) are very scarce, meaning that China has a high degree of external dependence for these minerals. In this context Africa is an important source of China's mineral imports. China's imports of mineral products from Africa were $62.58 billion and $67.09 billion in 2021 and 2022 respectively, accounting for

32 China.gov.cn (2015). China's Policy Documents on Africa (full text) (in Chinese) https://www.gov.cn/xinwen/2015-12/05/content_5020197.htm

33 Economic Watch (2023). Focus of the 2023 China International Mining Conference: Opportunities and Challenges of Digging into Africa. (in Chinese) https://www.eeo.com.cn/2023/1027/610969.shtml

59 percent and 57 percent of China's total imports.[34] At the same time, Chinese enterprises have been building supply chains for exploration, mining, extraction, processing and sales of minerals in Africa, especially setting up upstream and downstream integrated industrial parks to enhance the added value of local mineral processing. For example, the Zambia-China Economic & Trade Cooperation Zone has brought together non-ferrous metal mining, processing and metallurgy industries, a series of non-ferrous metal derivatives and heavy industrial products such as machinery, chemicals, building materials, trade and logistics, and cement and non-ferrous metal processing industry projects, such as wire and cable production. This has involved around 100 registered enterprises and constitutes a modern non-ferrous metal industrial park with a relatively complete infrastructure and industrial chain, and a strong impetus and potential for widespread reach.[35]

Delivering a global industrial chain cycle

Against the backdrop of the accelerated restructuring of the composition of global production, China has proposed a new "dual development dynamic," with the domestic economy as the mainstay and the domestic economy and international engagement providing mutual reinforcement. The new development dynamic will fully stimulate the potential of the Chinese market and help African countries benefit from China's diversified import demand and huge potential consumer market. Under the new development dynamic, China's industrial transfer to Africa will not be limited to unilateral industrial output. After completing initial production in local industrial clusters in Africa, the products can be returned to China for in-depth processing. This dynamic has not only delivered a global arrangement and the optimal allocation of China and Africa's competitive industries, but also promotes the in-depth integration of China and Africa in the global industrial chain, thus promoting the synergistic upgrading of the industrial chain between China and Africa.

2.2.3 Complementarity of knowledge and technology

China's experience of industrial development benefits Africa

China's rich experience in technology, management and project operation accumulated during the process of its own industrialization can help Africa accelerate its industrial development process. A representative example is the industrial park model that China has successfully brought to Africa. China's industrial parks started from the Shekou Industrial Zone, which was founded in 1979 at the beginning of the period of reform and opening up. Now, after more than 40 years of development, a series of parks involving different industrial levels and covering a wide range of economic fields has emerged and China-Africa joint industrial parks are an important vehicle for China's industrial investment in Africa. Since the 1990s, Chinese enterprises have actively invested in, constructed and operated various industrial parks in

34 China-Africa Economic and Trade Fair Secretariat (2023). China-Africa Economic and Trade Relations Report (2023). (in Chinese) https://www.caitec.org.cn/upfiles/file/2023/6/20230710163247545.pdf

35 China Belt and Road Network (2021). Zambia-China Economic & Trade Cooperation Zone (in Chinese). https://www.yidaiyilu.gov.cn/p/178176.html

Africa. As of 2023, the number of Chinese-funded parks in Africa included in the statistics of MOFCOM had reached 25, attracting more than 620 enterprises to enter the parks. Cumulative investment in these parks was $7.35 billion and they employed 42,000 local staff and paid a total of $1.48 billion in taxes and fees to the host countries. The parks comprise a number of industrial clusters in the areas of mineral resources, equipment manufacturing, light industry and textiles, and household electrical appliances, among others.[36]

Local African knowledge aids Chinese integration

The large number of countries in Africa and the different national conditions of each country pose a significant challenge to Chinese industries expanding overseas. But at the same time, these differences also highlight the importance of African local knowledge in industrial policy planning and enterprise market development. For example, in Africa's cement, iron and steel and other building material sectors, Chinese enterprises do not have as accurate a grasp of African market trends and policy guidance as African enterprises. Often their investment in production capacity is either too large or too small, and products do not accurately correspond to customer demand. However, when the Chinese side provides African enterprises with production and technical services, and the African partner leads the business strategy and marketing, the two sides can combine their relative strengths to establish a more optimized business model.[37] The organic integration of China's technology and management experience with the strengths of African local knowledge can effectively reduce the local start-up, operation and maintenance costs of Chinese investment on the ground and improve the efficiency of China's industrial match up with Africa.

With the help of local knowledge, Chinese investors are able to gain rich insights into local legal systems, better adapt to the African market and investment rules, and reduce legal risks. At the same time, Chinese enterprises in Africa can better understand and respect local culture and traditions to ensure the smooth implementation of projects. In addition, China's industrial investment can also be based on the actual needs of the African market to produce appropriate products, which can be better integrated with the local level of development to form a sustainable impetus for local industrialization.[38]

36 China News (2023). Chinese Companies Build 25 Industrial Parks in Africa, Employing 42,000 Local Workers. (in Chinese) https://www.chinanews.com.cn/gj/2023/07-01/10034927.shtml

37 Tang Xiaoyang (2019). Chinese Manufacturing Investments and Knowledge Transfer: A Report From Ethiopia. (in Chinese).

38 China Daily (2023). Three "Chinese Characteristics" Help Africa's Industrialization. (in Chinese) https://cn.chinadaily.com.cn/a/202308/03/WS64cbae8fa3109d7585e47d54.html

2.3 Innovation in China-Africa industrial cooperation from the perspective of new quality productive forces

At present, there are some concerns in Chinese society that the relocation of China's manufacturing industries, especially labour-intensive industries, may bring about the regional "hollowing out of industries" in China. However, it has been proven that industrial cooperation between China and Africa will not lead to the "hollowing out of industries" in China but could instead promote the development of new productive forces and the joint upgrading of the China-Africa industrial chain. The fundamental reason for this is that innovation is the first driving force for the development of new productive forces. The most distinctive feature of new productive forces compared with traditional productive forces is that innovation plays a leading role.[39] In the current stage of the global scientific and technological revolution and industrial change, technological cooperation and innovation are of great significance in promoting the transformation and upgrading of China-Africa industries.

2.3.1 Leading industrial transformation through technological cooperation and innovation

China's technological strengths enable Africa's industrial transformation

The African continent is endowed with abundant natural resources and huge market demand, but it faces a number of difficulties owing to its relatively low level of industrial development. Among them, the low level of industrial technology in Africa is one of the main factors constraining the development of industrialization in Africa. Once there is a lack of core technology and innovation capacity, it is difficult to establish an internationally competitive industry. After decades of development, China has formed a complete industrial system and accumulated a wealth of technological experience, now possessing certain technological strengths in both traditional industries and emerging fields. China's manufacturing technology industry chain is mature, and labour-intensive industries such as home appliances, textiles and toys possess a world-leading level of technology. China's high-tech industry is also developing rapidly, and new energy, new materials, IT and other fields have become the calling card of China's competitive industries. In 2023, China's exports of the "new trio," namely electric passenger vehicles, lithium-ion batteries and solar batteries, totaled RMB1.06 trillion, an increase of 29.9 percent year-on-year.[40] Therefore, China-Africa industrial cooperation is not

39 People.com.cn (2024). The Internal Features and Development Focus of the New Quality Productive Forces (In-Depth Study and Implementation of Xi Jinping Thought on Socialism With Chinese Characteristics for the New Era). (in Chinese) http://opinion.people.com.cn/n1/2024/0301/c1003-40186428.html

40 General Administration of Customs of the PRC (2024). The Combined Exports of the 'New Trio' Products Grew 29.9 Percent in 2023, Exceeding the Trillion-RMB Mark for the First Time – China's New Engine of Foreign Trade Is Becoming Increasingly Stronger. (in Chinese) http://gdfs.customs.gov.cn/customs/xwfb34/mtjj35/5644345/index.html

a transfer of backward industries, but an innovative path that suits the actual situation and development model of China and Africa, producing incremental growth rather than removing stock. For example, Jiangsu Tianyi Group invested in the construction of Avanti New Energy Materials Co., Ltd. in Nigeria, which, since its establishment in 2013, has created more than 4,000 jobs for the local community and will enable Nigeria to become a key player in the global lithium industry, helping the country to advance its industrial value chain.[41]

China-Africa standards matching enhances efficiency of industrial cooperation

Standards matching is an important pillar of China-Africa industrial cooperation. The China-Africa Cooperation Vision 2035 proposes that China support Africa in building a sound system of technology standards and in upgrading its quality infrastructure capacity.[42] Strengthening the matching of technical concepts and technical standards between China and African countries can reduce transaction costs, improve the efficiency of cooperation and promote the in-depth development of China-Africa industrial cooperation. For example, the Mombasa Nairobi Railway in Kenya, built and operated by Chinese enterprises, is the first modern railway in the country in a hundred years. It adopts Chinese standards, technology and equipment, and is regarded as the "path of Friendship," "path of Cooperation" and "path of mutual victory" between China and Africa in the new era. It has transported a total of 5.415 million passengers and 1.308 million standard (TEU) containers, contributing 1.5 percent to Kenya's economic growth and directly or indirectly creating 46,000 jobs, thus achieving significant economic and social benefits.[43]

China and Africa can promote the improvement of standard matching in the following three specific areas. Firstly, strengthening exchanges and cooperation between standardisation organisations and jointly formulating technical standards that meet the interests of both China and Africa. Secondly, promoting mutual trust and mutual recognition between China and African countries in terms of industrial standards and product quality etc., to reduce barriers to trade and obstacles related to standards. Thirdly, strengthening cooperation in the area of intellectual property rights protection, and jointly fighting against infringements, and safeguarding the innovation achievements and legitimate rights and interests of both sides in the field of industrial technology.

41 People.com.cn (2024). Nigeria Expects to Build Africa's New Energy Industry Center With Chinese Enterprises. (in Chinese) http://world.people.com.cn/n1/2024/0511/c1002-40233787.html

42 MOFCOM (2021). China-Africa Cooperation Vision 2035. (in Chinese) http://xyf.mofcom.gov.cn/article/lt/202112/20211203226116.shtml

43 China.gov.cn (2021). White Paper on China-Africa Cooperation in the New Era (in Chinese) https://www.gov.cn/zhengce/2021-11/26/content_5653540.htm

Feature 11 Haifu Medical Technology: Non-Invasive Surgical Technology Arrives in Four African Countries

There is a lack of sufficient medical treatment in Africa, where 80 percent of operations are still based on laparotomies for major trauma, and less than 10 percent of doctors have mastered the technique of laparoscopic treatment. The lack of high-quality blood sources and the side-effects and slow recovery brought about by traditional major trauma surgeries are the key problems of medical treatment in Africa. Haifu Medical Technology was the first to introduce High-Intensity Focused Ultrasound (HIFU) technology to Africa as the focal point of medical education and healthcare services, helping Africa to achieve the historic leap from invasive to non-invasive medical and surgical technology. In 2015, with the financial support of China's Ministry of Science and Technology, Haifu set up its first HIFU center in South Africa, and in 2016 and 2021 it set up HIFU centers in Egypt and Nigeria respectively. By June 2024, Haifu Medical had established five HIFU centers in Africa and provided assistance to more than 3,000 patients in total.

2.3.2 Promoting industrial upgrading with innovation in the digital economy

Setting up Africa's digital infrastructure in a timely manner

The digital economy has become a new engine of global economic development, and both China and Africa should grasp the opportunities afforded by its development and promote industrial upgrading through innovation in the digital economy. In recent years, Africa's digital economy has been developing rapidly and increasing in volume. The number of independent mobile device subscribers in sub-Saharan Africa reached 489 million in 2023 and is set to reach almost 700 million by 2030, according to a report by the Global System for Mobile Communications Association (GSMA)[44]. The scale of Africa's digital economy currently stands at $115 billion. Endeavor, a global network of entrepreneurs, predicts in its report that by 2050, the scale of the continent's digital economy will reach $712 billion, with huge potential for growth.[45]

At the national level, China has introduced a series of measures to guide investment in the digital economy in Africa. Among them, the China-Africa Partnership Plan on Digital Innovation proposes that China share the fruits of digital technology with Africa and promote digital infrastructure connectivity.[46] In addition, China-Africa cooperation in the field of digital infrastructure can not only bring economic benefits to the Chinese side but is also of great

44 GSMA (2023). The Mobile Economy Sub-Saharan Africa 2023. https://www.gsma.com/mobileeconomy/wp-content/uploads/2023/10/20231017-GSMA-Mobile-Economy-Sub-Saharan-Africa-report.pdf.

45 Endeavor (2022). The Inflection Point: Africa's Digital Economy Is Poised to Take Off. https://endeavor.org/wp-content/uploads/dlm_uploads/2022/06/Endeavor_The-Inflection_Point_June-2022.pdf

46 Embassy of the PRC in Ghana (2021). China to Develop and Implement "China-Africa Partnership Plan on Digital Innovation" With Africa. (in Chinese) http://gh.china-embassy.gov.cn/gdxw/202108/t20210828_9066320.htm

significance to the maintenance of international internet security for both sides. The Initiative on China-Africa Jointly Building a Community With a Shared Future in Cyberspace proposes that China and Africa should promote cooperation in the field of communication infrastructure such as fiber optic backbone networks and international submarine cables, and that they should promote the construction of IT infrastructure and strengthen the protection of critical IT infrastructure.[47] From this it can be seen that China-Africa digital infrastructure cooperation has significant strategic value.

Promoting the integration and application of digital technologies with the real economy

With the increasing improvement of digital infrastructure, promoting the deep integration of digital technologies with the real economy has become an important way to promote industrial upgrading. The rapid development of China's e-commerce industry can provide valuable experience for the industrial upgrading of African countries. Since 2016, China has signed e-commerce MOUs and established bilateral e-commerce cooperation mechanisms with a number of countries, with "Silk Road e-commerce" becoming a new channel for economic and trade co-operation and a new beacon of innovation. On November 29, 2021, President Xi Jinping delivered a keynote speech at the opening ceremony of the 8th FOCAC Ministerial Conference, in which he stated that China would join hands with African countries to expand cooperation in "Silk Road e-commerce," organize the African Goodies Online Shopping Festival and tourism e-commerce promotional activities, and implement the "100 African stores and 1,000 African products on e-commerce platforms" initiative in Africa.[48] In addition to e-commerce, China's investment in Africa's digital technology can also benefit Africa's industrial upgrading in other areas, including agriculture, healthcare, education and many other fields, helping Africa achieve sustainable development.

2.3.3 Improving investment returns with innovations in financial cooperation

Accelerating the internationalization of the RMB

The internationalization of the RMB can benefit China-Africa economic and trade cooperation. Firstly, Chinese enterprises investing in Africa need to avoid exchange risks. The exchange rates of many African countries are unstable and are greatly affected by the international market, commodity prices and their domestic political and economic situations. Exchange rate fluctuations may cause the actual value of the currency received by enterprises to shrink when settling cross-border accounts and repatriating profits, affecting their profitability.

47 Cyberspace Administration of China (2021). China Launches the Initiative on China-Africa Jointly Building a Community With a Shared Future in Cyberspace. https://www.cac.gov.cn/2021-08/25/c_1631480920680924.htm

48 China.gov.cn (2021). Xi Jinping's keynote speech at the opening ceremony of the 8th FOCAC Ministerial Conference (full text). (in Chinese) https://www.gov.cn/xinwen/2021-11/29/content_5654846.htm

Secondly, there is a large demand for RMB payments for Chinese companies investing in Africa. In 2022, cross-border RMB remittances in Africa grew by 12.4 percent year-on-year, and cross-border RMB customer remittances also grew faster in some African countries in particular, as in the case of the more than five-fold growth in both Egypt and Angola.[49] One of the characteristics of Chinese enterprises' investment in Africa is that it is accompanied by a large amount of investment in equipment, technology and labour, so both the investor and the constructor of the contracted project ultimately need to use RMB for settlement and payment.[50]

Thirdly, African countries also need the RMB to meet their need for the diversification of their foreign exchange reserves. African countries are generally facing a shortage of foreign exchange, and their national currencies have continued to depreciate against international currencies such as the US dollar. Along with this process, the monetary authorities of most African countries have stepped up their intervention in the foreign exchange market through enhanced exchange control policies, making the exchange problem increasingly prominent.[51]

Holistically speaking, robustly promoting the internationalization of RMB in African countries can help Chinese enterprises avoid unnecessary exchange rate losses and meet the demand for a large number of RMB payments for investments in Africa. At the same time, it can also meet the demand for diversification of foreign exchange reserves of African countries. Therefore, China should actively reach RMB settleable agreements with African countries to avoid the potential legal risks of payments using RMB.

Helping African countries develop inclusive finance

The development of inclusive financial services is an important step towards improving the quality of financial cooperation. Inclusive finance aims to provide convenient financial services to all social groups, especially people on low incomes and small and micro enterprises that are not covered by the traditional financial system. The traditional financial systems of many African countries were inadequate, constraining the healthy development of local small and medium-sized enterprises. China has accumulated rich experience in the field of inclusive finance and has succeeded in achieving rapid development of inclusive finance in the process of promoting mobile payment, internet finance and rural financial services. In view of this, China can seek cooperation with Africa in two ways.

Firstly, Chinese enterprises and institutions can cooperate with Africa's traditional financial institutions. China should adopt a diversified and phased promotion strategy based on the actual situation of financial business development in various subregions of Africa. Through participation in equity diversification reforms and the establishment of joint ventures, it should prioritize expanding cooperation in East and West Africa, where banking and insurance

49 Bank of China (2023). White Paper on RMB Internationalization 2022 - The RMB in RCEP. (in Chinese) https://pic.bankofchina.com/bocappd/rareport/202306/P020230606704599655655.pdf.

50 Yu Zhuorui and Zhuang Tailiang (2015). RMB Internationalization from the Perspective of Currency Exchange Risk Faced by Chinese Enterprises Investing in African Countries. (in Chinese) https://www.igef.cuhk.edu.hk/igef_media/working-paper/IGEF/igef_working_paper_no_41%20sim.pdf

51 People's Daily (2015). Rmb Internationalization Picks up Speed in Africa. (in Chinese) www.boc.cn/aboutboc/ab8/201508/t20150811_5415896.html

institutions are more concentrated, and in South Africa, where there is a better foundation for treasury and insurance business, in order to advance the establishing of Chinese-funded treasury and insurance products.[52] In addition, China and Africa can cooperate to promote the formulation and implementation of inclusive financial policies, establish a sound legal and regulatory framework, develop inclusive financial products and services suitable for the African market, and ensure the healthy development of inclusive finance. Since most countries in Africa are agricultural producers, China can develop flexible microfinance and insurance products, especially tailored to the production cycle and income characteristics of African farmers, to help them cope with production risks and capital shortages.

Secondly, Chinese enterprises and institutions can cooperate with emerging fintech companies in Africa. There are already some relatively mature inclusive finance companies in Africa, such as Kenya's M-Pesa, which has a deep foundation and rich operational experience in the local market. China's Ant Group and Huawei have already cooperated with M-Pesa to improve the quality and coverage of local inclusive financial services through the introduction of technology, financial support and business cooperation.[53] Chinese fintech companies can learn from such successful experiences to further promote inclusive financial investment in Africa, enhance the proliferation and convenience of financial services, and make up for the shortcomings of the traditional financial system. Inclusive finance serves not only as a booster for economic development but is also an important means to improve people's livelihoods and reduce poverty, and can open up brighter prospects for China-Africa industrial cooperation.

52 Luo Qinglin (2023). Deepening China-Africa Financial Cooperation. China Finance (05):84-85. (in Chinese)

53 Safaricom (2022). Super Apps and the Future of Money. https://newsroom.safaricom.co.ke/innovation/super-apps-and-the-future-of-money/; Huawei (2021). Huawei Launches Mobile Payment and Microfinance Solutions for Global Financial Inclusion. (in Chinese) https://e.huawei.com/cn/news/ebg/2021/huawei-launches-mobile-payment-microfinance-solutions

Chapter three is written in English by Development Reimagined.

Chapter 3 Catalyzing Industrialization in Africa Through Targeted Investment Cooperation With China

3.1 Africa's position in the global value chain: challenges and opportunities

3.1.1 Africa's manufacturing landscape and opportunities

As of the third quarter of 2023, Africa accounts for only 2 percent of the global manufacturing output, and a mere 0.6 percent of the world's imports of manufactured goods originate from Africa.[54]
On average, the contribution of manufacturing to most African economies has been steadily declining since the 1980s.[55]

However, the disparities in the level of manufacturing development are starker within the continent. North Africa is the most industrialized region in Africa, with manufacturing contributing 18 percent to GDP in 2019. At the national level, manufacturing in Africa is highly concentrated in four countries: Egypt, Morocco, Nigeria, and South Africa.[56] The African Futures' program at the Institute for Security Studies forecasts that the size of the manufacturing sector in Africa will increase from 12.8 percent in 2020 to 22 percent in 2043.[57]

The optimistic outlook for the future development of the African continent's manufacturing industry is based on the continent's current opportunities. The continent has a vital potential in human resources both as producers and as consumers. By 2050, approximately 25 percent

54 Omono Okonkwo (2023). Powering Africa's Manufacturing Future Requires the Use of Natural Gas. https://www.linkedin.com/pulse/powering-africas-manufacturing-future-requires-use-natural-okonkwo-ruzef/

55 ISS Africa. 7 Manufacturing. https://futures.issafrica.org/thematic/07-manufacturing/

56 Sergio Pimenta (2023). Africa's Manufacturing Sector: Building It Green. https://www.linkedin.com/pulse/africas-manufacturing-sector-building-green-sergio-pimenta/

57 ISS Africa, 7 Manufacturing. Available online: https://futures.issafrica.org/thematic/07-manufacturing/

of the world's population will be from the African continent.[58] Alongside the bulging population, Africa also has the fastest urbanization rate in the world and it is estimated that by 2040, 500 million people will move from rural to urban areas.[59] With the world's youngest and fastest-growing population, the African continent is becoming an ideal manufacturing hub with abundant labour and a rapidly growing consumer market.[60]

In addition, and as is well known, Africa possesses abundant valuable mineral resources, including aluminium, cobalt, copper, lithium, and manganese, which are necessary for high-tech and green products such as smartphones and solar panels. As green development becomes increasingly important to countries around the world, the African continent has resource advantages in the development of manufacturing in such emerging sectors.[61] Moreover, infrastructure development, as a priority agenda of the African Development Bank (AfDB) and the AU, will help provide an enabling environment for the development of Africa's manufacturing sector. Last but not least, the development of the AfCFTA will consolidate the internal African market, further enhancing the potential of the manufacturing sector in Africa.

To unlock the aforementioned opportunities, African states and their partners are now working on tackling the challenges impeding the growth of African manufacturing, with the Manufacturing Indaba scheduled for October 2024 in South Africa being one such effort.[62] First, alongside national development plans, the continent is accelerating the building of infrastructure through the AU's Programme for Infrastructure Development in Africa (PIDA) in order to improve logistic performance and support the growth of the manufacturing sector. Second, African states are working with international counterparts on vocational education to fully leverage the potential of the growing population. Third, as electrification is the key to African industrialization, the continent is making considerable investment in the energy sector through public-private partnerships and multilateral banks. Other crucial challenges that are being tackled include limited access to financial resources, trade barriers and tariffs, political instability, confined adoption of advanced technologies and manufacturing process innovations, and complicated regulatory procedures.[63]

58 Mckinsey (2023). Manufacturing Africa's Future: Jobs, Growth, and Sustainability.https://www.mckinsey.com/industries/public-sector/our-insights/the-path-to-greater-productivity-and-prosperity-in-africa

59 Mckinsey (2023). Manufacturing Africa's Future: Jobs, Growth, and Sustainability, 2023. https://www.mckinsey.com/industries/public-sector/our-insights/the-path-to-greater-productivity-and-prosperity-in-africa

60 ISS Africa, 7 Manufacturing. https://futures.issafrica.org/thematic/07-manufacturing/

61 UNCTAD (2023). Economic Development in Africa Report, 2023. https://unctad.org/publication/economic-development-africa-report-2023

62 African Review (2024). Top Challenges Inhibiting African Manufacturing Growth, 11 April 2024. https://africanreview.com/manufacturing/top-challenges-inhibiting-african-manufacturing-growth

63 Global African Network (2024). Key Challenges Hindering Manufacturing Growth in Africa in 2024. https://www.globalafricanetwork.com/company-news/key-challenges-hindering-manufacturing-growth-in-africa-in-2024/

3.1.2 Significance of manufacturing in Africa's economic transformation

Manufacturing industrialisation has long been the top priority in Africa's development agenda for decades. Agenda 2063—the continental blue print and strategic framework for development—sets out the importance of manufacturing, especially regional manufacturing hubs in transforming African economies. [64] As the President of African Development Bank stated: "The secret of the wealth of nations is clear: developed countries add value to everything they produce, while poor nations export raw materials. Africa must quit being at the bottom of the global value chains and move to rapidly industrialize, with value addition to everything that it produces."[65] As of 2022, despite numerical growth of Africa's merchandise exports (reaching US$724.1 billion, a 26.8 percent increase), Africa's share of world merchandise trade only accounts for about 2.8 percent of the same year – a decrease from 3.4 percent in 2021.[66] A similar trend is also observed in Africa-China trade figures, while Africa's exports to China have been increasing in the past few years following a slump in 2016[67], trade deficits with China have been widening and experiencing major fluctuations since 2012.[68]

One of the primary reasons for this continued trade imbalance is Africa's disproportional level of raw material exports, compared to its import of value-added, manufactured goods from other countries. Development of Africa's manufacturing sector is key to addressing this issue.

