



POLICY BRIEF

No. 113

DECEMBER 2023

KEY POINTS

- Opportunities arise for countries in Africa to take advantage of the new search for supply chain diversification by optimizing labour productivity and enabling participation in all stages of global supply chains, including procurement, production and distribution.
- Government spending on human and physical capital needs to be scaled up, to better meet demand in higher productivity sectors and contribute more efficiently to growth.
- At the firm level, higher levels of distortion are observed, with resulting effects of low labour productivity and reduced potential for profit maximization; addressing such distortions can unlock supply chain gains for firms in Africa.
- Policies that align with those of the African Continental Free Trade Area could help to strengthen labour productivity, thereby reducing distortions and strengthening opportunities for Africa to enter global supply chains.

Is the labour force in Africa supply chain ready?

Over the last decade and a half, global supply chains have come under pressure due to geopolitical events, economic uncertainties and natural disasters. Disruptions have led to questions on how to strengthen supply chain resilience, with two key concepts advanced, namely, diversification and flexibility. As global multinationals reconsider resilience, opportunities arise in the following two key areas: countries in Africa can gain entry into supply chains; and multinational firms have an opportunity to diversify into the African continent by strengthening or building new supplier, producer and customer base supply chains. However, as noted in this policy brief, it is imperative for economies in Africa to be adequately prepared and willing to adapt, to ensure participation in global supply chains. The current level of labour productivity in Africa and the connection with supply chains are also discussed.¹

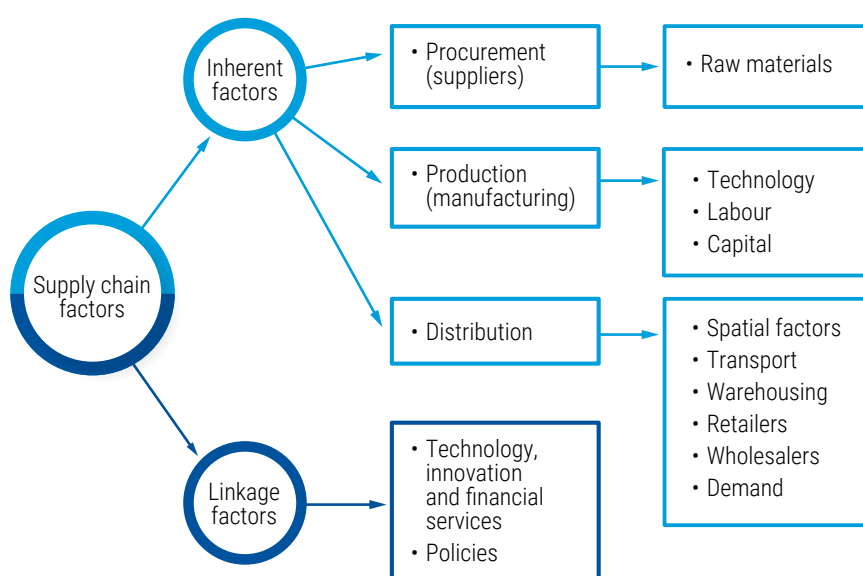
¹ This policy brief builds on the findings in UNCTAD, 2023, *Economic Development in Africa Report 2023: The Potential of Africa to Capture Technology-Intensive Global Supply Chains* (United Nations publication, Sales No. E.23.II.D.22, Geneva), available at <https://unctad.org/publication/economic-development-africa-report-2023>.

Note: All websites referred to in footnotes were accessed in November 2023.

Introduction

UNCTAD, in *Economic Development in Africa Report 2023*, defines the inherent and linkage factors of supply chains (see figure). Under inherent factors, there are three key stages of a supply chain, namely, procurement, production and distribution. Procurement entails the sourcing of raw materials and intermediate inputs; production entails the combination of raw materials, intermediate inputs and factors of production, to produce finished goods; and distribution, the most comprehensive stage, entails all forms of infrastructure that lead to order fulfilment and the final delivery of goods and services. The three stages are not mutually exclusive; for example, aspects of distribution such as logistics are also important in procurement and production. In addition to these stages, two linkage factors, or essential enablers, are technology and finance. As noted in the report, production technology in Africa is not yet at par with that in other regions; firms in Africa use a lower level of industrial robots and artificial intelligence in production. However, while supply chain finance is low in Africa, there are new technologies that could strengthen such finance, such as blockchain technology-related financing.

Supply chains: Inherent and linkage factors



Source: UNCTAD, 2023.

Production factor inputs: Labour dynamics

A key objective of firms is to optimize output through the efficient use of factors of production. Generally, in the short to medium terms, labour and human capital is the most variable factor input. Labour productivity therefore directly determines the level of output, with all other factor inputs held constant. However, in considering the dynamics of labour and capital among countries in Africa, some contradictory elements may be noted; for example, in low-income countries and lower middle-income countries in Africa in 2000–2015, capital grew at a much faster pace than labour and human capital, averaging 10 per cent compared with 2.8 per cent. The higher growth rate in capital can be attributed to increased access to financing, particularly following the global financial crisis of 2008/09, as investors sought higher yields outside the United States of America and Europe.² In addition, Governments in Africa ramped up spending on infrastructure.³

A macro-level analysis, whereby capital, labour and a given level of technology are considered the most important inputs for the production process, helps determine the weight of contributions to growth. In addition, average years of total schooling are used as a measure of the level of human capital. The analysis shows that among countries in Africa in 2000–2015, capital made the greatest contribution to growth, followed by labour, human capital and total factor productivity.

² UNCTAD, 2018, *Trade and Development Report 2018: Trade and Power, Platforms and the Free Trade Delusion* (United Nations publication. Sales No. E.18.II.D.7. New York and Geneva).

