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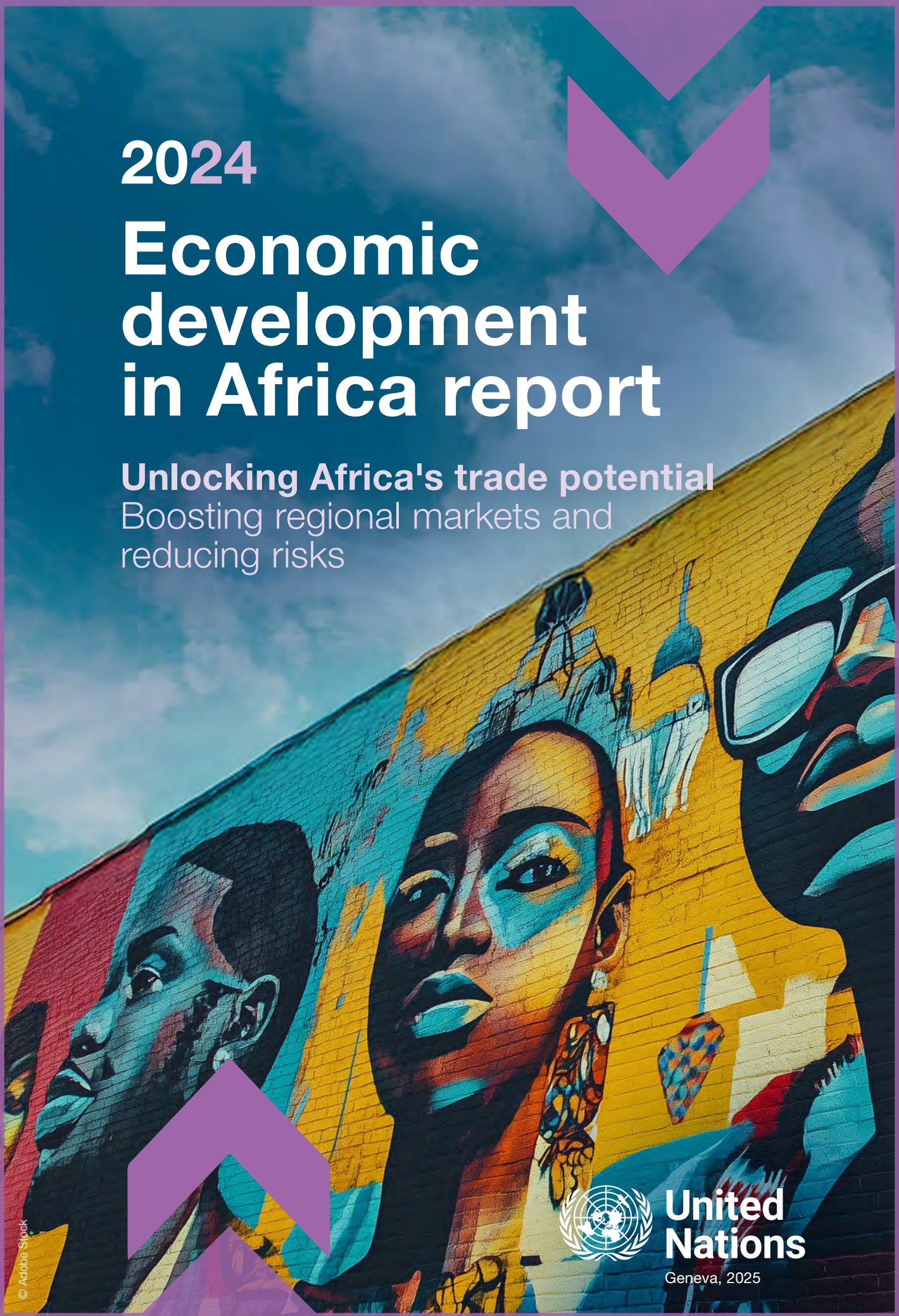
2024

Economic development in Africa report

Unlocking Africa's trade potential

Boosting regional markets and reducing risks



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Foreword

The world is in polycrisis, and Africa is on the front line of exposure. The same global shock has very different impacts depending on the location. Resilience is the difference between the shock and the impact; how to build resilience in Africa is the focus of this report. Recent crises have hit the continent disproportionately. Building resilience will allow the continent to reap the many opportunities offered by its future.

Though exposure varies by country, African economies are persistently exposed to a range of external shocks due to commodity-dependency, high levels of debt and limited technological infrastructure and connectivity. About half of all African countries relied on oil, gas or minerals for over 60 per cent of their export earnings in 2023. Global trade route disruptions have exposed them to significantly higher shipping and trade costs. In 2024, African shipping rates were 115 per cent above pre-COVID-19 (coronavirus disease) pandemic levels and double the 2023 average costs. At the same time, official development assistance to Africa declined by 4.1 per cent in 2022, while Africa's average borrowing cost increased to 11.6 per cent, 8.5 percentage points higher than the risk-free rate of the benchmark of the United States.

This year's *Economic Development in Africa Report 2024: Unlocking Africa's Trade Potential – Boosting Regional Markets and Reducing Risks* presents some important tools in this context. This includes a comprehensive framework to help African countries analyse the nature of their own exposure to shocks, with a particular focus on trade and investment. We also provide an evidence-based analysis that highlights how regional trade can increase the continent's resilience. There are five takeaways from this report.

First, the argument that economic diversification serves as a strong buffer against economic shocks remains relevant. This is particularly true for African economies that depend on a limited number of trade partners. Africa has five main trading partners accounting for over 50 per cent of all its imports and exports.

Second, despite six decades of growth in gross exports, Africa's integration into high value added segments of global supply chains remains low. Only 16 of 54 African countries source more than 0.5 per cent of their intermediate inputs from within the continent. Better infrastructure and leveraging the African Continental Free Trade Area can improve regional market participation and drive positive outcomes.

Third, improving the operational environment is vital for African businesses, particularly microenterprises and small and medium-sized enterprises. Less than 50 per cent of the population has reliable electricity access, which raises costs and limits value chain integration. Reliance on fossil fuels, over 50 per cent of the energy supply, heightens risks amid global energy transitions. Recent growth in renewable energy investment in Africa (estimated at $15 billion in 2023) remain direly low compared to global renewable energy investment, at about 2.3 per cent of the total.

Fourth, polycrisis creates economic uncertainty and discourages trade and investment, thus hampering long-term development prospects. In 2023, flows of foreign direct investment to Africa declined by 3 per cent, to a total stock of $53 billion. Deeper regional integration can help reverse the trend. Last year, between 13 and 20 per cent of international projects financed in Africa were funded by African investors themselves.

Finally, the report provides some key policy recommendations to African Governments. This includes enhancing the legal and regulatory environment, leveraging robust risk management tools, regional cooperation and strategic investments in infrastructure and technology to ensure smooth trade and improved connectivity.

I hope that this edition of the Economic Development in Africa Report will serve as a valuable tool for policymakers and inspire urgent action in these urgent times.

Rebeca Grynspan
Secretary-General of UNCTAD

Abbreviations

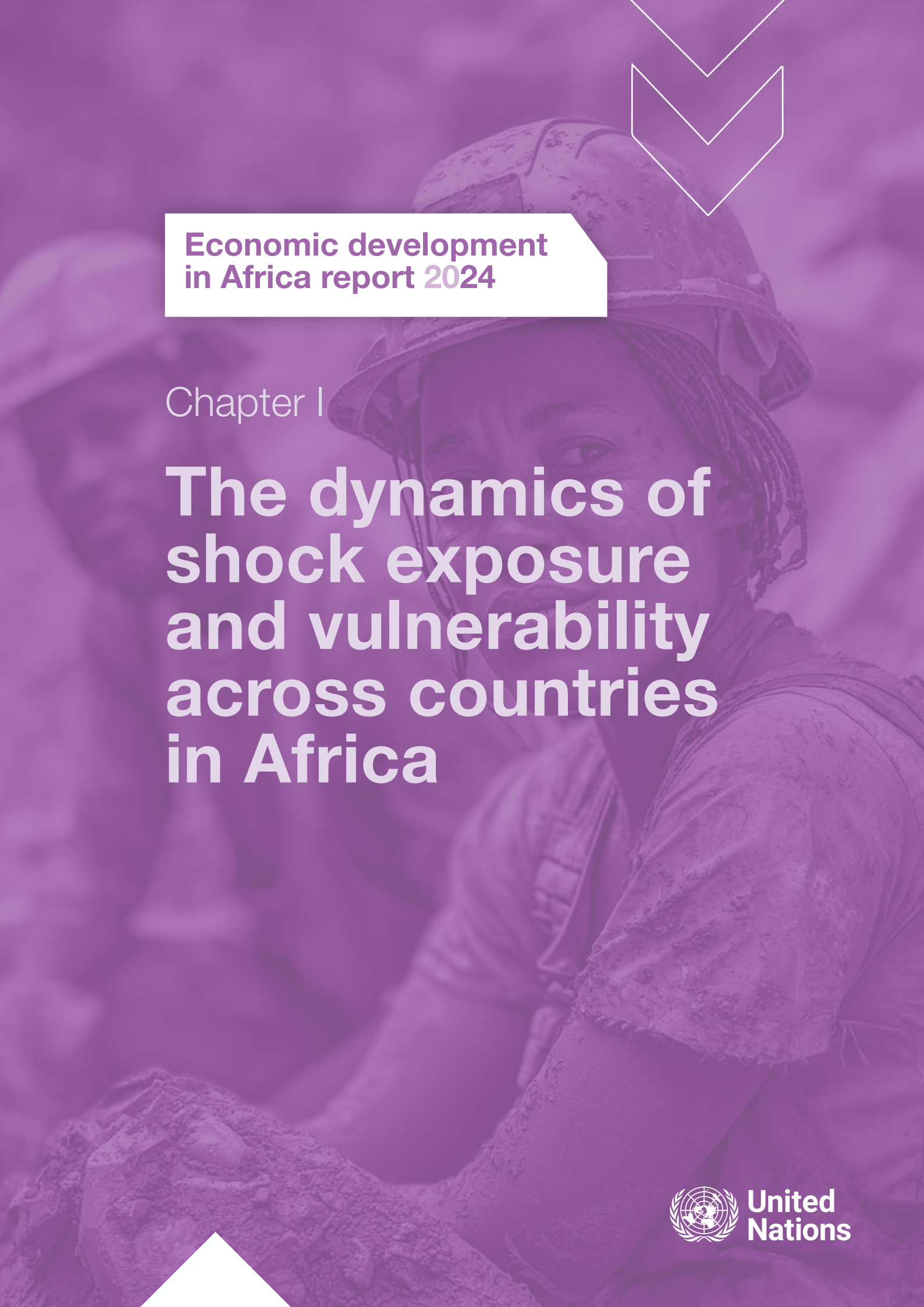
COVID-19	coronavirus disease
GDP	gross domestic product
ICT	information and communications technology
OECD	Organisation for Economic Co-operation and Development
SME	small and medium-sized enterprise
UNCTAD	United Nations Conference on Trade and Development

Note

Dollars are United States dollars.

Use of a dash between years (for example, 2000–2005) signifies the full period involved, including the initial and final years.

All links were accessed on 19 September 2024.



Economic development in Africa report 2024

Chapter I

The dynamics of shock exposure and vulnerability across countries in Africa

United Nations

Introduction

The issue of "global polycrisis," or "the causal entanglement of crises in multiple global systems in ways that significantly degrade humanity's prospects" (Lawrence et al., 2024), has recently resurfaced and intensified the heated debate over the potential to leverage economic and trade opportunities for transformation in Africa. According to Columbia University historian Adam Tooze, in a polycrisis "the shocks are disparate, but they interact so that the whole is even more overwhelming than the sum of the parts" (Lähde, 2023). A polycrisis is a situation in which multiple crises, such as climate change, biodiversity loss, economic instability and social inequality, interact, creating a complex and often unpredictable scenario of interrelated crises, predicaments and vicious cycles. These crises are interconnected so that the combined impact is greater than the sum of their individual effects. Further, the concept highlights the systemic nature of global challenges and the difficulty in addressing them in isolation.

Today's global polycrisis, which is generated by shocks and crises occurring at different levels (local, national, regional and international) and disrupts various domains and systems (health, financial, economic, political and environmental), is not new. Some of the past global crises include the oil shocks of the late 1970s, which created global energy shortages and contributed to stagflation in many economies. Another example of a past global crisis is the 2008–2009 global financial and economic crisis, which intersected with oil supply constraints and food price volatility and further stressed financial, production, supply and operating systems (Lawrence et al., 2024).

However, the current global polycrisis is unprecedented in some ways. For instance, the health, social and economic effects of the coronavirus disease (COVID-19) pandemic linger still and challenge the ability of many developing countries to make critical investments toward sustainable development amid tightening credit conditions and rising external financing costs (United Nations, 2023a). The tightening of borrowing conditions and strained government liquidity, coupled with the complexity of inflationary dynamics, including hikes in energy and food commodity prices and associated demand and supply-side crises, occur at a time when economies and regions are far more interconnected and synchronized than ever before. This brings the additional risk of spillover or the acceleration of crisis events, especially in the current interlinked architecture of economic, financial and societal systems at the global level, which can facilitate or amplify the phenomenon of stresses (shocks or impacts of crisis events) with systems affecting each other or creating stresses in different systems. For instance, global energy price shocks stress global transportation and food systems, creating inflationary pressures and high interest rates. The resulting stresses in the real economy and global banking system could increase capital costs, impacting productivity and returns. While policymakers and regulators attempt to contain or reverse pressures from volatility in food and energy prices, lower wages and income, and declining savings and investment, the slowdown of economic activities due to this entanglement of stresses would have exposed already vulnerable businesses and people. This can create social tensions and produce systemic risk.

The centrality of the interconnectivity of today's global systems in fuelling, accelerating or amplifying crisis events is also evident through the complexity of geopolitical stresses and their accompanying distress and spillover into other systems. The war in Ukraine shows how geopolitical stresses can generate stresses in different systems, for example, global energy, food and finance systems.

A polycrisis is a situation in which multiple crises, interact, creating a complex and often **unpredictable scenario of interrelated crises**

Optimization of regional market strengthens market resilience to specific shocks and vulnerabilities

The United Nations Global Crisis Response Group on Food, Energy and Finance reported, during the early months of the war in Ukraine, the devastating impact of conflict on already tight global food, energy and financial markets (UNCTAD, 2022a). When two countries, namely the Russian Federation and Ukraine, that provide about 30 per cent of the world's wheat and barley, 25 per cent of its maize and over 50 per cent of its sunflower oil are in conflict, and one of them is the world's top natural gas exporter and second-largest oil exporter, the impacts on specific commodity prices become significant, with food prices increasing by about 34 per cent, crude oil prices surging by about 60 per cent and gas and fertilizer prices more than doubling (United Nations, 2022a). As these food and energy pressures interacted with ongoing stresses in global supply chains and financial markets, many economies were affected by inflationary pressures, heightened market volatility and tightening monetary conditions.

This year's *Economic Development in Africa Report: Unlocking Africa's Trade Potential: Boosting Regional Markets and Reducing Risks* examines optimal strategies for countries in Africa and the private sector to mitigate trade risks associated with the uncertainties created by this global polycrisis.

The report focuses on the optimization of regional market benefits to strengthen market resilience to specific shocks and vulnerabilities and explores the diverse trade risks in Africa stemming from a host of economic, political, environmental, energy, technological and logistical challenges. The report underscores the importance of robust risk management, regional cooperation and strategic investments in infrastructure and technology. It also highlights best practices across the continent, showing how countries and businesses have effectively addressed these challenges to unlock new opportunities. By providing a detailed analysis of the trade environment, potential risks and de-risking strategies, this report aims to equip stakeholders with the insights needed for informed decision-making. Ultimately, it seeks to foster sustainable economic growth and shared prosperity in Africa by leveraging the continent's unique strengths to maximize regional market benefits. The African Continental Free Trade Area, launched in 2021, marks a crucial step towards economic integration in Africa. With its youthful population, abundant resources and growing political stability, Africa offers vast trade opportunities. However, realizing these opportunities requires navigating a complex landscape of risks and challenges.

Navigating through uncertainties and risk perceptions in Africa

When navigating these global crises and uncertainties, Governments, companies and individuals are required to internalize them by deploying tools to track and assess their potential impact, adjust to the new ways in which they disrupt systems, adopt more flexibility and mitigate their adverse effects by having contingency plans in place and being able to act faster and reduce the risk of mistakes (Bloom et al., 2022). Bloom (2023) maintains that uncertainties affect decision-making and transactions, for example people's decisions to purchase real estate; companies' strategic choices about building new factories, investing in capital equipment and hiring workers; or Governments' policy choices concerning public expenditure and revenues (for instance, tax policies). These uncertainties are perceived to be higher in frequency and intensity in emerging markets and low-income countries than in advanced countries (Ahir et al., 2022).

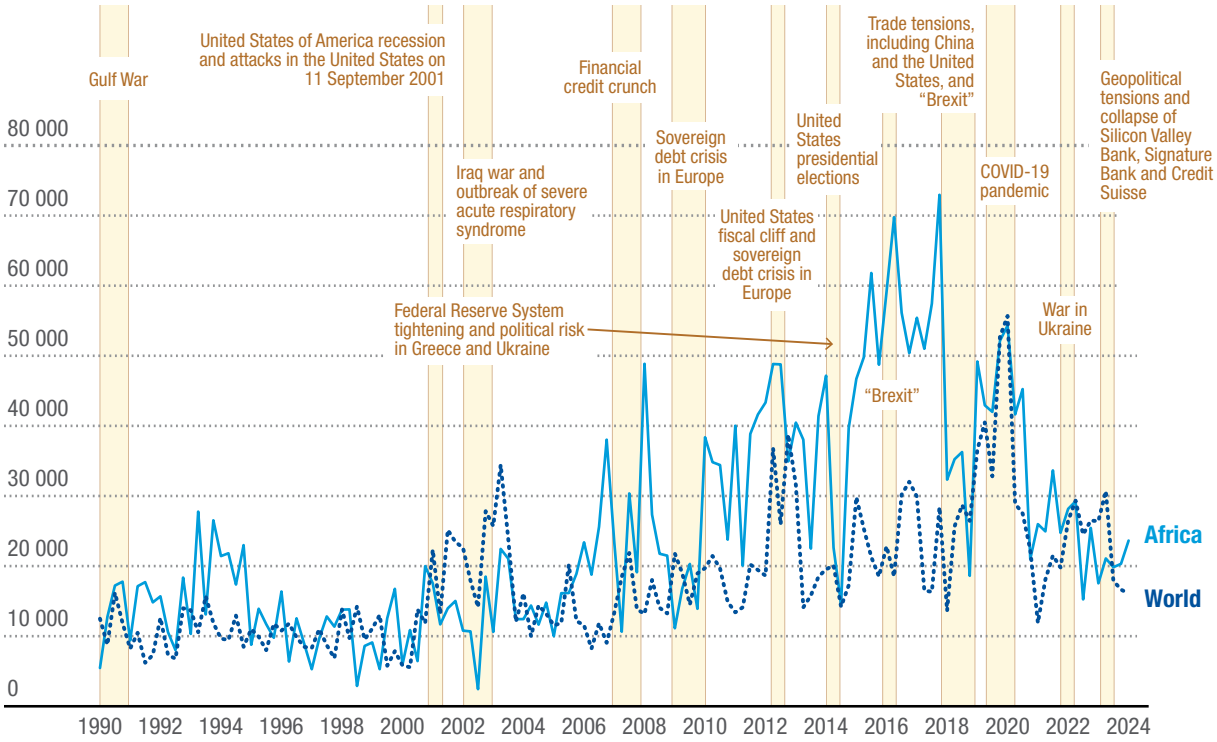
Using the world uncertainty index[1] as a proxy to capture the levels of global uncertainty related to economic and political events indicates that the levels of uncertainty have increased significantly since 2012 and spiked sharply as a response to or during global episodes of shocks or crises (figure I.1). The higher levels of uncertainty for the average of countries in Africa, compared to the global average, can be explained by the compounded effects of domestic political shocks such as coups d'état and conflicts, or aggravated by their vulnerability to natural disasters and their low capacity to manage external shocks (Ahir et al., 2022). Figure I.1 shows the world uncertainty index from 1990 to 2023. During recent episodes of global crises, such as the 2014–2016 oil price shock and the 2019–2020 COVID-19 pandemic, Africa was subject to higher levels of uncertain economic and political situations, although the trend followed the global average in terms of spike and dip. The synchronization of the indices for Africa and the world average during those periods can be partly explained by the fact that countries in Africa were more connected to the rest of the world.

During recent episodes of global crises Africa was subject to higher levels of uncertain economic and political situations

Figure I. 1

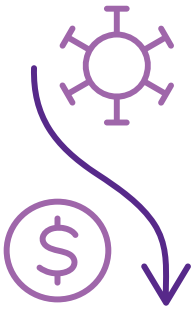
The world uncertainty index: Africa and global averages, 1990–2024

(Index)



Source: UNCTAD, based on data from the world uncertainty index, 2024.
Note: Time series of world uncertainty index averages for Africa and the rest of the world from the first quarter of 1990 to the first quarter of 2024. Actual data from the first quarter of 1990 to the first quarter of 2024, comparing the average index value for Africa with the global average.

[1] The world uncertainty index was launched by the International Monetary Fund in 2020 to measure and compare quarterly the level of uncertainty across 143 countries. The index is constructed by text-mining the country reports from the Economist Intelligence Unit and counting the frequency of the word "uncertain" (or its variant) in its quarterly country reports. The index is computed by normalizing the total count of the word "uncertain" (or its variant) according to the total number of words in each report and then rescaled by multiplying by 1,000. A higher number means higher uncertainty. For example, an index of 200 corresponds to the word "uncertainty", accounting for 0.02 per cent of all words. For more information on the world uncertainty index, see https://worlduncertaintyindex.com/.



The lingering post-COVID-19 global economic downturn and financial volatility **continue to strain government resources**

It may not be unreasonable to conclude that countries in Africa are the most exposed to adverse shocks, including those stemming from the global polycrisis. For Africa, the current polycrisis comes at a time when the process of economic transformation has yet to be complete in most countries. The lingering post-COVID-19 global economic downturn and financial volatility continue to strain government resources. Although Africa is traditionally perceived as a risky destination for trade and foreign direct investment, eroding incentives for businesses to invest in strategic economic sectors, especially as domestic capabilities to cope with shocks in the face of adversity remain weak, the African journey has not always been hazardous. On the contrary, despite gloomy projections, many economies in Africa remained resilient or unaffected by some of the effects of the polycrisis, for example, the credit crunch of the 2008–2009 financial crisis and human losses caused by the pandemic. See the next sections for the exposure and vulnerability of countries in Africa to shocks emanating from the global polycrisis.

There is a growing understanding in Africa that the confluence of political, social, economic and environmental vulnerabilities can overwhelm the ability of companies, including domestic and foreign trading enterprises, investment firms and other financial agents, to conduct profitable trade and investment activities on the continent. It is not uncommon to see countries in Africa falling into one of the four traps identified by Collier (2007): the conflict trap, the natural resources trap, the trap of being landlocked with bad neighbours and the trap of poor governance. There are still many countries in Africa (28) that are dependent on the export of oil, gas and mineral products, representing more than 60 per cent of their total merchandise exports, which exposes them to sector-specific shocks with significant revenue, investment, economic and social impacts (UNCTAD, 2023a). The 2022 report of the Ibrahim Index of African Governance (2023) found that Africa was less safe, secure and democratic in 2021 than in 2012, reflecting slower progress in governance indicators, such as security, the rule of law, rights and inclusion. Between 2000 and 2022, Africa recorded 123 events of forceful seizure of executive authority or substantial change in the executive leadership and policies of the prior regime.[2] These natural resource dependence and governance features can create a slow-growth, low-trade, poor-governance equilibrium, contributing to a country's vulnerabilities to shocks and limiting its capacities to mitigate the risks of trade disruption, market dependence and limited productivity.