In addition to its positive impact on trade, manufacturing is an indispensable catalyst for other socio-economic changes integral to Africa's sustainable development. Manufacturing growth is associated with wider technological diffusion and innovation which boosts productivity. Manufacturing also has many spill-over effects on other economic sectors, including agriculture, transport, insurance, banking and communication services.[69]

More importantly, the manufacturing sector is known for being a major provider of jobs. Around 60 percent of Africa's population is under the age of 25. With the population of Africa expected

64 African Union (2015). Agenda 2063. https://au.int/sites/default/files/documents/36204-doc-agenda2063_popular_version_en.pdf

65 African Development Bank (2017). Industrialize Africa: Strategies, Policies, Institutions, and Financing. https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/industrialize_africa_report-strategies_policies_institutions_and_financing.pdf

66 African Export-Import Bank (2023). African Trade Report 2023: Export Manufacturing and Regional Value Chains in Africa Under a New World Order. https://media.afreximbank.com/afrexim/AFRICAN_TRADE_REPORT_2023.pdf

67 China Africa Research Initiative. China-African Trade (1992-2022). http://www.sais-cari.org/data-china-africa-trade

68 Oyintarelado Moses (2024). 10 Charts to Explain 22 Years of China-Africa Trade, Overseas Development Finance and Foreign Direct Investment. https://www.bu.edu/gdp/2024/04/02/10-charts-to-explain-22-years-of-china-africa-trade-overseas-development-finance-and-foreign-direct-investment/

69 Abdoul' Ganiou Mijiyawa (2017). Drivers of Structural Transformation: The Case of the Manufacturing Sector in Africa. https://www.sciencedirect.com/science/article/abs/pii/S0305750X17302413?via%3Dihub

to reach nearly 2.5 billion in 2050.[70] this demography presents significant challenges for African governments in creating sufficient decent and formal jobs to achieve poverty reduction goals. If African governments are committed to addressing the unemployment crisis, they must create over 15 million decent jobs by 2025.[71] Previous research by the AfDB has shown that, beyond mere growth in investment, successful economic take-offs require increases in productivity and labour force reallocations from low-productivity to high-productivity sectors.[72] To ensure that FDI fosters sustained development, the priority should be to encourage labour-absorbing growth with productivity improvements and strong backward and forward linkages, rather than relying solely on natural resource extraction. Targeted investment in manufacturing sectors that exhibit these characteristics is crucial. These spill-over effects will be crucial for the continent to achieve a well-rounded development that can allow African states to meet the growing consumption needs of its people and the demands of its younger generation.

3.2 Africa's sunrise sectors/industries and implications for future investment

3.2.1 Africa's sunrise industries and their impacts to Africa's industrialization

By "sunrise" sectors, we refer here to industries that are on the rise in Africa by virtue of the existing factor endowments on the continent. Critically, these industries also have catalytic potential i.e., a considerable ability to spur a transformation of Africa's productive structures through their potential for extensive forward and backward linkages, as well as regional and subregional value chains.

It is worth highlighting that these identified sectors have been highlighted as priority investment sectors in master plans by Africa's continental bodies such as the AU, the AfDB and the AfCFTA secretariat. The evident commitments to these sectors signal further policy directives

70 IMF(2023). A Demographic Transformation in Africa Has the Potential to Alter the World Order.https://www.imf.org/en/Publications/fandd/issues/2023/09/PT-african-century

71 ONE. JOBSNOWAFRICA CAMPAIGN. https://www.one.org/africa/get-involved/jobsnowafrica-campaign/

72 African Development Bank (2018). African Economic Outlook 2018 - Chapter 2: Growth, Jobs and Poverty in Africa. https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/2018AEO/African_Economic_Outlook_2018_-_EN_Chapter2.pdf

by individual countries to encourage and strategically channel investment, which can facilitate sustained partnerships and the operation of investment projects.

To demonstrate the investment opportunities presented by these industries, we use a measure of economic viability. We conceptualize economic viability in terms of production capacity and demand/market access. For a sector to be economically viable, there must be production or a productive base. To complete the economic equation, however, there should also be a market/demand for the products.

To demonstrate the economic viability of these sectors, we use the Export Potential Indicator (EPI) developed by the International Trade Center (ITC). The EPI is inspired by the gravity model of trade which measures trade potential between existing and potential trade partners. It identifies products which a country already exports competitively, and which have good prospects of export success in a given market. In other words, it identifies products in which the exporting country has already proven to be internationally competitive, and which have good prospects of export success in specific target markets. Using the EPI, we also identify the top countries with the highest export potential in the selected industries.

Agriculture and agro-processing

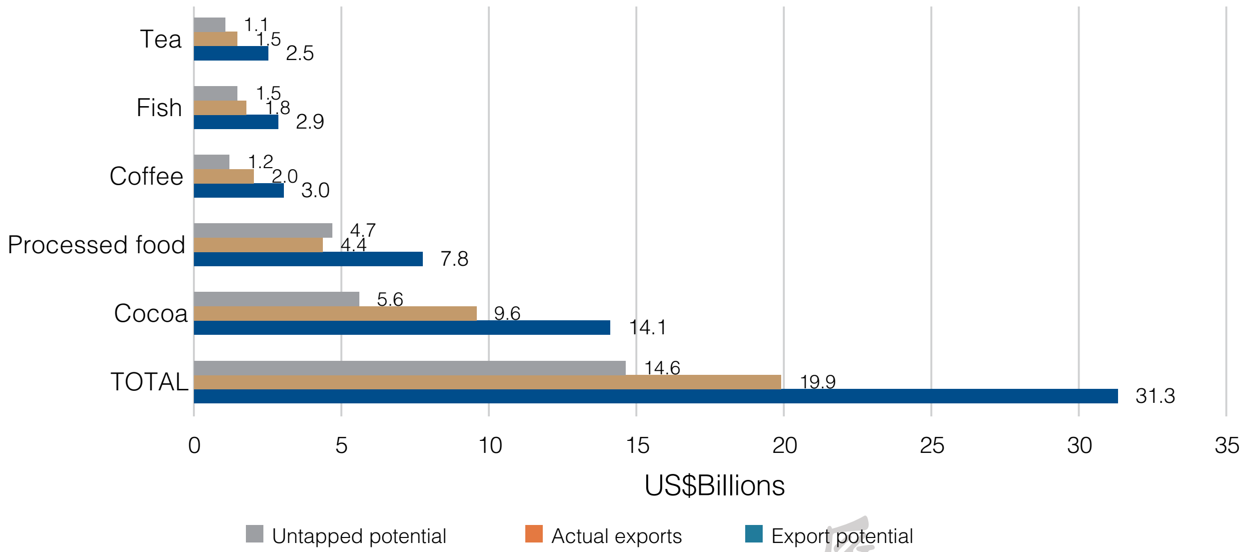
Agriculture provided livelihood for 70 percent of the population in Africa, the home to 60 percent of the world's uncultivated arable land.[73] Despite the resource endowment, both the export of major categories of raw products and processed food face significant export gaps as shown in Figure 7. At existing levels of production in the selected sectors shown below, the combined export potential for the top ten countries is US$31.3 billion, with an untapped export potential (the additional export value that a country could achieve beyond its current export levels, with improved conditions in supply, demand, and trade access) of US$14.6 billion. Figure 8 highlights the top countries with the highest export potential in these industries, and the untapped potential is still evident even though they have relatively advanced performance in the measures of supply, demand and trade access. The still-underutilized agricultural resources also present a substantial opportunity for growth.

Agriculture can be used as a basis to develop manufacturing and is vital to the structural transformation of the African economy due to its extensive forward and backward linkages in the value chain. According to research by AfDB, agro-industries stimulate a wide range of ancillary services and supporting activities in the secondary and tertiary sectors. Furthermore, given that most agricultural products are bulky and perishable, the processing plants are often located close to the sources of raw materials.[74] In this case, the agro-processing sector can create direct spillover effects to the local community through both purchase of their immediate raw products from the farms and job opportunities in value-added production.

73 Wim Plaizier (2016). 2 Truths About Africa's Agriculture. https://www.weforum.org/agenda/2016/01/how-africa-can-feed-the-world/

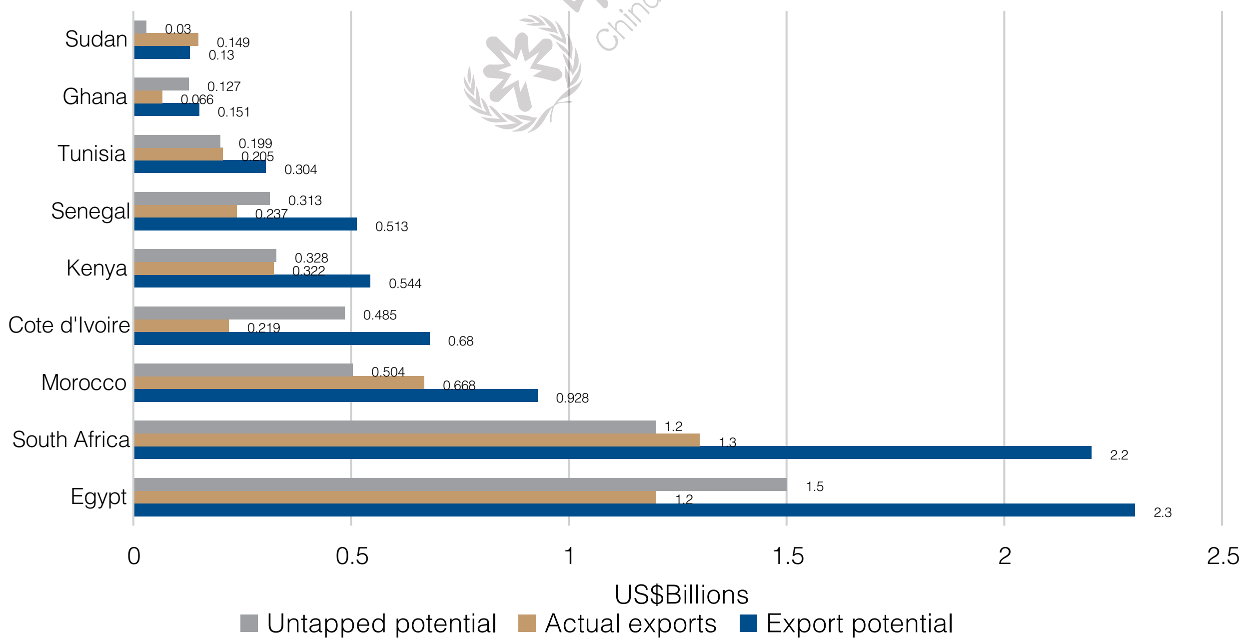
74 AfDB (2017). Transforming Africa's Agriculture through Agro-Industrialization. https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/AEB_Volume_8_Issue_7_Transforming_Africa_s_Agriculture_through_Agro-Industrialization_B.pdf

Figure 7 EPI of Agro-Based Industries



In this backbone sector which can catalyze high social and economic impact, the Chinese investment can significantly increase dynamism along the value chain: upstream through promoting wider use of inputs such as fertilizers, machinery and smart agricultural services; and downstream through improving the storage facilities, local processing and exploring diverse markets.

Figure 8 EPI of Processed Food in Africa and Top Countries



Feature 12 Jiangsu Jielong: Impactful Investment Along the Value Chain of Oil Processing in Tanzania[75]

With the launch of the Belt and Road Initiative, Jiangsu Jielong Agricultural Development Group Co., Ltd. from Jiangsu Province who have been engaging in agro-processing since 2001, identified opportunities in Tanzania's abundant resources of cotton and other oilseeds, aiming to address the shortage of raw cottonseed in China and utilize its excess capacity in oil production. In 2013, the company invested $30 million to establish its Tanzanian plant in Shinyanga Province, initially focusing on vegetable oil, feed, and soap processing. This initiative later expanded to include the production of animal feeds and plastic barrels.

Now recognized as the country's largest vegetable oil processing enterprise, Jielong has introduced modern facilities and techniques, achieving an annual production of 26,000 tons of vegetable oil, 10,000 tons of cotton linters, 50,000 tons of feed, and 5 million oil barrels. The plant employs over 420 local workers, who constitute 95 percent of its total workforce. Moreover, the project has created employment opportunities and increased incomes for over 5,000 local farmers.

In addition to its processing activities, the project has had a significant impact upstream. Drawing inspiration from its headquarters in Sheyang County, where a successful joint-farming model was pioneered by local farmers, Jielong signed contracts with farmers in Shinyanga Province and collaborated with the local government to transform fragmented small-scale farms in the sunflower planting areas into large, efficiently managed tracts of land suitable for joint planting and management.

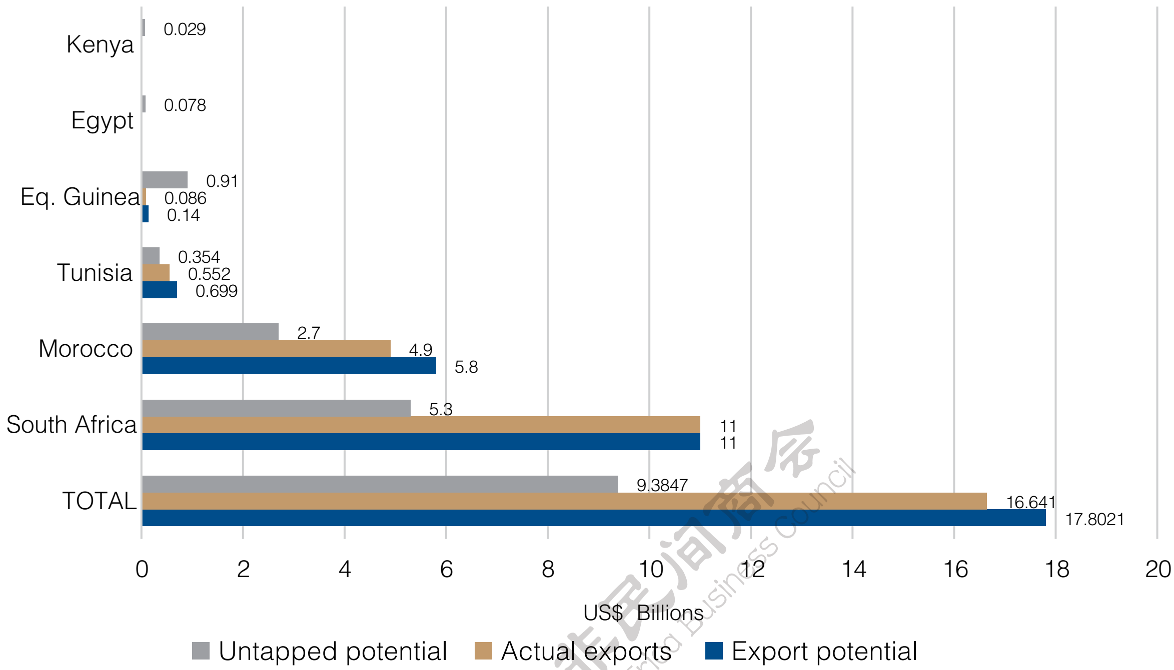
Automotive

Figure 9 below presents the top countries with the greatest export potential in the automotive industry (including both finished vehicles and motors as well as the components) at current levels of production. South Africa and Morocco dominate, accounting for over 80 percent of the continent's automotive exports. South Africa benefits from being the largest market, while Morocco's strategic location and numerous free trade agreements with Europe, the US, Turkey, the UAE, and others have made it a significant hub.[76]

75 Zhang Xuefa (2024). Jiangsu Jielong: A Multinational National-Level Agricultural Industrialized Leading Enterprise.Yangtse Evening Post. https://www.yzwb.net/zncontent/3697067.html

76 Jo Harper (2021). Africa Emerges as Car Industry Hub. https://www.dw.com/en/africa-begins-to-emerge-as-car-industry-hub/a-59500532#:~:text=Morocco%20is%20an%20emerging%20automotive%20manufacturing%20hub%2C%20while,are%20starting%20out%20on%20this%20road%20less%20traveled.

Figure 9 EPI of Vehicle and Motor Parts in Africa and Top Countries



The continent is also poised to become a key region for promoting sustainable mobility due to its abundant raw materials essential for electric vehicle production, such as copper, cobalt, bauxite, and lithium.[77] Therefore, establishing value-added production in Africa could significantly impact industrial transformation. At current levels of production, the combined export potential for the top ten automobile exporters in Africa stands at US$17.8 billion, twice the current export value. These countries have a total of US$9.3 billion in untapped export potential. With anticipated increases in production capacity due to government incentives, increasing urbanization, and infrastructural developments, the value of Africa's automotive industry is expected to grow to US$42.06 billion by 2027.[78]

It is also worth noting that the AfCFTA enhances the automotive sector by enabling economies of scale through market integration and reducing tariffs on inputs like aluminium from Mozambique, rubber from Côte d'Ivoire, and finished vehicles from South Africa and Morocco. Equatorial Guinea, a major oil producer in Africa traditionally dependent on oil extraction for economic sustenance, as listed in the figure, has the potential to diversify and enhance its economy by supplying petroleum-based materials essential for automobile production, such

77 Ibid.

78 Chido Munyati and Landry Signé (2023). African Free Trade Area Can Herald $12 Billion Growth for the Continent's Automotive Industry.https://www.weforum.org/agenda/2023/04/african-free-trade-agreement-could-herald-12-billion-growth-for-continent-s-auto-industry/

as plastics and synthetic rubber, thereby achieving higher value addition. The AfCFTA's rules of origin establish common thresholds for value-added levels, fostering regional cohesiveness and competitiveness.[79]

Beyond basic materials like steel, aluminium, leather, rubber, plastic, and glass, the core activity of the automotive sector centres around assembly, involving components such as body welding, fabrication, shearing, bending, stamping, drive trains, gearboxes, steering, and electronics. The "hub and spoke" model proposed by the African Association of Automotive Manufacturers (AAAM) suggests that assembly in "hub" economies be supplied by surrounding "spoke" economies,[80] distributing the benefits of the automotive industry across multiple countries and fostering broader regional development. Chinese investors can capitalize on these sub-sectors to leverage Africa's growing demand for vehicles and abundant raw materials and help establish a robust supply chain within the continent.

Feature 13 BTR New Material Group's Role in Powering Morocco's Ambition in EV Batteries and Components Manufacturing[81]

On March 29, 2024, BTR New Material Group, a leading Chinese battery manufacturer from Jiangsu Province, secured approval from the Moroccan government to establish a cathode plant for electric vehicle batteries in Tangier, a Mediterranean city in northern Morocco. BTR New Material Group supplies major battery manufacturers such as BYD, CATL, Volkswagen, and Tesla. This project, with a total investment of $300 million, will be constructed in two phases on a 15-hectare site in the Mohammed VI Tangier Tech City. The first phase is set to begin production in September 2026. The plant is expected to create 2,500 local jobs, and the Moroccan Investment Minister Mohcine Jazouli highlighted it as a cornerstone in Morocco's strategy to build a comprehensive battery ecosystem.

79 Prachi Agarwal, Anthony Black, Alberto Lemma, Vuyiswa Mkhabela and John Stuart (2022). The African Continental Free Trade Area and the Automotive Value Chain. https://cdn.odi.org/media/documents/VVC_paper_final.pdf

80 Ibid.

81 Sang YU (2024). Morocco in North Africa Is Becoming a Hot Destination for Chinese Investment in the New Energy Manufacturing Industry. Radio France Internationale (RFI) https://rfi.my/AUGz

Feature 14 BAIC's Manufacturing Plant in South Africa: Key Project of FOCAC with Outstanding Results[82]

In 2018, Beijing Automotive Industry Corp. (BAIC), the sixth largest automobile manufacturer in China completed the construction of its South African plant in the Coega Industrial Development Zone near Gqeberha. With a total investment of $226 million, it as a part of 26th projects in bilateral agreement on China-South Africa cooperation signed before the Johannesburg Summit of FOCAC in 2015. This complete-manufacturing facility aims to serve as a global production and export hub for Africa, Europe, the Middle East, and Latin America. The plant has increased localization in engineering, equipment procurement, and labour, involving over 150 local SMEs and creating over 3,000 jobs along the supply chain. The facility also developed a skilled workforce of technical and management professionals.

Pharmaceutical

AfDB research found that per capita pharmaceutical spending in Africa is US$25, significantly lower than the global average of US$160, indicating substantial growth potential.[83] However, currently, Africa accounts for just 3 percent of global drug production and imports over 80 percent of its pharmaceuticals.[84] To foster sectoral growth and enhance the resilience of the health system, establishing pharmaceutical manufacturing hubs across all African regions is crucial, especially with private sector engagement in financing and R&D. Currently, manufacturing is skewed to only a few countries, necessitating broader distribution to reduce infrastructure costs, encourage resource pooling, and streamline logistics.

There are approximately 600 to 1000 pharmaceutical manufacturers in Africa, primarily concentrated in North African states like Egypt, Morocco, and Algeria, and in West African nations such as Ghana and Nigeria, with additional presence in Kenya and South Africa.[85]

The top-6 exporters of pharmaceutical goods in Africa have a combined export value of US$1.3 billion. At the existing level of production, their combined export potential is 35 percent higher than current levels, standing at US$1.7 billion. The figure below presents the individual export potential of these countries.

---

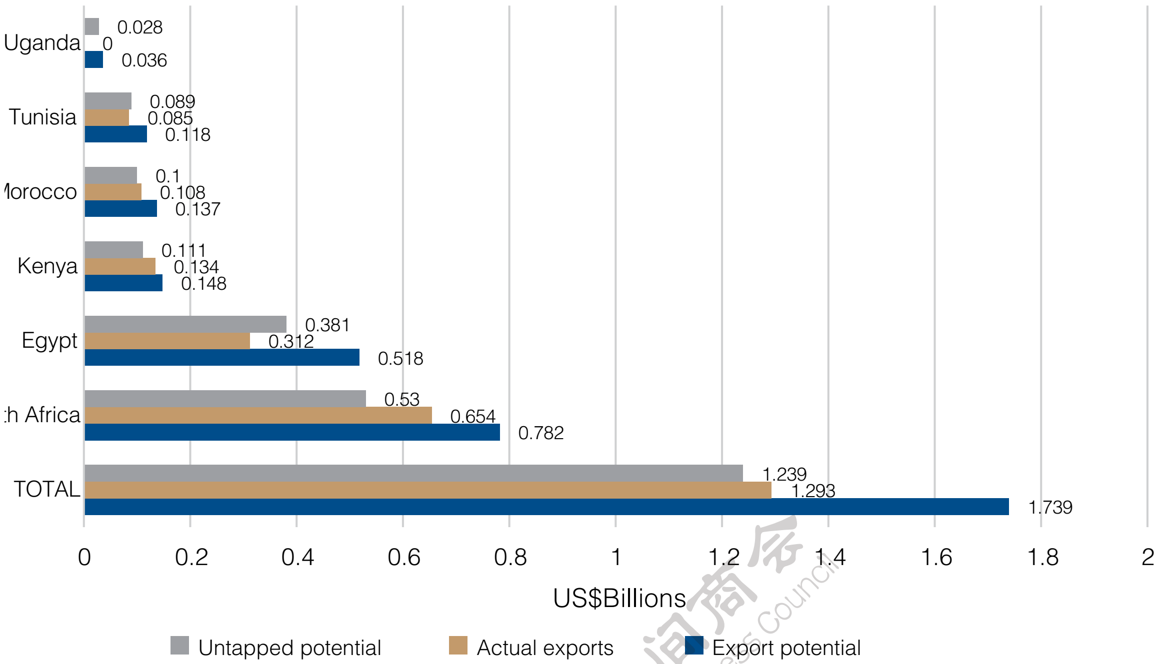
82 BAIC (2023). From "Going Out to "Going In " – BAIC's Ten Years of High-Quality Belt and Road Cooperation. Tencent News. https://new.qq.com/rain/a/20231019A0ANDJ00

83 AfDB (2022). A New Frontier for African Pharmaceutical Manufacturing Industry. https://www.afdb.org/sites/default/files/documents/publications/pharmaceutical_industry_and_vaccine_production_web.pdf

84 Nanthalile Mugala and Johnpaul Omollo (2023). 6 Essential Steps to Expanding Health Product Manufacturing in Africa. https://www.weforum.org/agenda/2023/01/6-essential-steps-to-expanding-health-product-manufacturing-in-africa-davos23/

85 Development Reimagined (2022). Making Africa's Pharmaceutical Ambitions A Reality: Part 1 - History, Trade and Hubs. https://developmentreimagine.b-cdn.net/wp-content/uploads/2022/08/afr_pharm_report_final-_format_oo_29jul.pdf

Figure 10 EPI of Pharmaceuticals in Africa and Top Countries



Chinese investors can seize the opportunity to build manufacturing capacity for preventing and treating the most prevalent diseases in Africa, presently led by non-communicable diseases such as diabetes and followed by infectious and communicable diseases, such as malaria and HIV.[86]

Feature 15 Commerce Before Industry: Humanwell's Pharmaceutical Localization Strategy[87]

Humanwell is pioneering the establishment of modern pharmaceutical factories in Africa, embodying a long-term development strategy termed "commerce before industry." Initially, the company collaborated with local pharmaceutical manufacturers in Western and Eastern Africa for contract manufacturing and trade, gradually building its brand presence in local markets. This approach evolved towards direct investment and the establishment of local factories to achieve pharmaceutical localization.

In Bamako, Mali, Humanwell Pharmaceuticals partnered with the China-Africa Development Fund, investing RMB350 million to establish Humanwell Africa Pharmaceuticals Co., Ltd. Since its launch in 2015, the factory has generated annual revenues exceeding RMB100 million, producing 30 million bottles of syrup and 40 million bags of IV fluids annually, which have leveraged to 14 countries in West Africa and reduced the price of these medicines by 30 percent. In 2017, Humanwell Pharmaceuticals expanded into Ethiopia with an initial investment of RMB20 million. The factory in Ethiopia features automated production lines for solid oral, liquid, and small-volume injection formulations, supporting Ethiopia's Pharmaceutical Industry Development 10-Year Plan and creating 300 local jobs.