³ See <https://www.worldbank.org/en/news/immersive-story/2019/06/04/the-global-economy-heightened-tensions-subdued-growth>.

Is labour in Africa supply chain ready?

A growth rate of capital that is faster than the growth rate of labour may be an indicator of low labour productivity in the short term, whereby labour is expected to be the most variable factor of production. In considering the readiness of labour in Africa for entry into global supply chains, two approaches are taken, namely, a macro-level analysis and a firm-level review of the literature.

Macro-level analysis

The macro-level analysis shows that capital grew at a faster pace than labour and contributed more than labour to gross domestic product growth. In this regard, two key issues may be observed.

First, the definition of capital used in the analysis, which includes some measure of all of a country's capital stock, is an important consideration. Emphasis is placed on this definition since government expenditure on capital goods increased significantly in the period under consideration. Therefore, low labour productivity could be a result of the reaction of firms to government spending on public goods, since an increase in government spending can have inflationary effects,⁴ which are likely to discourage firms from investing, since the cost of borrowing becomes more expensive with higher interest rates. The analysis assumes that an increase in government spending led to a rise in interest rates, but there are several other reasons for rising interest rates, such as actions taken by central banks that lower aggregate money supply in the short term.

Second, the type of government spending matters. An increase in government spending on physical capital (including infrastructure) without an increase in spending on human capital slows the accumulation of needed human capital. However, even if government spending is increased with regard to both human and physical capital, the returns to human capital, or labour, take longer to manifest. For example, among lower middle-income countries and middle-income countries in Africa in the period under consideration, the average period of total schooling of the labour force was 6–7 years.

Firm-level review

At the firm level, efficiency and profit maximization can be achieved when the difference between total revenue from output and the total cost of production is at a maximum. However, analysis shows that the difference between the total revenues of a firm and total costs is hardly ever at a maximum due to distortions and adjustment frictions.⁵ Such distortions can usually be observed in labour productivity, with low labour productivity corresponding to higher levels of distortion. At the firm level, distortions that might result in low labour productivity include financing and corruption, the age and size of the firm, management practices, delegation and finance and access to inputs such as energy.⁶

UNCTAD, in *Economic Development in Africa Report 2023*, places an emphasis on strengthening business management through automation, which can help ensure better financial management, enhance information flows, improve the traceability of goods and services and facilitate supply chain connectivity and logistics. In addition, the use of technologies such as industrial robots and smart manufacturing could contribute to cost-effective production processes, thereby reducing distortions. The use of cloud-computing technologies such as blockchain can also enhance opportunities for supply chain finance and unlock the potential of firms in Africa as suppliers and buyers. Finally, the African Continental Free Trade Area could play a significant role in limiting firm-level distortions, since the implementation of protocols strengthens the movement and reallocation of resources to where they are most needed; and is expected to boost the distributional aspects of supply chains in Africa, since opening up markets can reduce distortions and enhance efficiency in all aspects of the distribution of goods and services.

⁴ A case study in this regard is Ethiopia, where firm investment decisions were also influenced by the cost of importing raw materials and equipment.

⁵ See, for example, Bartelsman E, Haltiwanger J and Scarpetta S, 2013, Cross-country differences in productivity: The role of allocation and selection, *American Economic Review*, 103(1):305–334.

⁶ See Bartelsman, Haltiwanger and Scarpetta, 2013; Bloom N, Mahajan A, McKenzie D and Roberts J, 2010, Why do firms in developing countries have low productivity? *American Economic Review*, 100(2):619–623; and Kiné Thioune F, 2023, Misallocation and financial constraints among firms in sub-Saharan Africa, available at <https://steg.cepr.org/news/new-steg-working-papers-march-2023>.

Conclusion and policy options

The recent crises have adversely affected global supply chains, resulting in unprecedented disruptions. Consequently, global actors have identified the need for resilience in supply chains. As noted in *Economic Development in Africa Report 2023*, while disruptions to global supply chains have opened up opportunities for participation by countries in Africa in such chains, they need to strengthen ability to take part in such chains. Policy options, based on *Economic Development in Africa Report 2023*, are as follows:

- In the automotives sector, low-income countries have fewer productive capacities and face more structural challenges than higher income countries, and should be given priority in a regionally coordinated strategy to provide fewer complex products. For example, preferential treatment under African Continental Free Trade Area rules of origin requirements should be considered, to allow low-income countries greater flexibility in production and the sourcing of necessary inputs.
- Employment in the automotives sector, particularly in retail and repairs, is dominated by the informal sector. The provision of sufficient training can help increase possibilities for people to work in a formal manner. Governments in Africa need to implement strategies in order to enhance skills and workforce capacities. Technical institutes should work with firms in the sector to provide opportunities, including apprenticeships for students.
- Policy incentives designed to encourage localization or local content-related competitive advantages, such as a certain percentage of mining products that must be used or transformed locally, could facilitate local market linkages and strengthen the industrial capabilities of domestic firms.
- The enforcement of decent labour laws is necessary in the assembly sector. Labour regulations need to be put in place in this sector, which has a greater share of vulnerable people in the workforce, such as women.
- Investing in skill development and technical training in the automation sector, such as in mobile telephones, could help create a skilled workforce. Countries that already engage in some mobile telephone assembly could develop research facilities, to invest in next-generation battery technology.

UNCTAD/PRESS/PB/2023/7 (No. 113)

CONTACT

Paul Akiwumi

Director, Division for Africa, Least Developed Countries and Special Programmes, UNCTAD
41 22 917 4066
aldc@unctad.org

Press Office

41 22 917 5828
unctadpress@unctad.org
unctad.org