In many instances, these vulnerable environments or the anticipation of trade and business disruptions can result in firms' and investors' higher risk perceptions, leading to reduced trade flows and overall business engagement in affected or so-called risk countries. Morrow et al. (1998) note that the anticipation of political risks prevents trade from growing more than the realization of conflict leads to disruption. The threats of trade disruption or higher trade barriers that would result from vulnerable environments or macroeconomic and political uncertainties are strong incentives for firms to have adequate resilience programmes in place and develop the necessary skills and capability to assess and mitigate risks posed by the governance systems and institutions of countries in which they operate. These risks include confiscating assets by host Governments or trading within a legal system with limited arbitration. Asongu et al. (2021) point out that uncertainty about the policies of a specific country or market can result in disincentives for investors to engage in investments that would facilitate economic activity and international trade. Other consequences of such uncertainty

[2] These include 13 "successful coups d'état", 40 "failed coups d'état", 50 "plotted coups and alleged coup plots" and 11 "cases of resignation of the executive leadership due to poor performance and/or loss of authority" (Centre for Systemic Peace, 2022).

have been documented to include capital loss, less domestic investment, capital flight and brain drain, which are all critical determinants of productivity and international trade (Asongu et al., 2021). The high-risk perceptions of Africa can also lead to high borrowing costs, thus limiting the ability of countries in Africa to secure financing for growth and economic transformation. On average, African sovereigns and corporates borrow at four to eight times higher rates than those in advanced economies (UNCTAD, 2024a).

Macroeconomic stability and political accountability uncertainties can also contribute to high-risk perceptions by both domestic and foreign investors and traders. This is particularly so in natural-resource-rich countries with weak governance lacking adequate checks and balances, which limits the capacity of Governments in such countries to manage the economic, political and social impacts of their wealth, often called the natural resource curse or paradox of plenty (Goldwyn and Clabough, 2020). Risk perceptions are relatively high in many resource-rich economies in Africa, despite efforts by Governments to enact and implement legislation for greater transparency in granting exploration rights and financial flows monitoring, companies' commitment to higher standards for investment and conduct (managing risks and opportunities related to environmental, social and governance criteria) and initiatives by financing institutions and development partners to leverage their assistance for policy reform and capacity-building efforts (Goldwyn and Clabough, 2020). See chapter II for the macroeconomic implications of global shocks in commodity-dependent countries in Africa.

While global companies are increasingly engaging in resilience initiatives to mitigate external and internal threats to their businesses, within certain economies, including in Africa, firms' resilience programmes are limited by low capability and short-term horizon planning, that is, well-positioned to mitigate ongoing risks and capture opportunities but less prepared to withstand the next crisis event. The main external and internal threats that companies worldwide can face when moving into new markets and entering new trade and business relationships are many. These include macroeconomic instability, political and security risks, supply chain disruption, cost of doing business, technology, innovation, cyberthreats and loss of intellectual property. Therefore, it is important to build companies' ability to anticipate change and quickly adapt their trade and business practices when faced with external or internal threats.

When assessing the possibility of internal and external threats and the potential impact on their businesses, the decisions of economic agents to establish or continue a trading enterprise in such environments depend on various factors. Some might have to pay a high insurance premium or purchase trade credit insurance to enter into a new market or remain engaged in a high-risk market. These risk-mitigation measures provide firms with full or partial coverage in the event of a loss due to an endogenous risk event or an exogenous shock. Economic agents could also explore strategies to build or leverage diversified production and trade networks to mitigate threats associated with trade shocks, value and supply chain disruptions, trade policy changes, political uncertainty and financial vulnerability. For instance, diversifying their sources of inputs and components to reduce dependency on a single market, establishing partnerships with local companies in the target country or offering diverse goods and services are various mechanisms businesses can adopt to deal with trade disruptions and uncertainties more effectively. As stated by Nana et al. (2024), "horizontal trade integration contributes to attenuating the negative effect of uncertainty on trade". Notably, higher and more diversified levels of trade intensity to be expected under the African Continental Free Trade Area can help reduce uncertainty when trading across Africa.

Risk-mitigation measures provide firms with full or partial coverage in the event of a loss due to an endogenous risk event or an exogenous shock

See chapter III for the opportunities to leverage value added trade networks under regional trading blocs.

While there are significant benefits associated with supplying and buying goods and services across various borders, such cross-border trade activities and transactions can be offset by the risk of adverse price movements in the market; currency volatility; unpredictable policy change, for example, trade policies at the domestic or regional level; or regulatory uncertainties, such as interoperability between different regulations, systems and processes across borders. To anticipate, assess the potential impact of and manage such risk events, and ensure that they do capture the expected returns and potential gains when engaging in cross-border activities and transactions, traders and investors can resort to various de-risking instruments such as derivatives (futures, forward, options, swaps and credit derivatives markets), which can be used to eliminate or reduce the risk of potential losses arising from price volatility, currency fluctuation or other market vulnerabilities. In Africa, the Pan-African Payment and Settlement System, a centralized payment and settlement system for intra-African trade in goods and services, was established by the African Export–Import Bank in collaboration with the African Continental Free Trade Area Secretariat to facilitate trade in local currencies across various countries in Africa. See chapter IV on risk management measures that firms can deploy to reduce potential risks related to currency exchange and other financial transactions when operating and trading across Africa.

Countries that are in earlier stages of structural transformation are more **vulnerable to being harmed by shocks emanating from the external environment**

Risk analysis in a polycrisis context: Interconnecting exposure and vulnerability to shocks

In many parts of the world, economic transformation and sustainable development are threatened in the face of polycrisis and the resulting uncertain business environments, unstable political conditions, volatile market prices or disrupted supply chains. The consequential economic downturns due to reduced trade and financial flows in such challenging environments and the adverse impact on growth prospects and the well-being of local communities can easily alter any progress made in economic development. In a sense, the process of economic development can be understood as one along which risks to trading and investment decline. Just as economic development is associated with structural transformation in what a country produces, so is economic development associated with a transformation in a country's trade patterns: what a country exports and to whom it exports matters (Bastos and Silva, 2010; Brambilla et al., 2012; Hausmann et al., 2007; Hidalgo et al., 2007).

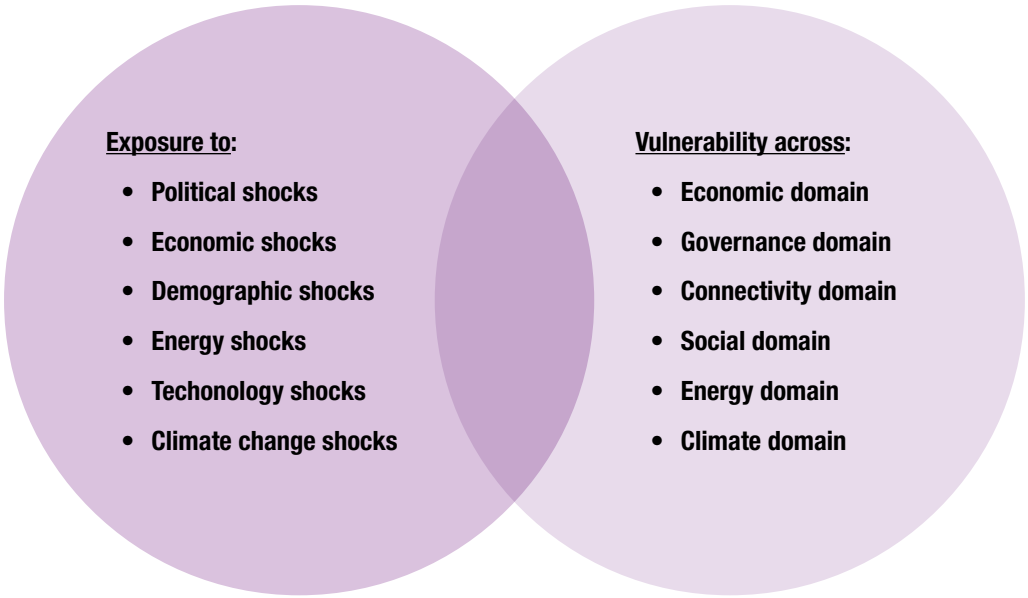
The lack of structural transformation results in an environment that is perceived to be risky from a trade and investment perspective because the advantages of specialization, higher productivity, more complex production and integration into and connectivity with the rest of the world are lacking. Moreover, as economies structurally transform, they have the means to invest in connective infrastructure and in commanding and generating greater supplies of energy, which are essential for modern economic activity, including food production. Where these structural transformation bonuses are lacking, doing business is subject to increased risks, as these bonuses determine a country's absolute and relative economic competitiveness on the global stage. They also allow a country to be more resilient in the face of external shocks. Countries that are in earlier stages of structural transformation are more vulnerable to being harmed by shocks emanating from the external environment. The more vulnerable they are, if an adverse shock occurs, it can set back their structural transformation further, possibly creating development traps.

Informed by the scholarly literature on the nature of and constraints to structural transformation in Africa and its relation to the perceived riskier environment for doing business, much of the institution and governance-building policy thrusts of recent decades have been aimed at furthering structural transformation. These policy thrusts have therefore focused on the internal factors determining the vulnerabilities, and hence risks, of countries in Africa to external shocks. They have, as such, dealt with reducing market and governance failures, as mentioned previously.

Exposure to shocks does not necessarily mean that Africa is at risk. The extent of risk depends on how vulnerable countries in Africa are to being harmed by these shocks if they occur. Thus, the degree of risk is determined by exposure and vulnerability, that is, an indication of the extent of these countries' exposure to these risks and the degree to which they are vulnerable to suffering damages if affected. From discussions on the recent polycrisis and building upon more general literature on country-level vulnerability in developing countries (for example, Biswas and Nautiyal, 2023; Naudé et al., 2009; Naudé et al., 2011), the risk analysis in this chapter will emphasize six types of shock (political, economic, demographic, energy, technology and climate change shocks) that can threaten trade and capital flows in Africa and six domains across which countries in Africa are vulnerable to those shocks. The interdependent domains of vulnerability are economic, governance, connectivity, social, energy and climate (see figure I.2 and the methodological framework in box I.1).

The proposed conceptual framework in figure I.2 shows that a polycrisis is marked by the exposure of countries in Africa to six categories of covariate hazards or risks, which are hazards or risks that affect all countries and broad external trends. These include political shocks, such as

Figure I. 2
Interconnecting exposure and vulnerability to polycrisis shocks



Source: UNCTAD.

the rise of populism; economic shocks, for example, resulting from trade tensions, pandemics and systemic financial crises; demographic shocks, for instance, due to migration and ageing; energy shocks, caused by the energy transition and decline in the use of fossil fuels; technology shock, such as the continued digitalization of the world economy and advances in artificial intelligence; and climate shocks resulting from climate change. However, these shocks do not stem from exposure to country-specific (idiosyncratic) risks, but rather global risks that affect these six categories in an interrelated manner.

Figure I.2 also indicates that countries in Africa will be differently affected by these broad categories of hazards depending on how vulnerable they are. Here, the heterogeneities of countries come into play. Thus, depending on how a country fares across the six domains, it will be more or less at risk. These are domains where countries can act to reduce their vulnerability. The domains are the economic domain (for instance, the extent to which a country is in debt), the governance domain (for instance, the extent to which a country has robust institutions), the connectivity domain (the extent to which a country is connected to and interconnected with the rest of the world), the social domain (for instance how strong trust and social capital in a country is), the energy domain (how dependent a country is with respect to various forms of energy) and the climate domain (what efforts a country is taking to adapt to global warming).

The next two sections of this chapter will explain the exposure of Africa to shocks emanating from the polycrisis and its vulnerability to being harmed by the external shocks identified. Thus, some countries can be highly exposed to a risk, but because of low vulnerability and high resilience to that particular risk, will not be at high risk overall, and vice versa. The benefit of looking at risk from the angles of exposure and vulnerability is that, while there is little individual countries can do in the short to medium terms to reduce their exposure to a risk, they can take action to lessen their vulnerability. Hence, the report focuses on how countries in Africa can counter the risks emanating from the global polycrisis.

The risk analysis will emphasize six types of shock (political, economic, demographic, energy, technology and climate change shocks)

Box I. 1
Methodology

To better understand the risk levels that countries in Africa face in the context of the polycrisis, a new approach is proposed for analysing and capturing the extent to which all 54 countries in Africa are exposed to these risks, and the degree to which they are vulnerable to experiencing damages if affected (see the conceptual framework in figure I.2).

Empirical approach

This chapter aims to provide a framework based on an empirical approach[a] that can inform the assessment of risk and the extent of adverse events on trade and economic development in all 54 countries in Africa within the context of the global polycrisis. This depends, in turn, on the structural aspects of their economies; their integration into the world economy; and the political, economic, energy, technology, human rights and environmental and climate risks they may face. Moreover, exposure alone does not mean risk; risk also depends on a country's vulnerability and resilience. Resilience, which can be nurtured, depends on the level of economic development, social cohesion and governance, connectivity, freedom and vulnerability to climate change. The proposed framework makes emphatically clear that ranking countries is not helpful, as rankings only reflect relative positions. In a polycrisis, which entails hazards for all countries, the aim is not to be less affected than other countries but to reduce potential adverse impacts in an absolute sense. This allows for the consideration of each country's level of exposure and vulnerability, and how each country can best diminish the risk of polycrisis. This then also informs policy.

The exposure to shocks and potentially adverse events in the current polycrisis context is calculated using six sets of indicators that reflect exposure to political, economic, demographic, energy, technology, and climate change shocks. The vulnerability to shocks is calculated using six sets of indicators that reflect vulnerability across six domains, namely economic development, governance, connectivity, social, energy and climate. The exposure to shocks and vulnerability to shocks are constructed as composite components composed of various subcomponents reflecting exposure and vulnerability, which are composed of data series, some of which are obtained from existing indices.

Each subcomponent of the exposure and the vulnerability measures is normalized to lie between 0 and 100, with a higher score indicating higher exposure or vulnerability so as to obtain scale equivalence between the different indicators used (some bounded and some unbounded). The following normalization procedure (minimum-maximum transformation) is used: $X_{ji} = ((X_{ji} - minX_j)) / ((maxX_j - minX_j)) \times 100$

This normalization also deals with negative values in the data, which are inverted where applicable to ensure that a higher value always indicates a higher exposure or higher vulnerability.

The approach to constructing these components of exposure and vulnerability is based on international best practice, as per the *Handbook on Constructing Composite Indicators* of the Organization for Economic Co-operation and Development (OECD). The eight desirable attributes of a composite measure are accuracy, simplicity, methodological soundness, suitability for international and temporal comparisons, transparency, accessibility, timeliness and frequency, and flexibility.

The framework uses available data; it is simple in that a proliferation of dimensions is avoided, and it is suitable for international comparisons across Africa in that all 54 countries are covered in all dimensions. The indices are also transparent and the full method of construction and the full data are available; moreover, all data are in the public domain, and the measures of exposure and vulnerability can easily be replicated. The data are thus accessible. Most series are also regularly updated and available for temporal analysis. The measures are also flexible in that, partly as a result of their simplicity, it is fairly easy to add new components if desired, as long as all 54 countries are covered.

The final data used to capture the exposure and vulnerability of all 54 countries in Africa to shocks in the context of the current global polycrisis are summarized in tables I.1 and I.2. Most of the data is derived from UNCTAD (UNCTADstat database), the World Bank and the African Development Bank. Wherever possible, relevant data from UNCTADstat were prioritized for use. Where UNCTADstat does not provide full coverage of all 54 countries in Africa, the second source used is the World Bank and where neither UNCTADstat nor the World Bank cover the categories that the exposure and vulnerability components are intended to measure, data from the African Development Bank data are used. Other sources of data used include the following: Inform climate change risk index (climate change); International Organization for Migration (migration); Ibrahim Index of African Governance in conjunction with the World Bank's World Governance Indicators (governance); and Our World in Data (human rights). Where possible, relevant data for 2022 are used. Where 2022 data are not available for all 54 countries, the most recent or closest year is used.

Source: UNCTAD, based on OECD, European Union and European Union Joint Research Centre, 2008 and various databases mentioned above.

[a] While the empirical approach provides robust data analysis, based on various sources of regularly updated and available data and indicators, suitable for international comparison across all 54 African countries (that is, allowing cross-country comparisons), and providing the advantage of capturing exposure and vulnerability to risks emanating from the polycrisis from various low-correlated measures, some caveats should be considered when interpreting the results. For instance, the reliability and validity of the empirical framework have not been extensively tested, which could affect the findings and measure of exposure or vulnerability across some African countries. Moreover, the effect of outlier values for some small island developing States regarding their vulnerability to climate risk emanating from the polycrisis may influence the applicability of the results. However most of these African States have made significant progress in strengthening their resilience through improved macroeconomic policies and governance, and have thus improved their abilities to mitigate climatic hazards and related risks.

Exposure to shocks in Africa

The risks that the polycrisis holds for Africa depend on its exposure to shocks and its vulnerability to being negatively affected by those shocks. Some countries in Africa may be highly exposed but due to sufficient bulwarks, these shocks may not generate much harm. Others may not be greatly exposed but may be highly vulnerable to harm, whereby even relatively small degrees of exposure may pose risks. For instance, measures of exposure to shocks refer to potential shocks outside the control of a Government, while measures of vulnerability to shocks considers the instruments under government control. This subsection discusses the six entangled types of shock that can threaten trade and development in Africa: political, economic, demographic, energy, technology and climate change. Table I.1 summarizes the components and the data used to construct the exposure to shocks framework.

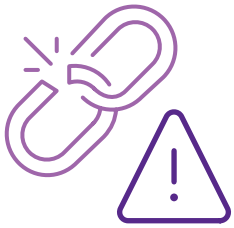
Table I. 1
Components of the exposure to shocks framework

Components	Data used	Sources
Exposure to political shocks	Political stability and absence of violence indicator Human rights index	World Governance Indicators database (World Bank) Our World in Data (Global Change Data Lab)
Exposure to economic shocks	Trade as a share of gross domestic product (GDP) External debt stocks Export product concentration index	World Development Indicators database (World Bank) UNCTADstat product concentration indices of exports; five-year average 2017–2022
Exposure to demographic shocks	Growth in demographic post-dividend countries Urbanization rate, average 2018–2022 International migrant stock, 2020	World Development Indicators database (World Bank) Migration data portal, International Organization for Migration
Exposure to energy shocks	Energy imports Fuel export dependence	World Development Indicators database (World Bank)
Exposure to technology shocks	Frontier technology readiness index Government artificial intelligence readiness index	UNCTADstat Oxford Insights[3]
Exposure to climate change shocks	Agriculture's share of GDP, average 2018–2022 Hazards exposure score Environmental health pillar score	World Development Indicators database (World Bank) Inform climate change risk index

Source: UNCTAD.
Note: Data year 2022 or otherwise indicated. Wherever possible, relevant data from the UNCTADstat database are used. Where UNCTADstat does not provide for full coverage of all 54 African countries, other data sources are used.

[3] See https://oxfordinsights.com/ai-readiness/ai-readiness-index

The exposure of Africa to political shocks is heightened by the polycrisis that has exacerbated **geopolitical tensions**



Major global supply chain disruptions include the pandemic, the war in Ukraine and attacks on vessels in the Red Sea shipping lanes

Political shocks

The polycrisis is characterized by increased political turbulence worldwide and with interacting and spillover effects between countries. It has also affected Africa, which has been argued to be particularly exposed to political shocks. These include political uncertainty and protests, erosion of political freedom and accountability, threats to progress in protecting human rights and, in extreme cases, coups d'état and violent conflict (Naudé et al., 2011). In recent years, the prevalence of coups has remerged in Africa. In 2021, United Nations Secretary-General Antonio Guterres referred to "an explosion in seizures of power by force" taking place in Africa (United Nations, 2021), Since 1950, 220 of 492 attempted or successful coups d'état have taken place in Africa, and 45 of the 54 countries in the region have experienced such an event (Duzor and Williamson, 2023). The resurgence of coups raises a risk for peace and democratic progress, with potential spill-over effects on economic growth and inclusivity (United Nations Development Programme, 2023).

The exposure of Africa to political shocks is heightened by the polycrisis that has exacerbated geopolitical tensions. Moreover, there is concern that even the progress that has been made in establishing democratic governance in Africa may be threatened. The polycrisis has clearly been exacerbating geopolitical relations. According to recent literature, the impacts of geopolitical events have become more long-lasting and a structural market risk (BlackRock, 2023). Countries in Africa already marked by high levels of political instability or a recent history of such, and countries where human rights are less entrenched, will be most exposed to these political shocks associated with the polycrisis. Figure I.3 shows the exposure of countries in Africa to political shocks derived from the polycrisis. Countries found to be most exposed to political shocks are also those with the highest levels of political instability and violence.

Countries least exposed to political shocks emanating from the polycrisis are those marked by high levels of political stability and protection of human rights. The top five among those countries are Botswana, Cabo Verde, Seychelles, Namibia and Mauritius.

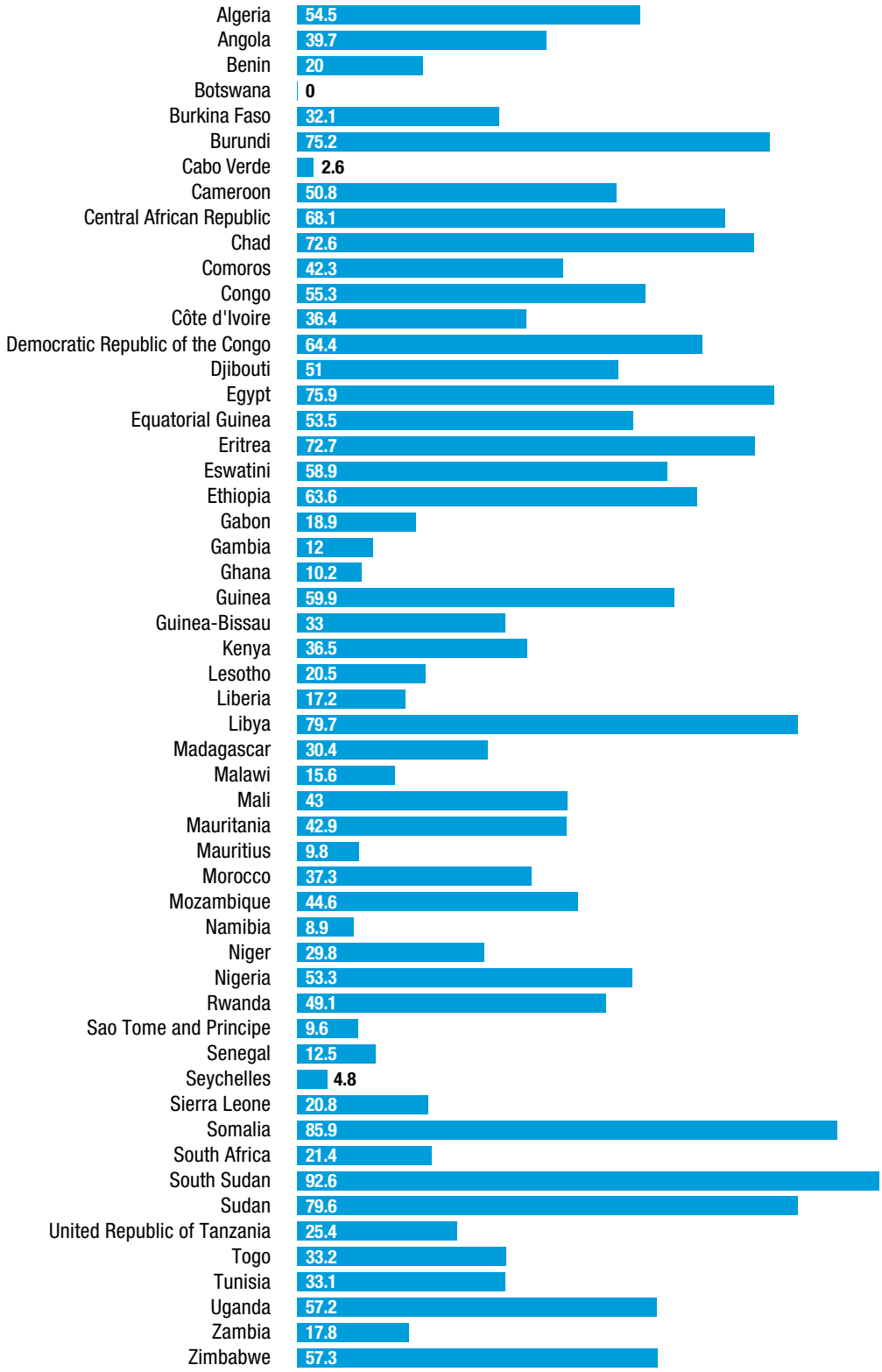
Economic shocks

The external economic shocks to which countries in Africa are exposed are well known and have generated significant literature, much of which, in the 1980s and 1990s, dealt with the structural adjustment programmes that many countries had to adopt, most often to obtain financial support from the Bretton Woods institutions. More recently, with the commodity price boom, the global financial crisis and the COVID-19 pandemic, the emphasis has shifted towards the requirements for sound macroeconomic management in the face of commodity and oil price volatility, demand reductions in the major markets for African exports and appropriate trade and industry policies for the structural transformation of economies in Africa, given changes in globalization.