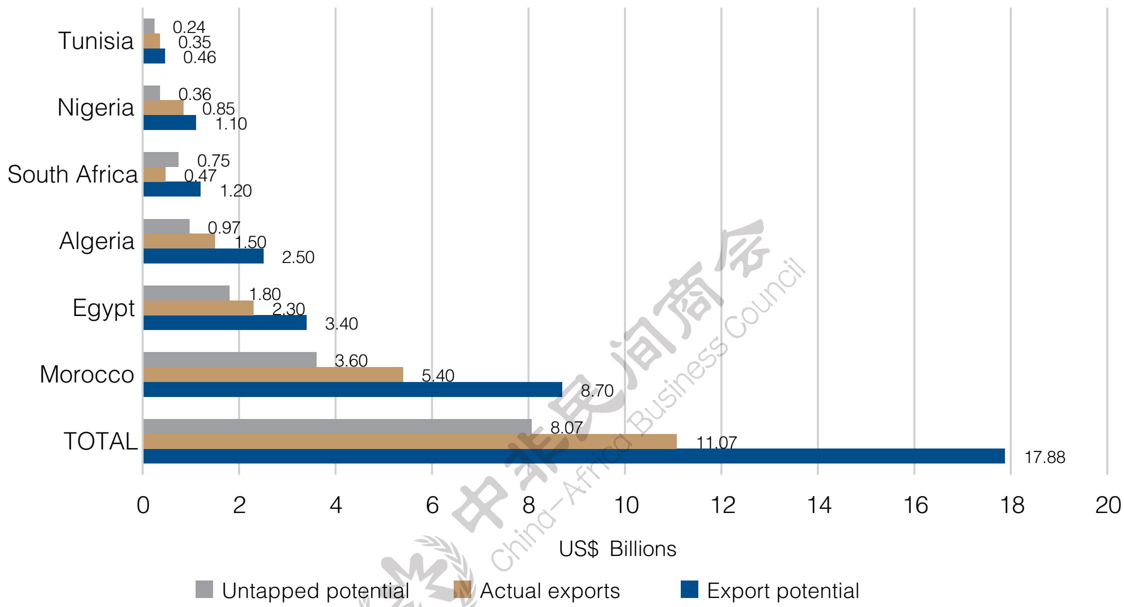
86 Ibid.

87 Xiao Qijia (2021). A Global Community of Health for All: A Footnote to HumanWell's African, China Investment. (in Chinese) https://www.thepaper.cn/newsDetail_forward_12276485

Fertilizers and chemicals

In the fertilizers and chemicals industry, the top 10 African exporters boost a combined export level of US$11 billion and US$12 billion respectively. At existing levels of production, however, the export potential in these countries in the fertilizer industry stands at US$18 billion with an untapped potential of US$8 billion.[88] In the chemicals industry, export potential stands at US$ 16.6 billion with an untapped potential of US$8.3 billion, as shown in Figure 11 below.[89]

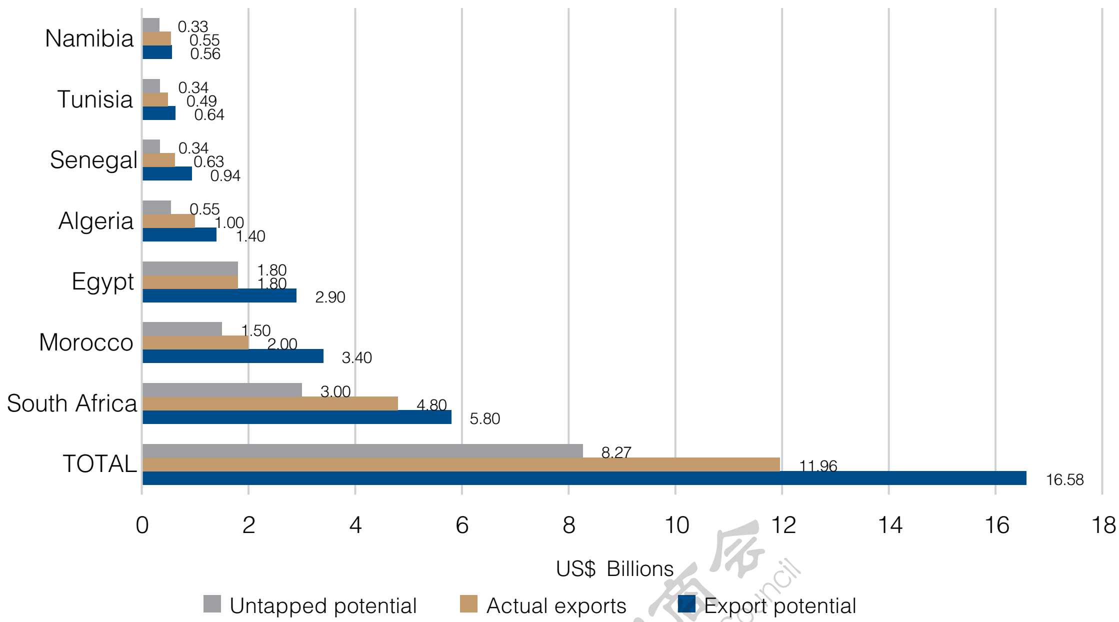
Figure 11 EPI of Fertilizers in Africa and Top Countries



88 Major types of fertilizers include phosphorous, nitrogen, and potassium fertilizers.

89 This includes chemicals such phosphoric acids, anhydrous ammonia, products of natural uranium, methanol and other chemicals.

Figure 12 EPI of Chemicals in Africa and Top Countries



Parts of Africa are rich in the raw materials needed for fertilizer production. For example, Morocco, one of the top exporters of fertilizers, holds about 75 per cent of the world's reserves of phosphate rock, while Egypt and Tunisia also have considerable reserves.[90] As for nitrogen fertilizers produced from natural gas, Africa is richly endowed with natural resources. Almost half of its 55 countries have proven natural gas reserves, amounting to over 800 trillion cubic feet. BP predicts that natural gas production in Africa will expand by 80 percent by 2035, led by Nigeria, Algeria, Senegal, Mozambique, Egypt, and Tanzania.[91]

According to the African Fertiliser and Agribusiness Partnership (AFAP), over 40 percent of African soils face nutrient depletion due to insufficient fertilizer application.[92] One reason for low fertilizer use in parts of Africa is the prohibitively high cost of synthetic fertilizers for small-scale producers. Although Africa is a net exporter of fertilizers, the production capacity is highly skewed to a few countries which cannot fulfill the demand with more accessible price for the whole continent. Several mechanisms led by pan-African institutions aim to promote the wider use of fertilizers. These include the Africa Fertilizer Financing Mechanism[93], administered by the AfDB, which provides innovative financing solutions to accelerate fertilizer usage in

90 World Population Review (2024). Phosphate Reserves by Country 2024. https://worldpopulationreview.com/country-rankings/phosphate-reserves-by-country

91 Energy Capital & Power (2021). Top 10 African Countries Sitting on the Most Natural Gas. https://energycapitalpower.com/top-ten-african-countries-sitting-on-the-most-natural-gas/

92 The Exchange. Largest Fertiliser-Producing Countries in Africa and Their Output. https://theexchange.africa/industry-and-trade/list-of-largest-fertiliser-producing-countries-in-africa-and-their-output/

93 African Development Bank (2024). Pledges for a Stronger Africa Fertilizer Financing Mechanism to Increase Food Production in Africa. https://www.afdb.org/en/news-and-events/press-releases/pledges-stronger-africa-fertilizer-financing-mechanism-increase-food-production-africa-70938

Africa and improve agricultural productivity.[94] Positioned at the nexus of the agricultural and manufacturing sectors, there is a critical window of opportunity to invest in localized fertilizer production across the continent and make fertilizers more accessible to farmers through intra-Africa trade.

Feature 16 Wynca Sunshine (Ghana) Catalyzed Agrochemical Production in West Africa

Wynca Sunshine (Ghana) is a subsidiary of Zhejiang-based Wynca Group, producer of glyphosate and ranked 13th in worldwide sales of agrochemicals. By May 2012, Wynca had invested 500 million RMB to construct the first glyphosate production base in Ghana. Currently, the company captures over 35 percent of the Ghanaian market. Alongside glyphosate, Wynca Sunshine produces a diverse range of over 50 agrochemical products, including herbicides, insecticides, and fungicides. Local production of these agrochemicals significantly reduces costs and boosts productivity. Its market coverage has been extended beyond Ghana to include Togo, Benin, Côte d'Ivoire, Burkina Faso, Nigeria, and Senegal.

In terms of its commitment to the empowerment of local communities, Wynca Sunshine's Ghana facility employs over 90 percent local residents. Annually, the company conducts over 100 training sessions on product usage, plant protection, and pest control, reaching more than 250,000 farmers. In 2017-2018, Wynca Sunshine introduced a high-yield maize solution, which increased farmers' income by 450-810 cedis per acre. In 2018, the company also launched drone-based agricultural services, leading the application of agricultural technology in Ghana.

In November 2023, Wynca Sunshine was honored by Ghana's Ministry of Food and Agriculture for its outstanding contributions to the agricultural sector, serving as a model for other stakeholders in driving Ghana towards self-sufficiency in food production.[95]

Similar to fertilizer, a wide range of chemicals used in pharmaceuticals, textiles, agriculture, and construction also create cross-sectoral synergies and contribute to a robust supply chain through forward and backward linkages. At present, notable regions with strong chemical industries include North Africa, with significant production in Algeria, Egypt, Morocco, and Tunisia. South Africa leads in the southern African region with a chemical industry largely based on coal, used as feedstock for its extensive synthetic fuels industry.

Currently, the African chemical markets primarily focus on meeting local demands for chemical feedstocks and intermediates rather than exporting outside the continent.[96] However, the African chemicals market size is projected to grow, with a compound annual growth rate of 6.9

94 Additionally, during the Africa Fertilizer Summit in Abuja on June 12, 2006, African Union Ministers of Agriculture resolved to increase fertilizer use as a strategic measure to end hunger, though most African countries have yet to meet this regional commitment.

95 Christabel Danso Abeam (2023). PPRSD-MoFA Lauds Wynca Sunshine for Outstanding Support. B&FT Online. https://thebftonline.com/2023/11/09/pprsd-mofa-lauds-wynca-sunshine-for-outstanding-support/

96 Shaun Bakamoso. Africa: Chemicals – African Chemicals Overview. Mbendi. https://mbendi.co.za/indy/chem/af/p0005.htm#:~:text=Petrochemical%20commodities%2C%20polymers%20and%20fertilisers%20are%20the%20main,multinational%20chemical%20company%20majors%2C%20traders%2C%20agents%20and%20distributors.

percent during the forecast period of 2024-2030[97]. It presents vast opportunities for investors especially the oil-rich countries traditionally focused on crude oil extraction like Nigeria and Angola, which are now setting strategic goals to diversify their product portfolios.

Feature 17 The United Capital Fertilizer Plant Explores the Transformative Potential of Fertilizer in Zambia[98]

The United Capital Fertilizer Plant, located in Lusaka's Chilanga district, was invested by the Wonderful Group at a total amount of US$308 million. The construction carried out by China Wuhuan Engineering Co., Ltd started in May 2023, and recently received the key project equipment.

The manufacturing plant has a projected production capacity of 135,000 metric tonnes per annum for fertilizer and 80,000 metric tonnes per annum for ammonia bicarbonate. The establishment of this facility is expected to reduce the importation of fertilizer by about 60 percent and lower fertilizer costs by approximately 40 percent, leveraging local raw materials and economies of scale. With the ability to supply 80 percent of the urea demand and 60 percent of the D compound required in Zambia, the plant will significantly reduce the country's dependence on imported fertilizers. Local sourcing of raw materials, such as coal and phosphate from the Southern Province, is a key factor in this strategic advantage. Once fully operational, the plant is projected to create about 1,100 direct jobs, further boosting the local economy.

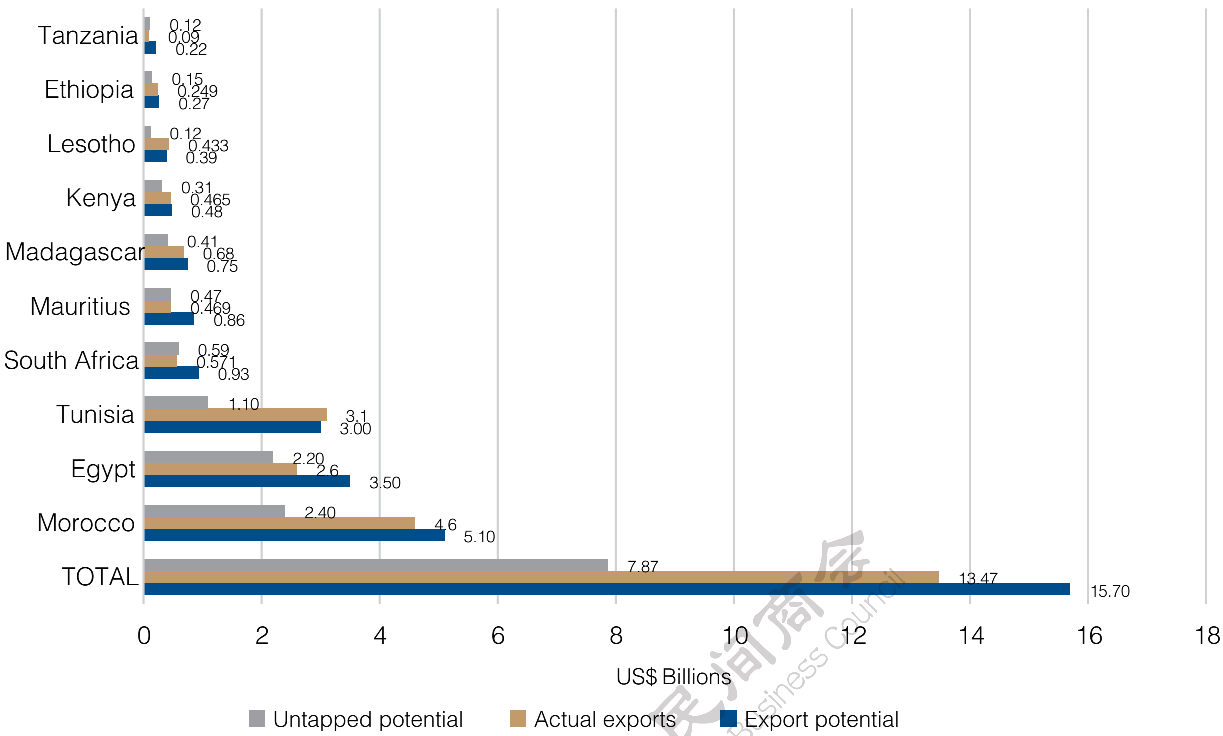
Textiles

Within the textile industry, Africa's top-10 exporters have a combined export potential of US$15.7 billion approximately 20 percent higher than the current export potential of US$13.5 billion, and an untapped potential of US$7.9 billion. Figure 13 below shows the countries with the highest export potential in the textile industry.

97 6W Research (2024). Africa Chemicals Market (2024-2030) | Companies, Forecast, Size, Value, Outlook, Industry, Revenue, Share, Analysis, Trends & Growth. https://www.6wresearch.com/industry-report/africa-chemicals-market-outlook

98 Food Business Africa (2022). Wonderful Group of Companies opens US$300m United Capital Fertilizer Manufacturing Plant. https://www.foodbusinessafrica.com/wonderful-group-of-companies-opens-us300m-united-capital-fertilizer-manufacturing-plant/

Figure 13 EPI of the Textile in Africa and Top Countries



As one of the traditional industries in Africa, the textile sector is poised to grow at a compound annual growth rate of more than 4 percent between 2024 and 2029.[99] The textile and clothing industry presents significant potential for value-added benefits and job creation. It is estimated that up to 600 percent of value can be created along the cotton value chain[100]: from cotton production, spinning and twisting into yarn, weaving and knitting into the fabric, followed by dyeing, printing, and design.[101] The textile industry also has a positive impact on empowering women. Investing in developing their skills to generate revenue in these areas leads to

99 Mordor Intelligence. Textile Industry in Africa Size & Share Analysis - Growth Trends & Forecasts (2024 - 2029) https://www.mordorintelligence.com/industry-reports/africa-textile-industry---growth-trends-and-forecast-2019---2024

100 Cotton is primarily cultivated for its fiber or lint, which serves as the raw material for cotton textiles. However, there is also commercial potential in other parts of the cotton plant, including seeds, stalks, hulls, and linters, collectively known as cotton by-products. These by-products can provide significant revenue for farmers, processors, and traders, yet they remain largely untapped in Africa. In late 2018, the Cotton Four (C-4) countries—Benin, Burkina Faso, Chad, and Mali—requested the WTO, the United Nations Conference on Trade and Development (UNCTAD), and the International Trade Centre (ITC) to collaborate in supporting cotton-producing least developed countries (LDCs) in harnessing the value of cotton by-products. This area also presents a promising opportunity for Chinese investment. The Jielong plant in Tanzania presented above is a notable example of success in this field. For more details, see https://www.wto.org/english/tratop_e/agric_e/cbps_e.htm

101 African Development Bank (2018). Textile and Clothing Industries Can Drive Africa's Industrialization, Benefit Women. https://www.afdb.org/en/news-and-events/textile-and-clothing-industries-can-drive-africas-industrialization-benefit-women-18427

greater economic productivity and independence, with social and political benefits for their communities.

However, Africa currently lacks a complete textile industry chain. Despite some countries being rich in raw materials like cotton, most African nations must import a large volume of textile materials and accessories for the production of garments and other finished products. This dependency leads to longer manufacturing cycles, making it challenging for the producers to respond to new orders in time.[102] At the same time, this provides an opportunity in terms of Africa's domestic market.

Between 2013 and 2022, Chinese textile industry investment in countries involved in the BRI amounted to approximately US$6 billion, representing about 50 percent of the industry's global investment.[103] The advantages for Africa include low tariffs and geographical proximity to major markets, abundant raw materials, and a vast human resource pool. The industrial parks that have been established in different African countries would function as solid bases for emerging textile hubs on the continent. For example, the Glo-Djigbé Industrial Zone (GDIZ) in Benin, which is a public-private partnership project co-managed by ARISE Integrated Industrial Platforms (ARISE IIP) and the Benin government, offers high-quality, sustainable cotton resources directly sourced from local farms for investment in the textile value chain.[104]

Mineral processing

Africa's greatest export potential exists in the mineral processing sector.[105] At the existing production level, Africa's top-10 exporters of minerals and mineral products have an export potential of US$144.2 billion, approximately 50 percent greater than the existing export value of US$97.7 billion. In addition, there is an untapped export potential of US$60.9 billion. With Chinese investment in domestic mineral resource beneficiation, particularly in the critical minerals sector, African countries can significantly increase their earnings from their abundant mineral resources.

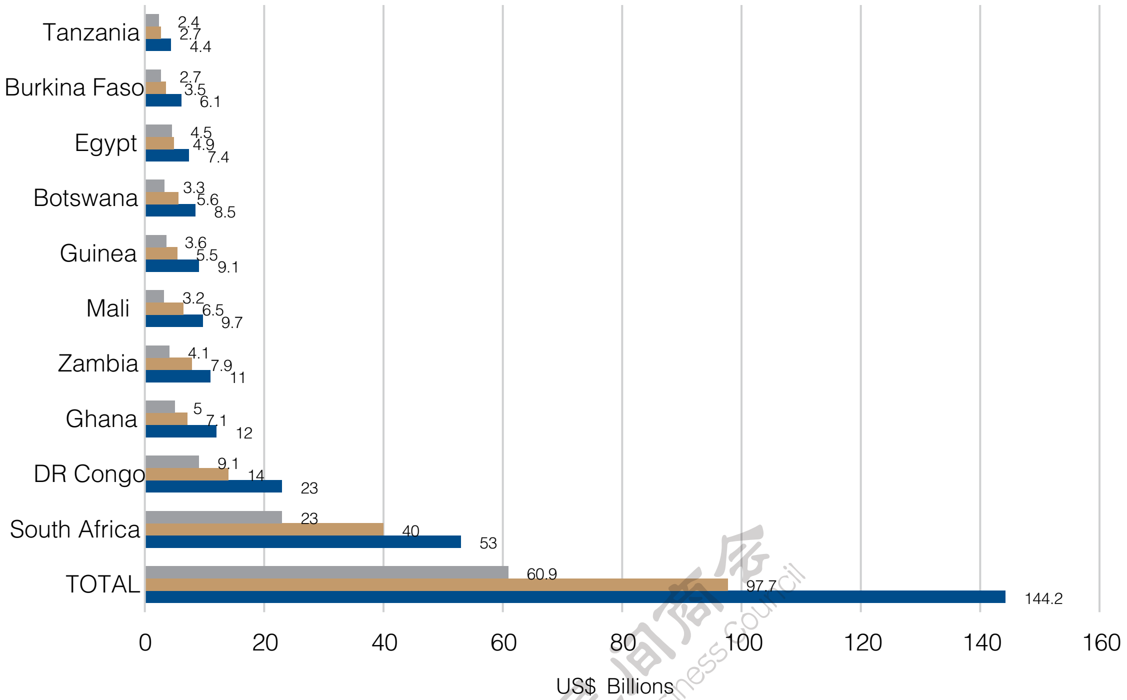
102 Sohu Business (2018). China-Africa Textile Industry Cooperation Gathers Strong Momentum; African Textile Industry Special Dialogue held in Shanghai.

103 China Textile Economic Information Website (2023). The Potential of Africa, a New Gathering Place for Chinese Textile Enterprises. http://news.ctei.cn/internal/gjzx/202311/t20231108_4330427.htm

104 Ibid.

105 Minerals include Manganese ores, Iron ore, chromium ore, copper, titanium, aluminium, zinc, tin etc.

Figure 14 EPI of Mineral Processing in Africa and Top Countries



The World Bank predicted that to meet the rising global demand and avoid the worst impacts of climate change, the production of these minerals will need to increase by 500 percent by 2050.[106] Africa owns over 30 percent of the world's mineral reserves, with almost every country on the continent rich in at least one critical mineral.[107] These resources are essential for the development of green energy technologies such as electric vehicles, solar and wind installations, batteries, and renewable power systems to maximize the value of the continent's mineral industry, the focus needs to be redirected towards local value chains.

Against this backdrop, several African countries are implementing reforms aimed at encouraging local mineral processing and value addition. For example, in 2023, Namibia[108] and Zimbabwe 109banned the export of unprocessed lithium and other critical minerals, leveraging the rising global demand for transition metals and minerals. Both countries aim to regulate these exports, with Namibia only allowing small quantities of the specified minerals with the approval of its Ministry of Mines and Energy, and Zimbabwe emphasizing local battery-grade lithium production from concentrates. The African Development Bank has also developed the

106 Word Bank (2019) Climate-Smart Mining: Minerals for Climate Action. https://www.worldbank.org/en/topic/extractiveindustries/brief/climate-smart-mining-minerals-for-climate-action

107 Bradley Intelligence Report (2023). Africa and the Global Race for Critical Minerals. https://www.bradley.com/insights/publications/2023/08/africa-and-the-global-race-for-critical-minerals

108 Reuters (2023). Namibia Bans Export of Unprocessed Critical Minerals. https://www.reuters.com/markets/commodities/namibia-bans-export-unprocessed-critical-minerals-2023-06-08/

109 The Zimbabwe Mail (2023). Zimbabwean Government Explains Law Banning Export of Raw Minerals. https://www.thezimbabwemail.com/business/zimbabwean-government-explains-law-banning-export-of-raw-minerals/#google_vignette

African Green Minerals Development Strategy, a policy guide for how African countries can strategically exploit their green mineral resources for industrialization.[110]

By the end of 2021, China's stock of direct investment in Africa's mining industry reached US$9.99 billion, accounting for 22.6 percent of China's total investment stock in Africa.[111] This substantial investment highlights the existing foundations to extend the value chain by conducting processing locally.

Green manufacturing

Environmental goods (EG) play an important part in Africa's efforts in environmental protection and climate change mitigation. They contribute to the reduction of greenhouse gas emissions, improvement of air and water quality, conservation of natural resources, and the attainment of national and international environmental goals, such as the Paris Agreement and the SDGs.

However, Africa's current engagement in the global EG market remains limited. Whereas EPI data is not available for Africa's EG export potential, Development Reimagined has published a report that discusses this topic extensively.[112] In 2020, Africa accounted for just 1 percent of global trade in EG, totalling US$29.9 billion. Within the African continent, aggregate trade in EG totaled US$33.82 billion in 2020 with imports accounting for 77.5 percent of the overall trade volume.[113] The top exporters of EG in Africa are South Africa, Egypt, Tunisia, and Morocco, jointly accounting for 90 percent of Africa's total EG exports. The dominance of these four countries can be attributed to several factors including the abundance of natural resources, presence of a relatively established manufacturing and the existence of a considerable domestic market.

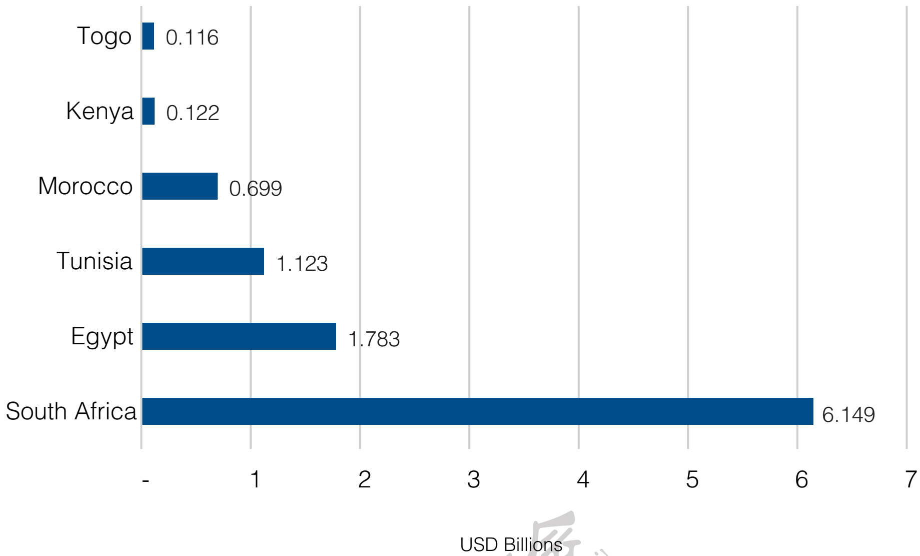
110 African Development Bank (2022). Approach Paper Towards Preparation of an African Green Minerals Strategy. https://www.afdb.org/sites/default/files/documents/publications/approach_paper_towards_preparation_of_an_african_green_minerals_strategy.pdf

111 Chinese Academy of International Trade and Economic Cooperation and China-Africa Economic and Trade Promotion Council (2023). China-Africa Economic and Trade Relations Report 2023. https://www.caitec.org.cn/upfiles/file/2023/6/20230710163310913.pdf

112 Development Reimagined (2023). Unleashing Africa's Potential for Environmental Goods Manufacturing. https://developmentreimagine.b-cdn.net/wp-content/uploads/2023/11/Unleashing-Africas-Untapped-Potential-for-Environmental-Goods-Manufacturing-Nov13.pdf

113 IMF. "Trade in Environmental Goods." Climate Change Dashboard. https://climatedata.imf.org/pages/bpindicators#cb1

Figure 15 Top Environmental Goods Exporters in Africa (2021)



This low level of production and export is a far cry from Africa's tremendous potential for EG manufacturing. Africa's solar capacity alone is estimated at a staggering 10 terawatts (TW). The continent boasts a hydroelectric potential of 350 GW, a wind energy capacity of 110 GW, and geothermal sources totaling 15 GW.[114] Furthermore, the International Renewable Energy Agency (IRENA) estimates that Africa has the potential to achieve a renewable energy capacity of 310 GW by 2030 to become a leading producer of renewable energy in the world.[115]

Therefore, there is an opportunity, through manufacturing cooperation with China, for African countries to enhance their participation in the global EG market. As the demand for such goods rises worldwide, there exists a significant opportunity for African countries to leverage their vast resources, abundant labour force, and strategic geographical positioning to become key players in manufacturing EG.