In the global polycrisis, all of these shock mechanisms are at work. For instance, one of the major impacts is the continued disruption of global supply chains, which already showed structural changes after the global financial crisis of 2008–2009. Major global supply chain disruptions in recent years include the pandemic, the war in Ukraine and attacks on vessels in the Red Sea shipping lanes. The impacts of global supply chain disruptions on countries in Africa are magnified by the systemic effects they cause, exemplifying the interconnectedness that characterizes risks in the polycrisis.

One such systemic effect of global supply chain reactions to which countries in Africa are exposed is higher inflation – pushing up the general cost of living and contributing to the cost-of-living crisis already being experienced in many countries in Africa.

Figure I. 3
Exposure to political shocks, by country



Source: UNCTAD calculations, based on data from the World Governance Indicators database (World Bank) and Our World in Data (Global Change Data Lab).
Note: Measure of exposure to political shocks based on political instability, absence of violence and human rights index.

Higher inflation, as the world experienced in 2022, inevitably raises the spectre of higher interest rates, which can shock countries with a heavy debt burden, raising the cost of servicing the debt. Large amounts of foreign borrowing can place an unsustainable burden on countries if their economic growth does not allow sufficient government income to service the debt and/or if their exports and currency movements shift adversely, again making debt servicing difficult.

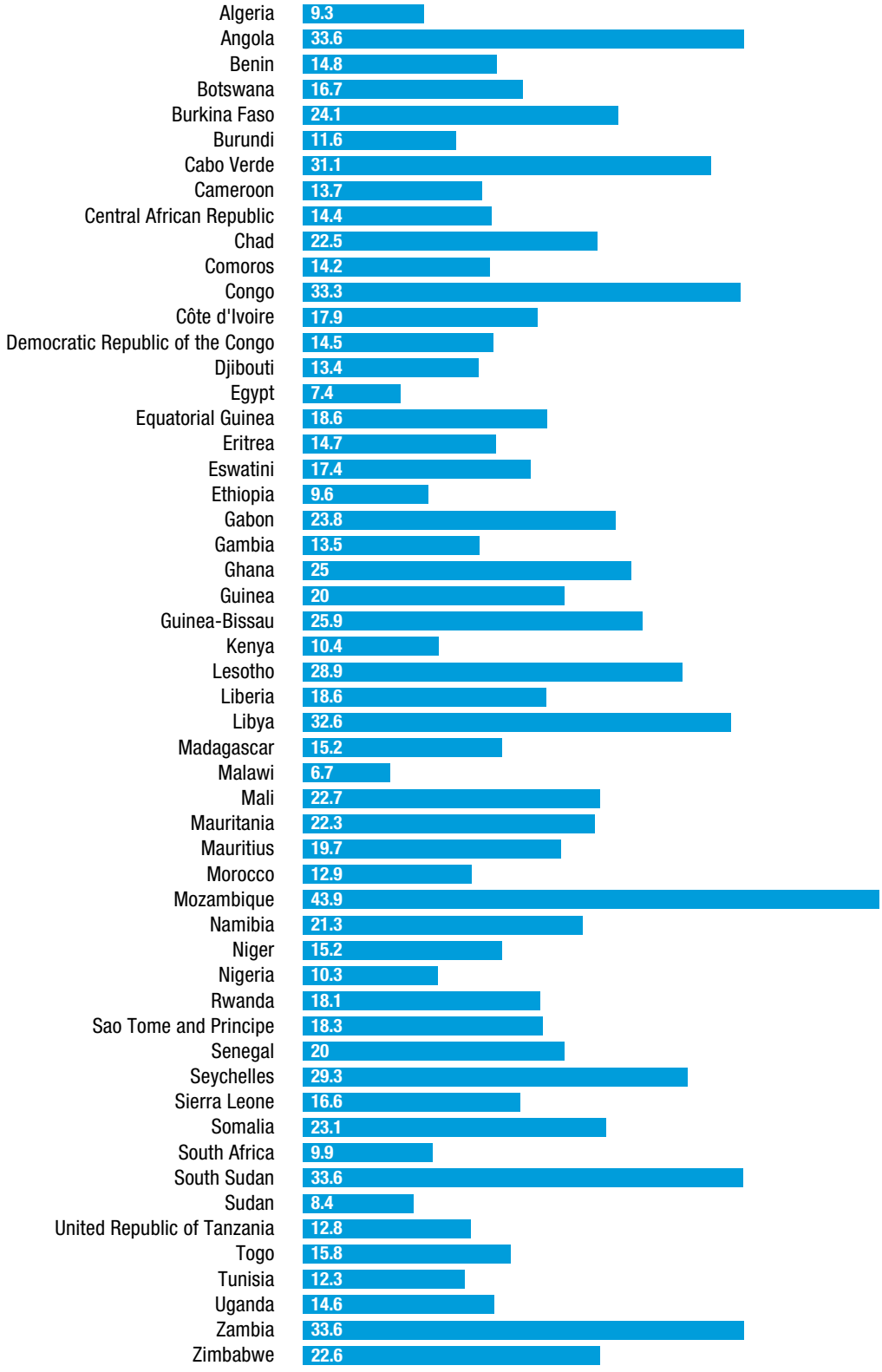
Hence, because of global supply chain disruptions and higher inflation and borrowing costs worldwide, many countries in Africa have been facing actual and possible debt defaults, recording large ratios of external debt to GDP. In 2023, 46 per cent of the countries in Africa had debt-to-GDP ratios of above 60 per cent (UNCTAD, 2024a). The countries most exposed to economic shocks through their global trade and debt levels are Mozambique, Zambia, Angola, South Sudan and the Congo (figure I.4). It becomes clear that countries with larger trade shares of GDP, greater export concentration and deeper government debt will be particularly exposed to the economic shocks characterizing the polycrisis.

The influx of young people into African labour markets will have to be accompanied by **improvements in productivity, investments in skills and technological advances**

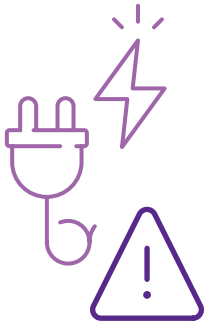
Demographic shocks

A third category of external shocks associated with the global polycrisis is related to the impact of the demographic change in Africa and in the region's main economic and trading partners. The demographic change in some of these partner countries is characterized by a marked slowdown in population growth, especially among young people. For instance, while population growth in the European Union (27 member States) increased by 92.3 million people between 1960 and 2022 (from 354.5 million to 446.8 million), its share of the world's population has been on the decline (from 12 per cent in 1960 to 6 per cent in 2022) and is projected to drop to 4 per cent (Department of Economic and Social Affairs, 2022; Eurostat, 2023). with 20.8 per cent of its population aged 65 years or over (European Commission, 2023). A declining growth in population and a diminishing share of working-age people in total population can put pressure on labour markets, create imbalances in welfare and pensions and raise the per capita burden of public finances and investments required for demographic transition (European Commission, 2023). Such fiscal pressures could hamper the ability of advanced economies to provide financing assistance to developing countries. Official development assistance is regarded as one of the most stable and predictable sources of external financing for developing countries, especially in times of crisis. Recent international crises have brought a downturn in economic growth, rising inflation and other macroeconomic challenges, exerting pressure on aid budgets and creating shifts in the global landscape of development aid. For instance, official development assistance to Africa declined by 4.1 per cent in 2022, despite a global increase of 22 per cent, reaching a record high of $287 billion at constant 2021 prices. According to United Nations data, this was the result of a shift towards the allocation of more aid budgets to meet the socioeconomic needs of refugees and asylum seekers in donor countries (UNCTAD, 2024b). In Africa, however, the demographic change is characterized by a growing share of the world population and a larger share of working-age individuals. The young working-age population of Africa (people aged 15–24 years) is projected to increase to 73 per cent (or 151 million) of the world's population aged 15–24 years by 2050 (United Nations, 2023b). The influx of young people into African labour markets will have to be accompanied by substantial improvements in productivity growth and increased investments in skills development and technological advances.

Figure I. 4
Exposure to economic shocks, by country



Source: UNCTAD calculations, based on data from the World Development Indicators database (World Bank) and UNCTADstat.
Note: Measure of exposure to economic shocks based on trade share, export concentration and external debt.



Africa is exposed to changes in the costs and availability of energy: **$190 billion required annually to address energy needs and risks**

Migrant and refugee flows represent another demographic shock to which countries in Africa are exposed. Climate change, conflicts and economic stagnation are three of the major drivers of voluntary and forced migration across the continent (Naudé, 2010). These forces will continue to push further out-migration, in an interconnected and mutually reinforcing manner. Intra-African migration data, concerning countries of origin and destination situated in Africa, rose from about 18 million Africans in 2015 to 21 million in 2020, slightly higher than the number of migrants from Africa (19.5 million in 2020), that is, Africans living in non-African countries (International Organization for Migration, 2024). This dynamic is similarly reflected in refugee flows, with most African refugees being hosted in other African countries (International Organization for Migration, 2024). While free movement protocols adopted at the subregional level, for instance in regional economic communities, have been instrumental in enabling such migration flows, climate-change–induced disasters, such as droughts, hurricanes and floods, remain a significant driver of migration and displacement in Africa. Thus, as climate change intensifies, migration will increase, which will contribute to further economic stagnation, which in turn will make the mitigation of and adaptation to climate change more difficult. Countries that are already home to a large stock of immigrants will be particularly exposed, as the latter will put further pressure on resources and may have an impact on economic growth.

Based on these features, figure I.5 shows the demographic shock exposure across countries in Africa. The ones most exposed to demographic shocks are Seychelles, Djibouti, Botswana, Côte d'Ivoire and Libya. The countries with the lowest levels of exposure are Madagascar, the Niger, Mauritius and Morocco.

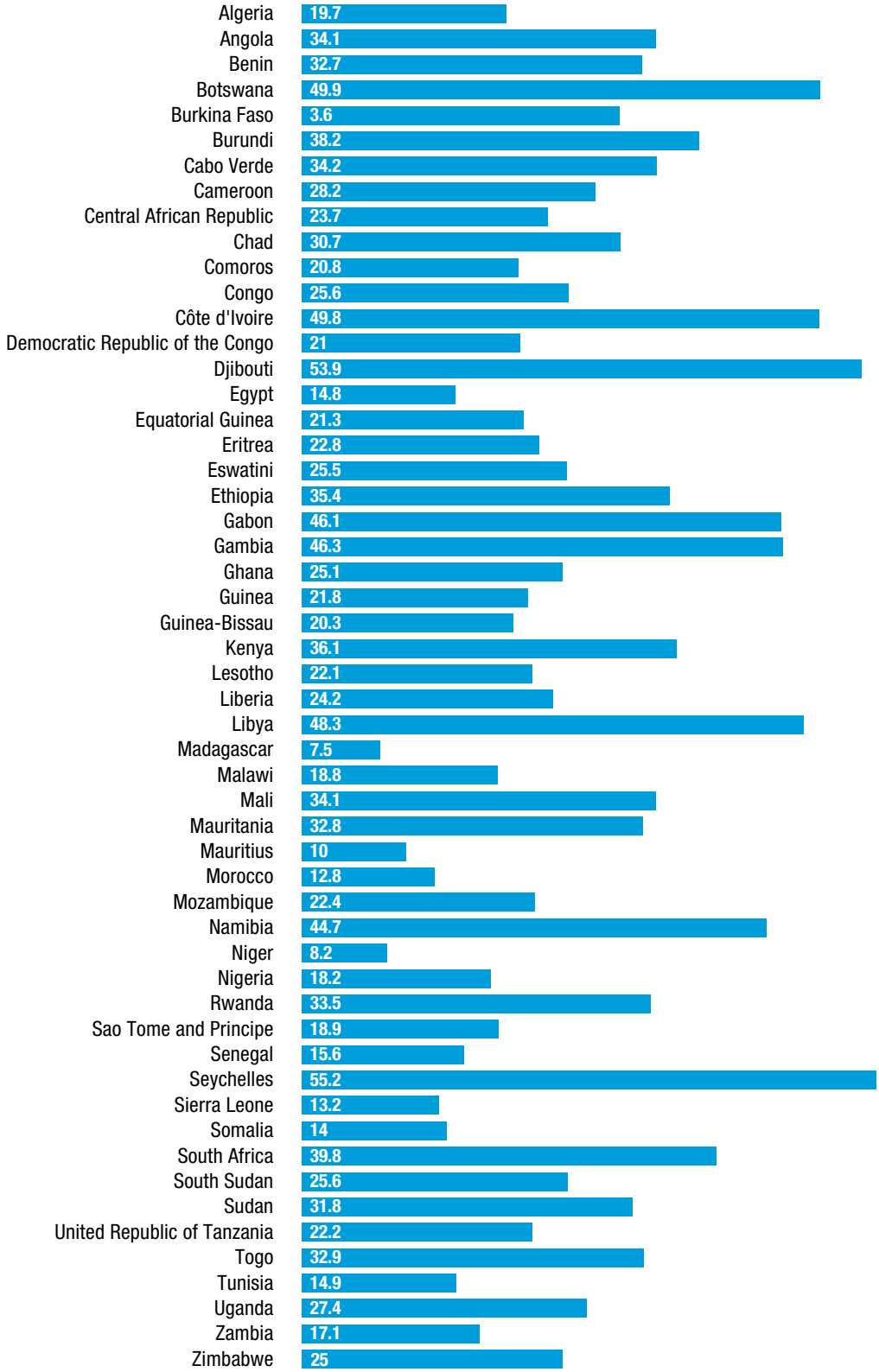
Energy shocks

A fourth category of shocks emanating from the global polycrisis can broadly be labelled as energy shocks. Globally, energy markets are in flux. This is most notable in disruptions in energy markets and prices that were sparked by the COVID-19 pandemic, then amplified by geopolitical tensions, such as the war in Ukraine and tension in parts of the Middle East (International Energy Agency, 2023a). Although oil prices have increased sharply above $40 per barrel since 2005, the market has been subject to extreme volatility, with the crude oil price peaking at an average of about $110 per barrel in 2011 and 2012 and then dipping to a low $42 per barrel in 2020.[4] Following extraordinary price spikes in 2022, oil prices moderated in 2023 and returned above $90 per barrel in September 2023 (International Energy Agency, 2023a). Volatility and turbulence in energy markets, especially fossil fuels, increase risks to energy security and affordability. In 2023, the International Energy Agency (2023b) estimated investment in the energy sector to be $2.8 trillion. Countries in Africa are also exposed to changes in the costs and availability of energy for the following reasons:

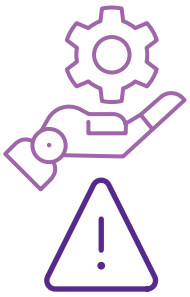
- The continent has access to and uses only a marginal share of the global energy supply at present.
- Much more energy use is needed to support economic growth and development.
- Energy poverty is high in Africa, with a significant share of the population without access to electricity.
- As the world transitions away from fossil fuels in line with the agreement established at the twenty-eighth Conference of the Parties to the United Nations Framework Convention on Climate Change, held in Dubai in 2023, countries in Africa still have limited ability and access to reliable renewable energy sources, such as untapped solar, wind and hydropower.

[4] See UNCTADstat data at https://unctadstat.unctad.org/datacentre/dataviewer/US.CommodityPrice_A.

Figure I. 5
Exposure to demographic shocks, by country



Source: UNCTAD calculations, based on data from the World Development Indicators database (World Bank) and Global Migration Data Portal (International Organization for Migration).
Note: Measure of demographic shock exposure based on demographic growth, urbanization and stock of international migrants.



Artificial-intelligence–driven automation **could lead to job losses**

Thus, given these exposures, the combination of higher energy prices and reductions in the availability of fossil fuels in African countries dependent on oil exports, poses a threat to further economic development. In addition, for the few fuel exporters on the continent, the danger is that increases in oil rents may distort local markets and exert further pressure on governance systems. With regard to energy shocks, the magnification of such shocks can be generated by economic shocks. For instance, economic shocks can have an impact on the ability of Africa to invest and build the additional energy infrastructure needed. According to the International Energy Agency (2023c), at least $190 billion will be required annually between 2026 and 2030 to address energy needs and risks, implying energy investment equal to 6.1 per cent of GDP by 2030. Determining from which sources these will be derived and how this will be financed remains a challenge, especially considering rising debt levels in Africa. Countries most dependent on either importing and/or exporting energy may be the most exposed to shocks in international energy markets. Figure I.6 shows overall exposure to energy shocks across Africa. The countries most exposed to energy shocks are Nigeria, Libya, Cameroon, Mozambique and Gabon. The countries with the lowest level of exposure to energy shocks emanating from the polycrisis are Sao Tome and Principe, Burundi, Comoros, Central African Republic and Lesotho.

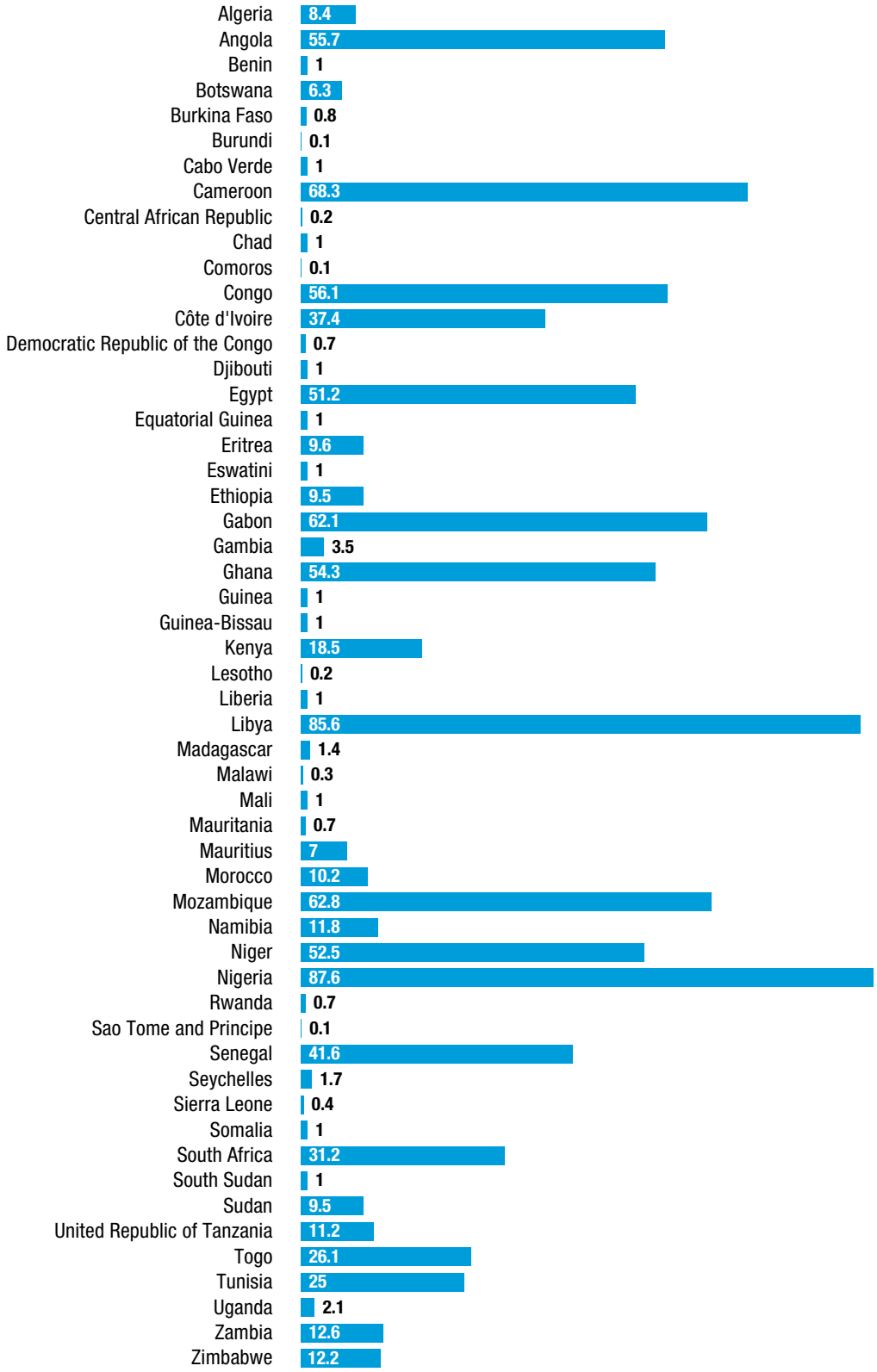
The global move away from fossil fuels towards renewable energy will increase the demand for minerals used in manufacturing renewable energy infrastructure, opening up strategic opportunities for Africa. Countries in Africa have substantial reserves of these critical minerals, accounting for 35 per cent of the world's manganese reserves, 50 per cent of global cobalt and reserves and nearly 75 per cent of phosphate rock reserves (International Renewable Energy Agency, 2024). These critical minerals and metals are also subject to increased demand in the global shift to low-carbon and digital technologies (UNCTAD, 2024c).

Technology shocks

A fifth category of shocks associated with the global polycrisis is technology shocks. The major technology shocks to which countries in Africa are exposed are those related to the digitalization of the world economy, including the rise of artificial intelligence and data-intensive technologies, often described as the fourth Industrial Revolution. These technology shocks pose various threats, including environmental impacts (high water and energy use related to the operationalization (that is, data processing and storage and other processes) of digital and data-intensive technologies, such as artificial intelligence, the Internet of things, fifth-generation mobile networks and blockchains (UNCTAD, 2024c). These emerging digital technologies have the potential to increase the automation of low-skilled jobs, especially in advanced economies and emerging countries. This can particularly affect women, who are often marginalized into labour-intensive, low-paying jobs offering little opportunity for growth and advancement (UNCTAD, 2024c).

It is expected that artificial-intelligence–driven automation could lead to growing job losses and that countries in Africa may be especially vulnerable. As such, countries with inadequate digital and technological regulations, including government capabilities to regulate and stimulate local capacity-building, and those that have a digital gap in terms of access to frontier digital technologies, will generally be more exposed to technological shocks. The UNCTAD frontier technology readiness index and the Oxford Insights government artificial intelligence readiness index both show a notable gap in technological readiness between countries in Africa and advanced economies, suggesting a significant exposure to further transformations of economies and business models by these technologies.

Figure I. 6
Exposure to energy shocks, by country



Source: UNCTAD calculations, based on data from the World Development Indicators database (World Bank).
Note: Measure of exposure to energy shocks based on imports and exports of energy.

The literature suggests that technology shocks and associated digital gaps can present economic risks for late industrializing countries by increasing the risk and cost of doing business, especially in volatile and unregulated environments or by posing a threat to the labour force, given the automation of jobs (Naudé, 2023). While increased digitalization has resulted in shifts in the nature and functionality of labour markets on both the demand and supply sides, it is important to note that the latest frontier technologies generate goods and services that can provide opportunities for creating new jobs, professions and economic opportunities (Bhorat et al., 2023; UNCTAD, 2023b).

Countries in Africa most exposed to technological shocks are South Sudan, Eritrea, the Central African Republic, Somalia and Liberia (figure I.7). The least exposed countries are Egypt, South Africa, Mauritius, Tunisia and Morocco.

In 2022, climate-related hazards **affected more than 110 million people** in Africa, causing significant economic damage, estimated at over $8.5 billion

Climate change shocks

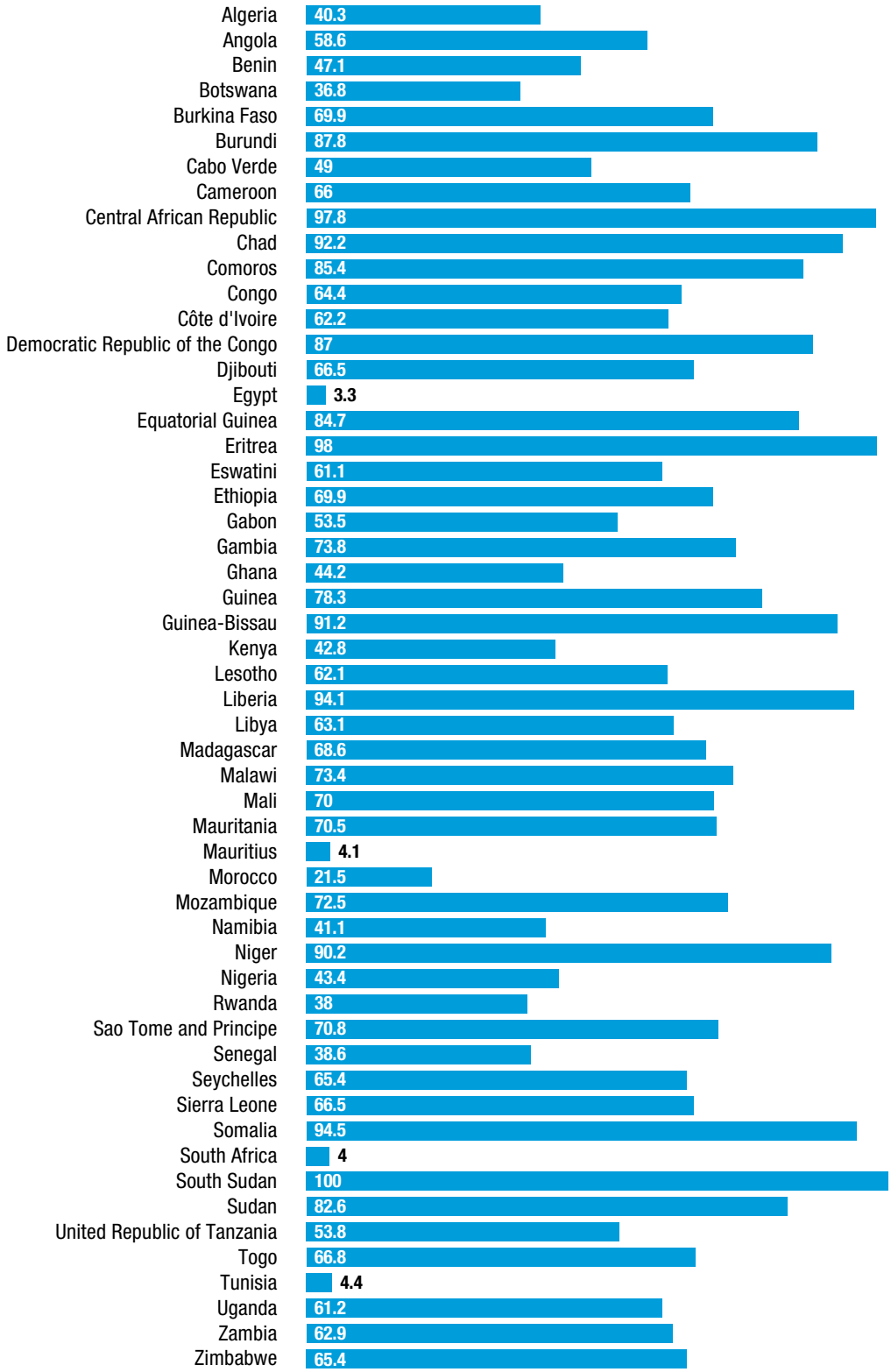
Climate change and inadequate responses to climate change affect the risk profile of countries in Africa. This raises the risks of investment and trade projects delivering less-than-expected returns. Sectors particularly at risk of climate-related events in Africa include agriculture and food production, tourism, water-intensive manufacturing and transport. The threats of extreme weather and climate events in reducing agricultural productivity, affecting biodiversity and ecosystems and diminishing natural resource bases could fuel conflicts for scarce productive land, water and pastures (World Meteorological Organization, 2023). The likely migration of populations, as habitats become uninhabitable, will also upend estimates of market demand and can disrupt economic growth. The natural environment of Africa and its exposure to natural hazards make it vulnerable to climate change shocks. After Australia, Africa is the world's second-driest continent (Simpson et al., 2023).

The natural environment in many countries in Africa is already facing many stressors, including pollution, over-exploitation and rapid rates of urbanization (see section "Demographic shocks").

Countries in Africa have contributed little to the existing stock of greenhouse gases in the atmosphere. Africa accounts for about 2 to 3 per cent of the world's carbon dioxide emissions (World Meteorological Organization, 2023). However, it is also acknowledged that these countries may be disproportionately affected by climate change and its responses. In 2022, climate-related hazards affected more than 110 million people in Africa, causing significant economic damage, estimated at over $8.5 billion (World Meteorological Organization, 2023). While most countries in Africa have committed to climate adaptation strategies and climate governance frameworks, for example, nationally determined contributions, many countries face implementation and financing challenges arising from these strategies and frameworks. For instance, implementing climate governance frameworks in the 53 African countries that submitted their nationally determined contributions will require investments of up to $2.8 trillion between 2020 and 2030 (World Meteorological Organization, 2023). The lack of strong adaptation to climate change could cost countries in Africa economic loss and residual damages ranging between $290 billion (in a 2°C warming scenario) and $440 billion (in a 4°C warming scenario) (African Development Bank, 2022). The responses that the world agreed to at the twenty-eighth Conference of the Parties to transition away from fossil fuels will impose a potential cost – real and opportunity – on countries in Africa (see section "Energy shocks").

Another factor that could expose Africa to climate-change–related shocks and responses is the green industrial policies adopted by an increasing number of countries to mitigate climate change and reinvigorate their economies (Alami et al., 2023).

Figure I. 7
Exposure to technology shocks, by country



Source: UNCTAD calculations, based on data from the frontier technology readiness index (UNCTAD) and government artificial intelligence readiness index (Oxford Insight).
Note: Measure of exposure to technology shocks based on government artificial intelligence readiness index and distance to the technology frontier

Exposure to shocks does not necessarily mean that Africa is at risk. The extent of risk depends on how vulnerable countries are harmed by the occurrence of these shocks

These include the Green Deal Industrial Plan (European Union); the Modern American Industrial Strategy as laid out in the Inflation Reduction Act of 2022, the Infrastructure Investment and Jobs Act of 2021 (also known as the Bipartisan Infrastructure Law) and the Creating Helpful Incentives to Produce Semiconductors and Science Act of 2022 (United States); the Green Growth Strategy (Japan) and the Korean New Deal (Republic of Korea). These green industrial strategies offer opportunities for countries in Africa but also pose risks (Akinkugbe, 2023), one of which is that they could have an effect on trade and investment opportunities in African mining and energy sectors. However, it is important that the trade and investment policies of countries ensure a fair sharing of the benefits of the energy transition to avoid the rich endowment of critical minerals in Africa resulting in the economic and governance issues that have adversely affected development in resource-rich economies in the past.

There is also debate on whether African exporters may lose access to large, important markets such as the European Union, particularly under the European Union carbon border adjustment mechanism[5] and the Critical Raw Materials Act (2023).[6] Industries that have been identified to be at high risk for the application of tariffs in terms of the mechanism include cement, iron and steel, aluminium and fertilizers (Monaisa, 2022).

In Africa, countries that are more dependent on fossil fuel energy and agriculture for livelihoods and exports, and those that already have poorer environmental health and are more subject to natural hazards, will be more exposed to adverse events from climate change.

Figure I.8 depicts the exposure to climate risk across Africa. It suggests that the Niger, Burundi, Mali, the Central African Republic and Ethiopia are the countries in Africa most exposed to climate change shocks. The low exposure of small island developing States to climate change shocks within the context of the polycrisis can be partly explained by good local coping, adaption and risk management abilities; sound institutional foundations; developed hard and soft infrastructure; and remoteness or insulation from the global shocks of the polycrisis. (UNCTAD, 2024f).

Vulnerability to shocks

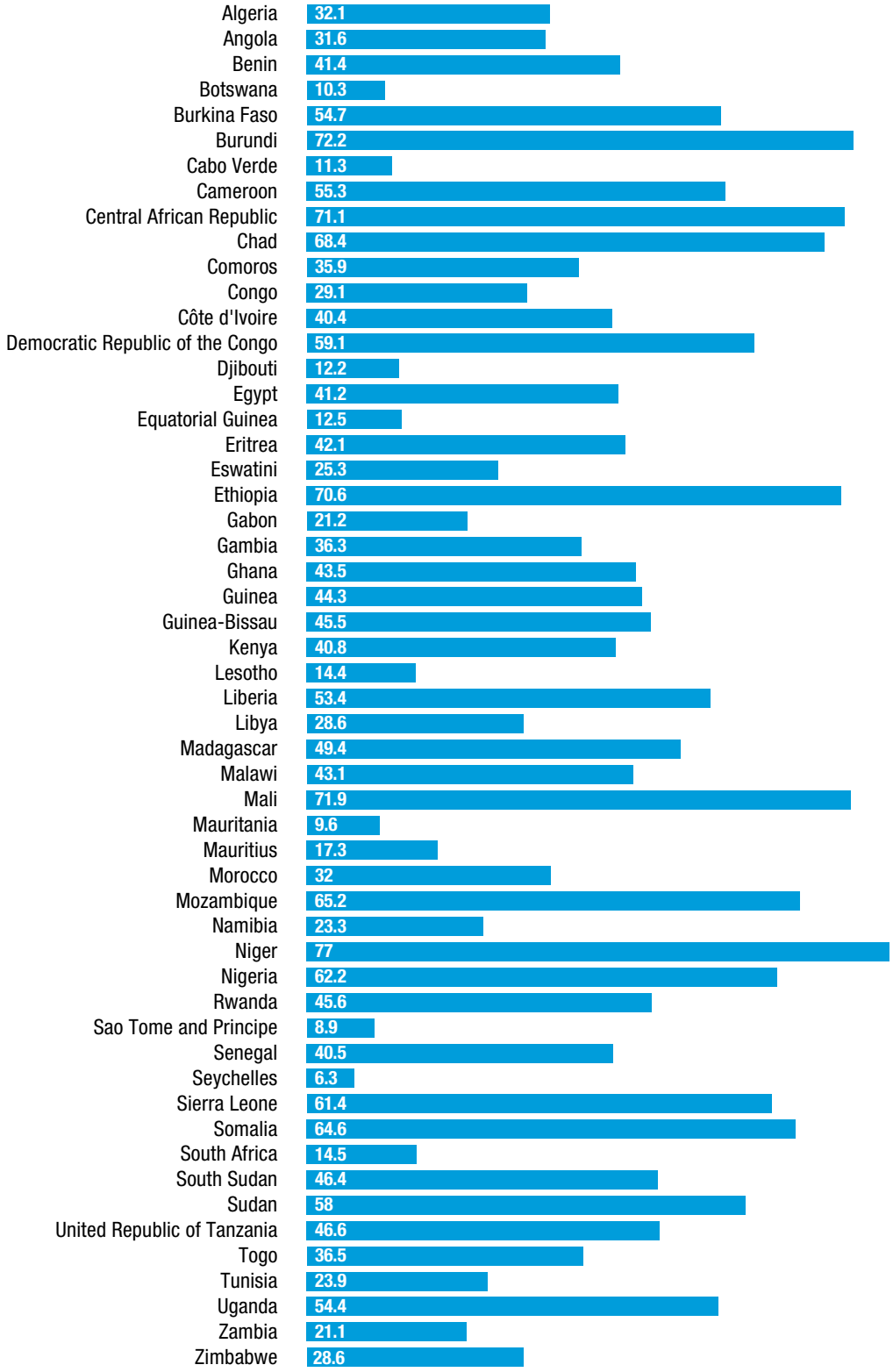
Exposure to shocks does not necessarily mean that Africa is at risk. The extent of risk depends on how vulnerable countries are harmed by the occurrence of these shocks. The best way to define and understand vulnerability is not to determine whether a country can avoid being affected or exposed to an event but to determine whether it can cope. As such, the flip side of vulnerability is resilience, namely, a country's coping ability, that is, its ability to recover from an adverse shock or event. While adverse events and even exposure are largely exogenous to individual countries, their vulnerability (lack of resilience) can be "self-inflicted" (Guillaumont, 2008). Thus, the degree of risk is determined by exposure and vulnerability.

Table I.2 summarizes the components and the data used to construct the vulnerability of countries in Africa to shocks emanating from the polycrisis (see box I.1 on the methodology).

[5] In Monaisa (2022), the mechanism is defined as a European Union "climate measure aimed at preventing the risk of carbon leakage" and involves a carbon tax on the embedded greenhouse gases of carbon-intensive products imported into the European Union.

[6] The Act, updated on 11 April 2024, aims to ensure the secure access of the European Union to critical minerals needed for its green transition.It creates a buyers' club for these minerals and a dominant position in the supply chain, which poses a risk for countries in Africa. This could place them at a disadvantage when negotiating prices and related conditions.

Figure I. 8
Exposure to climate shocks, by country



Source: UNCTAD calculations, based on data from the Inform climate change risk index (European Union), World Development Indicators database (World Bank) and the environmental performance index (Yale University).
Note: Measure of exposure to climate shocks based on agriculture, environmental health and natural hazards.

An economically more developed country **is considered less vulnerable**

Economic vulnerability

A country is vulnerable in the economic domain if the extent to which its economy can act as a bulwark or pillar of resilience in the face of external shocks is compromised. There is significant literature on vulnerability that has identified GDP per capita as an important bulwark (see chapter II). Countries with higher GDP per capita are seen as being less vulnerable to external shocks. However, GDP per capita is not sufficient on its own; also important is how inclusively this GDP has been generated and the vulnerability of jobs created through GDP growth. Thus, an economically more developed country is considered less vulnerable.

Table I. 2
Components of the vulnerability to shocks measure

Components	Data used	Sources
Economic vulnerability	Foreign direct investment, average percentage of net inflows, 2013–2022	World Development Indicators database, World Bank
	GDP per capita, 2022	
	Vulnerable employment, average, 2018–2022	
Governance vulnerability	Average governance score, 2013–2022	Worldwide Governance Indicators database (World Bank)[7]
	Governance weakness	Ibrahim Index of African Governance[8]
Connectivity vulnerability	Liner shipping connectivity index, 2021	World Development Indicators database, World Bank
	Logistics performance index, 2022 or closest year	World Development Indicators database, World Bank
	Transport composite index, 2022	African infrastructure development index, 2022, African Development Bank
	Information and communications technology (ICT) composite index, 2022	African infrastructure development index, 2022, African Development Bank
Energy vulnerability	Share of population with access to electricity, average, 2018–2022	World Development Indicators database, World Bank
Social vulnerability	Social progress index scores, 2023	Social progress index, Social Progress Imperative
Climate change vulnerability	Global Data Lab vulnerability index[9]	Global Data Lab vulnerability index
	Global Adaptation Initiative vulnerability index[10]	University of Notre Dame, United States

Source: UNCTAD.
Note: Data year 2022 or indicated otherwise. Wherever possible, relevant data from the UNCTADstat database are used. Where UNCTADstat does not provide for full coverage of all 54 African countries, other data sources are used.

[7] See www.govindicators.org/#home.
[8] See https://mo.ibrahim.foundation/iiag.
[9] See https://globaldatalab.org/gvi/about/.
[10] See https://gain.nd.edu/our-work/country-index/.

Many African economies remain largely dependent on natural resources, tend to be rural-based and are characterized by low productivity, which can have an impact on sustained industrialization and structural change on the continent (see, for example, Christiaensen and Chuhan-Pole, 2015; De Vries et al., 2015; Lele et al., 2015; McMillan and Headey, 2014; and Rodrik, 2014). However, there are emerging opportunities to achieve effective structural change and build resilient economies on the continent, including the catalyst role and potential of digitalization and technology in fostering higher productivity and increasing the complexity of African exports.

Harnessing the demographic dividend of Africa – an abundance of labour – will require unprecedented investment in African economies, namely, investments in human capital, physical capital and infrastructure, business capital (including intangible capital), social capital and social technologies. The combination of investment and innovation required suggests that nothing short of an entrepreneurial revolution is necessary to reduce the economic dimensions of vulnerability in Africa. This would entail both an entrepreneurial state and a dynamic private sector. In a textbook model of the world, such investment flows would happen as a matter of course, including investment flows from advanced to less developed economies as investors face diminishing returns to capital investments in economically advanced regions. It is the idea that investments would flow downhill. However, in the real world, this does not happen. Although foreign direct investment to Africa has been flowing downhill in recent years, declining by 3 per cent in 2023 to $53 billion (UNCTAD, 2024d), private capital investment on the continent has been flowing uphill, reaching a high of $7.6 billion in 2022, before dropping to $5.9 billion in 2023, influenced by broader global economic uncertainty that has compelled many investors to exercise caution in their investment strategies (African Private Capital Association, 2024). Therefore, it is not just the opportunities for investment in a region such as Africa that matters, but the risk-adjusted return that investors face. Thus, many countries in Africa are considered by investors to be a risky investment (Gbohoui et al., 2023). The fundamental, deep-seated risk facing investors and traders in Africa is that it may fail to structurally transform and thus remain vulnerable to external shocks.

Based on the above, countries in Africa with a low level of economic development as measured by GDP per capita, with more vulnerable employment and inequalities, and with less access to foreign direct investment inflows, will be more vulnerable in the economic dimension towards external shocks. The most economically vulnerable countries in Africa are South Sudan, the Central African Republic, Burundi, Burkina Faso, the Niger and Chad (figure I.9).

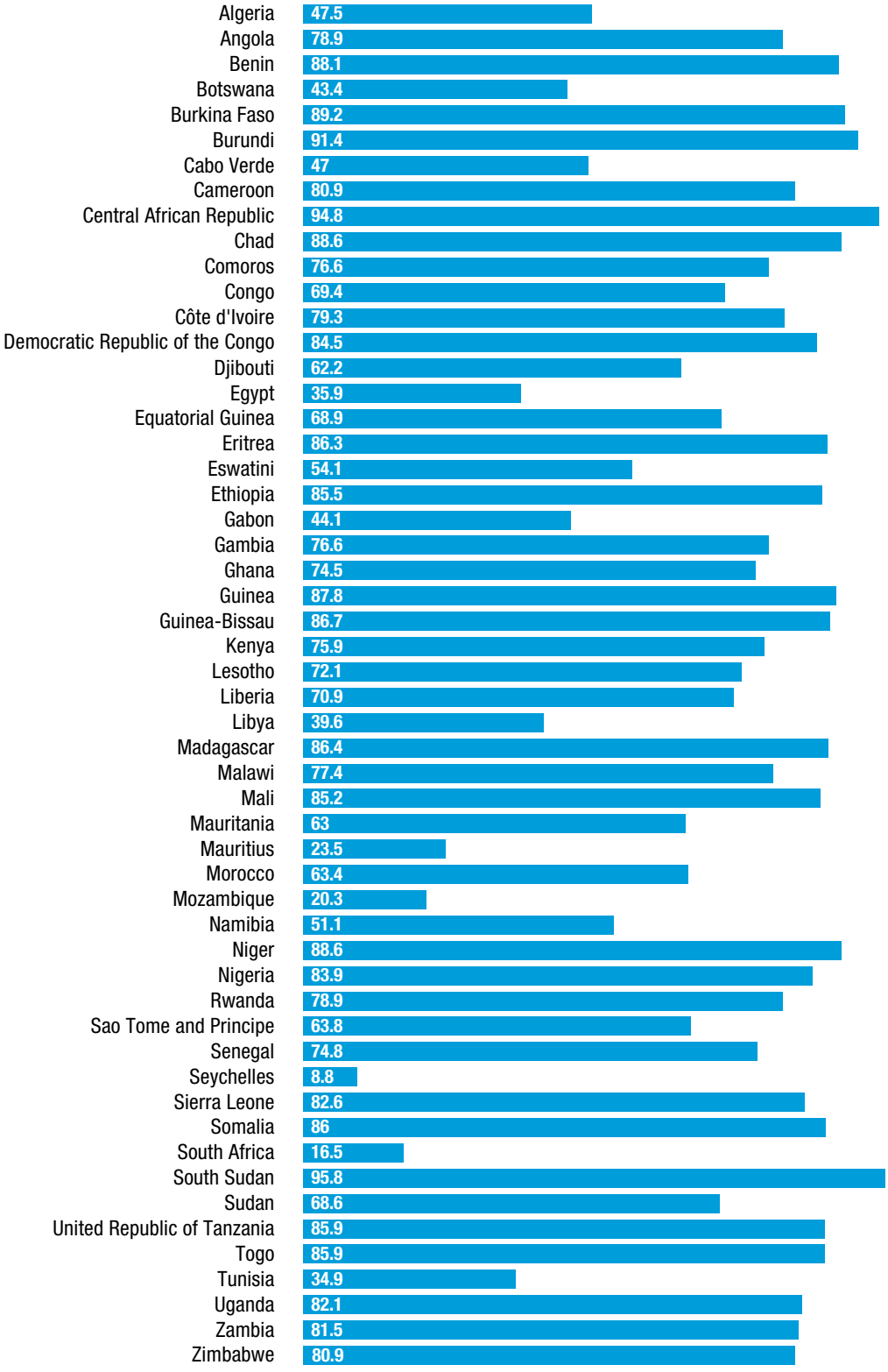
Governance vulnerability

According to Williamson (1998), governance "is the means by which order is accomplished in a relation in which potential conflict threatens to undo or upset opportunities to realize mutual gains". Lack of good governance is often perceived as one of the most serious sources of self-inflicted vulnerability to external shocks in Africa. Two notable country governance indicators that provide coverage for all African countries are the World Bank Worldwide Governance Indicators and the Ibrahim Index of African Governance. The Worldwide Governance Indicators database contains six indicators for over 200 countries and territories since 1996. These six indicators cover voice and accountability, political stability and the absence of violence and terrorism, government effectiveness, regulatory quality, rule of law and control of corruption. The Ibrahim Index of African Governance measures governance along four dimensions, namely security and the rule of law; participation, rights and inclusion; foundations for economic opportunity; and human development. Neither of these two measures of governance document significant improvements in the average scores of countries in Africa.

There are emerging opportunities to achieve effective structural change and build resilient economies on the continent

Lack of good governance is often perceived as one of the most serious sources of vulnerability to external shocks in Africa

Figure I. 9
Economic vulnerability to polycrisis shocks, by country



Source: UNCTAD calculations, based on data from the World Development Indicators database (World Bank).
Note: Measure of economic vulnerability based on GDP per capita, vulnerable employment and net inflows of foreign direct investment.

Those countries where governance is lacking in the aforementioned terms would be more vulnerable to suffer adversely in the face of external shocks.

Countries with the strongest governance, that is, countries scoring lowest on measures of governance vulnerability, are Mauritius, Cabo Verde, Botswana, Seychelles, South Africa, and Tunisia (figure I.10). These are countries in Africa that have made significant progress in strengthening their resilience to external shocks through improved macroeconomic policies, governance and stability.

Connectivity vulnerability

There are four dimensions in which the interconnectivity of countries in Africa and their connectivity to the rest of the world cause them to be vulnerable to shocks that can restrict the flow of goods and services, ideas and labour. These dimensions are trade and transport costs, logistical services, shipping and ICT and digital connectivity. Trade costs refer to "all costs incurred in getting a good to a final user other than the marginal cost of producing the good itself: transportation costs (both freight costs and time costs), policy barriers (tariffs and non-tariff barriers), information costs, contract enforcement costs, costs associated with the use of different currencies, legal and regulatory costs and local distribution costs (wholesale and retail)" (Anderson and van Wincoop, 2004; see chapter III for intra-African trade costs).