114 African Development Bank. Why Africa Is the Next Renewables Powerhouse. https://www.afdb.org/en/news-andevents/why-africa-is-the-next-renewables-powerhouse-18822

115 International Renewable Energy Agency (2019). Scaling up Renewable Energy Development in Africa.

Feature 18 Jinko Solar: the Forerunner of Green Manufacturing Investment in Africa[116]

Jinko Solar, a leading solar energy company from Jiangxi Province is the first Chinese investor to establish PV manufacturing plant on the African continent. It invested approximately US$7.5 million in the PV factory located in Cape Town's Epping Industrial Area. By the time it started operation in 2014, the factory has an annual production capacity of 120 MW, employs around 250 local workers. The strategic decision by Jinko Solar to set up this facility in South Africa was based on the company's recognition of Africa's immense potential for renewable energy development.

With an average of 2,500 hours of sunshine per year, and 4.5 to 6.6 kWh/ m2 of radiation level, South Africa is among the top three in the world and sets the foundation for a vast PV market. The South African government introduced the Integrated Resource Plan (IRP) to diversify the energy mix in 2010. The IRP outlined an ambitious goal to increase the total installed capacity to nearly 90,000 MW by 2030, reducing the proportion of coal-fired power to 45.9 percent and increasing the share of renewable energy (excluding hydropower) from almost zero to 21 percent. Moreover, the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP), launched by the South African Department of Energy in 2011, further accelerated the development of renewable energy in the country. Jinko Solar's strategic decision to invest in this PV manufacturing plant aligns with these national objectives and highlights the company's strategic foresight in tapping into Africa's burgeoning renewable energy market.

Construction materials

Within the construction material industry, we focus on three pillar sub-sectors: ceramics, cement and glass. For these sectors, the combined export potential for the top-10 exporters is US$2.7 billion, which is 50 percent higher than the existing export value of US$1.8 billion. Meanwhile, the untapped export potential stands at US$2.2 billion in these select industries. The figures below show the export potential of these select sectors at existing levels of production.

116 ESCN (2014). First Factory Established by Chinese Photovoltaic Company in Africa Officially Starts Production https://www.desn.com.cn/news/show-881906.html

Figure 16 EPI of Ceramics in Africa and Top Countries

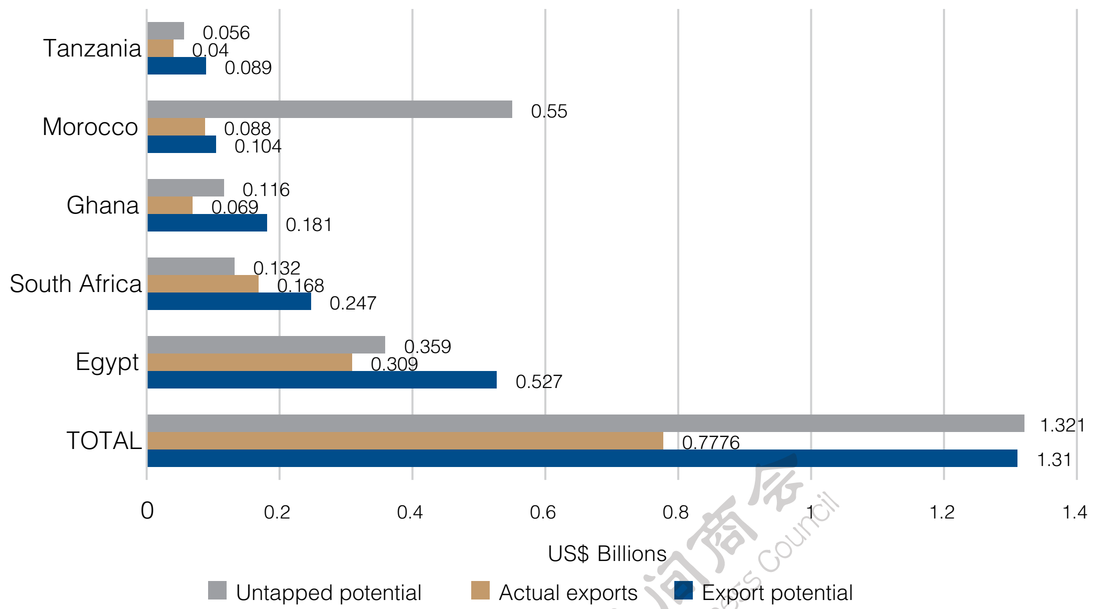


Figure 17 EPI of Cement in Africa and Top Countries

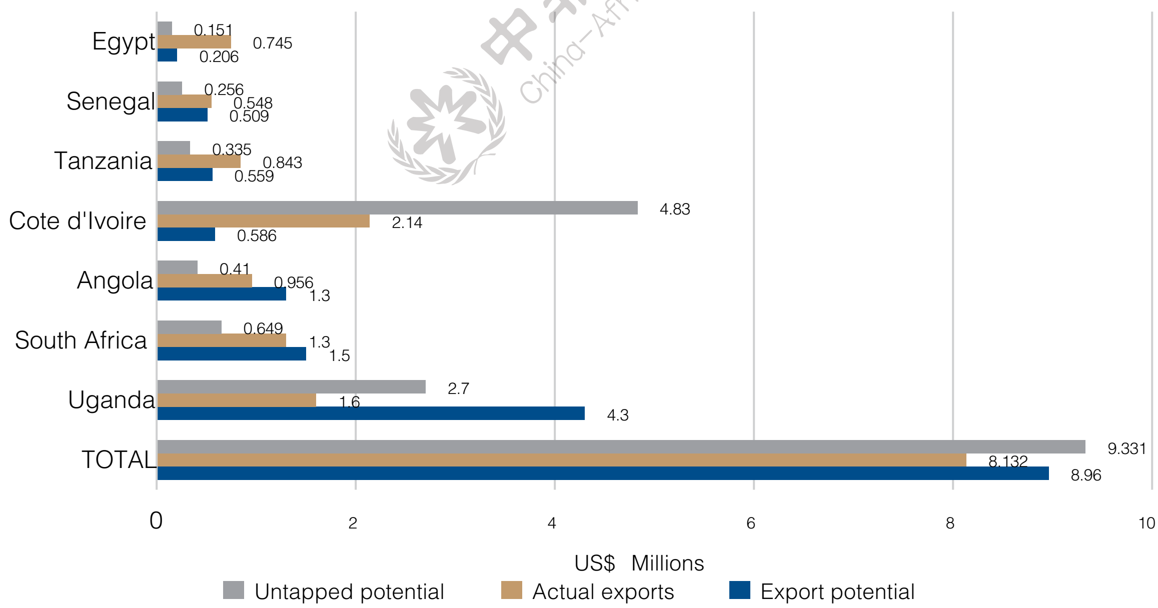
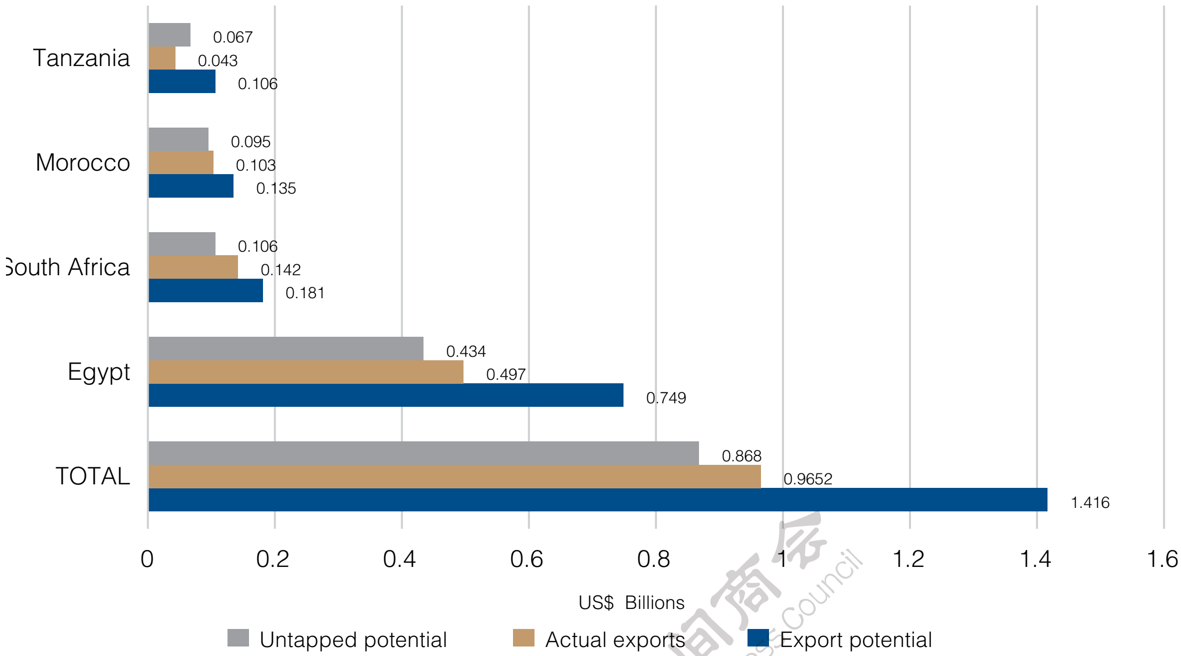


Figure 18 EPI of Glass in Africa and Top Countries



The construction material market size in Africa is estimated to register a compound annual growth rate of 6.8 percent during the forecast period 2024-2030.[117] This increasing demand for construction materials is driven by a growing population, rapid urbanization, and significant investments in infrastructure development. Many national governments have prioritized infrastructure development, which also represents the largest sector of Chinese investment on the continent.

In 2023, Mordor Intelligence estimated over 570 construction projects in Africa worth US$450 billion.[118] These projects highlight the synergies with the manufacturing sector, particularly in countries with intensive construction activities. The geographical proximity to these immediate markets offers a strategic advantage for the construction materials industry.

117 6W Research (2024). Africa Construction Materials Market (2024-2030) | Industry, Outlook, Growth, Revenue, Forecast, Size, Share. https://www.6wresearch.com/industry-report/africa-construction-materials-market-2021-2027

118 Mordor Intelligence. Construction Industry in Africa Size & Share Analysis – Growth Trends & Forecasts (2024-2029). Construction Industry in Africa - Market Trends & Report (mordorintelligence.com)

Feature 19 Strategic Cooperation Between Dangote (Nigeria) and Sinoma International[119]

Despite Nigeria's massive demand for cement driven by its growing infrastructure market, the local cement production industry faced several challenges. These included high energy consumption, outdated technologies, and severe emission issues. Recognizing the need for modernization, Dangote Industries Limited, a leading cement producer in West Africa, signed a strategic cooperation agreement with Sinoma International, which is a subsidiary of China National Building Material (CNBM), the largest cement and gypsum board producer in China in 2008.

Sinoma International's engagement supported the expansion of Dangote's cement plant in Obajana, Kogi State. The project introduced cutting-edge new dry-process cement production technology. The preheater and rotary kiln in the firing system incorporated Sinoma International's proprietary technology and equipment, along with top-tier imported laboratory automatic sampling equipment. This upgrade resulted in a diverse range of high-quality cement products, and the plant achieved world-class energy efficiency and environmental standards.

In May 2020, the new Line 5 at the Obajana plant began operations, producing 6000 tons of clinker cement per day. This expansion significantly increased local cement production capacity, bolstered the supply of basic building materials, and created numerous job opportunities. Additionally, the local cement price dropped from $300/ton to $130/ton, resulting in substantial cost savings for Nigeria's national development and construction projects.

3.2.2 Comparative analysis of production and investment opportunities

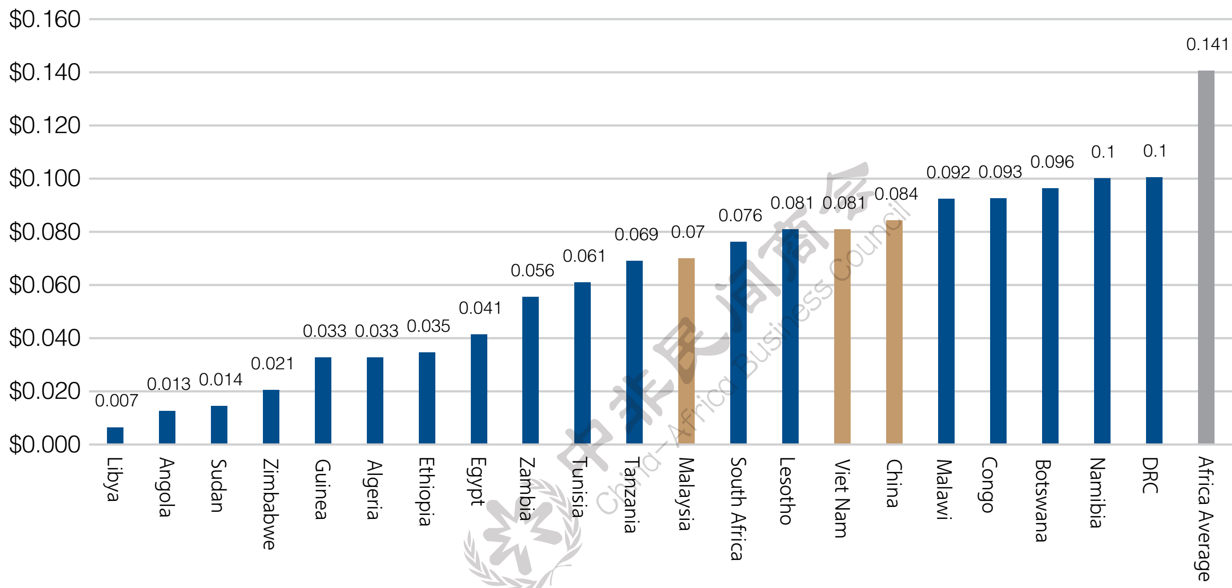
The ongoing transition in the Chinese economy presents a historic window of opportunity for African countries to receive the transfer of industrial production capacities and upgrade their productive structures, which is already happening in some parts of China's immediate geographic neighbourhood. However, the case for the transfer of industrial production capabilities from China to Africa is not obvious. It hinges on dispelling mis-founded perceptions about Africa as a risky investment destination. In this section, we seek to demonstrate the attractiveness of Africa as an investment destination, relative to China and other emerging industrial hubs such as Indonesia, Malaysia, Vietnam, and Thailand. The key drivers of economic production costs in general and manufacturing, in particular, are energy, transport, labour and raw materials. Through an analysis of production costs in Africa, the following analysis makes an economic case for Africa as an investment destination, focusing on the production costs on the continent, with comparison to China itself and other emerging industrial hubs.

119 Jiang Xuan (2021) Strong Cooperation Between Chinese and Nepali Enterprises to Create a New Dynamic for the African Cement Industry. people.cn. http://world.people.com.cn/n1/2021/0508/c1002-32097512.html

Energy: energy cost

Energy (electricity) is a key driver of production costs especially in manufacturing. According to available data, the global average price for a unit (kWh) of electricity is US$0.165.[120] At US$0.141, the average price of electricity in Africa is 15 percent lower than the global average. Whereas China has a lower unit price of electricity (US$0.084) relative to Africa, electricity is cheaper in 13 African countries than it is in China and some other regional industrial hubs in Southeast Asia (See Figure 19). In another seven African countries, the average price of a unit of electricity is higher than in China by less than 20 percent.

Figure 19 Average Price of 1 kWh (US$) **in Africa and Other Industrial Hubs**



The rich endowment of energy sources, state subsidies in many countries as well China-Africa cooperation in the energy sector have contributed to lowering the cost of electricity in Africa. With more investment in Africa's energy sector, industrial electricity costs will decrease even further, enhancing Africa's productive capabilities. Indeed, there is room for further investment, especially in those African countries where the cost of electricity remains high, bringing about challenges of insufficient and unreliable electricity supply, which hampers both economic and social development.[121] Scaling up investment in the energy sector has been listed as the strategic priority across the African continent, where China has been actively involved in financing and building power stations and extending grids.

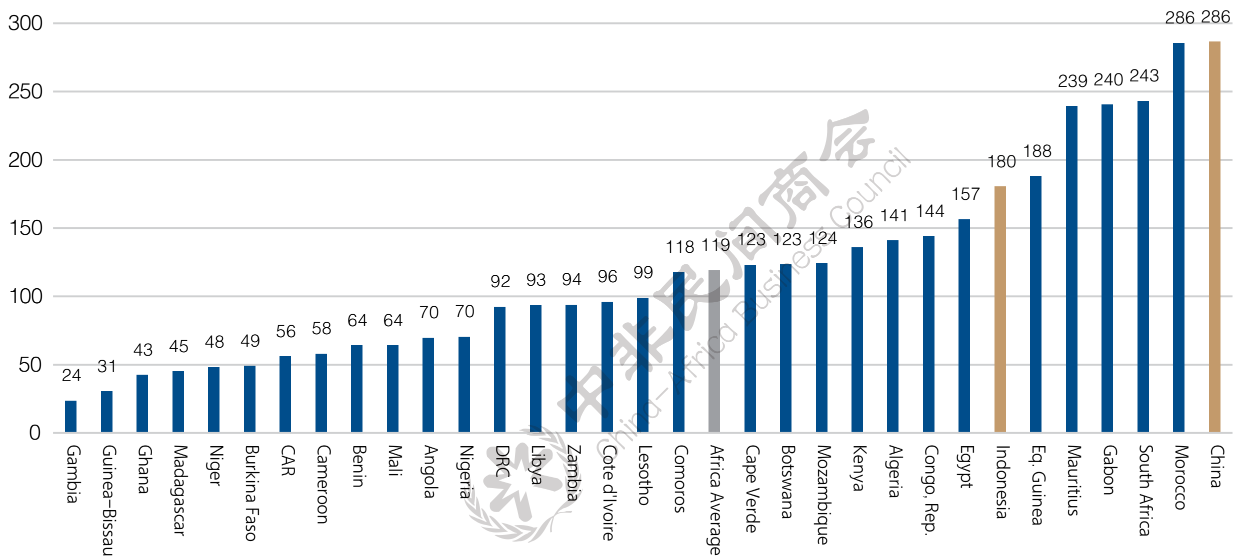
120 Cable.co.uk. The Price of Electricity per KWh in 230 Countries. https://www.cable.co.uk/energy/world-wide-pricing/

121 International Energy Agency (2022). Africa Energy Outlook 2022 – Key Findings. https://www.iea.org/reports/africa-energy-outlook-2022/key-findings

Labour: labour costs and labour productivity

Given the labour-intensive nature of manufacturing, the cost and productivity of labour are key considerations in investment decision-making, particularly in the industries we have identified. According to the International Labor Organization (ILO), China has a minimum wage of US$286.5,[122] which is 2.4 times higher than the average minimum wage of US$119.2 in 32 African countries for which data is available. Moreover, as shown in Figure 20 below, the minimum wage in China is higher than the minimum wage in all 32 African countries. The lower labour costs provide a strong incentive for manufacturers to consider Africa as a viable alternative to other regions with higher wages. This cost advantage can lead to higher profit margins for businesses that establish operations in Africa.

Figure 20 The Minimum Wage (US$) **in Africa and Other Industrial Hubs**

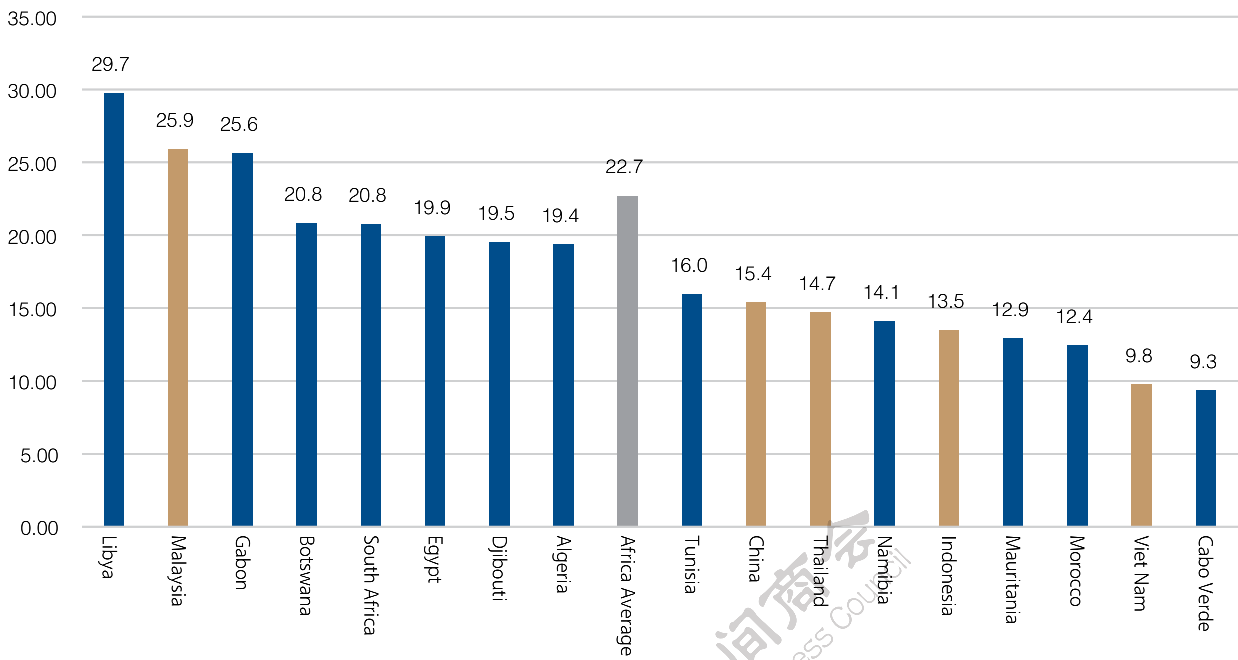


In terms of labour productivity, ILO estimates that on average, workers in Africa produce US$22.71 of output per hour worked, compared to US$15.39 in China.[123] Furthermore, workers in seven African countries have a higher output per hour worked than in China and some of the other neighbouring industrial hubs. This suggests that not only does Africa have relatively low labour rates but it also has a productive workforce the limitations in its productive structures notwithstanding, making it an attractive destination for Chinese investors seeking cost-effective and efficient production bases.

122 International Labour Organization (ILO). Statistics on Wages. https://ilostat.ilo.org/topics/wages/#

123 International Labour Organization (ILO). Statistics on Labour Productivity. https://ilostat.ilo.org/topics/labour-productivity/

Figure 21 Output Per Hour Worked (US$) **in Africa and Other Industrial Hubs**



Transport: freight/international shipping cost

Transport is yet another major cost driver for economic production. In particular, international shipping is a critical enabler of international trade, making international shipping costs a key consideration for investment decisions in different destinations. UN Trade and Development (UNCTAD) provides estimates of freight costs for all countries and regions i.e., the cost of transporting a unit quantity of commodities between various countries in the world using different modes of transport (air, sea, road, rail). According to these estimates, the average unit cost of transporting goods to China from the rest of the world is US$0.051 per kilogram, compared to an average of US$0.181 per kg for Africa.[124] However, at US$0.052 per kg, shipping from Africa to the rest of the world is just 13 percent of the average cost of shipping from China (US$0.395) to the rest of the world, as shown in Figure 22. While it is relatively expensive to transport goods to Africa, transporting goods from Africa to most external markets is relatively cheap. This substantial cost difference is driven mainly by Africa's favourable geographical location which offers closer proximity to major global markets in Europe, Asia, and North America. As a result, Africa presents a cost-effective advantage for exports, making it an attractive location for manufacturing and distribution operations aimed at international markets.

To fully leverage this advantage, however, it is crucial to address the inbound costs within Africa by improving transportation connectivity infrastructure. Enhanced transportation infrastructure will ensure the smooth transportation of raw materials, allowing the continent

124 UN Trade and Development. Trade-and-Transport Dataset (experimental), annual, 2016 onward. https://unctadstat.unctad.org/datacentre/dataviewer/US.TransportCosts

to better utilize its natural endowments and facilitate intra-continental trade. While China is the largest investor in infrastructure in Africa, transportation construction is the top sector for Chinese enterprises' contracted projects on the continent, accounting for 31.2 percent of the value of new contracts signed, which reached US$73.22 billion in 2022.[125] With further cooperation in infrastructure development, Africa's geographic advantages will be unleashed, further enhancing the continent's potential as a manufacturing hub.

Figure 22 Unit Freight Rate (US$/kg) **in Africa and Other Industrial Hubs**

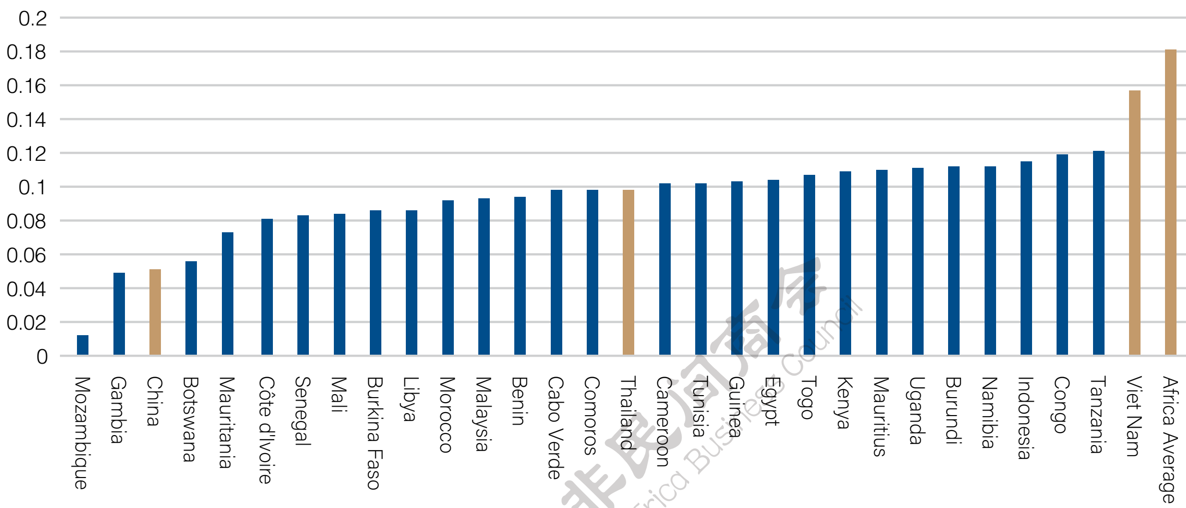
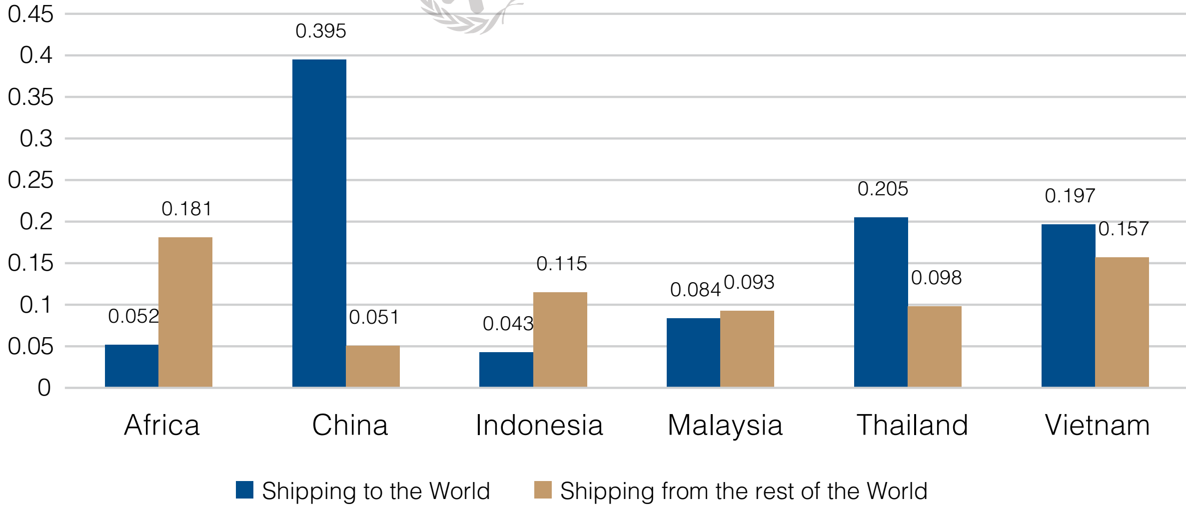
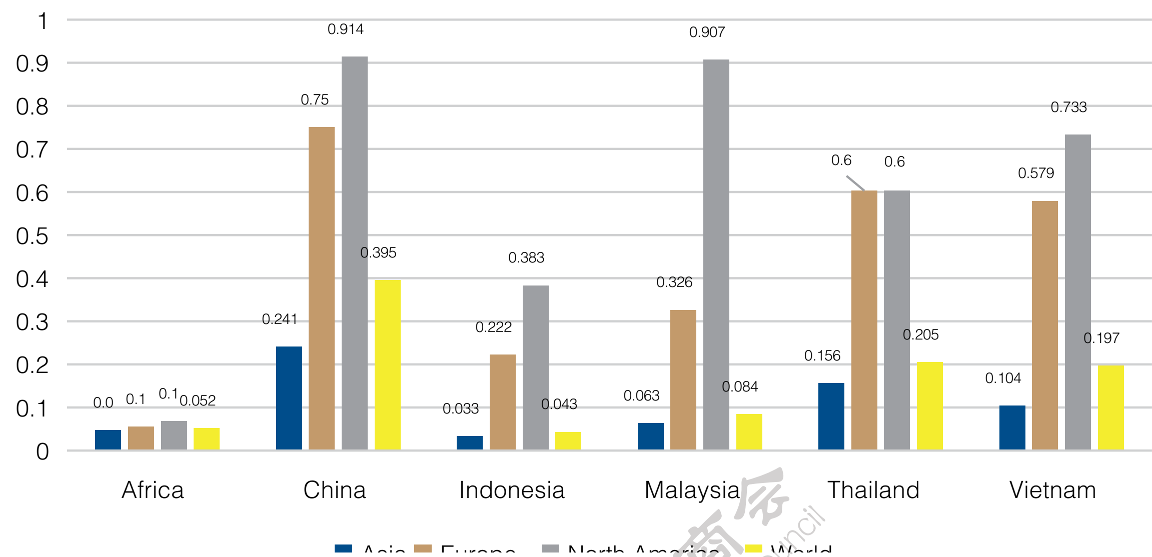


Figure 23 Average Freight Cost (US$/kg) **in Africa and Other Industrial Hubs**



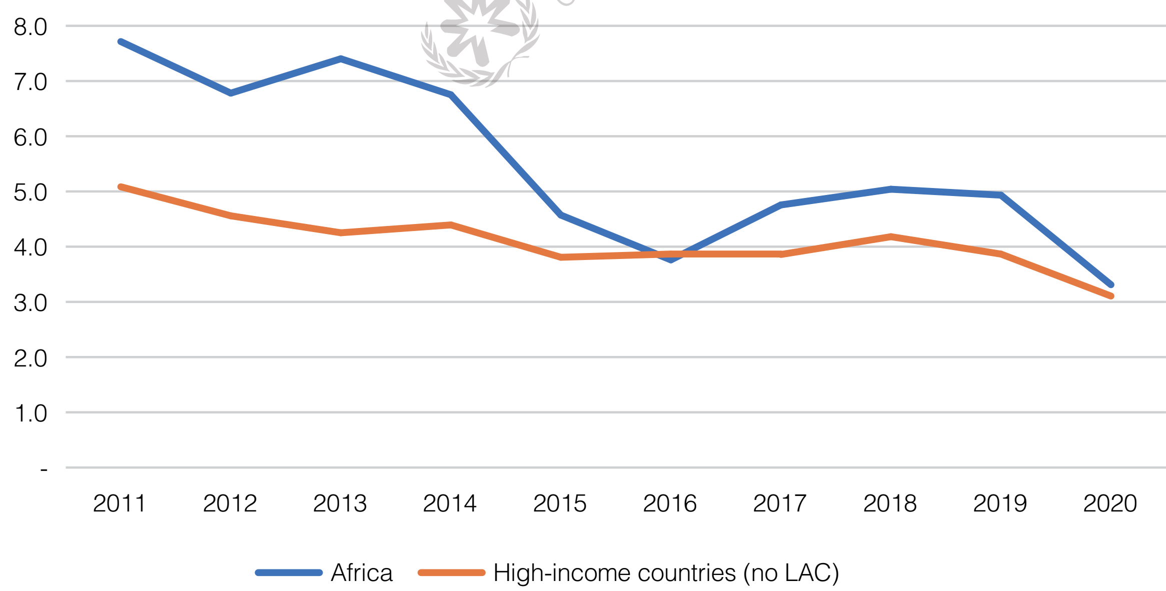
125 Chinese Academy of International Trade and Economic Cooperation, and China-Africa Economic and Trade Promotion Council (2023). China-Africa Economic and Trade Relationship Report 2023. https://www.caitec.org.cn/upfiles/file/2023/6/20230710163310913.pdf

Figure 24 Average Freight Costs (US$/kg) **from in Africa and Other industrial Hubs to Major Markets**



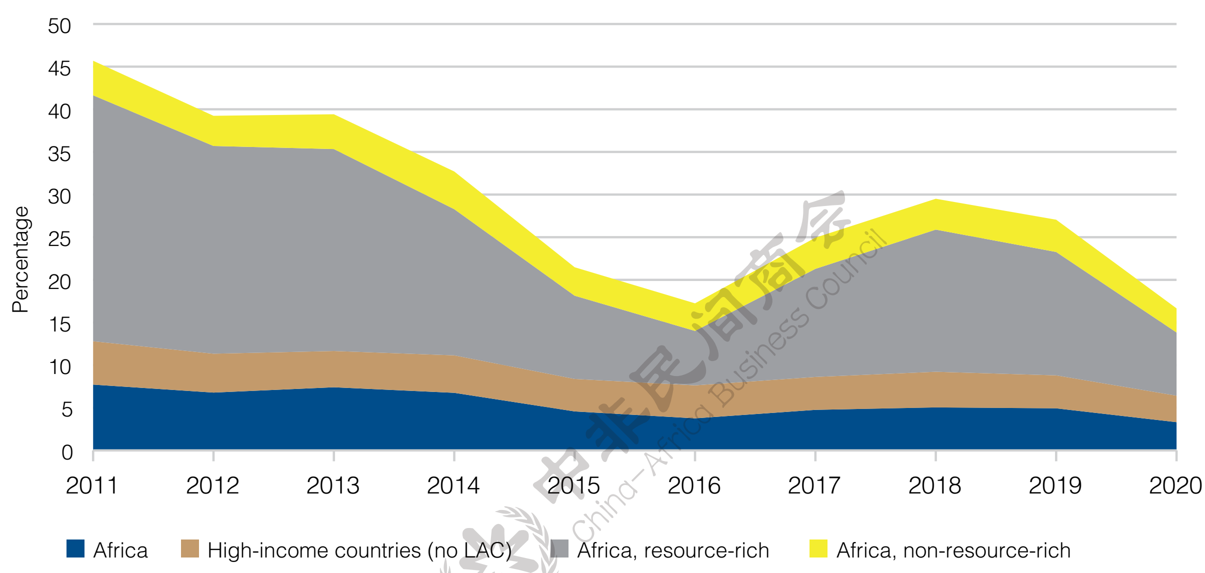
Return on Foreign Direct Investment

Figure 25 Rate of Return of Foreign Direct Investment in Africa and High-Income Countries (Excluding Latin America)



According to data from the UNCTAD, more FDI flows to developed countries than developing countries with Africa accounting for less than 5 percent of global FDI inflows. This is despite the fact that Africa promises a higher return on FDI than developed countries. According to Organization for Economic Co-operation and Development (OECD) data, Africa offers a higher return on FDI compared to high-income countries, as shown in Figure 25 above.[126] Figure 26 below shows that the rates of return are even higher for resource-rich African countries. This paradox could be explained by the misperception of Africa as a risky investment destination even when the facts on the ground suggest otherwise. Whereas African countries can do more to enhance Africa's attractiveness such as increased investment in both public and institutional capital, Africa cannot go it alone; it needs partners to support these efforts and China's African manufacturing cooperation represents an opportunity in this regard.[127]

Figure 26 Rate of Return of Foreign Direct Investment in African Countries with Different Resources Endowment



Productivity: capacity utilization and total factor productivity

To compare economic productivity, we use two measures. The first, capacity utilization rate measures the percentage of an organization's potential output that is being realized and is often measured at the firm level. According to China's National Bureau of Statistics, China's capacity utilization in 2023 stood at 75.6. Meanwhile, at 71.3, the average capacity utilization rate in Africa was not significantly lower than China's.[128] Moreover, six African countries have

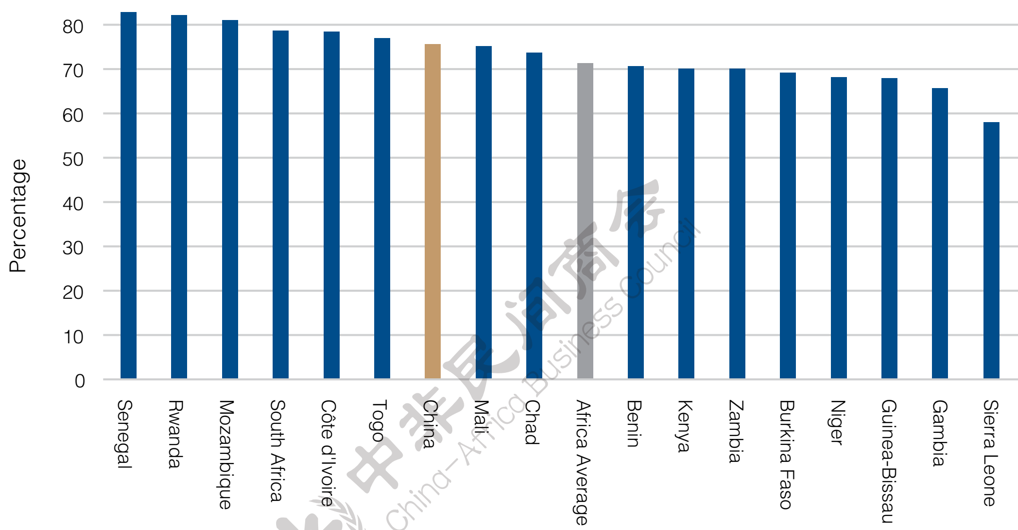
126 AUC/OECD (2023). " Rates of Return on Foreign Direct Investment Inflows by World Region, 2011-20," in Africa's Development Dynamics 2023: Investing in Sustainable Development, OECD Publishing, Paris, https://doi.org/10.1787/6db99666-en.

127 Ayodele Odusola (2018). Addressing the Foreign Direct Investment Paradox in Africa. https://www.undp.org/africa/blog/addressing-foreign-direct-investment-paradox-africa#:~:text=Addressing%20impediments%20to%20public%2C%20human%20and%20institutional%20capitals%2C,are%20central%20to%20eliminating%20FDI%20paradox%20in%20Africa.

128 Moody's Analytics. Economic Indicators. Capacity Utilization – Country List. https//www.economy.com/indicators/capacity-utilization

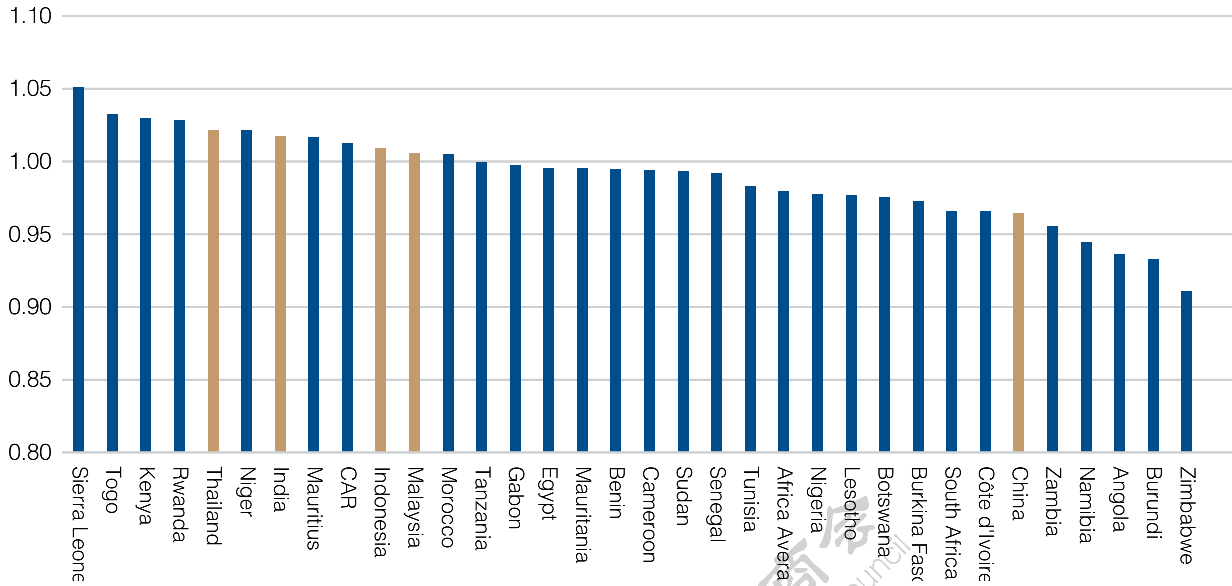
a higher capacity utilization rate than China as shown in Figure 27 below. The diversity in capacity utilization rates amongst African countries reflects the diversity in factor endowments as well as the level of industrial development. Countries with a considerable industrial base such as South Africa and Côte d'Ivoire have a higher capacity utilization rate than their peers elsewhere on the continent. The second measure of productivity is Total Factor Productivity (TFP) which is a measure of productive efficiency i.e., how much output is obtained from a given level of input. It is measured as a ratio of outputs to inputs. Available data indicates that Africa's average TFP (0.98) is higher than China's (0.96) with 17 African countries having a higher TFP than China as shown in Figure 28.[129]

Figure 27 Capacity Utilization Rate in Africa



129 Groningen Growth and Development Centre. Penn World Table version 10.01. https://www.rug.nl/ggdc/productivity/pwt/?lang=en

Figure 28 Total Factor Productivity in Africa



3.3 Recommendations for Chinese stakeholders in promoting Africa's industrialization

3.3.1 Harness existing complementary capacities to build localized supply chains

The export potential of the aforementioned sectors in Africa, underpinned by its comparative advantage, provides unique opportunities for Chinese investors to transfer excess capacity to Africa where they could seek high returns with relatively light competition. Successful cases of Chinese investment in these sunrise sectors demonstrate that beyond financial investment, the transfer of technologies—achieved through partnerships with African companies—can significantly enhance production capacities in Africa. By leveraging these complementary strengths, investors can build localized supply chains that are more efficient and resilient.

3.3.2 Anticipate and capitalize on future demand and market dynamics within Africa

While geographical proximity to major export markets is a notable advantage for the manufacturing sector in many African countries, the domestic market within the continent for products from the aforementioned sunrise sectors is also growing rapidly. The AfCFTA facilitates the efficient movement and trade of raw materials, intermediaries, and finished products. Investors should identify and tap into regional hubs with strong linkages to the upstream and downstream segments of the value chain, capitalizing on the growing intra-Africa market and the increasing demand for these products.

3.3.3 Strategic early entry into emerging hubs

While some African countries already have a foundational base in catalytic industries, others possess comparative advantages but are still in the early phases of development. Chinese investors should consider early entry into these markets to establish a strong presence and capitalize on future growth. This strategy is also applicable to sectors that have not yet received substantial Chinese investment but have high catalytic potential. Specific sectors such as green manufacturing, pharmaceuticals, and construction materials offer high growth potential and significant economic impact. For instance, investments in green manufacturing can tap into the global shift towards renewable energy, while pharmaceuticals can address the rising healthcare needs within Africa. Early entry into such sectors can confer early-mover advantages on Chinese investors.

3.3.4 Enhance regional infrastructure and connectivity

To maximize the benefits of investment, improving transportation and infrastructure has been a core focus of national development plans by pan-African institutions and many African countries. While China is already a significant investor in African infrastructure, financing and building cross-border projects could be a strategic direction for the next stage of cooperation. Regional projects not only reduce both inbound and outbound costs and facilitate the smooth transportation of raw materials but also create integrated markets and value chains. Moreover, infrastructure investment is also a lucrative sector, particularly in Africa where the infrastructure need remains outstanding. In this regard, Chinese banks and contractors should prioritize high-potential projects identified by the African Union Development Agency- New Partnership for Africa's Development (AUDA-NEPAD) in the Programme for PIDA, as these initiatives will support intra-continental trade and enhance manufacturing capacity within Africa.

***Chapter four was written by the Bank of Africa – BMCE Group.**

Chapter 4 Business Climate Trajectories in Africa: Dynamics, Challenges and Opportunities by Region

Africa is going through a phase of significant transformation, which has a direct impact on the business climate. Constantly evolving economic, political and social dynamics, combined with major structural reforms covering governance and taxation, as well as a substantial increase in investments, are indeed promoting an accelerated modernization of the continent's economic environments.

Transport, energy and telecommunications infrastructure development are also crucial to improving the business climate. The modernization of transport corridors and the improvement of telecommunications networks increase efficiency and reduce the costs of business operations. In addition, initiatives to promote renewable energy sources ensure the security and sustainability of energy supplies, thereby strengthening investor confidence.

Regional integration is also progressing significantly, supported by organizations such as the Economic Community of West African States (ECOWAS) and the East African Community (EAC). These entities are working to harmonize economic policies and reduce trade barriers, thereby creating a more integrated and competitive business environment. The AfCFTA is a major initiative to increase intra-African trade and create a vast single market.

Another key factor is the creation of Special Economic Zones (SEZs) across the continent. These zones offer tax and customs incentives, simplify administrative procedures and provide modern infrastructure. They play a crucial role in stimulating local industrialization and increasing attractiveness for investors.

Despite these advances, each region still faces significant challenges, such as improving transparency, reducing economic disparities, and establishing more effective regulatory frameworks. These challenges also provide opportunities for further reforms and attracting investments that can support sustainable and inclusive growth. Efforts to strengthen transparency and administrative efficiency are essential to creating a more enabling business environment.

Africa's different regions have unique characteristics and diverse approaches to improving the business climate, reflecting their distinct economic, political and social contexts. This chapter thus highlights the diversity of approaches and strategies deployed to improve the business climate in Africa. Each region is developing specific solutions adapted to its unique contexts, with varied but promising success.

4.1 Dynamism and integration: West Africa in the era of reforms and modern infrastructure

In West Africa, the strategy is based on dynamic structural reforms and investments in modern infrastructure, under the aegis of ECOWAS and West African Economic and Monetary Union (WAEMU). The region is banking on economic diversification, with Senegal and Côte d'Ivoire leading the way in attracting investment in the extractive and energy sectors. Free zones, such as those in Nigeria and Ghana, play a crucial role by offering tax incentives and simplifying administrative procedures.

4.1.1 Political, economic and infrastructural prerequisites in West Africa

Key political and economic developments in the sub-region

West Africa, under the leadership of ECOWAS and WAEMU, is undergoing a period of profound change, marked by political upheavals in countries such as Mali, Niger and Burkina Faso. These transformations, while initially challenging, have spurred democratic advances elsewhere, as evidenced by the recent peaceful elections in Senegal in 2024.

Economically, the region is benefiting from a dynamic reinforced by the diversification and structural transformation undertaken by WAEMU countries, which also benefit from a relatively stable XOF/USD foreign exchange parity. This trend is particularly visible in Senegal and Côte d'Ivoire, where the increase in FDI in the extractive and energy sectors underscores this development. Furthermore, despite strong exchange rate fluctuations and inflationary challenges, major economies such as Nigeria and Ghana continue to be key growth drivers for the region. With growth projections of 4.1 percent for the years 2024 and 2025[130], West Africa is positioned as a key and attractive economic hub on the continent.

130 IMF (2024). Economic Outlook: Sub-Saharan Africa.

Advances in connectivity: a lever for the business climate in the sub-region

In West Africa, recent advances in transport and telecommunications infrastructure are crucial to improving the business climate. Regional transport corridor development projects, which include improvements to roads, railways and ports, are playing a key role in facilitating trade and economic integration between countries such as Liberia, Sierra Leone and Guinea. These initiatives aim to reduce transit times and costs, thereby promoting smoother and more efficient trade flows within the region and beyond.

Furthermore, progress in telecommunications infrastructure is evident, with significant investments in improving mobile networks and expanding broadband, particularly in countries such as Côte d'Ivoire, Senegal and Benin, which demonstrate greater industry maturity. These improvements are essential to support the digital economy and provide the infrastructure needed for e-commerce and digital services, which have become crucial for modern business operations. The expansion of 4G technologies and the introduction of 5G technologies are also expected to improve connectivity and speed.

Towards more affordable and accessible energy in the region

On the energy front, recent initiatives such as the development of solar mini-grids and the integration of national electricity grids within ECOWAS are showing promising results. For example, in Burkina Faso, the large-scale deployment of solar photovoltaic and battery systems, supported by private investment and World Bank financing, has significantly improved access to reliable and affordable electricity. Similarly, the construction of cross-border interconnection projects in the region could reduce electricity production costs by about 10 percent by 2030 and provide greener energy.[131] These efforts are creating a more stable economic environment conducive to sustainable growth.

4.1.2 Proactive governance and voluntarism: the reforming momentum for the business climate in West Africa

National initiatives and strategies to improve investment attractiveness

West African countries are showing a strong commitment to improving the business climate through various governance projects, the establishment of commissions, and the launch of investment roadmaps and charters. Ghana, with its Ghana Investment Promotion Centre (GIPC), and Nigeria, with its Investment and Enterprise Promotion Commission (NIPC) and the Presidential Enabling Business Environment Council (PEBEC), have implemented reforms to simplify regulatory processes and attract investment. Similarly, Senegal has established the Agency for the Promotion of Investments and Large Projects (APIX), as well as the Presidential Council for the Improvement of the Business Environment, facilitating entrepreneurship and attracting private investment.

131 MDPI (2023). Electric Power Network Interconnection: A Review on Current Status, Future Prospects and Research Direction

Other countries such as Togo, Benin and Guinea have also taken similar initiatives. Togo launched the National Development Plan (PND) 2018-2022 and created a Business Climate Unit, with a focus on the digitalization of administrative services and the creation of special economic zones. Benin, with its Agency for the Promotion of Investments and Exports (APIEX), has improved access to information for investors. In Guinea, the Private Investment Promotion Agency (APIP) and the Presidential Council for Investment and Business Climate (CPI-CA) are working on implementing legislative and regulatory reforms to attract foreign investment and support the local private sector.

The Common External Tariff[132], a catalyst for an improved business climate and economic integration

The ECOWAS Common External Tariff (CET), implemented in 2015, and that of UEMOA, in place since 2000, aim to harmonize customs duties and stimulate intra-regional trade in West Africa, while providing a stable and predictable framework for tariffs. These tariff regimes include several bands, ranging from zero to 35 percent, depending on the product, and are designed to simplify trade procedures, reduce transaction costs and protect local industries.