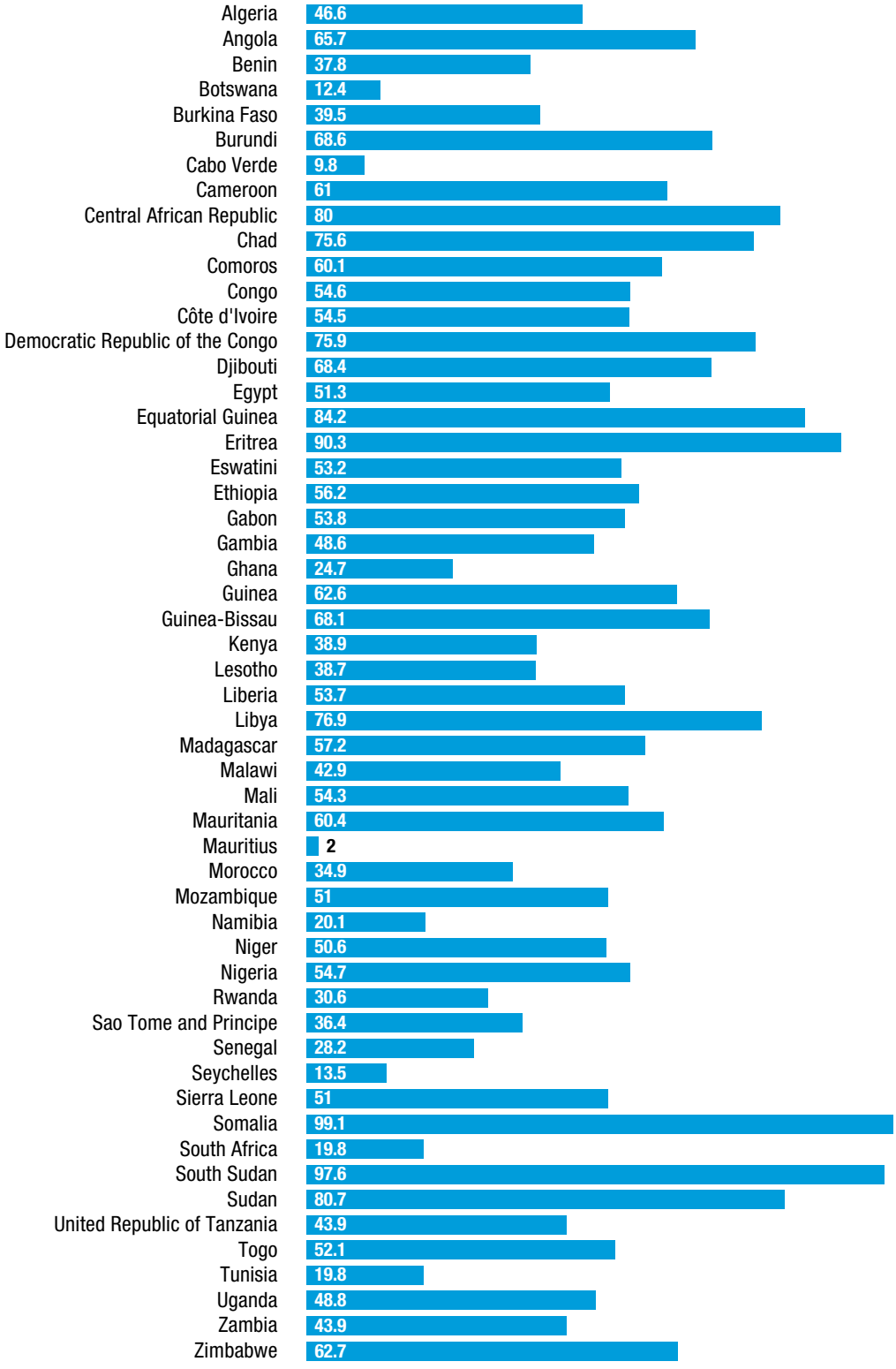
High trade costs create risks. The longer the distance, the more time is needed for exports, which in turn requires more inventory to be held, thus resulting in increased depreciation costs and possible adverse impacts on the perceived quality of the product (Hummels and Schaur, 2013). Inadequate infrastructure and logistics accentuate this downside of distance. Time-sensitive exports, such as fresh produce, are therefore less likely to be traded across great distances. Trade costs are a major source of risk and uncertainty, and of vulnerability to shocks. However, regional trade integration, through trade liberalization in goods and services and improved regional infrastructure and logistics, provides opportunities for lowering intra-African trade costs. For instance, the implementation of the Agreement Establishing the African Continental Free Trade Area is expected to increase intra-African freight by 28 per cent (primarily through rail, road and air transport) and demand for maritime freight by 62 per cent (UNCTAD, 2023c). Such improvements in intracontinental logistics networks will contribute to building the resilience of Africa to risks related to connectivity.

Logistical services, or trade logistics, refer to the services and infrastructure necessary to support and facilitate the movement of trade from point A to point B. The key logistical services and infrastructure consist of customs and border clearance facilities and services, the quality and appropriateness of trade and transport infrastructure, such as roads, ports and storage facilities; the accessibility and costs of international shipping; the quality of services provided by fourth-party logistical service firms; the infrastructure and ICT skills to track and trace shipments (digitalization of trade) and the reliability of transport services (World Bank, 2023a). Although shipping is included in logistical services, it is necessary to discuss it as a separate item or dimension of vulnerability in Africa. The bulk of its trade with the rest of the world depends largely on foreign-owned shipping companies. UNCTAD maritime transport indicators show that in 2021, ports in developing economies of Asia handled 59 per cent of world port container traffic, compared with 4 per cent of those in Africa (UNCTAD, 2024e).

The 2050 Africa's Integrated Maritime Strategy of the African Union recognizes these vulnerabilities in shipping and liner connectivity, and in 2012, set forth an agenda to extend the capabilities of Africa in shipping, recognizing the need for better ports and shipping to allow countries in the region to reap the potential benefits of the African Continental Free Trade Area.

High trade costs create risks. Trade costs are a major source of risk and uncertainty, and of vulnerability to shocks

Figure I. 10
Governance vulnerability to polycrisis shocks, by country



Source: UNCTAD calculations, based on data from the Worldwide Governance Indicators database (World Bank) and the Ibrahim Index of African Governance database (Mo Ibrahim Foundation).
Note: Measure of governance vulnerability based on average governance score, 2013-2022, selected from the Worldwide Governance Indicators and Governance weakness score, 2022, selected from the Ibrahim Index of African Governance.

In this regard, according to Konstantinus and Woxenius (2022), maritime transport has significant potential in Africa, given its large geographic area, projected freight volumes and customs and trade policies currently being pursued. However, such a system will require additional impetus in terms of strategy, policy and infrastructure. UNCTAD (2023c) reports that Africa will require close to 2 million additional trucks, over 100,000 rail wagons, 250 aircraft and more than 100 vessels by 2030, if the African Continental Free Trade Area is to be fully implemented.

Intraregional trade is, from this point of view, a bulwark against the risks of adverse global shipping changes in coming years (see chapter III). It will, however, need to be supported by the development of intraregional shipping infrastructure and services.

Significantly, the countries that are most vulnerable to shocks from the polycrisis are those that face high trade and transport costs, inadequate logistical services and poorly accessible and unreliable shipping, and that lag behind in terms of ICT and digital connectivity. Based on these determinants, the most vulnerable countries in Africa in terms of connectivity are Eritrea, Somalia, the Niger, Burundi, Madagascar and Sierra Leone (figure I.11). The least vulnerable countries are Seychelles, Egypt, South Africa, Mauritius and Morocco.

Social vulnerability

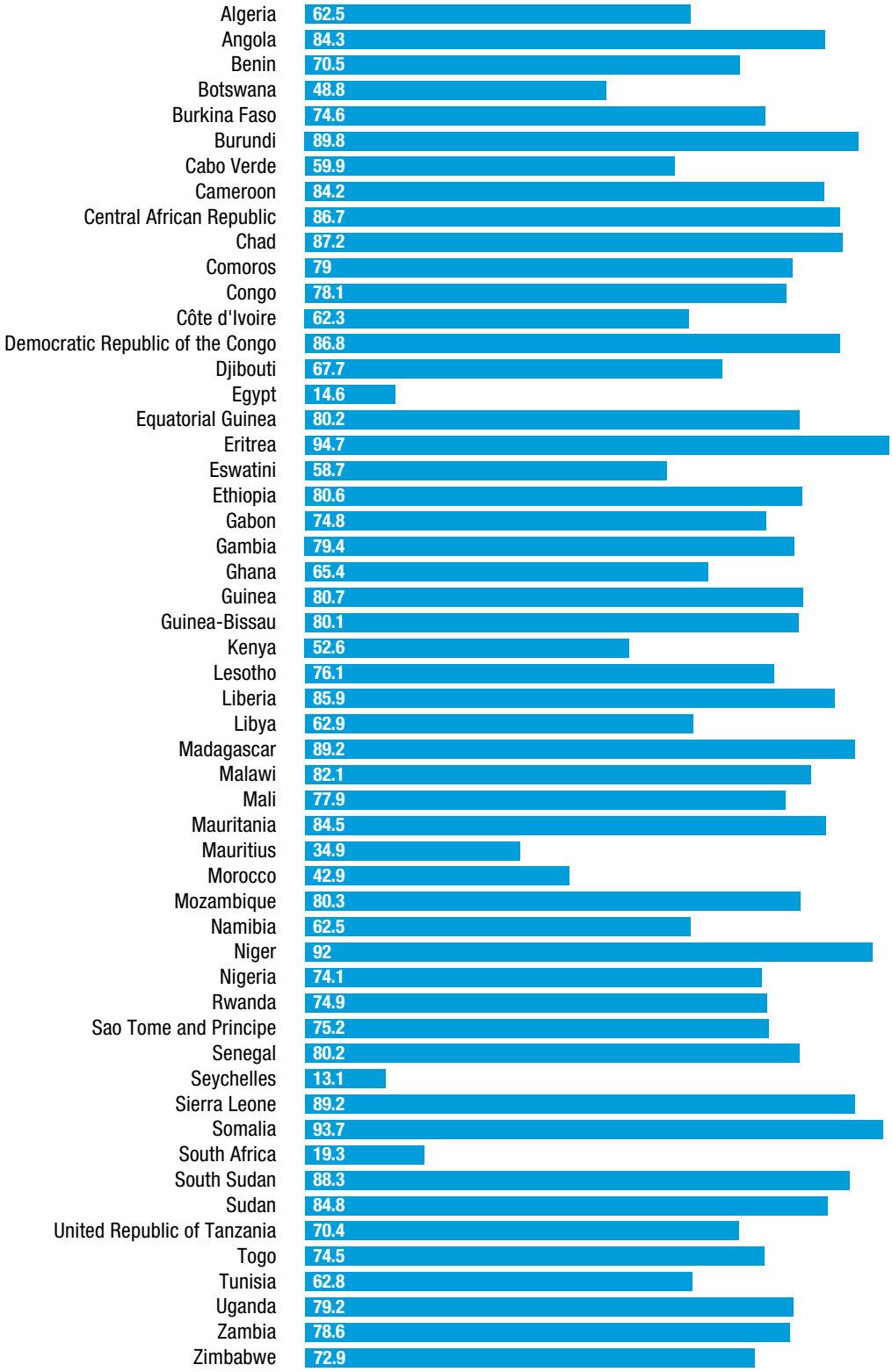
With regard to social vulnerability, the "broader conditions in which people are born, live, work and age can worsen an unfortunate event […] into a veritable disaster" (Mah et al., 2023). Therefore, a broad set of measures needs to be considered. Social vulnerability is also defined as the differential capacity of individuals or communities to cope with social and environmental shocks, including climate change, natural disasters and other societal risks (United Nations Development Programme, 2024). Perhaps the most comprehensive in this regard is the social progress index.[11] It measures the broader conditions of people's lives according to three pillars, namely, basic needs, foundations of well-being and opportunities. Each of these pillars consists of several indicators, spanning safety, access to water, nutrition, health care and housing, to the extent to which a society is inclusive and provides freedoms, rights and advanced education. Countries that score high on this index can reasonably be expected to have more robust social capital. Social capital is especially important for strong community governance, which complements the roles of markets and Governments, and can help decrease the number of market and governance failures. Allouche et al. (2023) discuss resilience during the polycrisis and stress that in times of crisis, communities need to develop their own responses according to their own needs and priorities.

It can thus be expected that countries in Africa with stronger social capital and hence better community governance, as reflected in their social progress index scores, will be less vulnerable to unfortunate external events during the polycrisis. While reducing social vulnerability can act as a bulwark against the global polycrisis, the polycrisis itself may negatively impact social capital and social progress. For instance, the COVID-19 pandemic and its unprecedented impact on global health and economic and financial systems has not spared African countries from economic contraction, with major setbacks with regard to poverty and inequality. The socioeconomic cost of the pandemic has been estimated at about 2.5 per cent of GDP, or about $65.7 billion per month (Economic Commission for Africa, 2021).

Countries in Africa with **stronger social capital will be less vulnerable** to unfortunate external events during the polycrisis

[11] See /www.socialprogress.org.

Figure I. 11
Connectivity vulnerability to polycrisis shocks, by country



Source: UNCTAD calculations, based on data from UNCTADstat, the logistical performance index (World Bank) and the infrastructure development index (African Development Bank).
Note: Measure of connectivity vulnerability based on liner shipping connectivity, logistics performance and transport and ICT infrastructure.

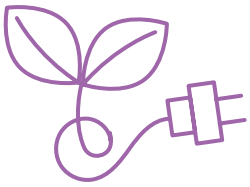
Figure I.12 depicts the vulnerability of countries in Africa across the social domain, based on the 2023 social progress index score, normalised and inverted. Countries with the highest levels of social vulnerability are South Sudan, the Central African Republic, Chad, Somalia and Eritrea. The countries with the lowest social vulnerability are Mauritius, Cabo Verde, South Africa, Tunisia and Algeria.

Energy vulnerability

Countries in Africa are exposed to energy shocks, given that the continent has access to and uses only a marginal share of global energy supply at present (see section "Energy shocks"). Moreover, much more energy use is needed to support economic growth and development, and energy poverty is high in Africa, with a significant share of the population not having access to electricity. As the world begins to transition away from fossil fuels, as agreed by the twenty-eighth Conference of the Parties to the United Nations Framework Convention on Climate Change, countries in Africa still have limited ability and access to reliable renewable energy sources such as solar, wind and hydropower. As energy prices increase, and the transition away from fossil fuels gains traction, and as the effects and impacts of climate change intensify, the countries in Africa that will be most vulnerable to shocks to global energy markets are those with a lack of access to renewable energy sources. Securing access to critical minerals and metals that are essential for the energy transition and the global shift to low-carbon and sustainable technological, industrial and economic progress has intensified competition among various countries, with the potential risks of creating additional environmental pressures and geopolitical and socioeconomic tensions associated with the production and trade of those minerals (UNCTAD, 2024c).

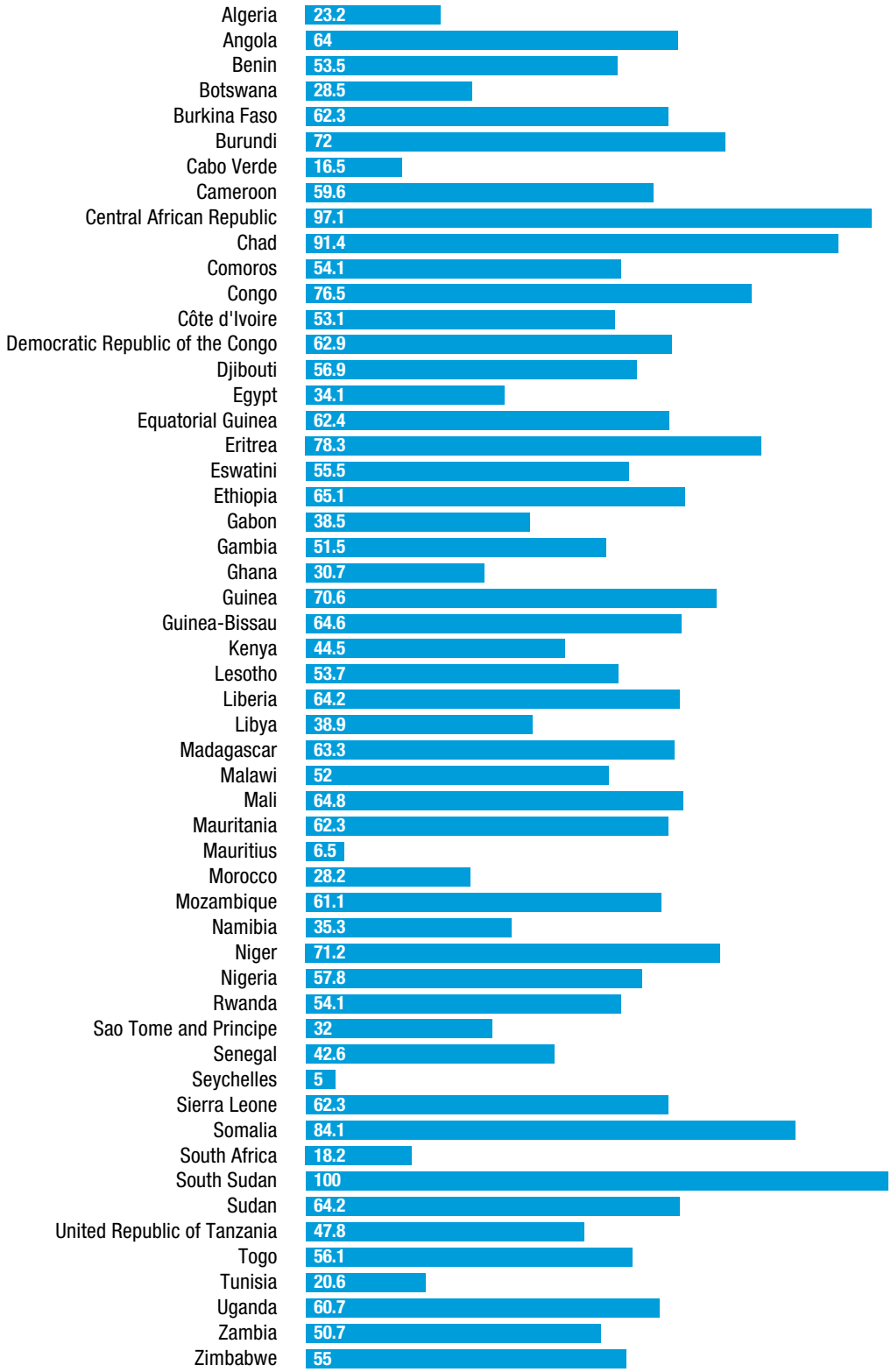
For access to renewable energy to be made more generally available, a challenge lies in building the appropriate energy infrastructure, including integrating renewable energy into the existing electricity grid, and upgrading this grid. Countries with existing infrastructure, which can be proxied by the access of the population to electricity, will be less vulnerable, in particular, because creating infrastructure requires energy in the first place. The risk to investment and trade in Africa in the current polycrisis is that if energy use is not handled properly, it will have significant negative implications on agricultural productivity, the competitiveness of agricultural exports and the viability of industrialization based on food production and agribusiness. Ultimately this may jeopardize food security, which may in turn lead to political instability and conflict, further deteriorating the investment and trade climate.

The countries in Africa most vulnerable to the adverse effects of shocks based on their low levels of access to electricity and low quality of electricity infrastructure are South Sudan, Burundi, Chad, Malawi and the Central African Republic (figure I.13).



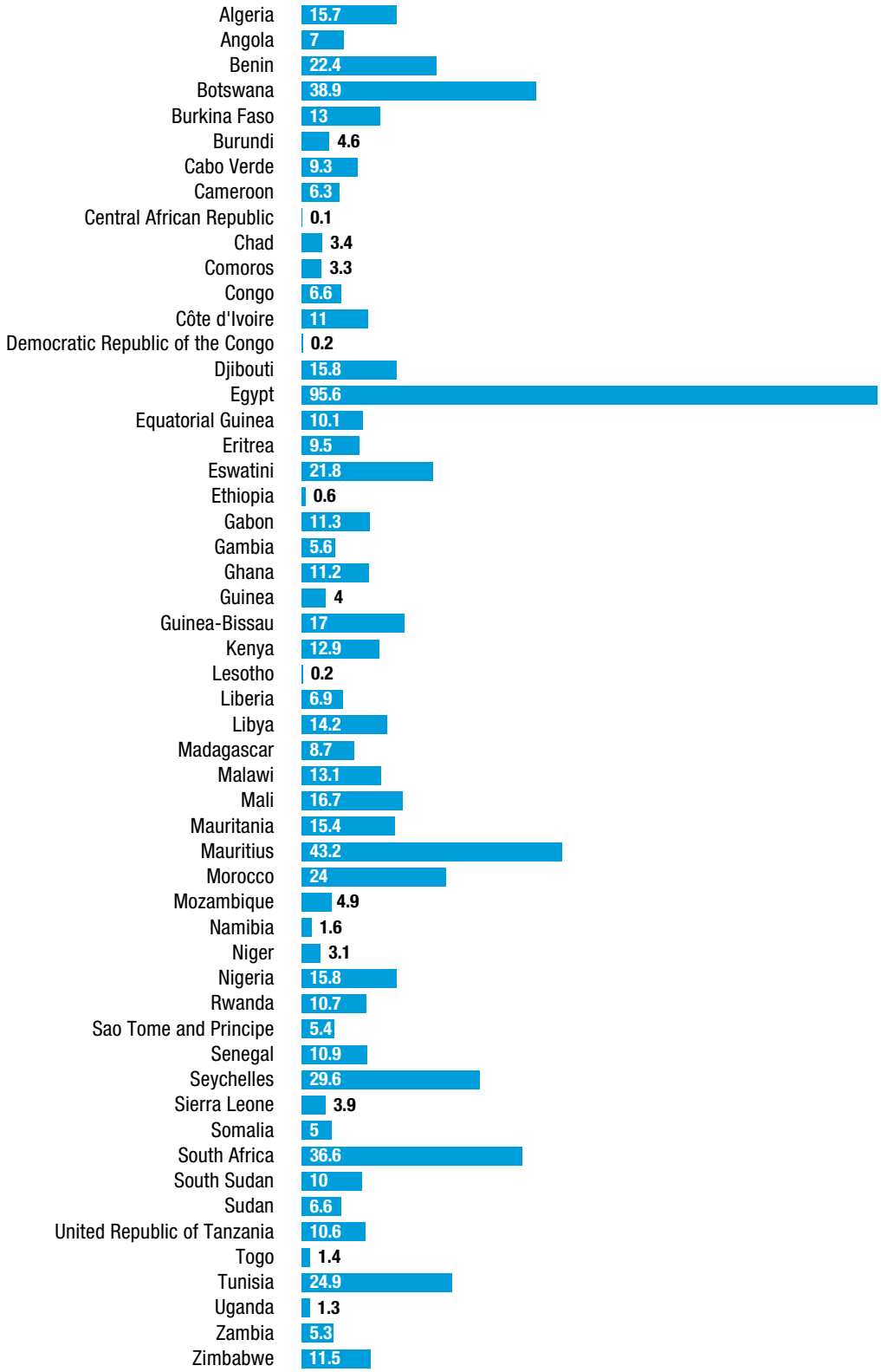
The countries in Africa that will be most vulnerable to shocks to global energy markets **are those with a lack of access to renewable energy sources**

Figure I. 12
Social vulnerability to polycrisis shocks, by country



Source: UNCTAD calculations, based on data from social progress index (Social Progress Imperative), normalized and inverted.
Note: Measure of social vulnerability based on the social progress index score inverted. The social progress index score for Seychelles is not available.

Figure I. 13
Energy vulnerability to polycrisis shocks, by country



Source: UNCTAD calculations, based on data from the World Development Indicators database (World Bank).
Note: Measure of energy vulnerability based on access to electricity (share of population), 2018-2022 average, normalised inverted.

Countries in Africa that are more dependent on fossil fuel energy and agriculture for livelihoods and exports **will be more exposed to adverse events from climate change**

Climate change vulnerability

Countries in Africa that are more dependent on fossil fuel energy and on agriculture for livelihoods and exports, that already have poorer environmental health and that are more subject to natural hazards will be more exposed to adverse events from climate change. How much they will be at risk also depends on their vulnerability or resilience. The degree of vulnerability or resilience is largely a function of policy choices. In the climate change domain, these would be the policies Governments have enacted to mitigate climate change impacts and adapt.

In terms of adaptation to climate change, the nature of the impacts of climate change is myriad, varied and heterogenous across countries. It is therefore necessary to take this into account when evaluating countries' responses. One source of heterogeneity is that some geographic areas are more subject to drought or constraining soil conditions. An example can be found among the smallholder farmers in the Sahel region and Southern and Eastern African regions, who are heavily dependent on rain-fed agriculture for food production, income generation and livelihoods, and are vulnerable to climate variability and frequent natural disasters (Simpson et al., 2023).

In countries that are more vulnerable to climate change, firms face rising costs of debt **as a result of restricted access to finance or low ESG investment**

Differences in financial systems can also help – or hinder – adaptation to climate change. For instance, using panel data covering 15,265 firms in 71 countries between 1999 and 2017, Kling et al. (2021) found that in countries that are more vulnerable to climate change, firms face rising costs of debt as a result of restricted access to finance. Partly, this is because climate change can negatively affect a firm's earnings and because "investors are increasingly considering environmental, social and governance performance of businesses before they make investment decisions" (Kling et al., 2021).

The most comprehensive measures of countries' climate change vulnerability that attempt to bring its multidimensional nature into perspective are the Global Data Lab vulnerability index, a "composite index designed to monitor and project socioeconomic vulnerability to climate change," and the Notre Dame Global Adaptation Initiative, country index of resilience or readiness to climate change (see table I.2). These two indices provide an overview of the responses of countries to their climate change exposures. The Notre Dame Global Adaptation Initiative index, for example, is calculated using 36 indicators covering sensitivity and adaptation to changes in food, water, health, ecosystem services, human habitat and infrastructure, considering climate change.