Although the recent announcement of the withdrawal of the three countries of the Alliance of Sahel States (AES) from ECOWAS may represent a challenge, it also offers an opportunity to further strengthen regional integration and cohesion by finding innovative solutions to maintain the effectiveness of the TEC.

Equitable Investor Protection Measures: Fair and Equitable Treatment

West African countries have put in place various safeguards to protect foreign investors. For example, Ghana has signed several bilateral investment treaties (BITs) with countries such as China, the United Kingdom and the United States, which include clauses on fair and equitable treatment, protection against expropriation without adequate compensation and access to international dispute resolution mechanisms such as arbitration by the International Centre for Settlement of Investment Disputes (ICSID).

In terms of taxation, several countries in the region have implemented double taxation agreements to prevent foreign investors from being taxed twice on the same income.[133] For example, Côte d'Ivoire signed a double taxation agreement with France in 2018, allowing companies to benefit from tax credits or tax exemptions in their home country. Countries such as Senegal and Benin also have similar agreements with various European and Asian countries. The freedom to repatriate dividends and profits is guaranteed in most national legislations, as evidenced by Senegal's Investment Code, which allows investors to transfer their profits abroad without major restrictions.

In the event of a dispute, foreign investors also often benefit from international arbitration mechanisms. Burkina Faso, for example, is a member of the New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards, which reinforces investors'

132 ECDPM. Initial Reflections on the ECOWAS Common External Tariff.

133 UNECA. Investment Policies and Bilateral Investment Treaties in Africa.

confidence in the country's ability to provide a secure and fair business environment. Mali and Niger, in particular, have adopted legal frameworks that are conducive to international arbitration, thereby facilitating the resolution of disputes outside national jurisdictions.

4.1.3 Ease of doing business: a competitiveness issue and a differentiating factor between countries

A more favorable taxation system

Taxation in West African countries[134], particularly in WAEMU and ECOWAS, is characterized by rules and tax rates aimed at harmonizing and simplifying tax procedures for businesses. Corporate tax rates generally vary between 25 percent and 30 percent, and VAT is often set at around 18 percent, with specific variations and exemptions depending on the industry. For example, some countries such as Guinea-Bissau apply surcharges, while others offer tax incentives to stimulate investment in strategic areas.

Nigeria stands out in the region for its particularly attractive tax regime for foreign investors. With a corporate tax rate ranging from zero for small businesses to 30 percent for large ones, and a VAT set at 7.5 percent (one of the lowest in ECOWAS), Nigeria offers numerous tax incentives to encourage investment in key sectors such as agriculture, infrastructure, real estate and energy. For example, companies in the mining and agricultural sectors benefit from tax exemptions to stimulate exports and primary production. In addition, tax credits for road infrastructure facilitate investments in this crucial sector. These measures, combined with an overall tax burden of 6.7 percent in 2021, make Nigeria an example of a country offering a favorable tax environment for business development and the attraction of foreign capital.

More efficient administrative procedures

In recent years, significant efforts have been made by West African states to facilitate business creation. These reforms aim to reduce the number of procedures, the amount of fees and the time required to create a business. All WAEMU countries have introduced one-stop centers to simplify the procedure. For example, Benin and Togo offer business creation services entirely online, while others, such as Côte d'Ivoire, still require a physical trip to complete the procedure. Similarly, Senegal has significantly reduced the time needed to create a new business by simplifying administrative procedures and reducing transaction costs, reducing the time from two months to just 48 hours.

Thanks to these initiatives, WAEMU member countries obtain variable scores in the Global Enterprise Registration (GER) ranking, ranging from 3 for Niger to 10 for Guinea-Bissau, which particularly stands out in this dynamic of facilitating business creation. Its one-stop center of the APIP now allow entrepreneurs to open a business in less than 72 hours, making this country a model of reform in the region according to the latest Doing Business report.

134 Business Insider Africa. Tax Foundation.

Table 1 WAEMU Member Countries Ranking

Countries	Benin	Burkina Faso	Côte d'Ivoire	Guinea-Bissau	Mali	Niger	Senegal	Togo
GER ranking	9.5	5.5	7	10	7	3	6	8

Source: ger.digitalgovernment.world.

Notes: GER rankings vary between 1 and 10, 10 being the highest ranking. News portals are in italics, the rest being electronic one-stop centers. Assessment made in 2021.

More attractive free and specialized zones

Free zones and special economic zones (SEZs) in West Africa[135] are essential to boost investment. Comprehensive free zones, such as those in Calabar and Lekki in Nigeria, and Tema in Ghana, offer tax and customs incentives to attract foreign companies. Côte d'Ivoire and Senegal have also established free zones in Abidjan and Dakar, facilitating industrial and commercial operations. Furthermore, specialized zones by industry are developing, such as the GDIZ in Benin, dedicated to textiles, and the Agro-Industrial Free Zone in Yopougon in Côte d'Ivoire. These initiatives improve the business climate by simplifying administrative procedures and providing modern infrastructure, thereby supporting economic growth and industrial diversification in the region.

4.2 Central Africa: a new economic breath of life through integration and harmonization of policies

Central Africa, rich in natural resources, is seeking to improve its economic integration while implementing various tax reforms to attract investment. Chad stands out for its favorable tax regime. Initiatives such as the Business Climate Observatory in the Central African Economic and Monetary Community (CEMAC) zone aim to identify and overcome obstacles to investment, although challenges remain in terms of governance and transparency.

135 Global Africa Network.

4.2.1 Considerable economic potential, but integration could be improved

Natural resources and economic growth

The CEMACCEMAC region covers a vast territory of over 3 million square kilometers and includes six countries: Cameroon, the Central African Republic, the Republic of the Congo, Gabon, Equatorial Guinea and Chad. With a combined population of 60.6 million, this region holds abundant reserves of natural resources such as oil, natural gas, gold, diamonds, manganese and uranium. However, these resources are largely underexploited due to a lack of private investment. The energy sector, particularly oil and timber, remains crucial to the CEMAC economy, accounting for over 80 percent of its exports. Furthermore, economic growth projections are promising with rates of 3.4 percent and 3.1 percent expected respectively for 2024 and 2025.[136] A drop in inflation to 4.5 percent is anticipated in 2024, thus offering a more stable economic outlook.

Challenges in regional integration

Regional integration within CEMAC[137] has seen notable progress, mainly through the harmonization of economic and monetary policies and the creation of regional institutions such as the Bank of Central African States (BEAC) and the CEMAC Commission. However, there is still room for improvement compared to other African regions, which offers opportunities to strengthen the development of intra-regional investment. The volume of intra-community trade remains to be improved, reflecting the fact that economic integration that can still go further. Geographical obstacles, particularly for landlocked countries such as the CAR and Chad, and restrictions on the free movement of people, such as visa requirements between Gabon and Equatorial Guinea, are all challenges to overcome in order to improve regional integration and its potential economic benefits.

Opportunities of the Common External Tariff

The CEMAC Common External Tariff (CET)[138], established in 1993, aims to standardize customs duties applied to products imported into the region. Structured in four tariff bands, it includes rates of 5 percent for basic necessities, 10 percent for raw materials and capital goods, 20 percent for intermediate goods and 30 percent for consumer goods. However, the application of the CET faces challenges due to unilateral derogations and safeguard measures adopted by member countries without the approval of the competent CEMAC authorities, suggesting opportunities to strengthen the harmonization and efficiency of the common customs system.

136 IMF (2024). Regional Economic Outlook: Sub-Saharan Africa.

137 World Bank (2019). Deepening Regional Integration to Advance Growth and Prosperity.

138 IMF. Central African Economic and Monetary Community (CEMAC) – Staff Report for the 2023 Article IV Consultation.

4.2.2 Efforts to improve the business climate

Towards a necessary harmonization

The Organization for the Harmonization of Business Law in Africa (OHADA) plays a key role in improving business climate in Central Africa. Created in 1993, OHADA aims to standardize commercial laws and strengthen legal institutions in its 17 member states, particularly in the sub-region.

Regarding taxation, regional guidelines aimed at harmonizing corporate tax rates between 25 and 40 percent have been put in place. However, these rates may vary across CEMAC countries and the disparity in VAT rates remains vast, with each country having ample scope to adapt tax policies according to its specific economic context.

Substantial initiatives are nevertheless being implemented to improve the business climate in the region. For example, a Business Climate Observatory in the CEMAC zone was established in 2021. Its mission is to continuously monitor and assess the business environment, identify obstacles to investment and propose solutions to overcome them.

Chad: a more advantageous tax structure

In the Central African region, Chad stands out as offering the best taxation system in terms of taxes and duties. After a thorough analysis of the tax regimes of the countries in the sub-region, it appears that Chad's corporate tax is at a competitive rate of 20 percent. In addition, the VAT rate in Chad is 18 percent, which is favorable compared to regional standards. The taxation system also includes a progressive income tax, ranging from 0 to 20 percent, which is particularly attractive for investors and workers at different income levels.

Table 2 Main Taxes and Duties in CEMAC Countries

	Corporate Tax	VAT	Income Tax
Cameroon	33 percent for companies whose turnover exceeds XAF 3 billion 30.8 percent for companies whose turnover is less than XAF 3 billion	19.25 percent	Progressive rate from 11 percent to 38.5 percent (all rates include a 10 percent surcharge)
ROC	28 percent	18 percent	Progressive rate from 1 percent to 45 percent
Gabon	30 percent	18 percent	Progressive rate from zero to 35 percent
Equatorial Guinea	35 percent	15 percent	Progressive rate from zero to 35 percent
CAR	30 percent for all activities 20 percent for agricultural sector activities	19 percent	Progressive rate from zero to 40 percent
Chad	20 percent	18 percent	Progressive rate from zero to 20 percent

Source: Central Africa Tax Guide

Investment incentives: strengths country by country

To further encourage investment, several countries in the region have put in place specific incentive schemes that highlight their respective strengths.

In summary, Cameroon focuses on initial and operational exemptions, the Republic of the Congo on advantageous special economic zones, Gabon on extended exemptions and legal guarantees, and Chad on incentives for new businesses with significant tax deductions.

Table 3 Main Investment Incentives in West African Countries

Countries	Main investment incentives
Cameroon[139]	Five-year exemption from registration fees, transfer fees, customs duties and VAT on certain items during the initial phase. Ten-year tax exemptions and reductions during the operational phase, in particular on flat-rate minimum tax, corporate tax and customs duties. Two-year business tax exemption for newly registered companies. Fifty percent reduction in corporate tax for companies with a turnover of less than XAF 100 million. Tax exemptions for listed companies and those operating under the Free Zone or industrial free point regime. Specific exemptions for certain affected sectors and geographic areas.
Republic of the Congo [140]	Fifty percent reduction in registration fees for incorporation fees, capital increase, business mergers and transfers of shares or corporate interests. Exemption from corporate tax, up to 100 percent, depending on size and/or activity. Authorization to carry forward losses during the first three fiscal years. Application of the zero rate of VAT on exported products. Significant reduction of corporate tax, dividend tax and registration fees for companies located in special economic zones.
Gabon[141]	Ten-year corporate tax exemption for new companies established in economic zones, as well as a 25-year exemption from withholding tax, VAT, property tax and customs duties. Freedom to hire foreign employees in the economic zone. Exemption from the minimum flat-rate tax of XAF 1 million, as well as from the minimum tax collection for new companies registered for two years or more, under certain restrictions related in particular to the type of activity and investments. Legal guarantees such as no discrimination between companies owned by nationals and those owned by foreigners, and no expropriation or nationalization without fair and equitable compensation determined by an independent third party. VAT exemption for investments exceeding XAF 300 million in sectors such as tourism and construction.
Chad[142]	Exemption from corporate income tax (business tax) for new companies created during the first five calendar years. Exemption from capital gains when reinvested. Deduction of 40 percent on the taxable base for corporate tax and personal income tax. Fifty percent reduction in registration fees in the event of business creation, capital increase, merger, sale of shares or stocks. Exemption from the minimum corporate tax rate under certain conditions, depending on the location, nature and amount of the investment. Since 2023, establishment of a tax reduction system for investments of at least XAF 250 million in certain sectors (manufacturing, tourism, energy, water, information and communication technologies, sports, transport).

139 USDA. PwC Tax Summaries. Cameroon 2023 Investment Climate Statements.

140 Central Africa Tax Guide

141 Ibid.

142 Mondaq. Changes to the General Tax Code - Investment Incentives.

Countries	Main investment incentives
CAR [143]	Twenty-five percent reduction in corporate tax for companies operating in the real estate, agricultural, forestry, mining, tourism and industrial sectors. Two-year exemption from the corporate tax for newly registered companies. Possibility for newly registered companies in the real estate, agricultural, forestry, mining, tourism and industrial sectors to benefit from a tax exemption of up to five years. Legal guarantees such as the availability of an investment charter for the repatriation of capital for non-resident companies. Customs duty exemptions for companies in certain sectors.
Equatorial Guinea [144]	Tax and customs exemptions are negotiated between the company and the administration. Tax and customs exemptions may be granted by the government for specific sectors (i.e. oil and gas and public works).

4.3 Southern Africa: economic diversification and bold reforms for a competitive business environment

Southern Africa is prioritizing economic diversification coupled with bold reforms to create a competitive business environment. The region is focusing on developing critical infrastructure and economic projects, such as the SAPP, to enhance competitiveness. Incentive policies and simplified regulatory frameworks are key elements, with Botswana offering an attractive tax profile for investors.

4.3.1 Economic and infrastructural developments

Macroeconomic stability and regional integration: foundations for sustainable growth

Southern Africa, rich in natural resources and economically diverse, is a magnet attraction for foreign investors. The region, including countries such as South Africa, Botswana, and

143 Central Africa Tax Guide

144 Ibid.

Mozambique, is expected to grow by 2.6 percent in 2024.[145] This growth is mainly driven by regional integration through the SADC Free Trade Area, which aims to eliminate tariff and non-tariff barriers. The AfCFTA also presents opportunities to increase intra-regional trade, despite logistical and regulatory challenges.

Critical infrastructure and economic development: drivers of regional competitiveness

Infrastructure development in the energy, transport and telecommunications sectors is crucial for a favorable business climate in Southern Africa. The Regional Infrastructure Development Master Plan (RIDMP) aims to facilitate regional trade, reduce logistics costs and increase competitiveness. Digital connectivity and ICT infrastructure, particularly in Botswana, Namibia and South Africa, with high internet and mobile phone penetration, as well as the roll-out of optic fiber and 4G/5G networks, also play a key role. Botswana, with its Gaborone Technology Park, aims to become a regional ICT hub. In the energy sector, interconnection projects such as the SAPP aim to improve efficiency and reduce costs.

4.3.2 Structural reforms and incentive policies for enhanced economic attractiveness

Simplified regulatory climate and business facilitation

Southern African countries have undertaken significant reforms to improve the business climate and regulatory framework, making the region more attractive to investors.

- Mozambique[146]: In 2023, a new Investment Code was adopted, introducing a one-stop center for investors, lifting industry restrictions and strengthening property rights protection.

- South Africa: The Doing Business Reform Vision, launched in 2022, aims to modernize and streamline the regulatory environment to stimulate private investment in key sectors.

- Botswana and Zambia: The Botswana Investment and Trade Centre (BITC) and the Zambia Development Agency (ZDA) play a crucial role in simplifying regulatory processes and promoting investments.

- Zimbabwe: Zimbabwe Investment and Development Agency (General Investments) Regulations was released in November 2023 to provide investors with more safeguards, including provisions on the renewal of investment licenses, submission of annual reports, and dispute resolution mechanisms.

145 IMF (2024). Regional Economic Outlook: Sub-Saharan Africa.

146 UNCTAD. Investment Law 2023 - Investment Policy Hub.

Tax advantages and special regimes to attract strategic investments

In terms of taxation, disparities between countries have been observed, despite a general trend towards lowering corporate tax rates to attract investment. In this regional panorama, Botswana stands out with the most attractive tax profile.

Table 4 Tax Rates in Southern Africa in 2024

Countries	Corporate Tax	VAT	Income Tax
South Africa	27 percent	15 percent	Progressive, from 18 percent to 45 percent
Botswana	22 percent	12 percent	Progressive, from zero to 25 percent
Mozambique	32 percent	17 percent	Progressive, from 10 percent to 32 percent
Zambia	30 percent	16 percent	Progressive, from 25 percent to 37.5 percent
Zimbabwe	24.72 percent	14.5 percent	Progressive, from zero to 45 percent
Namibia	32 percent	15 percent	Progressive, from 18 percent to 37 percent

Sources: South African Revenue Service, PwC Tax Summaries, Standard Bank Trade Club, DLA Piper Africa, and other relevant institutions

Beyond the standard rates per country, various incentive schemes have been put in place at the same time in the region.

- South Africa[147] grants a 150 percent tax credit for R&D expenses until December 31, 2033, as well as benefits for holding companies.

- Namibia[148] grants significant tax exemptions in Export Processing Zones, with a corporate tax of 18 percent.

- Zimbabwe[149] grants tax deductions and customs exemptions for investments above US$1 million, with a tax rate of zero for the first five years in special economic zones, and 15 percent thereafter.

- Botswana[150] provides tax incentives for businesses in special economic zones and the SPEDU region.

147 SARS. Research Professional News. South African Revenue Service.

148 Namibia Investment Promotion and Development Board (NIPDB)

149 Zimbabwe Investment Development Agency (ZIDA)

150 Botswana Investment and Trade Centre (BITC)

- Zambia[151] provides tax incentives to businesses operating in multi-facility economic zones and priority sectors such as agriculture and industry, including profit exemptions and customs duty reductions.

4.4 East Africa: inclusive growth, ambitious reforms and regional integration

In East Africa, economic growth is supported by strong foundations and growing regional integration. Ambitious reforms and progress on the business climate are reinforced by special economic zones and industrial parks, thus boosting industrialization. Fiscal measures and investment incentives are key, with Kenya, Uganda and Tanzania leading the way in reforms. Kenya stands out for its support for startups and its business facilitation initiatives.

4.4.1 Strong economic foundations and growing regional integration

Sustained growth and competitiveness factors in East Africa

East Africa, comprising countries such as Kenya, Uganda, Tanzania, Ethiopia, Rwanda, and Sudan, has experienced robust economic growth in recent years. The region is supported by a growing middle class, a young and dynamic population, abundant natural resources, and significant initiatives for industrialization. The IMF projects that the region's GDP will grow by 5.4 percent in 2024.[152]

Advancing economic integration and facilitating trade

Economic integration within the EAC continues to progress, despite persistent challenges such as the elimination of tariff and non-tariff barriers, the harmonization of regulations and the facilitation of trade.

151 Zambia Development Agency (ZDA)

152 IMF (2024). Regional Economic Outlook: Sub-Saharan Africa.

The establishment of the EAC Common Market, but also the customs union, have greatly facilitated the movement of capital, goods and people. Coupled with the enormous AfCFTA market, these advances open up new trade and investment opportunities for businesses.

In addition, infrastructure construction is expanding, as evidenced by the proposed construction of the Uganda-Tanzania Heated Oil Pipeline. Other examples include the strengthening of transnational electricity networks through the Eastern Africa Power Pool and the expansion of cross-border highways, rail and oil/gas pipeline networks, including the Lamu Port-South Sudan-Ethiopia transport corridor.

4.4.2 A changing business environment

Ambitious reforms and significant progress

East African countries continue to implement ambitious reforms to improve competitiveness and make it easier to do business. The World Bank's Doing Business reports indicate significant progress in the region. This progress is driven by the following initiatives, among others.

Trade and business facilitation: Tanzania adopted the Tanzania Trade Integration Strategy in 2015[153] to facilitate cross-border trade. In 2022, Uganda[154] restructured its Uganda Invest Authority into a centralized one-stop center to streamline administrative procedures. Meanwhile, Kenya launched the Presidential Transformation Program "KenNIP" to facilitate business establishment. Rwanda developed an online platform centralizing more than 100 administrative services[155] and Burundi revised its banking regulations in July 2023[156] to improve access to loans for small businesses.

Regulatory modernization: Kenya revised its Investment Code and adopted a Startup Bill in 2023 to support innovation and new businesses. Ethiopia introduced a new Investment Code in 2020 and enacted a Foreign Investment Protection Act in November 2023, ensuring better investment protection. Rwanda introduced an Investment Code in 2021, providing increased safeguards and simplifying business registration procedures.

Improving governance: In terms of governance, efforts have focused on transparency. In Ethiopia, a law adopted in 2022 aims to strengthen the independence of the judiciary, ensuring stricter law enforcement and better investors' rights protection. Kenya launched a code of conduct for civil servants in 2021, promoting integrity in the public sector. In addition, a strategy for government services digitization, initiated in June 2024, aims to reduce administrative processing time and increase public services efficiency and transparency. Rwanda established a national inspection service in 2021, strengthening oversight mechanisms. Finally, Tanzania

153 AfDB. Tanzania Diagnostic Trade Integration Study (Tanzania Invest). Country Strategy Paper 2021-2025.

154 Uganda Investment Authority

155 Rwanda Development Board

156 Bank of the Republic of Burundi

adopted a law in 2021 for greater transparency in the extractive industries, thus improving of natural resources management.

Specialized economic zones and industrial parks: Drivers of industrialization

East Africa is banking on industrial parks and industrial special economic zones to attract investment. In Kenya[157], zones such as the KEPZ in Athi River and the Mombasa and Lamu zones are focusing on industrialization, while the Nairobi Aerotropolis project aims to create a major economic hub around a new airport. In Uganda, nine of the 27 industrial parks planned for 2040 were already operational by 2022.[158] These parks, supported by comprehensive infrastructure including electricity, industrial water, roads and waste management, are boosting manufacturing. Tanzania, for its part, is developing the Benjamin Mkapa SEZ for agro-industrial processing and energy industries.[159] Ethiopia[160] is focusing on sectors such as automotive and pharmaceuticals, and Rwanda[161] is hosting over a hundred companies in the Kigali Special Economic Zone, which is also focusing on agro-industrial processing and green energy, just like the Ruzizi Special Economic Zone.

Tax measures and investment incentives: Boosting regional attractiveness

Fiscal policies are key to improving the business climate in East Africa. Governments in the region have implemented several tax reforms to ease the burden on businesses and encourage entrepreneurship. In 2023, some states adjusted their corporate taxes to attract more investment. For example, in Uganda, corporate tax remains at 30 percent, with incentives such as deductions of up to 30 percent for key industries and a full tax exemption for 10 years in "free zones." Tanzania reduced import taxes for construction materials and green technologies in 2024, supporting the construction sector and promoting sustainable practices. Similarly, Kenya implemented a tax reform in April 2023, reducing taxes for SMEs. The country also offers a reduced rate of 15 percent in key sectors such as ICT and construction, as well as exemptions of up to 10 years in SEZs.

Beyond taxation, various other incentives such as subsidies, subsidized loans and land facilities to attract investments are used. For example, in Kenya, investors benefit from preferential access to domestic bank credit, easy access to industrial land and fast-track work permits for expatriates. In Uganda, financial incentives such as equity participation in strategic projects and access to discounted energy are offered. In Tanzania, subsidized loans for manufacturing projects and foreign exchange guarantees for investors are available, while in Ethiopia, subsidies for export projects and intermediation services for export are offered. Finally, in Rwanda, investors in privately-owned infrastructure projects are eligible for government financing support.

157 Kenya Export Processing Zones Authority (EPZA), Kenya Investment Authority

158 Uganda Investment Authority. Industrial Parks Report.

159 Tanzania Investment Centre

160 Ethiopian Investment Commission. Industrial Parks Overview.

161 Rwanda Development Board

Table 5 Various Investment Incentives in East Africa in 2023/24

Incentives	Kenya	Uganda	Tanzania	Ethiopia	Rwanda
Financial	Preferential access to national bank credit.	Participation in the capital of strategic projects.	Subsidized loans for manufacturing projects.	Grants for export projects.	Investors in privately-owned infrastructure projects are eligible for government financing support.
Land	Easy access to industrial land.	-	Granting of long-term emphyteutic leases.	Transfer of land in full ownership.	Privileged access to agro-industrial parks.
Other	Fast-track work permits for expatriates.	Access to energy at reduced prices.	Exchange rate guarantees for investors.	Export brokerage.	Fast-track procedures for business registrations.

Sources: Local government Departments and Committees, PwC

4.5 North Africa: economic transformation and strategic reforms for an attractive business climate

North Africa is focusing on economic transformation through strategic reforms to improve the business climate. The region has made notable progress in connectivity, transport and logistics infrastructure, and in the transition to renewable energy. Free trade agreements are strengthening regional integration into the global economy. Morocco, in particular, offers an advantageous tax framework and is implementing reforms to improve transparency and administrative efficiency, thereby attracting foreign investment.

4.5.1 Favorable economic conditions

Improving transport and logistics infrastructure

North African countries have made significant strides in connectivity to attract investment and boost the economy. For example, Morocco has invested heavily in transport and logistics infrastructure, developing industrial zones, modern road and rail networks, and world-class ports such as Tanger Med. In Egypt, the modernization of the Suez Canal and the development of the new administrative capital have strengthened the country's connectivity and attractiveness to investors.

Transition to renewable energy and investments in green energy

North Africa plays a crucial role in global energy thanks to its vast oil and gas reserves. However, these countries are increasingly turning to renewable energy to diversify their energy mix. Morocco and Tunisia, although non-oil producers, are already standing out as leaders in the field of renewable energy. Morocco made an early commitment to green energy with ambitious solar projects and a dedicated green hydrogen program. Tunisia has entered into international partnerships aimed at developing green hydrogen.[162]

Strengthening trade through regional and international agreements

Free trade agreements facilitate access to international markets and strengthen the position of North African countries as export platforms. For example, Morocco has concluded numerous free trade agreements with developed partners (i.e. European Union and the United States) as well as with developing or emerging countries (i.e. the Agadir Agreements with Turkey), thus allowing Moroccan products to gain access to a vast market. Tunisia and Egypt have signed similar agreements, strengthening their integration into the global economy. Although not a member of the WTO, Algeria has been linked to the EU by an association agreement since 2005 and participates in the Arab Free Trade Area.

4.5.2 Reforms for transparency and administrative efficiency

Modernization of legal frameworks to attract investments

North African countries have undertaken various reforms to strengthen their economic attractiveness and improve the business climate. In Algeria, reforms aim to boost the business climate by strengthening the Algerian Investment Promotion Agency and redefining the role of the National Investment Council. For its part, Morocco has developed a roadmap for the period 2023-2026, emphasizing unified governance and a regional approach in investment management. The new Moroccan Investment Charter proposes incentive mechanisms based

162 Maghreb Emergent (2024). Tunisia Launched the Green Hydrogen Project With Three European Countries.

on several criteria, such as employment, priority sectors and sustainability.[163] In Tunisia, a dedicated strategy until 2025 comprising 229 measures has been launched to improve economic attractiveness, with laws such as Law No. 2016-71 on investment and Law No. 2017-8 on tax benefits. Egypt, for its part, has embarked on a vast program of privatization of public enterprises and has liberalized its exchange rate to attract more foreign investment.

Table 6 North Africa: Legal Framework of Reference for Business

Countries	Legal Framework	Measures and Incentives
Algeria	Law No. 22-18 of July 24, 2022	One-stop center for major projects and foreign investments, three incentive schemes.
Egypt	Investment Law No. 72 (2017)	Tax exemptions of up to 50 percent for investments in disadvantaged regions.
Morocco	Framework Law No. 03-22 forming the Investment Charter (2022)	Incentive mechanisms according to several criteria.
Tunisia	Law No. 2016-71 of September 30, 2016 and Law No. 2017-8 of February 14, 2017	Premiums for direct investments, incentives for regional and sustainable development.
Libya	Law No. 9 on the Promotion of Investments (2010)	Benefits and exemptions for projects meeting various criteria.

Source: Public agencies for the promotion of foreign investment

Simplification of administrative procedures to encourage business creation

Initiatives to streamline business creation procedure have also been implemented in North Africa. Morocco has set up several entrepreneurship support portals, such as “Al Moukawala” and “Startup Hub,” as well as “Portnet,” a one-stop center for foreign trade. In addition, a decree setting out the terms and formalities for creating businesses online has been adopted. In Algeria, the Investment Promotion Agency has launched a digital platform in accordance with the law of July 2022,[164] in addition to the Decentralized one-stop centers (GUD) aimed at speeding up administrative formalities for economic operators. Egypt, with its privatization program and the liberalization of its exchange rate, has been facilitating the business creation and has attracted investment. In Tunisia, international partnerships and initiatives such as the establishment of free zones and premiums for direct investments aim to facilitate business creation and development.

163 Moroccan Investment and Export Development Agency (2023). Investment Charter: A Transparent, Clear Framework to Encourage Investment.

164 Algerie360 (2024). Algeria Launches Digital Investment Platform.

Development of free and special economic zones to stimulate growth

Free and special economic zones play a crucial role in providing tax and regulatory advantages to attract investment. In Algeria, these zones are promoting production, processing and export. Egypt, with the Suez Free Zone, provides tax incentives and modern infrastructure. Morocco has 12 industrial free zones offering tax and customs incentives as well as privileged access to European markets. In Tunisia, the Bizerte and Zarzis zones attract investment in manufacturing and services.

More advantageous taxation framework

The Moroccan tax regime stands out due to its many advantages, including reduced corporate tax rates for new businesses in certain industries or regions. For example, export businesses and those located in free zones benefit from a reduced rate of 15 percent after a 5-year all-out exemption. The new Investment Charter also provides financial incentives for strategic investments. The Mohammed VI Investment Fund supports major projects and innovative startups, acting as a catalyst for the private sector. In addition, Casablanca Finance City (CFC) offers an attractive legal and tax framework for foreign financial companies, consolidating Morocco's position as a destination of choice for investments.

4.6 China and Africa: a transformative partnership for the continent's business climate

For Africa, collaboration with international partners such as China as well as regional initiatives are crucial to fuel this continued momentum towards economic transformation. Chinese investments are playing a key role in transforming the business climate in Africa. The BRI and FOCAC are catalyzing massive investments in infrastructure and special economic zones, facilitating local industrialization and boosting economic growth. Chinese investments, particularly in the infrastructure, energy and information technology sectors, help diversify African economies and strengthen the continent's competitiveness on the global stage.

4.6.1 Evolution of Chinese FDI in Africa

Sustained growth of Chinese FDI on the continent

Despite global economic turbulence, Chinese FDI in Africa has seen steady growth in recent years. According to MOFCOM, the first three quarters of 2023 have seen growth of 5.2 percent compared to the same period in 2022.

Broader industry diversification for shared value creation

Historically focused on infrastructure and natural resource extraction, Chinese investments are notably shifting towards diversification. Emerging sectors now include manufacturing, ICT, clean energy, as well as agribusiness and food processing, reflecting a strategic expansion into sustainable and high-value-added activities.

Investments driven by Chinese trade and financial support

China has established itself as Africa's leading trading partner since 2009. From 2000 to 2023, trade value is estimated to have increased nearly thirty-fold, reaching US$282.1 billion.[165] China has also consolidated its position as Africa's main bilateral creditor, financing various large-scale infrastructure and development projects.

4.6.2 Structuring Chinese initiatives for the African business climate

The BRI in Africa

The BRI remains a major framework for Chinese investment in Africa. As of 2023, a total of 52 African countries have signed BRI cooperation agreements with China. These agreements have catalyzed massive infrastructure investments, elevating the continent to the top beneficiary of Chinese commitments, reaching US$21.7 billion.[166]

The FOCAC

FOCAC, whose latest session was held in 2021, remains a crucial platform for pointing the way to China-Africa economic cooperation. in this edition, China committed to providing US$10 billion in credit to African financial institutions to support African SMEs, demonstrating a willingness to support the local economic fabric.

---

165 According to an official from the MOFCOM, "China remains Africa's largest trading partner for the 15th consecutive year" (https://french.xinhuanet.com, February 1, 2024)

166 The Griffith Asia Institute &The Green Finance & Development Center (2024). China Belt and Road Initiative (BRI) Investment Report 2023/Christoph NEDOPIL.

4.6.3 Impact of Chinese investments on the continent's business climate

Infrastructure and energy

Chinese investment has transformed Africa's infrastructure with projects such as the Mombasa-Nairobi railway in Kenya, the Abidjan-Lagos corridor and the modernization of the Suez Canal in Egypt. China's support has been crucial for the development of strategic ports such as Tanger Med in Morocco, and for the diversification of Africa's energy sources through solar parks in Burkina Faso and hydroelectric projects in Ghana.

Special Economic Zones

Special economic zones (SEZs), such as the Lekki Free Zone in Nigeria and the Tanger Med SEZ in Morocco, developed with Chinese investment, facilitate local industrialization and boost economic growth. In Ethiopia, the Hawassa Industrial Park, developed in partnership with Chinese investors, has attracted manufacturing companies and created many jobs, strengthening the local economy.

4.6.4 Future prospects and new dynamics

Exploration of new sectors

Chinese tech giants like Huawei, Alibaba and Tencent have increased their presence in Africa. Having cultivated a deep presence in Africa for over two decades, Huawei have collaborated with operators to extend mobile communication services to more than 380 million people and broadband services to over 31 million households across North, West, and Central Africa. Together with over 3,000 government and enterprise partners, it has been instrumental in driving digital transformation across sectors, including government, finance, energy, oil and gas, education, healthcare, and transportation. Meanwhile, nearly 34 percent of the commitments initiated under the BRI have been allocated in 2023 to green sectors, such as solar, wind and hydropower. According to IRENA, Huawei contributed to more than 60 percent of new installed solar capacity in Africa in 2022.

Towards more balanced partnerships

China and Africa are moving towards more balanced cooperation, promoting high-quality partnerships focused on sustainable development and industrialization. At the same time, China's presence in Africa is attracting other international investors, prompting African countries to undertake regulatory and institutional reforms to improve their business climate.

Chapter five is written by Dr. Mwangi Wachira, the former economist from the World Bank and the policy advisor of the Kenya government.

Chapter 5 The Future of China-Africa Engagement in Financial Cooperation

5.1 Incentives and drivers of China's investments in Africa

5.1.1 Key factors in promoting Africa's industrialization

Several factors contributed to China's rise to become the world's manufacturer. They include high quality infrastructure, price-competitive local manufacturing talent, and a willingness on the part of Western and other countries to outsource manufacturing to China and to buy the resulting products.[167] Into this mix of factors, China added its own ingenuity and a conducive governance to move from basic into advanced manufacturing, develop cutting-edge technology and scale the frontiers of science. As a result, industrialization accelerated at a phenomenal pace. Made in China became a household name worldwide.
African decision makers are looking for ways to make similar strides in industrialization. But key ingredients in China's recipe for industrialization are lacking in Africa.

The world comes to Africa to extract. Today it is minerals and commodities. Yesterday it was slaves. This extraction model has hindered the growth of elements which have been key in China's formula for industrialization: high quality infrastructure, price-competitive local manufacturing talent and, consequently, there is no basis for outsourcing manufacturing to Africa, let alone to buy the resulting products.

Of course, some industrialization will be achieved by exporting minerals as well as raw or processed agricultural products to China and other countries. But this is extremely slow and not anywhere near the scale that is needed.

The majority of Africa's economies remain overly dependent on exports of agricultural, mining and extractives making them highly vulnerable to external market fluctuations. Therefore,

167 Ekekwe, N. (2019). Why Africa's Industrialization Won't Look like China's. Harvard Business Review.

in general, the conversation at 2024 FOCAC should be geared towards diversifying African economies – in whatever way possible, and for very sound reasons – value addition, employment, skills development, and accelerated industrialization.

In the absence of key ingredients of the recipe that China used to industrialize, the most reliable way to overcome the shortcomings of the extraction model of development is to process Africa's minerals and commodities in Africa.[168] These two elements, the infrastructure and the emerging African middle class, are the ingredients of Africa's industrialization.

5.1.2 Arica's urgent needs addressing food crisis

In our time, climate change is aggravating food insecurity as time-tested hardy crops of the African savannah become a distant memory. Unless major and perhaps radical steps are taken, climate change will deepen and widen food insecurity, leading to unprecedented social crises. The prospects are grim and African policy makers know the scale of the necessary response.

For example, many African policymakers know that the global average cereal yield is 4,153 kg per hectare while on the continent it is 1,589 kg. If this modest harvest is followed by a post-harvest loss estimated at about 30-50 percent of total food production in Africa, the consequences are dire.[169]

In its world food security update of April 2024, the World Bank notes that domestic food price inflation remains high for the cereals which feature in African diets. Prices for maize, wheat, and rice are 15 percent, 3 percent, and 47 percent higher respectively than they were in January 2020, the onset of the COVID-19 pandemic. Global wheat ending stocks for the 2023/24 period are at an eight-year low. Overall, global food stocks have decreased by 39 million metric tonnes from their peak in 2019/20. For four consecutive years, the proportion of people facing acute food insecurity has remained high at almost 22 percent of those assessed, which exceeds pre-COVID-19 levels.[170]

Africa is highly dependent on food imports from a few countries. In 2020, 15 African countries imported over half of their wheat from Russia and Ukraine. For Benin, Djibouti, Egypt, Sudan and Tanzania the figure was seventy percent. The war in Ukraine led to a shortfall of 30 million tonnes of grain and a sharp increase in the cost for import-dependent Africa.[171] The surge in

168 Fofack, H. (2019). Overcoming the Colonial Development Model of Resource Extraction for Sustainable Development in Africa. Brookings Institution. https://policycommons.net/artifacts/4138852/overcoming-the-colonial-development-model-of-resource-extraction-for-sustainable-development-in-africa/

169 Fofack, H. (2023). Technologies Continent's Farmers Need to Feed Africa. The East African. https://www.theeastafrican.co.ke/tea/kusi-ideas/technologies-continent-s-farmers-need-to-feed-africa-4451692

170 Andree, et al. (2014). Food Security Trends in 2024 and Beyond. World Bank. https://blogs.worldbank.org/en/agfood/food-security-trends-2024-and-beyond

171 Bychkovska. (2024). Ukraine's Grain Exports are Crucial to Africa's Security. Atlantic Council. https://www.atlanticcouncil.org/blogs/econographics/ukraines-grain-exports-are-crucial-to-africas-food-security/#:~:text=Ukrainian%20grain%20exports%2C%20especially%20wheat,came%20from%20Ukraine%20and%20Russia.

food prices across the continent is a warning and an incentive to reduce over-reliance on food imports.

Yet the continent owns sixty percent of the world's arable land. Africa must act with a sense of urgency, if for no other reason than to save some of the US$75 billion spent by Africa annually on cereal imports. Agriculture should be the first priority of Africa's engagements, including the one with China.

By 2063, the centennial of the AU, the concerted effort of Africa and all its well-wishers, including China, should be able to overcome current challenges and produce enough food to feed the continent's population. As a target, Africa should set for itself the goal of producing sufficient food to feed its own population and send emergency food aid to countries outside Africa by 2063. This is eminently doable. And the China-Africa engagement can contribute towards the achievement of that goal.

5.1.3 Africa's request to narrow trade deficit

Although China has been Africa's largest trade partner for 14 consecutive years[172], the balance of trade is in China's favor. By 2022 the value of African exports to China was equal to about 3.2 percent of Africa's GDP. By 2022, the value of imports from China to Africa were equal to about 5.8 percent of Africa's GDP leading to a gap that is equal to about 2.6 percent of Africa's GDP.

The imbalance in trade is not surprising. From Africa's perspective, over the last twenty or so years, China has joined the United Kingdom, Japan, European Union countries and the United States which have long-established trade relations with Africa. These countries buy from African countries more or less the same products as does China. For its part, Africa buys more or less the same products from Western countries and Japan as it is buying from China – when Africa can afford to buy. As a result, Africa has trade imbalances with these countries and in some cases, the deficits are just as pronounced as with China. There is nothing unique about a trade imbalance with China.

Naturally, African countries wish to improve the balance of trade with China. Hence, during the 2024 FOCAC, there will be proposals on different ways of increasing the value of Africa's exports to China, a theme that has been on the agenda in recent FOCAC and related Ministerial consultations.[173] For example, at the Dakar FOCAC meeting, China promised to import a total of $300 billion worth of products from Africa over the next three years, a clear indication that this is of continuing interest to Africans.[174]

172 China Daily, 2/1/2024.

173 Thomas, D. (2021). What Did FOCAC 2021 Deliver for Africa? African Business. Africa Trade & Investment. https://african.business/2021/11/trade-investment/what-can-africa-expect-from-focac-2021

174 Sun, Y. (2021). An Examination of the 2035 Vision for China-Africa Cooperation. Brookings Institution. The United States of America. https://policycommons.net/artifacts/4142687/an-examination-of-the-2035-vision-for-china-africa-cooperation/

5.1.4 Africa's effective measures to lower debt burden

Data for the 22 years confirms that indeed China's share of Africa's total external debt has grown: from 1 percent in 2000 to 13 percent in 2022. This growth has attracted attention amid claims that Africa is acquiring crippling debts. But the main source of Africa's debt burden is not China but others. Bondholders, the World Bank, the African Development Bank and France held 65 percent of Africa's external debt in 2022.

Africa's creditors respond differently to requests for debt relief. Some opt for debt forgiveness. Others prefer a combination of debt restructuring and forgiveness. Yet others, such as China, opt for forgiveness of interest-free loans only.

The 2024 FOCAC will take place at a time when many African countries are experiencing difficulties making debt payments. They can opt for additional debts as part of a restructuring – if this option is offered. Alternatively, they could encourage investors to expand their operations in Africa, or to start new ones. Since the first option increases the debt burden, the second option might be appealing especially to African countries that are attractive destinations for investment, namely, resource-rich countries that have institutional environments that are conducive to investors.

5.1.5 Vision to an integrated African market

The COVID-19 pandemic and the war in Ukraine have reminded African analysts what a majority of them already knew: African countries cannot entrust their survival entirely to international trade despite its efficiency and nimbleness in responding to supply and demand. The continent must continue the quest for limited self-reliance through a continental integrated market to distribute imported vaccines, Ukrainian wheat, or Chinese electronics efficiently right along local products. Limited self-reliance would offer more security during disruptions of international trade. Although practical issues often get in the way of this vision, a typical African policy maker is well aware of its benefits: it will reduce the cost of progress for the continent.

Currently, intra-Africa trade is only 14.4 percent of total African exports. But more than half of it now consists of semi-finished goods sent from one country to another African country for finishing. The long-awaited value chains across the continent are starting to emerge. Moreover, barely three years old, the AfCFTA, recently enhanced with the Pan-African Payment and Settlement System, has been ratified by 47 African countries. Thirty-three are already trading with each other under its regime. This is a modest start of the journey towards creating a market of 1.3 billion people with a combined gross domestic product of US$3.4 trillion, and possibly becoming the world's biggest free-trade zone by area when it is fully operational by 2030. It is a vision driven by the knowledge that, even this early, Africa's 350 million strong middle class will provide economies of scale for the manufacture of a wide range of products, from vaccines to toys.

There are also signs that AfCFTA is gaining traction buoyed by renewed political will across the continent. In the last quarter of 2023, despite all the current challenges, the EAC member states increased trade with the rest of the continent by 14 percent compared with a similar period in 2022 to reach US$4.3 billion. They also increased trade among themselves by 20 percent to reach US$3.2 billion in the fourth quarter.[175]

And China has had a stellar record supporting the creation of the nodes and links of an integrated African market - a port, a railroad, a road, an Africa Centres for Disease Control and Prevention, and the AU headquarters, to cite from a long list of iconic projects. An integrated African market will go a long way towards solving some of the most intractable problems on the continent – distribution of food, industrial products or vaccines. The 2024 FOCAC meeting should encourage China to support one more node, one more link to knit the continent's free trade area, if resources permit.

5.2 Methods and directions for financial cooperation

5.2.1 Promoting Africa's industrialization

Against heavy odds – insurgencies, droughts, climate change and endless interference in their internal affairs disguised as assistance - many African countries are trying to embrace open markets, favorable trade and exchange rate policies, stable governments and secure property rights.[176]
But industrialization requires more from African decision makers. It will require encouraging local consumption and intra-African trade, liberal use of the AfCFTA, more and improved infrastructure, prioritizing investment in scientific education and technical training, and, on the horizon, a single African currency. All these elements are under way to some degree. But more, much more needs to be done as fast as humanly possible before climate change closes the door to Africa's industrialization forever.

High-quality infrastructure

The engagement has a lot of work ahead of it. Future cooperation should retain infrastructure in its prominent place in the China-Africa engagement. It is highly significant that it has taken

175 Owino, V. (2024). East Africa Trades More With Its African Peers Than With EU and Asia. The East African.

176 Sandrey, R., & Edinger, H. (2011). China's Manufacturing and Industrialization in Africa. African Development Bank Group. https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Working%20128.pdf

China to start creating high quality infrastructure on the continent. China responded positively where Western countries and institutions would not do so because they saw more risks than opportunities, especially in sub-Saharan Africa.

Thus, in addition to facilitating the extraction of minerals and commodities out of Africa, the infrastructure should be used to foster supply chains, industrial chains and value chains to support the manufacturing of consumer goods for Africa's own middle class. Success will consist of increasing intra-African exports as a percentage of total African exports from the current 14 percent and bring it closer to the estimated 69 percent for Europe or 59 percent for Asia.[177] The key is China's pragmatic or instrumentalist approach to Africa not weighed down by a history of trying to redesign the moral basis of Africa to suit China's purposes.

Increasing value addition of African products

Already, Chinese manufacturers who produce for African consumers are prospering. From cement, plastics, and pharmaceutics to cosmetics, cell phones, and electric cars for an expanding African middle class.[178] China continues to be Africa's leading trade partner. From Africa's perspective, this development is positive. China's ascendance has given Africa a new and significant market for its products. At the same time, Africa has gained access to more affordable consumer products to grow a middle class, the wellspring of stability. This effort needs to be expanded so as to meet AU's Agenda 2063 call for industrial development, especially in manufacturing, to increase the value added of Africa's resources, improve levels of employment, and raise people's income. As it is, some African decision makers take the position that China should begin de-emphasizing infrastructure in favor of industrialization.[179]

And, as has been demonstrated in manufacturing in South Africa among other countries, African aptitude for learning and acquiring skills that are needed in manufacturing is comparable to that of any other people in the world. African talent pools will grow to the extent that Africans are involved in the entire manufacturing process, from operating machines on the production floor to management.

5.2.2 Supporting the modernization of Africa's agriculture

Getting rid of food aid

Food insecurity on the continent is a source of constant anguish to many African policy makers. Long before the onset of climate change, some African countries were food insecure and received perennial food aid. Food aid saves lives. Typically, African policy makers are indeed

177 Ogwu, B. (2023). Export Manufacturing and Regional Value Chains in Africa Under a New World Order. Afreximbank 2023 Africa Trade Report.

178 Usman, Z. and Tang Xiaoyang (2024). How is China's Economic Transition Affecting its Relations with Africa. Carnegie Endowment for International Peace.

179 du Plessis, C. and Tannur Anders (2023). China Says African Countries Want Industrialization Over Infrastructure. Reuters.

grateful for the assistance. However, all too often the food that is provided does not grow in Africa's environment under normal circumstances. For this reason alone, food aid should be only a temporary measure to be removed at the earliest possible point in time. Food aid is not the answer to food insecurity. Some African countries have swathes of land that can produce enough food to meet local demand with excess for export. Yet, in these same countries, food aid has been delivered for so many years that it is seemingly permanent. It has long distorted prices and discouraged local food production, thereby making more food aid necessary – a self-perpetuating vicious cycle. This is a catastrophe for the continent.

Ending long-term reliance on food aid is critical for East Africa, the Horn of Africa and the Sahel, regions that are traditionally drought-prone quite apart from climate change.

Therefore, future cooperation might adopt the principle that **for every dollar spent on food aid, a hundred should be spent on improving local food production.** It will take such drastic steps to bring Africa's cereal average yield per hectare to the same level as other parts of the world. This is true for many other food crops. It will take a combination of many partial solutions to solve Africa's problems in agriculture and food security. The combinations will vary from place to place but there are common elements.

Applying technology and knowledge

The leading partial solution is wider and more aggressive use of science and new technologies to boost crop yields and build resilience to extreme weather conditions. It works. For example, through a combination of irrigation and the use of heat-tolerant wheat varieties, Ethiopia expanded wheat cultivation from 5,000 hectares to more than 2.2 million hectares in five years between 2018 and 2023 thereby improving the country's chance of attaining food self-sufficiency.[180] Indications are that Ethiopia is on the verge of becoming a net exporter of wheat, a major achievement.

To support the modernization of Africa's agriculture, China has set up 24 centers where more than 300 applications of technology demonstrate how to increase crop yields and extended this knowledge to more than 1 million farmers. China's investment in the sector has been growing at about 11 percent annually, reaching US$1.77 billion in 2021. That investment has created employment for 300,000 Africans. By 2021, China had trained over 400 specialists in various aspects of agriculture, as well as more than 10,000 managerial and technical staff.[181]

The second partial solution to food insecurity is expanded production of crops that have stood the test of time. The crops were identified through trial and error by countless generations of Africans.

For example, for twenty years China has supported two projects that may hold part of the key to Kenya's food insecurity. The Kenya-China Belt and Road Joint Laboratory for Crop Molecular Biology, based in Egerton University's Confucius Institute and the Sino-Africa Joint Research Center (SAJOREC) at Jomo Kenyatta University of Agriculture and Technology

180 Fofack, op. cit.

181 Xinhua (2024). China Africa See a Bright Prospect for Comprehensive Agricultural Cooperation. China.org.cn.

provide cutting-edge science, technology and resource support in crop breeding and skills training. Breakthroughs in these projects, especially on the hardy food crops which have supported Kenya and the savannah region of the continent for millennia, could increase food production. This is especially important as climate change picks up speed.

Similar positive outcomes are possible through collaboration between China and Africa's own efforts such as the Technologies for African Agricultural Transformation. This initiative of the African Development Bank aims to increase the production of millet, maize, rice, wheat and other staples across the continent.

Perhaps future cooperation might build on projects already in the pipeline such the Common Africa Agro-Parks Program to promote seed breeding and production, planting, processing, warehousing. In anticipation of deepening climate change, future cooperation could prioritize and fast track joint Chinese-African research and rolling out results in seed varieties, high yielding seed production, fisheries, offshore aquaculture, and marine biotechnology products, but especially local hardy cereals. The effort should also include supplementing traditional rain-fed agriculture with solar-powered irrigation systems, using high-yield seed varieties that perform well under dry conditions and mechanizing as many operations as possible, and offering small farmers internet-based early-warning. In the past, efforts to reduce post-harvest losses have correctly focused on cereals. But the China-Africa engagement might look at the possibility of reducing post-harvest loss for cassava and related roots and tubers.

The 2024 FOCAC might follow up on the undertakings of the recent Second Forum on China-Africa Cooperation in Agriculture in 2023 to support the continent's Agenda 2063 with specific initiatives designed to foster agricultural modernization through alliances and exchanges among Chinese and Africans. To promote value addition, 1,000 African managers will also be trained to help attain the stated goal of adding US$20 billion to Africa's trade in value-added products from agriculture.[182] These might be coordinated or merged with the Common Africa Agro-Parks Program to promote seed breeding and production, planting, processing, warehousing already in the pipeline. In anticipation of deepening climate change, the 2024 FOCAC could prioritize and fast track joint Chinese-African research and rolling out results in seed varieties, high yielding seed production, fisheries, offshore aquaculture, and marine biotechnology products, but especially local hardy cereals.

5.2.3 Expanding exports of African products to China

CAETE as a platform

In recent years, China has organized Africa-specific expos to focus attention on trade and other opportunities for both Chinese and African producers and traders. The first CAETE was held in China in Hunan province in 2019. It convened traders from both sides to explore

182 Ministry of Agriculture and Rural Affairs, 2nd Forum on China-Africa Cooperation, 12/15/2023; Ministry of Foreign Affairs of the People's Republic of China, "Plan for Supporting Africa's Agricultural Modernization," 8/25/2023.

concrete projects and do what traders or their agents do best: negotiate and sign deals. There are signs that this unique effort is bearing fruit.