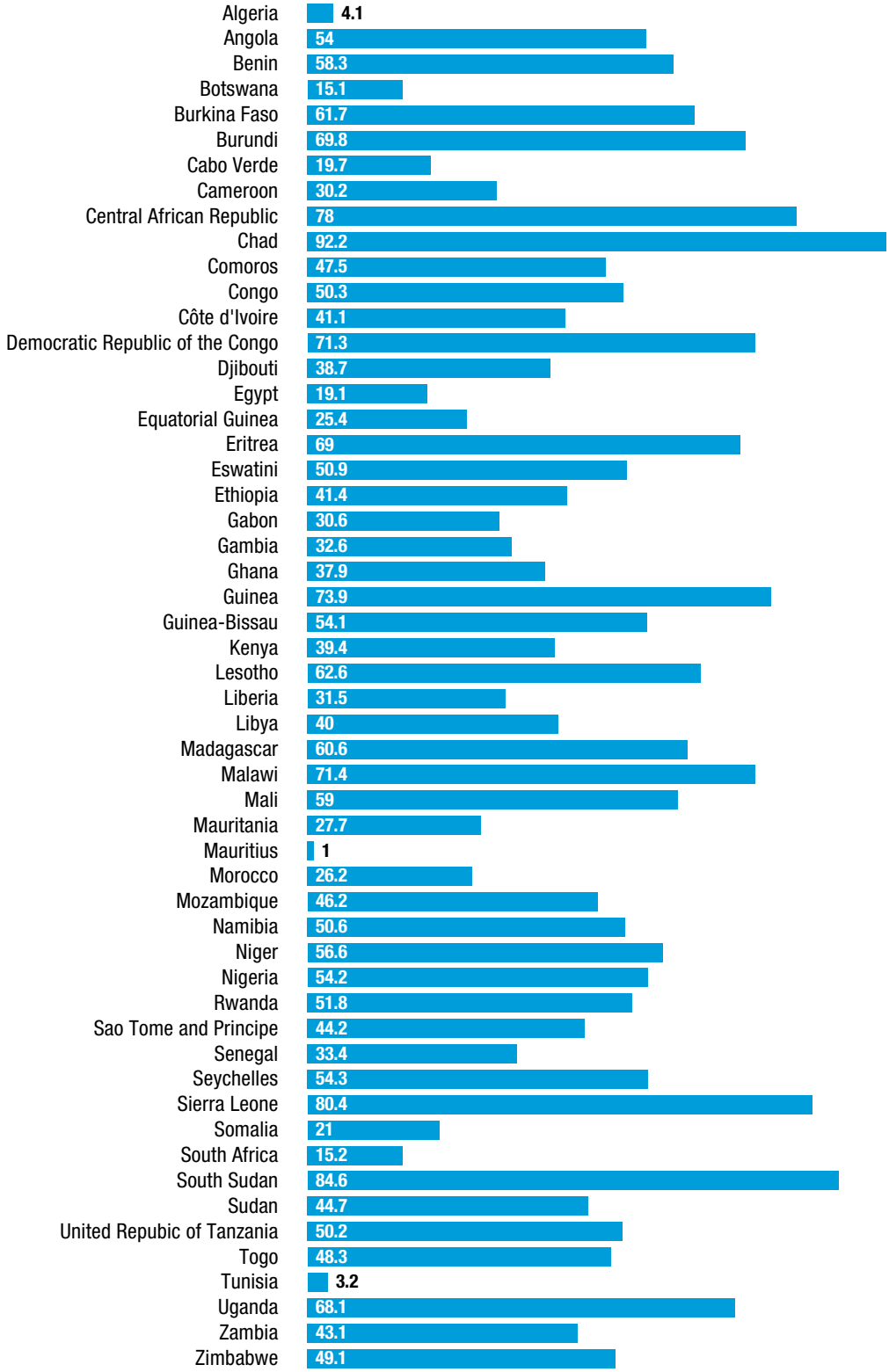
The countries in Africa most vulnerable to climate change impacts emanating from the global polycrisis shock are Chad, South Sudan, Sierra Leone, the Central African Republic, and Guinea (figure I.14). The low vulnerability of small island developing States across the climate change domain within the context of the polycrisis can be explained by good local coping, adaption and risk management abilities; sound institutional foundations; developed hard and soft infrastructure; and remoteness or insulation from the global shocks of the polycrisis. (see recent literature on remoteness (UNCTAD, 2024f)).

Priority areas for building bulwarks against risk

Table I.3 pinpoints the top two domains across which selected African countries are found to be most vulnerable to shocks emanating from the polycrisis. These are some of the key areas that could benefit from strengthened policy responses, to build resilience to overall risk in the economy.

This does not imply that a country should only address one source of vulnerability; it merely indicates that these are the components that show the highest value, that is, the domains in which the countries are most vulnerable. Table I.3 shows that the major domains where countries in Africa are vulnerable are either economic vulnerability or connectivity vulnerability.

Figure I. 14
Climate change vulnerability to polycrisis shocks, by country



Source: UNCTAD calculations, based on data from the global vulnerability index (Global Data Lab) and the Global Adaptation Initiative index (Notre Dame University).
Note: Measure of climate change vulnerability based on Global Data Lab global vulnerability index and Notre Dame Global Adaptation Initiative index.

It also indicates that some countries tend to be most vulnerable in the energy domain.

Considering the domains across which African countries are most vulnerable to shocks (as identified in table I.3) and the need to build bulwarks and resilience, the subsequent chapters of the report will delve into some of the underlying factors of vulnerability across some of the economic, connectivity and energy domains and the policy implications for reducing trade-related risks from the polycrisis in Africa.

Conclusion

In 2024, the world is in a polycrisis: a crisis that confronts humanity with mega-threats, which may be persistent. At the core of the polycrisis is the interconnectedness of economic, social, political and environmental systems. For countries in Africa, the polycrisis comes at a point when the project of economic development is incomplete. Trade and investment in these countries are, therefore, particularly at risk in the polycrisis.

While the internal factors determining the risk to trading and investment in Africa have been constantly known, the nature of external shocks, and hence the nature of exposure to adverse effects, has shifted significantly in the aftermath of the Second World War, when many countries in Africa achieved independence from colonial rule. In the 60 or so years after independence, the external crises affecting risks to investment and trade in Africa were limited to energy, debt and commodity price crises. In 2024, the polycrisis had come to affect the risk landscape of Africa. The external crises in energy, debt and commodity prices of previous decades are now compounded by crises or shocks that were unknown then, namely, technology shocks, demographic shocks, geopolitical shocks and climate shocks.

This chapter identifies six categories of entangled external shocks to which the polycrisis exposes countries in Africa. These are political, economic, demographic, energy, technology and climate change shocks. The extent to which these pose risks to trade and investment is argued to depend on a country's vulnerability to being harmed by such shocks if they occur. Less vulnerable, and hence more resilient, countries will be less harmed, and therefore, trade and investment will be less at risk. Six domains across which countries in Africa are particularly vulnerable were therefore identified. They are the economic, governance, connectivity, social, energy and climate change. These measures provide gauges of the areas where trade and investment (and, per implication, economic development) are ultimately most at risk, and across which domains, based on country-level heterogeneity.

As it was found that the major domains where countries in Africa are most vulnerable in the current context of the polycrisis shocks are either economic vulnerability or connectivity vulnerability, the remainder of this report will explore how they can best build bulwarks in these domains against risks to trade and capital flows to and across the continent.

When countries in Africa are less vulnerable, and hence more resilient, they will be less harmed by shocks from the polycrisis, and therefore, trade and investment in Africa will be less at risk

Table I. 3
Major areas of vulnerability to polycrisis shocks, by country

	Top two vulnerability domains		Top two vulnerability domains
Algeria	Connectivity + Economic	**Libya**	Governance + Connectivity
Angola	Connectivity + Economic	**Madagascar**	Connectivity + Economic
Benin	Economic + Connectivity	**Malawi**	Energy + Connectivity
Burkina Faso	Economic + Energy	**Mali**	Economic + Connectivity
Burundi	Energy + Economic	**Mauritania**	Connectivity + Economic
Cabo Verde	Connectivity + Economic	**Mauritius**	Connectivity + Economic
Cameroon	Connectivity + Economic	**Morocco**	Economic + Connectivity
Central African Republic	Social + Economic	**Mozambique**	Connectivity + Energy
Chad	Energy + Social	**Namibia**	Connectivity + Economic
Comoros	Connectivity + Economic	**Niger**	Connectivity + Economic
Congo	Connectivity + Social	**Nigeria**	Economic + Connectivity
Côte d'Ivoire	Economic + Connectivity	**Rwanda**	Economic + Connectivity
Democratic Republic of the Congo	Connectivity + Energy	**Sao Tome and Principe**	Connectivity + Economic
Djibouti	Governance + Connectivity	**Senegal**	Connectivity + Economic
Egypt	Governance + Economic	**Seychelles**	Climate + Governance
Equatorial Guinea	Governance + Connectivity	**Sierra Leone**	Connectivity + Economic
Eritrea	Connectivity + Governance	**Somalia**	Governance + Connectivity
Eswatini	Connectivity + Social	**South Africa**	Governance + Connectivity
Ethiopia	Economic + Connectivity	**South Sudan**	Social + Energy
Gabon	Connectivity + Governance	**Sudan**	Connectivity + Governance
Gambia	Connectivity + Economic	**United Republic of Tanzania**	Economic + Connectivity
Ghana	Economic + Connectivity	**Togo**	Economic + Connectivity
Guinea	Economic + Connectivity	**Tunisia**	Connectivity + Economic
Guinea-Bissau	Economic + Connectivity	**Uganda**	Economic + Connectivity
Kenya	Economic + Connectivity	**Zambia**	Economic + Connectivity
Lesotho	Connectivity + Economic	**Zimbabwe**	Economic + Connectivity
Liberia	Connectivity + Energy		

Source: UNCTAD calculations.
Note: As the 2023 Social Progress Index score used to measure the vulnerability of African countries to polycrisis shocks in the social domain is not available for Seychelles, vulnerability to polycrisis shocks is measured and analysed in this chapter with respect to the economic, governance, connectivity, energy and climate change domains (see table I.2).

Economic development in Africa report 2024

Chapter II

Monitoring economic vulnerabilities when trading and investing across Africa

United Nations

Introduction

Chapter I provided an analysis of the impact of the global polycrisis on countries in Africa in terms of their exposure to six categories of external shocks (political, economic, demographic, energy, technology and climate) and their vulnerability across six domains (economic, governance, connectivity, social vulnerability, energy and climate-change related). It was found that economic vulnerability was among the top two domains across which most countries in Africa are most vulnerable to current polycrisis shocks. In essence, the global polycrisis can add to their economic burdens, further exposing their overall systems to instability, and many find themselves ill equipped to respond effectively to the adverse effects of overlapping crises, both external and internal. Such economic vulnerability tends to be greater for countries that are dependent on the export of key natural resources or that have restrained financial resources to buffer shocks (Crisis Group, 2023). Their economic vulnerability to shocks, and thus their limited ability to manage crisis conditions, can result in severe economic deterioration, with lower output growth, slumps in external demand and export revenues when key export sectors or products are affected, reduced fiscal space and onerous debt burdens. In such a situation, promoting a stable economic environment and resilient trade sectors will be important steps towards building a bulwark to the polycrisis.

The lack of diversification of many economies in Africa is a major concern for trade (UNCTAD, 2022b), since they are poorly buffered in times of economic and other crises that have an impact on output. This chapter assesses the performance of economies in Africa during periods of shocks from two main perspectives: first, exposure to shocks and the effect due to macroeconomic and structural vulnerabilities; and second, the effects of exposure to shocks and of a specific crisis according to vulnerability by country grouping. A stable macroeconomy provides an anchor for the economy. In addition, macroeconomic policies are useful in ensuring economic adjustments that absorb shocks efficiently. Conversely, a diversified structure ensures that the economy can absorb shocks through the long term, thereby safeguarding the economy against vulnerability.

Walking on eggshells: Risks to the outlook

Between 2000 and 2023, economies in Africa emerged as attractive destinations for trading and investments. A key variable, often regarded as an indicator of interest for investment, is GDP growth.[1] In Africa, economic growth averaged 4.1 per cent between 2000 and 2023. According to the 2024 world development indicators of the World Bank, the average annual percentage change was 1.7 percentage points higher than the global average of 3.1 per cent between 2000 and 2010. Similarly, between 2011 and 2020, weighted average GDP growth in Africa was 3.1 per cent, compared with the global average of 2.4 per cent. Due to the COVID-19 pandemic shock effect, on average, the economy in Africa contracted by 3.4 per cent in 2020.

[1] In this chapter, a distinction is made between growth and decline in output. An increase in the level of output at the end of a period over and above the initial level of output at the start of the period is defined as growth in output. By contrast, where output at the end of a period is lower that the initial level of output at the start of the period, the decline is referred to as a contraction in output. In this case, the standard period used to measure output levels is usually a fiscal or calendar year.

Economic growth picked up to an average of 5% between 2021 and 2023, **higher than the global average of 4.7%**

However, data from the world development indicators showed that growth picked up to an average of 5.0 per cent between 2021 and 2023, higher than the global average of 4.7 per cent over the same period.

Nonetheless, despite growth above the global average, countries in Africa experienced transient growth with unequal results within and between countries. For commodity-dependent exporters, where commodity dependency indicates that commodities constitute more than 60 per cent of the value of their exports, on average, periods of high prices led to an increase in output (UNCTAD, 2023d). By contrast, regional-specific effects, such as the Arab Spring, which began in 2010, led to a decline in output. Further, the COVID-19 pandemic, which began in late 2020, had adverse effects for most countries in Africa, with the impact of the pandemic affecting economic output into the medium term.

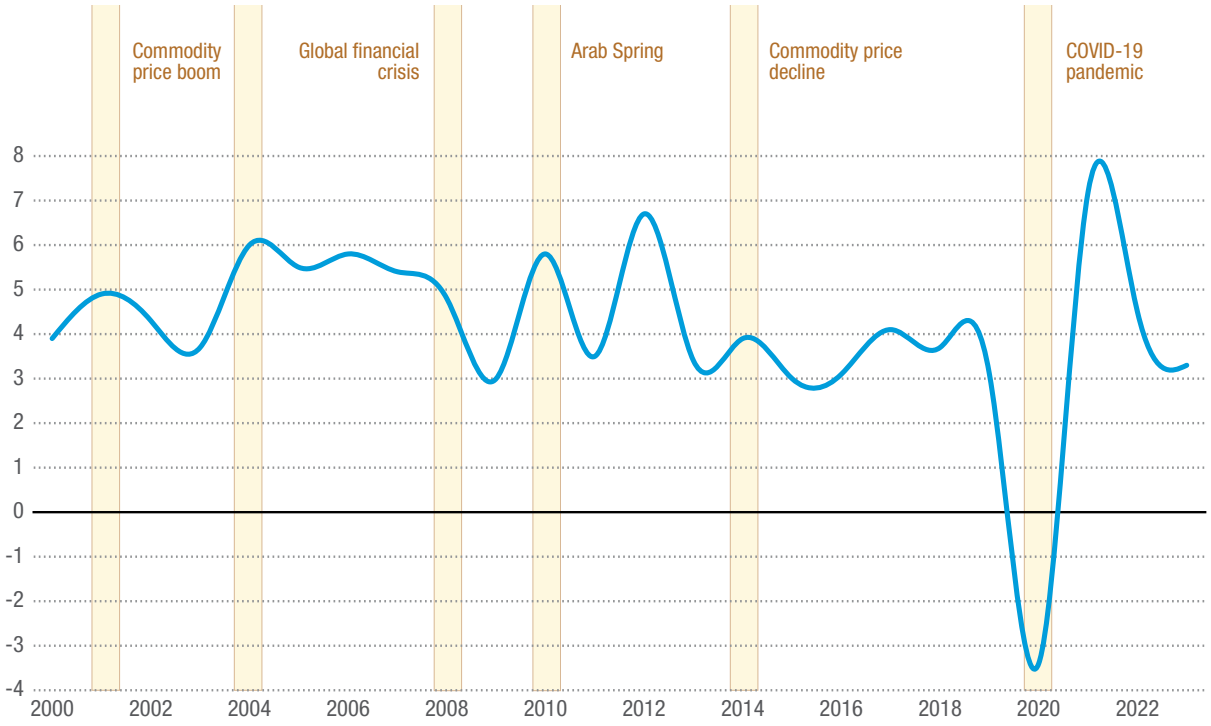
Figure II.1 provides an overview of the weighted average economic growth in Africa in the two decades to 2022. Its economy grew on average by 4.9 per cent, underpinned by commodity price increases in 2001 and 2004. Nevertheless, the period after 2008 and up to 2009 saw a dip in economic growth due to the global financial crisis, which lowered global demand for African goods. The Arab Spring had unfavourable effects on economic growth. Libya and Tunisia, which were among the top 10 economies in Africa in terms of GDP per capita at the time of the Arab Spring, saw their output decline, while GDP growth fell in Egypt, with spillover effects for other economies in Africa that export goods to North Africa.

Economic growth moderated to a low of 2.8 per cent in 2015 due to the delayed effects of declining fuel prices, which began in 2014 (figure II.1).

Figure II. 1

Historical view of shocks to the economy of Africa: Average gross domestic product growth

(Annual Percent change)



Source: UNCTAD, based on World Development Indicators database (World Bank), 2024.

Fuel exporters such as Angola, Gabon and Nigeria were adversely affected, with the shock affecting fiscal revenue and leading to inflationary pressures in Nigeria. By contrast, fuel importers such as Malawi, Rwanda, Uganda and the United Republic of Tanzania saw improved trade balances as lower fuel import prices reduced current account balances (International Monetary Fund, 2015a).

Finally, the COVID-19 pandemic had adverse far-reaching impacts on all economies in Africa. The measures taken by most countries to contain the pandemic had twofold effects:

- Increased spending on medical supplies, as well as the implementation of fiscal stimulus measures for most economies, meant that fiscal pressures mounted, while internal demand and, therefore, output decreased significantly.
- As other economies adopted similar measures, demand for African goods dropped, further compounding the already dire effects of the pandemic. Trade-in-services export-oriented economies, such as those with dominant tourism sectors, for instance, Cabo Verde and Mauritius, were most affected, since the accommodation and food service activities hardest hit by the pandemic.

In addition to the aforementioned shocks, other external shocks, such as climate change, had growth-limiting impacts on agricultural product export economies. For instance, droughts in 2010–2011 in East and Southern Africa (International Organization for Migration, 2023) led to lower-than-expected agricultural output. For countries dependent on the export of agricultural products, this has detrimental effects on trade balances, which can lead to pass-through inflationary effects, rising unemployment and vulnerability risks. While growth rates were broadly above the global average between 2000 and 2023 (with the exception of 2003, 2007 and 2021), the shocks experienced during the various polycrisis generated adverse effects on African countries, with the impact and magnitude of the shocks largely dependent on an individual country's vulnerability (see chapter I). The following sections analyse the variables that provide a broad overview of vulnerability among African countries and the possible implications of vulnerability for risk to trading and investments.

Trade patterns during a system-wide crisis

Economic and trade resilience of countries **are best assessed during times of major crisis events**

The economic and trade resilience of countries are best assessed during times of major crisis events that can cause severe stresses to economic systems with interlinked effects on other systems. A recent system-wide crisis that has brought unprecedented impacts on various systems is the COVID-19 pandemic, a health-related crisis that created a global demand and supply crisis and disrupted many industries and economies. This section will, therefore, assess the pattern and composition of trade of countries in Africa during the period including the crisis, 2019–2021, to provide a better understanding of the structural vulnerabilities of African countries and to guide the policy actions needed to strengthen bulwarks to shocks.

With about 16 per cent of the world population living in Africa, its trade volumes are disproportionately small, representing less than 2.9 per cent of world trade in 2022 (African Export-Import Bank, 2023). The low trade volume reflects the challenging economic placement of Africa in the world economy, where it is relatively weak and hence dependent on stronger economic regions, while also being especially vulnerable to external shocks. According to 2024 data from the United Nations Comtrade database, Africa has five main trading partners, accounting for over 50 per cent of all of its imports and exports, namely China, the European Union, India, South Africa and the United States.

In 2022, **intra-Africa trade values stood at 16%**, whereas in Europe, 68% of trade was intraregional, and in Asia, 59%

Since Africa relies significantly on the socioeconomic, trade policy and political situation of its trading partners (UNCTAD, 2018a), it is especially vulnerable to the policies and factors that affect demand for and supply of goods and services. While Africa has not been targeted by these policies, it has suffered the consequences thereof, for example, falling commodity prices and lower demand for imports in China (Devermont and Chiang, 2019; World Bank, 2019).

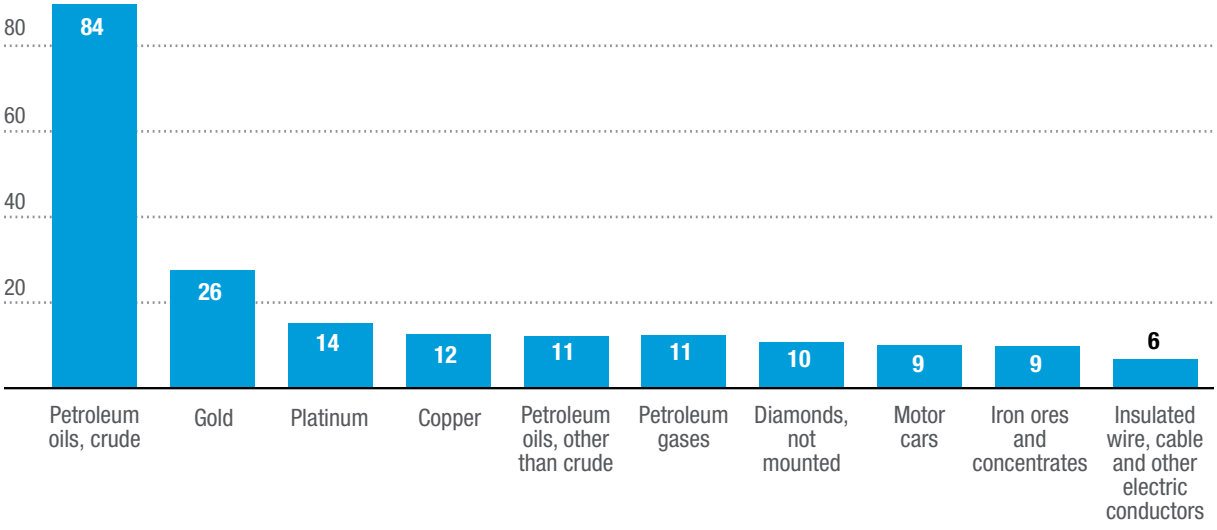
Moreover, the overreliance of Africa on a few key trading partners becomes more evident when comparing the share of intra-African trade with those of other regions. In 2022, intra-Africa trade values stood at 16 per cent, whereas in Europe, 68 per cent of trade was intraregional, and in Asia, 59 per cent (UNCTAD 2023e). Moreover, apart from some commodities, such as cobalt, manganese and graphite, the dependency is mostly one-sided: Africa is more dependent on its trading partners for imports, with a less-than-proportionate number of exports. This imbalance weakens its position in the global trade environment, where Africa is overdependent and underrepresented.

Further fragmentation could have serious, wide-reaching effects on Africa. The International Monetary Fund (2023a) hypothesized that if trade tensions persisted, under an extreme scenario of a division into two trading blocs with China and the United States and the European Union, Africa would be hit hardest, with an expected 4 per cent decline in GDP after 10 years. Similarly, in this scenario, foreign direct investments and other development flows toward Africa could drop by $10 billion. Further fragmentation and heightened trade protectionism measures by its main trading partners could have damaging effects on the continent.

Nevertheless, Africa remains vulnerable, due to its dependence on China and the United States and the respective trade policies and political climates of these two trading partners. Strengthening intra-African trade could help dampen some of the effects, while mitigating some of the other risks posed by current trade structures.

In addition, the distance from countries in Africa, with the exception of South Africa, to their top trading partners, is relatively large, which exacerbates the vulnerability of trade in Africa.

Figure II. 2
Top African merchandise exports, 2019–2021
(Billions of dollars)



Source: UNCTAD, based on data from the United Nations Comtrade database.

The implications of such distances are greater dependencies on external factors, such as fuel prices for transportation or the functioning of trade routes, which can be hindered easily, as seen during the disruption in the Suez Canal in 2021 (UNCTAD, 2024g).

A look at export products shows that crude oil is the most prominent (figure II.2), accounting for more than 20 per cent of all exports. Gold is the second-most important export, representing 6 per cent of exports. Other leading exports are platinum, copper and non-crude oil. According to data from the United Nations Comtrade database, most of the top products are basic commodities; the top 10 products make up almost half of all exports. Thus, African trade, in particular exports, is characterized by a lack of diversification, with dependency on the export of basic commodities, resulting in low productivity growth (UNCTAD, 2022b).