Some 84 cooperation agreements valued at US$20.8 billion for projects in various sectors were signed: infrastructure, tourism, manufacturing, aviation, among others. Ordinarily, high-level officials and captains of industry or trade meet to craft agreements hoping that the information on new opportunities will trickle down to small producers and trade. This can be a slow process. The expos speed up the uptake. In this case, the well-attended expo gave smaller traders or their agents an opportunity to interact and showcase especially African products and opportunities including trading in Africa's value-added agricultural products.

The world was still in the grip of the COVID-19 pandemic when the second CAETE took place in 2021. As reported by China Global Television Network, in the course of the interaction among Chinese and African producers, traders and their agents, some 176 projects in trade, investment, project contracting and strategic cooperation with a value of US$15.93 billion were presented. A much-appreciated new feature called "guest of honor" was introduced to focus attention on products from particular countries. For this second expo, products from Ethiopia, Kenya, Rwanda, South Africa and Senegal were highlighted. By 2023, some of the projects that were signed at the expo were already under way.

In spite of the success of the expos, African countries are still facing challenges accessing the Chinese market due to poor logistics in Africa, bureaucracy, and the near total absence of African banks and small enterprises in China. The trade contact between Chinese and Africans is vibrant in places such as Guangzhou, but elsewhere it is minimal. The 2024 FOCAC meeting might open a dialogue on the additional measures that can be taken to expand the access of African banks and small traders to their Chinese counterparts in other places similar to Guangzhou.

Zero Tariffs as a measure

Starting in 2021, China offered zero tariffs to an expanding list of African countries with emphasis on agricultural products. So far, this "green lanes" initiative offer has been extended to 33 countries. The list of eligible products now stands at 8,000, which is 98 percent of the exports of the 33 countries to China. It includes sesame seeds, cashew nuts, avocadoes, chili peppers, cotton, soya beans and many others.

It is extremely helpful that China does not attach requirements or conditionalities that have no direct bearing on trade in these 8,000 mostly agricultural products. Of course, there are phytosanitary standards and procedures of enforcement on which both sides must agree. But there are no social or political engineering conditionalities attached to granting African avocadoes or cashew nuts access to the Chinese market, for instance. This is a breath of fresh air for sub-Saharan African countries which have long endured social engineering requirements or conditionalities from other trade partners, a vestige of colonization.

Of course, the objective of the zero-tariff is to chip away at the huge trade imbalance between Africa and China. According to China's General Administration of Customs, the volume of trade between China and Africa reached US$234.8 billion in the first 10 months of 2023 with imports to China accounting for US$91.5 billion.[183] This has expanded the range of especially agricultural products that Africa can sell to China. It should help to improve this picture – a little.

Zero tariffs are welcome because they play to Africa's potentially strong hand in agriculture. To be sure, the African agricultural sector is in need of major rethinking and recasting. In the meantime, the possibility of accessing China's market is already an incentive to Kenyan avocado farmers, for instance, in much the same way that the European market for flowers has been an incentive to Kenyan and Ethiopian flower growers.

5.2.4 Assisting clean energy transition

In the most recent years, FDI from China has shifted slightly towards energy and transition or green technology materials. Like their counterparts in industrialized countries, Chinese investors are starting to make the transition to a post-fossil fuel era. They might therefore be receptive to requests by Africans seeking to promote investments in electrification infrastructure and help Africa phase out of its reliance on fossil fuels for 90 per cent of its energy consumption.

Study suggests that one way to balance trade between Africa and China is to encourage China to process in Africa some of the items which currently play a minor part in the trade but are, coincidentally, critical inputs into the supply chains of green technologies - copper, iron and aluminum for electric vehicle batteries, solar panels and wind energy generation equipment. One benefit, employment creation, would ease some of the pressure to create meaningful employment opportunities on the continent.

It may be early but data shows that China is starting to make good on its 2021 pledge not to finance new coal-fired plants overseas. This might be an opportunity for African countries to try and focus the engagement on transition materials projects. Renewable energy projects now account for only about 2 percent of China's FDI into Africa.

Chinese FDI were mainly through state-owned enterprises and heavily into fossil fuel projects. The ongoing global shift to renewable and green technologies suggests that African policy makers might be more successful if they seek new Chinese FDI for projects in renewable and green technologies. This could lead to a new phase in the engagement in which small private investors from China play a bigger role than state-owned enterprises. Between 2000 and 2022, US$134.01 billion[184] of China's FDI went into new and existing African projects.

And this shift to minerals and commodities for renewable and green technologies could be Africa's path to industrialization especially if the extraction is followed by the manufacture of finished goods in Africa. Africa faces the challenge of industrialization in a post-fossil fuel environment. For instance, Africa is being challenged to bypass the production of machinery

183 Ze Yu, S. (2021). Three Reasons Why Africa's Digital Future Is Deeply Intertwined With China. Africa at LSE.

184 Oyintarelado Moses, 10 Charts to Explain 22 Years of China-Africa Trade, Overseas Development Finance and Foreign Direct Finance, Boston University, Global Development Center, April 2, 2024; https://www.bu.edu/gdp/2024/04/02/10-charts-to-explain-22-years-of-china-africa-trade-overseas-development-finance-and-foreign-direct-investment/

based on fossil fuels altogether and leapfrog to electric machinery in much the same way as Africa has largely bypassed telephony based on landlines. This challenge could open a new era for the China-Africa engagement.

For example, the experience that Chinese companies have gained in South Africa can be used to manufacture electric vehicles, solar panels, wind turbines and storage, or create wind farms in eastern Africa given the availability of minerals, rare earth metals and oil in the sub-region. The assembly of electric vehicles in Kenya by Associated Vehicle Assemblers in a joint venture with Chinese car manufacturer BYD can be replicated elsewhere. Ethiopia's leading footwear maker, Huajian Group, and GAC International will team up to build an electric vehicle assembly line in the country, as announced in August 2024.

5.3 Future of China-Africa financial cooperation

5.3.1 Challenges of Africa’s economic revival

The backdrop to the 2024 FOCAC meeting does not include a raging COVID-19. Instead, at least for Africa, the backdrop is a perfect storm of upheavals. The ongoing war in Ukraine has led to a rise in food prices globally but particularly in African countries. The high cost of living, inflation, historic levels of unemployment have crowded out many development projects. Across Africa, the extreme weather events heralding climate change are destroying years of progress, taking thousands of lives and casting serious doubts on the future. In many countries, the better part of government revenues is going into debt repayment rather than new projects. FOCAC 2024 is taking place at a time when the pace of progress has slowed down dramatically.

Over the 22 years, African countries have taken loans primarily from China’s development finance institutions, the China Development Bank and the Export-Import Bank of China. The bulk of these loans has been for energy, transport, ICT, financial services. The flow of FDI fluctuated in response to the financial crisis (2008-2009), the collapse of commodity prices (2014-2015) and a global pandemic (2020-2022). Clearly, these principal lenders are constrained by the same global market forces as their Western counterparts.

This backdrop is not propitious. The challenges are complex. The China-Africa engagement will be under pressure to respond to these immediate crises. Put out the fire; worry about progress later. It will take a longer view and assess the China-Africa engagement through different windows so as to bring out an African perspective to guide the future: industrialization, agriculture/food security, trade, and investments/financing. It will bring out the thinking behind what is probably the most consequential engagement that Africa has entered voluntarily in the modern era.

5.3.2 Principles of China-Africa financial cooperation

The China-Africa engagement is based on a shared understanding of many principles including that the modernization of Africa is not inevitable or irreversible. However, the project to modernize Africa is being rolled out amid insurgencies in many countries. These insurgencies, chest pains across Africa, are driven by competing visions of modernity itself. In some places, the resulting conflict has all but arrested progress. Here too, China has shown restraint by refraining from taking advantage of the unrest to further its goals. In general, China's principled restraint from interfering in the internal governance of host African countries is well-received.

To most African analysts, the key appealing feature of the engagement is that it places trade and investments on a different track from aid. Driven by a sense of shared humanity, China came to the assistance of the continent long before links in trade and investments emerged. Today, agreements on trade or investment in the China-Africa engagement succeed or fail on merit. Aid is not used to force otherwise objectively unfair deals. This posture leaves Africans room to create their own versions of modernity. To make their own mistakes until they get it right.

Above all, the engagement is applauded for the sense of urgency driven by the knowledge that Africa must cross the river of poverty alleviation before the continent's wealth in minerals and commodities is exhausted or climate change drops its curtain. The fact that Kenya's Standard Gauge Railway, the Ethiopia-Djibouti Railway, Nigeria's Lagos Rail Mass Transit, and Tunisia's Mellegue dam, among many other projects on the continent, were completed on time, sometimes ahead of schedule and always without ancillary social or cultural engineering schemes, confirms that China shares the sense of urgency. Conditionalities that have no direct bearing to the task at hand add to the nominal costs of projects; they often waste time and resources. If China maintains its posture and continues to avoid such conditionalities, Africa's voluntary journey with China is just starting and there will be many more FOCAC meetings.

Concluding Remarks

Over the decades of China-Africa cooperation, and especially over the 24 years since the establishment of FOCAC, historic achievements have been made, changing the face of Africa and leading the international community to pay more attention to and place more focus on Africa. The new session of FOCAC will be held in Beijing in September, when Chinese and African leaders will meet six years on from the previous session to discuss crucially important future development and cooperation. Together they will draw a grand blueprint for China-Africa cooperation in the new era, which will also further promote China-Africa economic, trade and investment cooperation to achieve additional concrete outcomes.

Since entering the new era, President Xi Jinping has put forward the concept of a genuine and sincere policy towards Africa and the correct concept of righteousness and profitability, leading the construction of the China-Africa community of shared future into the "fast lane." China has been Africa's largest trading partner for 15 consecutive years, the "cake" of China-Africa cooperation is constantly expanding, and China-Africa entrepreneurs are walking ever closer. African countries are accelerating their economic development, gradually advancing on a successful Africa's path of modernization and building Africa into a peaceful and prosperous continent. In this process, Chinese enterprises are willing to be fellow travellers in Africa's exploration of the road to modernization.

We will encourage more Chinese enterprises in various sectors to invest in Africa and participate in the construction of roads, electricity, information and communications and other types of infrastructure in various forms, so as to help diversify Africa's economic development and industrialization process.

We will guide Chinese enterprises to expand investment and cooperation with African partners, strengthen mutually beneficial cooperation in areas such as industry, agriculture, healthcare, transportation and logistics, new energy and e-commerce, and support African countries in achieving independent and sustainable development.

We will support China-Africa entrepreneurs in jointly exploring cooperation in areas such as the digital economy, green development and the blue economy, so as to cultivate new growth points for cooperation.

We call on the governments of China and Africa to support cooperation in the financial sector, support financial institutions to provide investment and financing services for enterprise cooperation, encourage greater use of local currency settlements in trade and investment, facilitate the reduction of exchange costs for enterprises, create a favorable policy environment for the promotion of local currency settlements, and support a greater role for RMB clearing banks in Africa.

We call on African Governments to create an open, transparent, fair and non-discriminatory business environment for China-Africa business cooperation and to provide favorable conditions for Chinese enterprises to operate in Africa in order to promote trade and investment facilitation.

Africa is a continent full of hope, and we are confident that the 21st century will witness the joint development and revitalisation of China and Africa. China has set up the China-Africa Private Investment Promotion Platform to promote the strengthening of China-Africa industrial matching and other forms of cooperation and welcomes the active participation of entrepreneurs from all African countries.

We wish the 2024 Beijing FOCAC Summit every success!

Annex

THE CHINA-AFRICA DAR ES SALAAM CONSENSUS

Dr. M. Wachira

Editor's Note: The China-Africa Think Tanks Forum is an important sub-forum of the Forum on China-Africa Cooperation. Its 13th meeting held in Dar es Salaam, Tanzania early March this year had the participation of over 300 think tank scholars, business leaders and officials from China and 49 African countries. Under the guidance of the vision of building a community with a shared future for mankind, scholars had in-depth discussions on the major issues and challenges facing the world, jointly putting forth solutions and issuing the Consensus among African and Chinese Think Tanks on Deepening Global Development Cooperation, also called the "Africa-China Dar es Salaam Consensus." The Dar es Salaam Consensus has many outstanding features. Only a few will be discussed in this commentary.

Global

At the global level, the Dar es Salaam Consensus upholds a multi-polar world, secure from new and older threats. It also calls for a more equitable international financial system driven by knowledge sharing.

Multipolarity appeals to African Think Tanks and analysts because it enshrines and celebrates the diversity of peoples, cultures and nations. In practice, and especially in their present stage of modernization, African countries cherish the freedom to seek out the largest possible number of trade partners, investors and friends.

In all probability, climate change will make modernization both more costly and more urgent. African countries will need all the assistance they can get. A multipolar world will offer Africa access to more countries of goodwill. This leeway to chart the course of their countries enhances the independence of all including African countries.

As an example, until barely forty years ago, African countries and China did not have access to each other through trade and investments. But following China's "opening," African countries have gained a new destination for their few products and China has joined other countries which have had long-standing access to African markets and investment opportunities.

Chinese-made products now reach the most isolated African villages. In the process, this has given Africa's blossoming middle class access to products that Africans associate with modernity. This would not have happened if Africa had continued to rely solely on its long-standing engagements with Western countries.

This first-hand experience through trade has also dispelled a central tenet of the flawed encounter between Africans and Western countries: only the Western social, political and cultural landscape can produce or host modernity. China's appearance raises the possibility that Africans too can modernize their countries without detouring through Western culture.

Granted, the balance of the China-Africa trade is in China's favor. This is similar to the balance in the trade between Africa and other countries which have had long-standing access to Africa's small markets.

Likewise, "opening" has brought Chinese investors into African countries. The level of investment is still very low. Indeed, among all the continents, regions and countries, the volume of China's investments is lowest in Africa. From Africa's perspective, there are also practically no African investors going to China or to other countries.

African countries and China can and are working on ways to redress the balance of trade, the root cause of which is the limited range and diversity of the products that African countries offer to China and the rest of the world. African investments in China are still negligible. Hopefully, in the not-too-distant future, multipolarity will allow Africans to trade and invest globally in much the same way as China is doing today. That will include a larger number of African investors and traders in China.

Cultural multipolarity is a treasure to the world. Coming from an era of the constraints of a century of colonization and its lingering after effects, Africans can now explore other worldviews, other cultures including the Chinese one, thanks to multipolarity. By the same token, it is also an opportunity for China to showcase its cultural heritage. Above all, cultural multipolarity promises Africans that in the not-too-distant future, they too will be able to invite others to experience an African culture or worldview showcased by Africans themselves. This daunting task of reversing the damage of a millennium of conquest, enslavement and colonization will be easier in a multipolar world.

For example, Africans now avail themselves of the opportunity to study aspects of Chinese society, such as contemporary governance, and to compare them with African or other equivalents. By the same token, multipolarity has enabled China to add Africa to the cultural experiences that the Chinese can explore to enrich their lives. Where there were no Chinese tourists on the continent fifty years ago, they are now commonplace, an invaluable people-to-people exchange.

All told, a multipolar world offers more options in the flow of bilateral trade, investments, aid and cultural exchange. Recent events – COVID-19, the war in Ukraine – have only confirmed the value of a multipolar world order and the need to maintain good working relations with as many countries as possible. In a more multipolar world, African countries might not have been so consistently the last to receive COVID-19 vaccines. They might also have developed trade in wheat with other countries and not be so overwhelmingly dependent on Ukraine and Russia.

National

At the national level, the Dar es Salaam Consensus upholds the use of markets and proactive governments to promote a people-centered modernization. This requires harmonized international and national systems and peace as common public goods. But, as a minimum, both markets and governments must play critical roles if people-centered modernization is to be attained.

While the principle of a people-centered modernization resonates with African Think Tanks and decision makers, both the markets and governments in many African countries are still weak. This underlying weakness limits the ability to foster people-centered modernization. The will exists; capacity is often lacking.

A common way of compensating for the low capacity and poorly developed markets is to seek multilateral and bilateral aid or assistance. Sometimes this can be effective. At other times, however, the providers of assistance fill in the gaps but also insert their own agendas including imposing their ideas of modernity itself. Some promote modernity as the deletion of the local worldviews in their entirety. Often, the process of delivering the assistance is more intrusive and alienating than the worst from the era of colonization. Modernization becomes colonization by another name.

With the wounds of colonization barely healed, African decision makers welcome China's principle of non-interference in the internal affairs of host countries, including those which receive aid from China. African analysts wish others would follow China's example and dispense with the righteous interference in the internal affairs of aid-receiving countries, a pattern of behavior which surfaces almost exclusively in Africa and especially sub-Sahara Africa. But the interference persists. African decision makers and analysts have a dilemma. They need aid and assistance to compensate for low capacity and poorly developed markets. But the help is delivered at a very high cost: the choice of Africa's path to modernity. The Dar es Salaam Consensus could have addressed this dilemma.

In our times, countries protect breakthroughs in, for example, artificial intelligence or quantum computing because these technologies confer comparative advantages in trade, investments and security. The breakthroughs are achieved after prodigious investments and sheer dint of hard work. The dual character of the applications, security and non-security, complicates free trade and could undermine the principle of a multipolar world. The Dar es Salaam Consensus could have provided guidance on how to manage innovations in a multipolar world.

In the end, the rancor about China's emergence as a source of trade, investments, and assistance to especially sub-Sahara Africa has been driven by two interrelated ideas. First, there is an in loco parentis posture towards Africa. Second, there is the notion that the net impact of the encounter between Africans and the Western world over almost a millennium has made Africa a preserve of the Western world. On both ideas, African analysts beg to disagree. The Dar es Salaam Consensus says so.

Index

Features

Figures

Tables

Corporate / Economic Zone Information

Bibliography

MOFCOM (2023). Statistics on China-Africa Trade and Economic Cooperation in the First Half of 2023.

Zhang, Tailun (2023). The Value of Investment in Africa's Digital Economy. China Investment. (in English and Chinese) (Z9):88-89.

Chinese Academy of International Trade and Economic Cooperation (2023). China-Africa Economic and Trade Relations Report 2023.

Huang Jinlong (2019). China Building Materials' African Advantage. China Investment (20): 28-30.

International Finance Cooperation (2023). Infrastructure in Africa.

Ministry of Foreign Affairs of the People's Republic of China (2021). Forum on China-Africa Cooperation - Dakar Action Plan (2022-2024).

China.gov.cn (2015). China's Policy Documents on Africa (full text).

China-Africa Economic and Trade Fair Secretariat (2023). China-Africa Economic and Trade Relations Report (2023).

Tang Xiaoyang (2019). Chinese Manufacturing Investments and Knowledge Transfer: A Report From Ethiopia.

MOFCOM (2021). China-Africa Cooperation Vision 2035.

China.gov.cn (2021). White Paper on China-Africa Cooperation in the New Era.

GSMA (2023). The Mobile Economy Sub-Saharan Africa 2023.

Endeavor (2022). The Inflection Point: Africa's Digital Economy Is Poised to Take Off.

China.gov.cn (2021). XI Jinping's Keynote Speech at the Opening Ceremony of the 8th FOCAC Ministerial Conference (full text).

Bank of China (2023). White Paper on RMB Internationalization 2022 - The RMB in RCEP.

Yu Zhuorui and Zhuang Tailiang (2015). RMB Internationalization From the Perspective of Currency Exchange Risk Faced by Chinese Enterprises Investing in African Countries.

Luo Qinglin (2023). Deepening China-Africa Financial Cooperation. China Finance (05):84-85.

Mckinsey (2023). Manufacturing Africa's Future: Jobs, Growth, and Sustainability.

UNCTAD (2023). Economic Development in Africa Report, 2023.

African Union (2015). Agenda 2063.

African Development Bank (2017). Industrialize Africa: Strategies, Policies, Institutions, and Financing.

IMF (2023). A Demographic Transformation in Africa Has the Potential to Alter the World Order.

AfDB (2017). Transforming Africa's Agriculture Through Agro-Industrialization.

Prachi Agarwal, Anthony Black, Alberto Lemma, Vuyiswa Mkhabela and John Stuart (2022). The African Continental Free Trade Area and the Automotive Value Chain.

AfDB (2022). A New Frontier for African Pharmaceutical Manufacturing Industry.

Development Reimagined (2022). Making Africa's Pharmaceutical Ambitions a Reality: Part 1 - History, Trade and Hubs.

Xiao Qijia (2021). A Global Community of Health for All: A Footnote to Humanwell's African, China Investment.

6W Research (2024). Africa Chemicals Market (2024-2030) | Companies, Forecast, Size, Value, Outlook, Industry, Revenue, Share, Analysis, Trends & Growth.

Mordor Intelligence. Textile Industry in Africa Size & Share Analysis - Growth Trends & Forecasts (2024 - 2029)

Bradley Intelligence Report (2023). Africa and the Global Race for Critical Minerals.

African Development Bank (2022). Approach Paper Towards Preparation of an African Green Minerals Strategy.

Development Reimagined (2023). Unleashing Africa's Potential for Environmental Goods Manufacturing.

6W Research (2024). Africa Construction Materials Market (2024-2030) | Industry, Outlook, Growth, Revenue, Forecast, Size, Share.

Mordor Intelligence. Construction Industry in Africa Size & Share Analysis – Growth Trends & Forecasts (2024-2029).

IMF (2024). Economic Outlook: Sub-Saharan Africa.

MDPI (2023). Electric Power Network Interconnection: A Review on Current Status, Future Prospects and Research Direction.

World Bank (2019). Deepening Regional Integration to Advance Growth and Prosperity.

IMF. Central African Economic and Monetary Community (CEMAC) – Staff Report for the 2023 Article IV Consultation.

USDA. PwC Tax Summaries. Cameroon 2023 Investment Climate Statements.

UNCTAD. Investment Law 2023 - Investment Policy Hub.

Moroccan Investment and Export Development Agency (2023). Investment Charter: A Transparent, Clear Framework to Encourage Investment.

The Griffith Asia Institute &The Green Finance & Development Center (2024). China Belt and Road Initiative (BRI) Investment Report 2023/Christoph NEDOPIL.

Fofack, H. (2023). Technologies Continent's Farmers Need to Feed Africa. The East African.

Andree, et al. (2014). Food Security Trends in 2024 and Beyond. World Bank.

Bychkovska. (2024). Ukraine's Grain Exports Are Crucial to Africa's Security. Atlantic Council.

Thomas, D. (2021). What Did FOCAC 2021 Deliver for Africa? African Business. Africa Trade & Investment.

Sun, Y. (2021). An Examination of the 2035 Vision for China-Africa Cooperation. Brookings Institution. United States of America.

Owino, V. (2024). E East Africa Trades More With Its African Peers Than With EU and Asia. The East African.

Sandrey, R., & Edinger, H. (2011). China's Manufacturing and Industrialization in Africa. African Development Bank Group.

Ogwu, B.(2023). Export Manufacturing and Regional Value Chains in Africa Under a New World Order. Afreximbank 2023 Africa Trade Report.

Usman, Z. and Tang Xiaoyang (2024). How Is China's Economic Transition Affecting Its Relations With Africa. Carnegie Endowment for International Peace.

Ministry of Foreign Affairs of the People's Republic of China (2023). Plan for Supporting Africa's Agricultural Modernization.

Ze Yu, S. (2021). Three Reasons Why Africa's Digital Future Is Deeply Intertwined With China. Africa at LSE.

Acknowledgements

All countries in Africa should advance the agenda of industrial transformation and give industry a key role in Africa's development. Industrialization should be at the top of the agenda for socio-economic development.[185] This 2024 edition of the report series on Chinese Investment in Africa focuses on Africa's industrialization and China-Africa cooperation, and in particular demonstrates the efforts and high expectations of Chinese enterprises in Africa's industrialization process.

The report was coordinated by CABC and written by a team including the CABC, Tsinghua University, Development Reimagined, the Bank of Africa, and a number of economists, with more than 500 people participating in the interviews, proofreading, translating, and publishing. We would like to express our sincere gratitude to the following people and organizations in particular for their expertise, insight, hard work and efforts.

Core members

This report was written and co-ordinated by Wang Xiaoyong, Tang Xiaoyang, Bai Xiaofeng, Hannah Ryder, Mwangi Wachira, Zhou Yufang, Zhu Siqiao, Jad Benhamdane, Papa Malick Thiam, Said Hidane, Trevor Lwere, Chen Huiyi, Li Chensi, Tu Jiaying, Rugare Mukanganga, Cai Jing, and Joseph Olivier Mendo'o. We would like to express our thanks to all of them for the time they contributed to working on the report. We would also like to thank Yang Long and Fengxin for providing design support for the report.

Report publication

We would like to thank Zhejiang Financial Assets Exchange, the China-Africa Supply Chain Research Institute and Fangtongzhou Holdings for their strong support with the editing and publishing of the English, French and Chinese versions of the report.

Featured case studies

The 19 cases in the report come from 40 companies researched by the CABC and the team of contributors, including CABC member enterprises and Chinese companies in Africa. Our thanks go to the CABC's branches and partners: Nigeria office, Hangzhou, Qingdao, Guangzhou, and Changsha offices, the Logistics Committee, the CABC China-Africa Health Industry Alliance, and the Next Generation Entrepreneurs International Committee.

185 UN Chronicle (2020). Making Industrialization in Africa Sustainable. https://www.un.org/en/un-chronicle/making-industrialization-africa-sustainable

Key institutions

During the research for this report, relevant agencies provided key advice and background information. In particular we wish to thank the Bank of Africa – BMCE Group and China Watch Institute for their constructive views. We would like to express our sincere gratitude to the CICG Academy of Translation and Interpretation for their invaluable support in translating this report. Our special thanks go to Dr. Martin Ward, Liu Junhuan, Wu Xiaorui, Qin Su, Liu Mengge, and Wang Yunhang.

Experts and scholars

The report research group would like to thank the experts and scholars from various sectors who provided constructive comments on this report, especially Hao Rui, Xu Zelai, Ma Ping and Li Hongfeng.

We would like to thank our colleagues and partners at the CABC, Wang Jiang, Feng Qiang, Li Xuewei, Chen Shupeng, Zhao Dan, Wang Yan, Zhu Ziwei, Song Shujun, Xi Tong, Li Xinwei, and Zhou Yun for their contributions to the research into various enterprises, data searching and supplementation, and proofreading and typesetting.

Chinese Investment in Africa 2024 Research Group
Beijing
August 2024

Publication supported by

Fang Tong Zhou Holdings

China-Africa Supply Chain Research Institute