Moreover, with little or no value added for commodity exports from countries in Africa, policies that strengthen value addition within the continent, for instance, refineries or other processing plants such as a precursor facility in the Democratic Republic of the Congo (see UNCTAD, 2023f) could boost local economies, while prompting investment in local infrastructure. Notably, the untapped potential for oil refineries is apparent when trade patterns are considered; crude oil is the main export product, while non-crude oil is the most imported good. Commendable policies have been implemented to encourage private sector participation, for example, the newly built Dangote Petroleum Refinery in Nigeria that started production in late 2023.

In addition, a more in-depth analysis of the top two export products by country emphasizes the lack of diversity. On average, Angola and Nigeria were the main exporters of petroleum in 2019 and 2021,[2] with both countries accounting for 73 per cent of petroleum exports, based on data from the United Nations Comtrade database. Cameroon, Congo, Egypt and Gabon were also among the leading exporters of crude petroleum oil over the same period, albeit with much lower volumes, compared with Angola and Nigeria. The latter, as the largest economy on the continent and the principal oil exporter, plays a large role in the economic landscape of Africa.

With regard to gold, the second-most exported product in terms of value, the situation is not as extreme in terms of single dependencies. However, the leading 10 gold exporters export more than 80 per cent of the trade volume, South Africa being the largest exporter, followed by Burkina Faso, the United Republic of Tanzania, Egypt, Côte d'Ivoire, Uganda, Zimbabwe, Senegal, Rwanda and Namibia. Given that gold prices rose sharply between 2019 and 2021, exporting countries, especially South Africa, were able to benefit greatly (Minerals Council South Africa, 2021).

Owing to its dependence on basic commodities, the African economy is highly dependent on the prices of these commodities. While this can be positive, as in the case of gold in recent years, it can also have serious consequences when prices suddenly change, for example, during the Arab Spring, when oil prices fluctuated widely. As most trade in Africa is in basic commodities, it is especially susceptible to price fluctuations and adverse shocks in prices.

An analysis of imports shows that the major imports of Africa are mostly comprised of petroleum products and motor vehicles (figure II.3). The top two imported products are non-crude oil and motor cars, with Nigeria, South Africa, Egypt, Morocco and Kenya being the leading importers. Given that they are among the largest economies in Africa, they are also the main importers.

Owing to its dependence on basic commodities, **the African economy is highly dependent on the prices of these commodities**

[2] The choice of analysis for the period 2019–2021 is twofold: first, the period captures the COVID-19 pandemic; second, there is scant country data after 2022, since most African countries generally report trade data with a delay of two years.

A particularly challenging aspect of the import structure in Africa is that **it relies on imports of grains, such as wheat and rice**

Together, the five countries account for 55 per cent of oil imports and 70 per cent of vehicle imports (data from the United Nations Comtrade database). The dominance of the principal five economies in imports is understandable, since they benefit from economies of scale. Notwithstanding, there is great potential for these leading economies to unlock value added opportunities in intra-African trade markets.

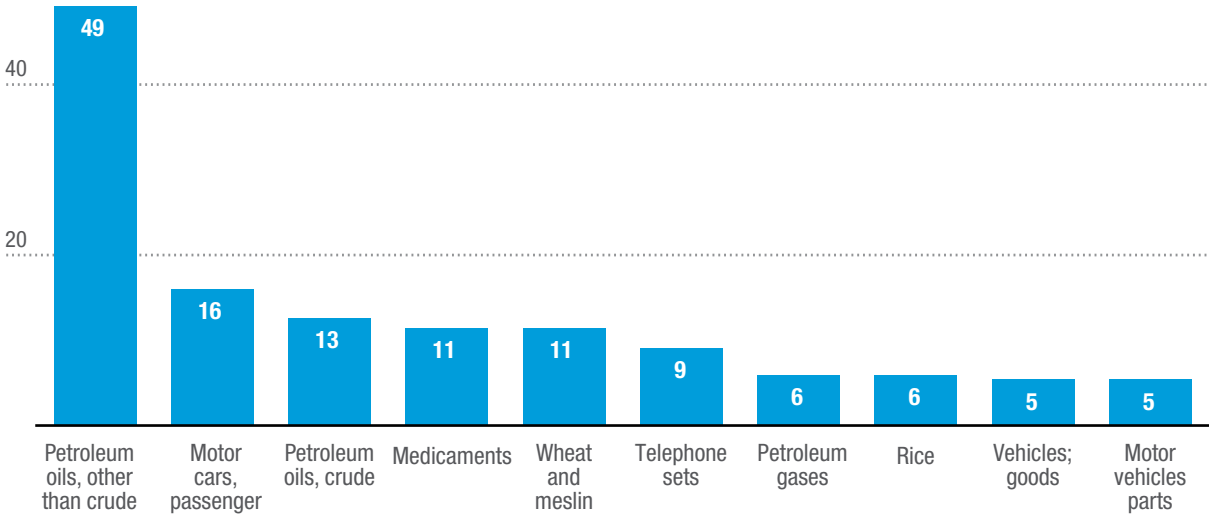
Other major imports are medicines, grains and rice and telephone sets, based on data from the United Nations Comtrade database. The top 10 products account for 28 per cent of imports, and show a more diversified import structure. While this is positive in the sense that there are less crucial dependencies on single goods, it can be a disadvantage when external shocks, such as the pandemic in 2020, affect the countries producing these import goods, leaving the continent vulnerable without sufficient access to essential goods, for example, fuel or medicine (Rackimuthu et al., 2021).

However, with the establishment of the African Continental Free Trade Area, the potential for further expansion of the pharmaceutical sector is growing, as well as the potential to counteract dependencies (UNCTAD, 2023f).

A particularly challenging aspect of the import structure in Africa is that it relies on imports of grains, such as wheat and rice, as evidenced by their presence among the top 10 imports. Grain imports are further affected by climate change, which has an adverse impact on crops and harvests in general, leading to a twofold problem, namely, Africa is disproportionately affected by climate change, especially droughts, which has a negative impact on local crops; and, at the same time, as other regions of the world are adversely affected by climate change, the supply is further decreasing, and Africa, with its growing population and dependency on outside supply, is left in a frail position.

As depicted in figure II.3, the structure of the African economy remained relatively unaltered between 2019 and 2021.

Figure II. 3
Leading African merchandise imports, 2019–2021
(Billions of dollars)



Source: UNCTAD, based on data from the United Nations Comtrade database.

The structure of the African economy remained relatively unaltered

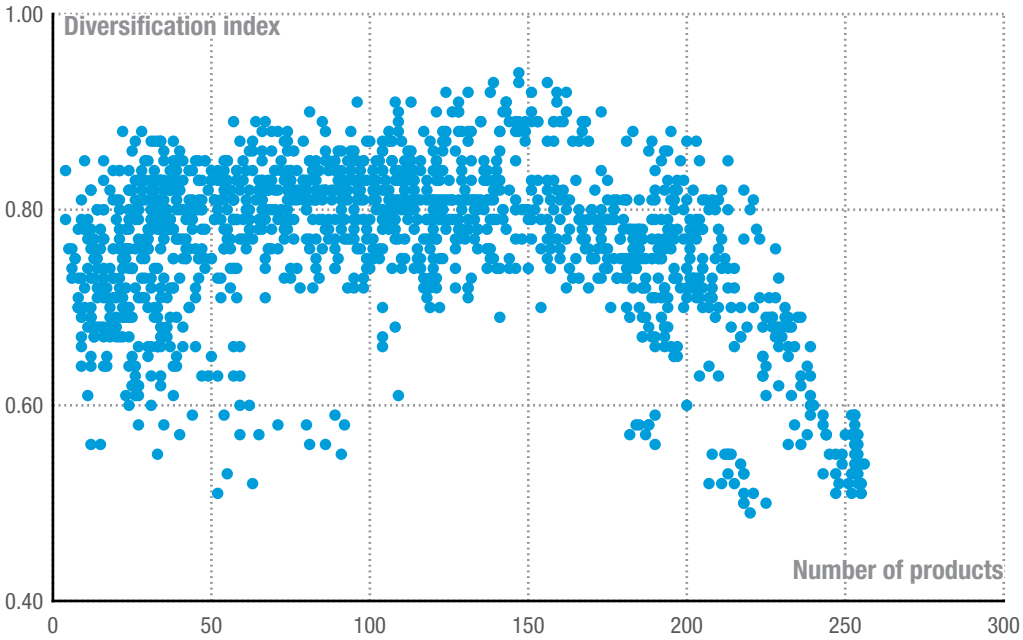
Intuitively, diversification is contrary to David Ricardo's theory of comparative advantage, which broadly states that a country should specialize in the production and export of goods for which it has a comparative advantage.

However, diversification for African countries remains a more suitable solution, since it acts as an economic buffer and is defined by the production and export of more goods, rather than specialization in a few.

Thus, the number of goods a country exports is useful in determining a country's level of diversification (figure II.4). While economies in Africa remain to a large extent undiversified, the average masks between-country differences. For instance, Egypt, Kenya, South Africa and Tunisia exported the most goods in 2022 and achieved the highest scores in the UNCTAD diversification index in that year.

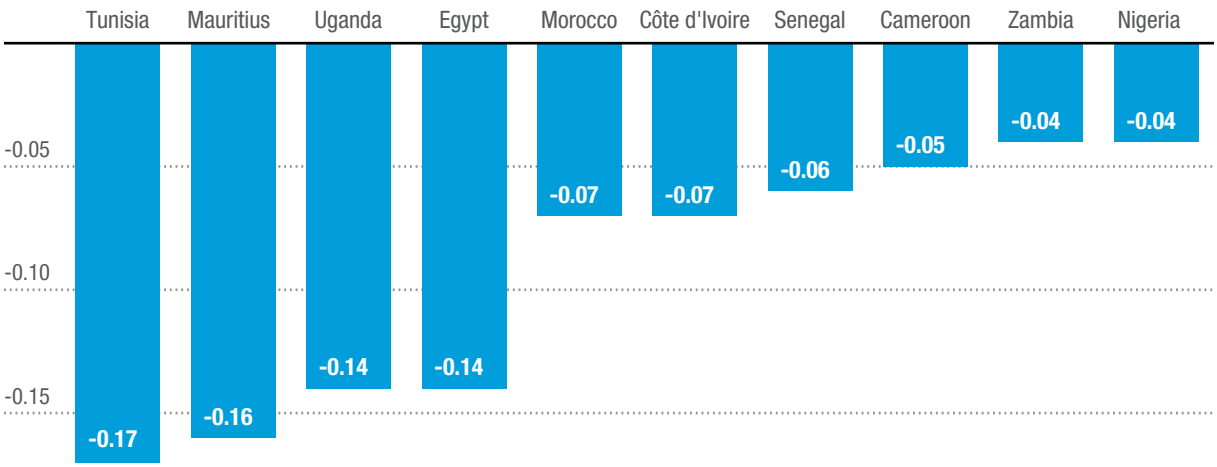
Nonetheless, this picture of the more diversified economies in Africa has varied considerably over time. Between 1995 and 2023, Cameroon, Côte d'Ivoire, Mauritius and Uganda were among the top 10 countries that converged towards global trade patterns in terms of exports, an indication that the share of exported goods rose relative to the world average of the same goods (figure II.5). An increase in the number of goods initially expands a country's diversification relative to the world at a fast pace. However, beyond a certain number of goods, a country's diversification, compared with that of the rest of the world, grows at a slower pace. In addition, although South Africa remains the most diversified economy in terms of number of goods exported – 254 in 2023, according to data from the UNCTADstat database – export diversification has moderated in recent years, as indicated by the changing pattern in the diversification index.

Figure II. 4
More export products associated with diversification



Source: UNCTAD, based on data from the UNCTADstat database.

Figure II. 5
Countries that converged toward the world pattern, Exports: 1995 – 2023
(Change in the UNCTAD Diversification Index)



Source: UNCTAD, based on data from the UNCTADstat database.

Headwinds were broadly disruptive for investments

Generally, the investment growth trajectory in Africa is adversely affected by shocks. An assessment of gross fixed capital formation[3] on the continent shows that growth patterns were influenced by various shocks between 2011 and 2023 (figure II.6). For instance, in tandem with the commodity price shocks of 2014, growth in gross fixed capital formation declined from 11.4 per cent in 2014 to 4.8 per cent in 2015. Similarly, the effects of the pandemic saw gross fixed capital formation contract by 4.1 per cent in 2020. Nonetheless, the growth rate picked up in 2021 and remained on an upward trajectory to 2023.

An overview of the landscape of State-owned investors in Africa, such as central banks, sovereign wealth funds and public pension funds in 2023 shows central banks to be the largest investors, with a portfolio of $394 billion, followed by public pension funds, with a portfolio of $250 billion (Global Sovereign Wealth Fund, 2024; UNCTAD, 2024d). Sovereign wealth funds, which are important for State-owned investors in Africa, stood at $146 billion in 2023. Nonetheless, the total of State-owned investments in Africa, valued at $793 billion in 2023, remains low, accounting for 1.5 per cent of global State-owned investments.

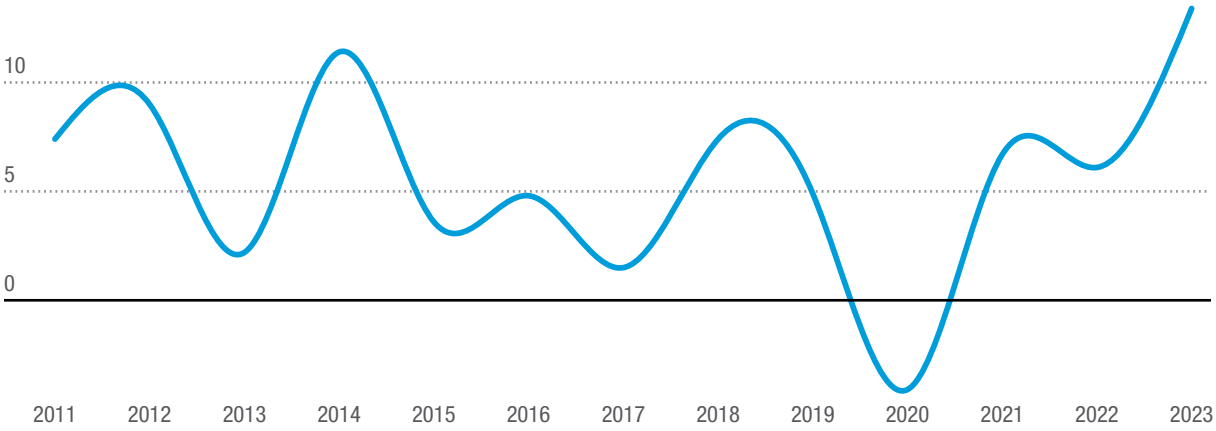
Within Africa, there are variations in the values of State-owned investors. For instance, South Africa, with the largest State-owned investor portfolio of $218 billion in 2023, had a larger share of public pension funds ($157 billion) than central bank investors ($61 billion). Other countries that had sizeable State-owned investor funds included Algeria, Egypt, Libya, Morocco and Nigeria (figure II.7). Investments, whether private, public, domestic or from external sources, strengthen a country's resistance to vulnerability (see chapter I, section "Economic shocks").

[3] According to the definition of the World Bank meta data for the world development, gross fixed capital formation is as follows: "Gross fixed capital formation (formerly gross domestic fixed investment) includes land improvements (fences, ditches, drains and so on); plant, machinery and equipment purchases; and the construction of roads, railways and the like, including schools, offices, hospitals, private residential dwellings and commercial and industrial buildings. According to the System of National Accounts, 2008, net acquisitions of valuables are also considered capital formation."

Figure II. 6

Disruption of investments caused by shocks to the economy in Africa: Average gross fixed capital formation growth rate

(Annual percentage change)



Source: UNCTAD calculations, based on the World Development Indicators database (World Bank).

Macroeconomic drivers of economic vulnerability

Macroeconomic variables have utility for a country's trading. On one hand, they provide an assessment of trade performance in the short to medium terms; on the other hand, a well-managed macroeconomy strengthens trade performance. For instance, the exchange rate, which is a measure of a country's currency in terms of another, is imperative in assessing the demand for exports from a country, versus the country's demand for imports. Thus, the adoption of exchange rate policies and their effective implementation ensure that an economy has adequate buffers to prevent external inflation pass-through effects during periods of external shocks. In general, well-implemented macroeconomic policies can provide buffers that ensure an economy is able to absorb shocks in the short to medium terms without causing irreparable damage to the economy.

The present analysis reviews macroeconomic risks based on three key variables that capture output, fiscal policy and monetary policy, as follows:

- Growth in GDP (annual percentage change). This is a measure of the growth rate of output from one period to the next at constant prices (real GDP). Growth in GDP is a beneficial first-order indicator in assessing the level of economic activity in an economy. In assessing this parameter, the analysis of trading and investment variables could be an initial step in determining whether a country is exposed or vulnerable to risks.
- Fiscal balance deviation. This is a measure of the deviations from projected net government lending and borrowing between 2010 and 2022.[4] Fiscal balance is an important variable for trading and investments for two reasons. First, research shows

[4] The World Bank metadata glossary defines net lending and borrowing as follows: "net lending (+)/net borrowing (–) equals government revenue minus expense, minus net investment in nonfinancial assets. It is also equal to the net result of transactions in financial assets and liabilities. Net lending and borrowing is a summary measure indicating the extent to which a Government is either putting financial resources at the disposal of other sectors in the economy or abroad, or utilizing the financial resources generated by other sectors in the economy or from abroad" (https://databank.worldbank.org/metadataglossary/World-Development-Indicators/series?search=net%20borrowing%20and%20lending).

Investors will invest in economies with the **least business compliance and infrastructure (public goods) hurdles**

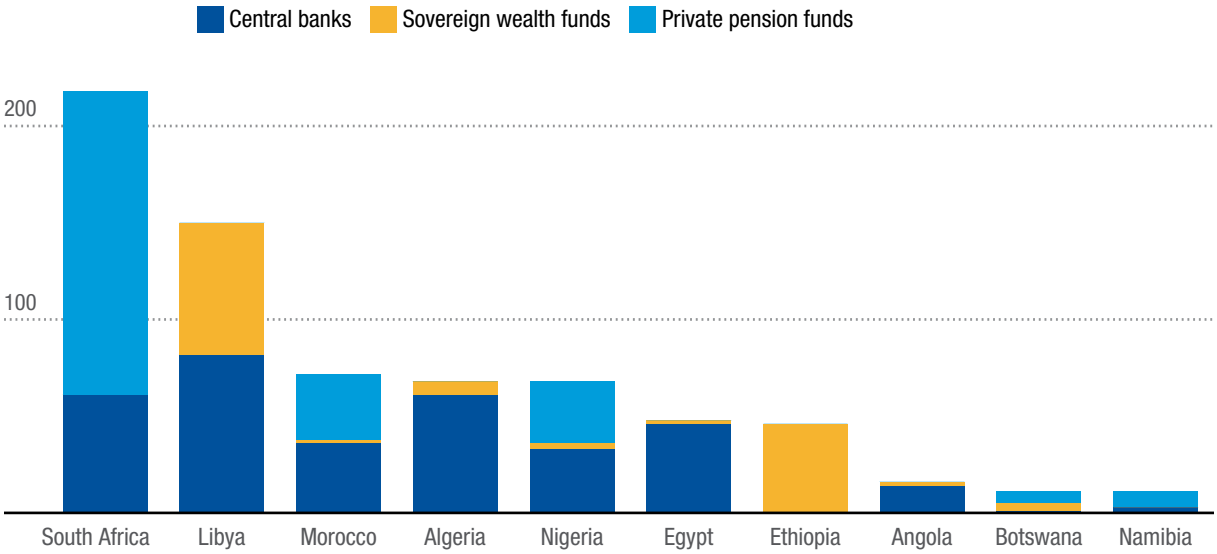
that government investments in infrastructure play an important role in attracting foreign direct investment. For instance, the United Nations Industrial Development Organization (2011) notes that while investment should typically go to where the highest returns are achieved, investors will invest in economies with the least business compliance and infrastructure (public goods) hurdles. Thus, strengthening infrastructure investment spending such as port logistics may attract foreign direct investment and therefore, the reallocation of supply chains into African economies (Nketiah-Amponsah and Sarpong, 2019; UNCTAD, 2023f). Second, for most countries in Africa, government spending has an impact on the external account through imports of machinery and capital equipment; in addition, the stock of debt, which is the accumulation of the flow of debt in the long term, affects the exchange rate, and thus trading and investing, during periods of shock.

- Average year-on-year inflation. This is an indication of the effectiveness of the monetary policy regime. In terms of trading, imported inflation, or inflation caused by the rise in the price of imported goods and services, makes imports expensive, thereby moderating trade growth.

This chapter considers the structure of an economy according to export dependency in the analysis of the macroeconomic risks to countries in Africa. These countries are grouped according to the following criteria, as outlined in UNCTAD (2023d):

- Dependence on minerals, ores, metals, fuels, lubricants and related materials exports. This grouping consists of the following 28 countries: Algeria, Angola, Botswana, Burkina Faso, Burundi, Cameroon, Chad, Congo, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Ghana, Guinea, Liberia, Libya, Mali, Mauritania, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sierra Leone, South Africa, South Sudan, United Republic of Tanzania, Zambia, Zimbabwe.

Figure II. 7
State-owned investors, by leading African countries
(Billions of dollars)



Source: UNCTAD, based on Global Sovereign Wealth Fund, 2024.

- Dependence on agricultural product exports. This grouping consists of the following 16 countries: Benin, Cabo Verde, Central African Republic, Côte d'Ivoire, Eritrea, Ethiopia, Gambia, Guinea-Bissau, Kenya, Madagascar, Malawi, Senegal, Seychelles, Somalia, Sudan; Uganda.
- Dependence on items other than commodities. This grouping consists of the following 10 countries: Comoros, Djibouti, Egypt, Eswatini, Lesotho, Mauritius, Morocco, Sao Tome and Principe, Togo, Tunisia.

Commodity prices and demand are key underlying risk factors for African economies

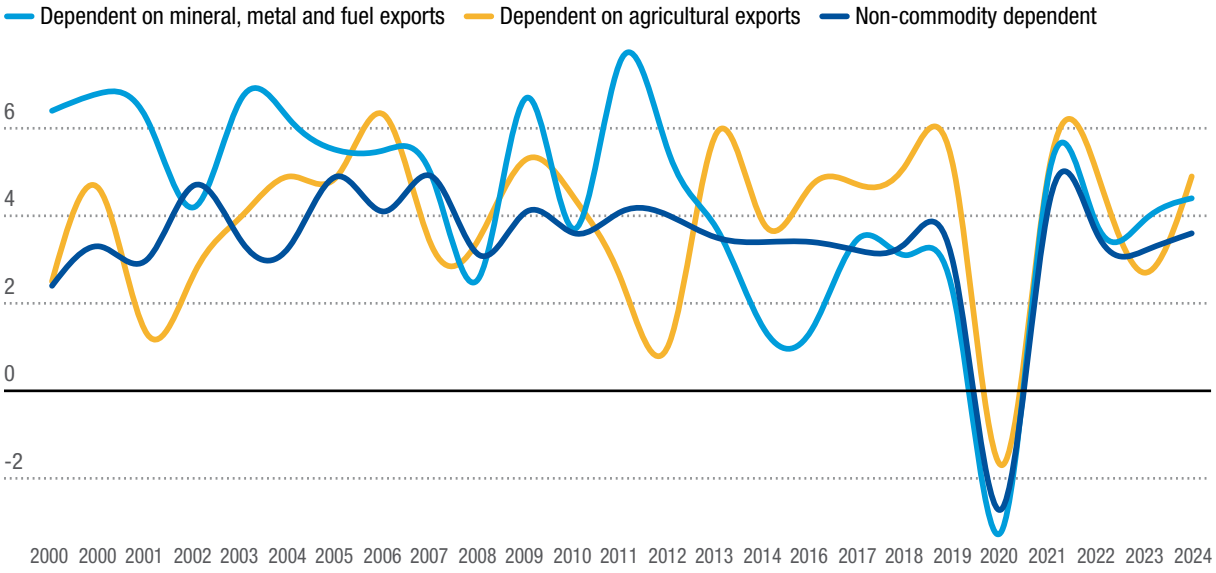
For the most part, GDP growth for all three country groupings was positive, save in 2020, when, on average, all three experienced a contraction in output due to the pandemic. On average, between 2000 and 2023, GDP growth in mineral-, metal- and fuel-dependent countries averaged 4.3 per cent, which indicates that the demand for, and price of, commodity exports were favourable, despite periods of shocks such as in 2014 during the commodity price decline, and the pandemic in 2020 (figure II.8).

Notwithstanding, according to the 2023 commodity price index in the UNCTADstat database, there were intermittent periods when GDP growth tapered off, for instance, between 2008 and 2010, owing to lower-than-expected demand stemming from the global financial crisis, despite an initial rise in fuel prices, followed by another dip in GDP growth in 2014, owing to a decline in fuel prices. Since the output of minerals, metals and fuels in export-dependent economies is largely determined by three factors – commodity reserves, the price of the commodity in question and demand for the commodity – then, unless commodity prices and demand increase significantly, an economy dependent on minerals, metals and fuels will be more likely to experience inflationary pressures (figure II.8).

Figure II. 8

Weighted average growth in gross domestic product, by commodity export group

(Annual percentage change)



Source: UNCTAD, based on data from the World Economic Outlook database (International Monetary Fund).
Note: Values for 2021, 2022 and 2023 are estimates; values for 2024 are forecasts.

Economic diversification. More diversified economies tend to have less volatility in GDP growth

Agricultural export-dependent economies experienced GDP growth rates averaging 3.8 per cent between 2000 and 2023. The output of economies depending on agriculture is determined by labour productivity, agriculture commodity prices, demand for agricultural products from trading partners and agriculture production technology. For instance, reliance on weather patterns for agriculture production, rather than on other technologies, such as irrigation, means that economies are susceptible to climate change-related upsets.

Finally, GDP growth for non-commodity–dependent export economies averaged 3.4 per cent between 2000 and 2023. Despite lower-than-average economic growth compared with the previous two country groupings, GDP growth for non-commodity–dependent export economies was less volatile. Low volatility is underpinned by the assumption of relatively more diversified economies, with economies less affected by global and covariate shocks, since not all sectors are affected by shocks at the same time.

In addition, the assumption of relative diversification for non-commodity-dependent export economies means that output production will depend on differing technologies in different sectors (UNCTAD, 2023f). The possibility of production in different sectors means that labour productivity is higher than in commodity export-dependent economies.

Based on the GDP growth analysis for the three defined country groupings between 2000 and 2023, it can be concluded that the following key risks have adverse effects on output:

- Commodity prices. As these prices tend to drive output, especially for commodity-dependent export economies in Africa, any volatility due to global supply or demand dynamics can have an impact on export revenues and economic output.
- Labour productivity. Countries that depend on agriculture, with a high portion of labour in the agriculture sector (UNCTAD, 2023f), and those that depend on production technology, are likely to experience more volatility in GDP growth on average, compared with more diversified economies, where labour is more spread out among sectors.
- External demand for domestic output. During periods of economic crisis, such as the global financial crisis and the pandemic, when external demand for domestic products declines, demand is likely to be much lower than an economy's actual production capacity.
- Economic diversification. More diversified economies tend to have less volatility in GDP growth, since production in more sectors means that there are buffers in place in the event of shocks to a given sector.

Imprudent fiscal adjustments are a key risk for macroeconomic sustainability

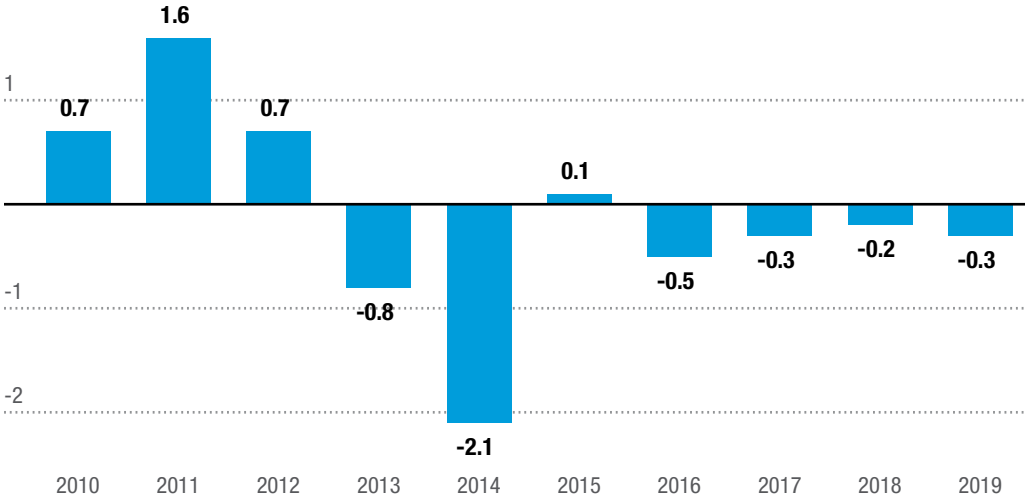
In utilizing fiscal policy, Governments normally aim to achieve the following three main objectives: the redistribution of wealth, the regulation of activities that may be broadly harmful to society and the provision of public goods (International Monetary Fund, 2011). Nonetheless, it is often the case that in fulfilling these objectives, Governments make less than optimal adjustments, with detrimental effects on the economy.

A key indicator of fiscal adjustments that trend toward risk is debt. Debt could either be a flow or stock variable, that is, the government fiscal deficit,[5] or the stock of a government's debt.[6]

[5] Fiscal deficit is used to mean net general government lending and borrowing, usually with a defined period of a fiscal or calendar year.

[6] The stock of government debt is defined as all government or public debt measured as a share of a country's GDP.

Figure II. 9
Average fiscal balance deviations, 2010–2019
(Percentage of gross domestic product)



Source: UNCTAD, based on various years of the World Economic Outlook database (International Monetary Fund).

Additionally, the terms and cost of debt, and whether debt is procured domestically or externally, could have implications for risk. For instance, externally procured debt has additional variable costs that are dependent on a country's exchange rate. Similarly, deviations from planned macroeconomic variables have an impact on borrowing costs in the form of interest rates on future debt.

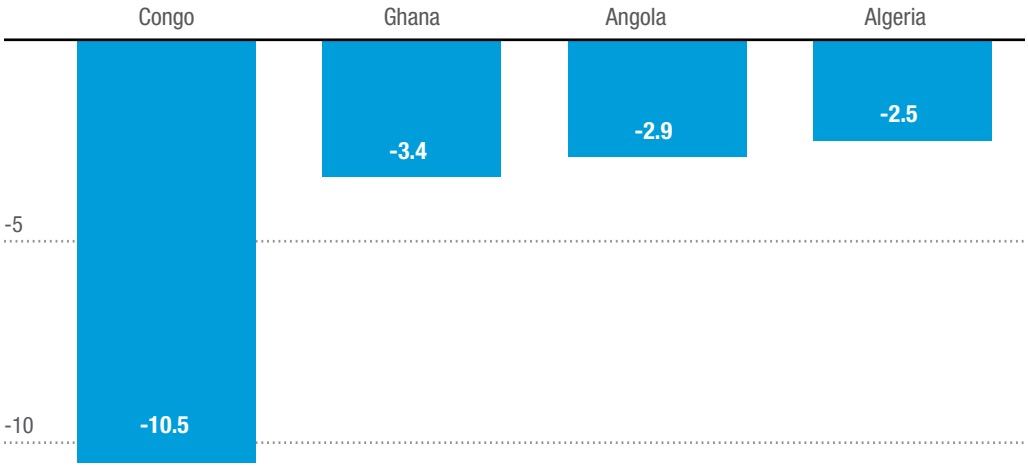
Based on data from the International Monetary Fund World Economic Outlook database,[7] this section focuses on the deviations between the planned or estimated and actual flow variable of debt, that is, the deviations between planned or estimated and actual government net lending and borrowing. A deficit or negative deviation means that a country spent more than planned in each period. The analysis compares the forecast of fiscal balances in the 2011 and 2015 World Economic Outlook databases, where the estimates of government net lending and borrowing start after 2010 and after 2015, respectively, with the 2023 database, which reports actual government net lending and borrowing numbers.

The average general government fiscal balance deviation between planned or forecast and actual borrowing was a deficit of 0.1 per cent of GDP from 2010 to 2019. In 2020, the fiscal deviation was a deficit of 3.4 per cent of GDP. Between 2010 and 2019, the year with the highest deficit deviation was 2014, at 2.0 per cent of GDP (figure II.9).[8] In 2014, the large deviation in fiscal deficit, compared with planned fiscal deficit, was underpinned by a drop in commodity prices, as the all-group commodity price index fell by 6.1 per cent in 2014, compared with the 2013 annual average (UNCTAD, 2015). The decline in commodity prices was broad-based, with the price of agricultural raw materials falling by 9.9 per cent, food by 5.9 per cent, vegetable oil seeds and oils by 5.8 per cent and minerals, ores and metals by 8.5 per cent (UNCTAD, 2015).

[7] See www.imf.org/en/Publications/SPROLLs/world-economic-outlook-databases#sort= per cent40imfdate per cent20descending.

[8] The analysis does not include Libya and South Sudan, which had exceptionally large planned and actual balances during the period under review.

Figure II. 10
Overview of fiscal balance deviation performance, by country, 2010–2019
(Percentage of gross domestic product)



Source: UNCTAD calculations, based on various World Economic Outlook databases (International Monetary Fund).

Not only do deviations from planned fiscal policy targets often pose risks for economies in the short to medium terms, they also tend to set in motion an adverse deviation from the longer-term sustainability path. For instance, the four countries that had the highest deviations from planned fiscal policy targets on average between 2010 and 2019 were the Congo, with a fiscal deficit deviation of 10.5 per cent of GDP; Ghana, with a fiscal deficit deviation of 3.4 per cent of GDP; Angola with a fiscal deficit deviation of 2.9 per cent of GDP; and Algeria, with a fiscal deficit deviation of 2.5 per cent of GDP (figure II.10).

All four countries had deviations from planned deficits well above the Africa-wide average of 0.1 per cent of GDP. Two of the four countries, the Congo and Ghana, are among the 68 countries listed in the low-income countries debt sustainability analysis of the International Monetary Fund and the World Bank. As of November 2023, both countries are in debt distress.

An in-depth look at the case of Ghana reveals that increasing fiscal deviations from the planned fiscal targets were the largest between 2012 and 2014, and between 2018 and 2020. The increase in the initial period between 2012 and 2014 occurred despite an expected increase in revenue from the start of oil exports in 2011. Nonetheless, in Ghana, expenditure trended upward due to the increasing public services wage bill (International Monetary Fund, 2015b). To smoothen expenditure, Ghana issued 15 Eurobonds, amounting to $14 billion, from 2013 to 2021 (Government of Ghana, 2023), with the consequent accommodative fiscal policy leading to a rise in debt, to 92.3 per cent of GDP in 2022, compared with 33.8 per cent of GDP in 2012.[9] Consequently, Ghana is currently undergoing debt restructuring and is working on an agreement with the Common Framework for Debt Treatments beyond the Debt Service Suspension Initiative. Additionally, the country belongs to an extended credit-facility programme of the International Monetary Fund worth $3 billion, that was agreed in 2023 (see box II.1).

[9] See www.imf.org/en/Publications/SPROLLs/world-economic-outlook-databases#sort= per cent40imfdate per cent20descending.

Box II. 1
UNCTAD sovereign debt life cycle: Insights from Ghana

The UNCTAD life cycle of sovereign debt is a conceptual framework for analysing debt in five stages, namely, the way in which debt is incurred, debt instruments and issuance, structure of debt management, debt sustainability and options for debt workout (see table).

The framework is useful in examining sovereign debt. A key objective of sovereign debt analysis using this approach is to diagnose challenges at each stage of the cycle and identify policy options to address the challenges. The stages within the framework are interdependent, and policy options should be holistic to ensure effective solutions for debt management and debt sustainability. This approach is applied to the analysis of the case of Ghana.

As at July 2024, Ghana was classified as a lower middle-income country. This classification is based on the World Bank income classification, with lower middle-income countries falling within the per capita income threshold of $1,136 to $4,465. The classifications use the metric gross national income per capita and are calculated using the Atlas method, at current values[a]. As at 2023, gross national income per capita in current values was $2,340. As a lower middle-income country, Ghana is precluded from the International Monetary Fund list of countries that are eligible for concessional lending through the Poverty Reduction and Growth Trust. However, it can benefit from official development assistance, as well as concessional lending from other multilateral institutions, such as the African Development Bank and the World Bank.

As a member of the International Monetary Fund but without Trust status, Ghana had the option of going to the market to finance its fiscal deficit, which it did, between 2013 and 2018. Between 2013 and 2018, the Eurobond market was favourable for countries in Africa such as Ghana since, after the financial crisis, investors sought higher yields. However, the tenor on market-issued debt during this period was short, while the terms were not beneficial; that is, the structure of market debt usually does not include grace periods before the start of payment, and the cost of debt is likely to be determined by risk factors as stated in a country's credit rating.

For instance, in March 2015, Moody's Investors Service downgraded the country's credit rating from B2 to B3. The downgrade was a consequence of deteriorating macroeconomic conditions, despite an agreement with the International Monetary Fund for access to a three-year $940 million credit facility aimed at restoring macroeconomic stability. Included among the deteriorating variables mentioned as key factors that led to the downgrade were rising inflation, fiscal deficit and debt-to-GDP levels. In addition, the Ghanian currency had depreciated by 30 per cent as at March 2015.

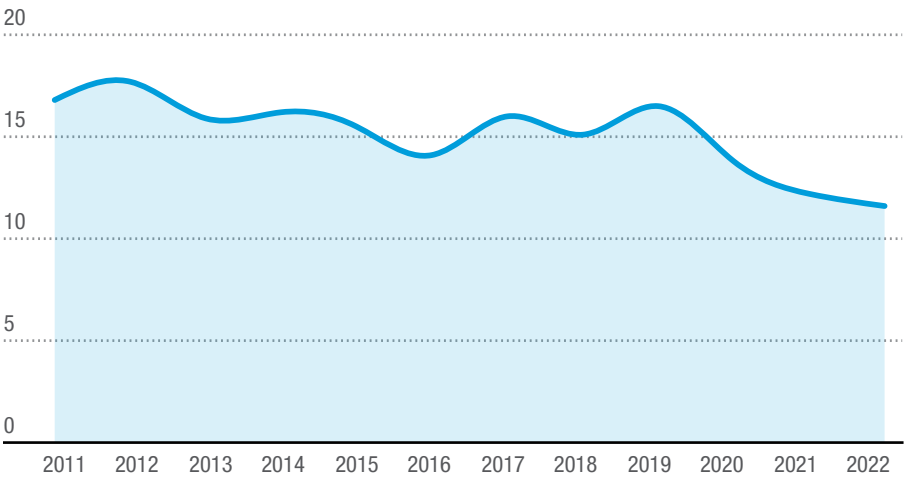
Annual average year-on-year inflation stood at 15.5 per cent in 2014, while fiscal deficit stood at 10.9 per cent in 2014, with debt to GDP increasing from 60.3 per cent in 2013 to 72.2 per cent in 2014. As a result, the share of concessional debt as a total of external debt declined from 15.9 per cent in 2013 to 15.1 per cent in 2018 (see figure I). In addition, the average grace period on new external debt commitments decreased from 6.4 years in 2013 to 2.5 years in 2018, while average interest on new external debt commitments increased from 1.9 per cent in 2013 to 3.1 per cent in 2018 (see figure II). There was an increase in the average grace period on new external debt commitments in 2018, in part due to an almost 100 per cent rise in the value of multilateral programme loans, from $249.5 million in 2017 to $479.1 million in 2018.

Framework for analysing the life cycle of the sovereign debt of Ghana

Life cycle stage	Description
Access to finance and markets	Concessional finance and affordable long-term capital Between 2012 and 2018, fiscal deviations, compared with fiscal targets, averaged 3.8 per cent of GDP. As a result, the country turned to financial markets for access to finance.
Debt issuance	Increased access to markets for developing countries The period after the financial crisis saw access to Eurobond markets increase for countries in Africa, as investors sought high yields. As a result, between 2013 and 2018, Ghana issued five Eurobonds of $1 billion each.
Debt management	Debt management strategies Countries have been increasingly empowered to manage debt, including through the UNCTAD Debt Management and Financial Analysis System. In this regard, Ghana has publicly issued periodic debt management strategy reports through the Ministry of Finance website since 2013. In addition, quarterly issues of the Public Debt Statistical Bulletin have been posted on the website since 2017, and annual borrowing and recovery plans since 2019.
Debt servicing, repayment and resilience	The effects of the recent polycrises resulted in challenging macroeconomic conditions, with implications for external debt repayments. Owing to unforeseen multiple economic shocks leading to an onerous debt service burden, Ghana restructured its debt.
Debt resolution or workout	Ghana debt workout As of March 2024, Ghana had successfully restructured its domestic debt and was working toward restructuring its foreign debt.

Source: UNCTAD, 2024h.

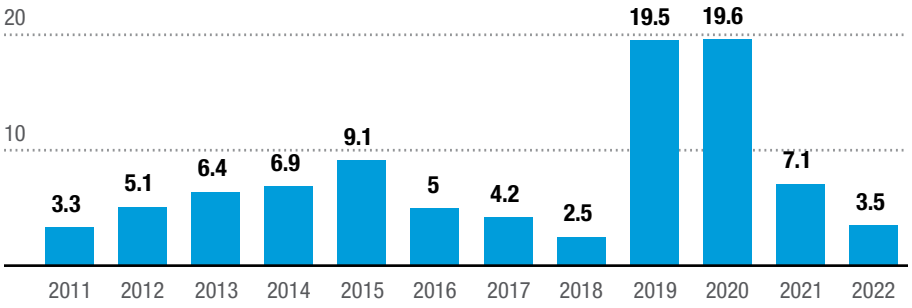
Figure I
Concessional debt trends, 2011–2022
(Percentage of total debt)



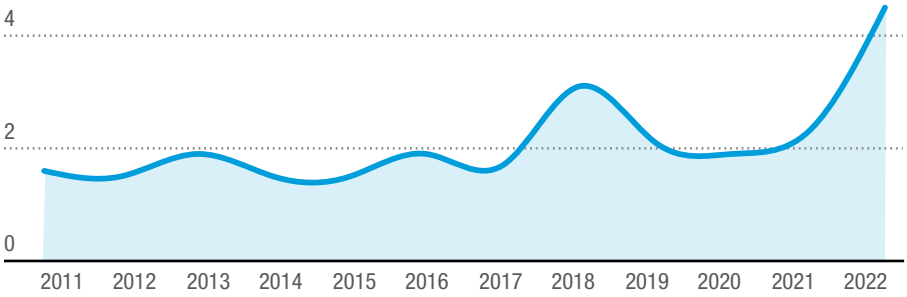
Source: UNCTAD calculations, based on data from the International Debt Statistics database (World Bank).

Figure II
Effects of concessional debt on terms of debt

(a) average grace period on new external debt commitments



(b) average interest on new external debt commitments



Sources: Government of Ghana, 2019; Reuters, 2015; UNCTAD, 2024h.
[a] See https://data.worldbank.org/indicator/NY.GNP.PCAP.CD

Source: UNCTAD, based on data from the International Debt Statistics database (World Bank).

Rising prices have a moderating effect on all economies in Africa

An analysis comparing real GDP[10] and inflation provides insights into how a relative lack of diversification might affect economies that are not at full production capacity, such as the 54 economies in Africa.

Therefore, in analysing the third component of macroeconomic risks – inflation – real GDP growth is used, taking two key aspects into account, namely, the underlying structure of the economy through the nature of exports and inflation (price effect).

Mining- and energy-dependent economies

The output of mineral-, metal- and fuel-dependent exporting economies is likely to depend on commodity prices and demand from other countries (UNCTAD, 2022b). Thus, a rise in the prices of mineral, metal and fuel commodities often results in an increase in real GDP growth as demand for and earnings from commodity exports expand. Accordingly, when seen from the angle of inflation and employment, a rise in commodity prices is likely to lead to lower inflation, as demand for and increase in the price of commodities strengthens the exchange rate in mineral-, metal- and fuel-dependent exporting countries, thereby reducing the cost of imported goods and services. This analysis is based on the assumption that mineral-, metal- and fuel-dependent exporters have less diversified economies and are dependent on imports for consumption.[11]

For instance, a review of the average annual inflation (percentage change) for mineral-, metal- and fuel-dependent exporters shows that real GDP growth rates mirror inflation. Between 2000 and 2007, when annual year-on-year inflation declined from 38.2 to 3.9 per cent, the real GDP growth rate averaged 5.9 per cent over the same period. An increase in production capacity raises demand for the exporting country's currency and reduces the prices of imports. Nonetheless, with a decline in demand for minerals, metals and fuels due to the global financial crisis, the real GDP growth for mineral-, metal- and fuel-dependent exporters declined on average from 4.9 per cent in 2008 to 2.9 per cent in 2009, with an ensuing rise in inflationary pressures to 16.8 per cent in 2008, thereafter moderating to 8.3 per cent (figure II.11). Of the 28 countries listed as depending on the export of minerals, metals and fuels, eight[12] belong to the Central African Economic and Monetary Community or to the West African Economic and Monetary Union, which means they have fixed exchange rates that are pegged to the currency of France, that is, the Euro.

Economies that operate fixed exchange rate regimes tend to have high exchange rate pass-through leading to high inflation (Ha et al., 2019), due to shocks that bring commodity prices down, since, as export values decline, imports become more expensive. Expensive imports are in some cases compounded by restrictions placed on imports to maintain the exchange rate (depending on currency reserves), thereby leading to inflation from increased domestic demand for limited import products.

Agriculture-dependent countries

According to the World Development Indicators database of the World Bank, of the 16 economies that are classified as agricultural commodity-dependent exporters, only four[13] had agriculture value added as less than 20 per cent of GDP on average between 2000 and 2023.

[10] In this analysis, real GDP – GDP growth at constant prices – is used. Real GDP is corrected for inflation.

[11] This assumption is important, since it means that when there is a commodity price boom, inflationary pressures are eased due to the effect on currency, that is, the relative demand for the exporting country's currency compared with that of the mineral-, metal- and fuel-importing country.

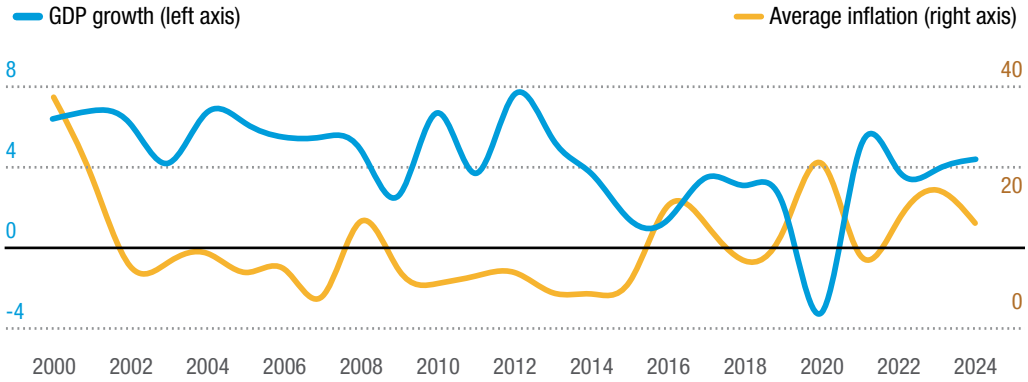
[12] Burkina Faso, Cameroon, Chad, Congo, Equatorial Guinea, Gabon, Mali, Niger.

[13] Cabo Verde, Eritrea, Senegal, Seychelles.

Figure II. 11

Inflation-moderated growth in gross domestic product for mineral-, metal- and fuel-dependent exporters

(Percentage)



Source: UNCTAD, based on data from the World Economic Outlook database, October 2024 (International Monetary Fund); UNCTAD, 2023d.

The agricultural export-dependent economies with the highest agriculture value added as a share of GDP between 2000 and 2023 were Ethiopia (39.2 per cent), Guinea-Bissau (36.3 per cent), the Central African Republic (33.5 per cent), the Sudan (27.8 per cent) and Madagascar (27.4 per cent).

Factors that might adversely affect output in agricultural export-dependent economies are external shocks, such as weather-related upsets, and internal shocks that affect labour supply and crop production technologies. A reduction in output growth, that is, moderating GDP growth, will often lead to increased inflation due to two effects: first, domestic demand for agricultural products outstrips supply, resulting in higher prices; and second, as agricultural commodity exports decline, imports become more expensive, that is, inflation occurs through the exchange rate pass-through effect.

Small and medium-sized enterprises with operations in the agricultural sector, for example, agroprocessing firms, will be adversely affected by shocks in the sector. This is particularly true of shocks that lead to inflationary pressures, especially where SMEs do not have linkages to larger firms and lack access to financing which would enable them overcome potential hurdles (World Bank, 2018).

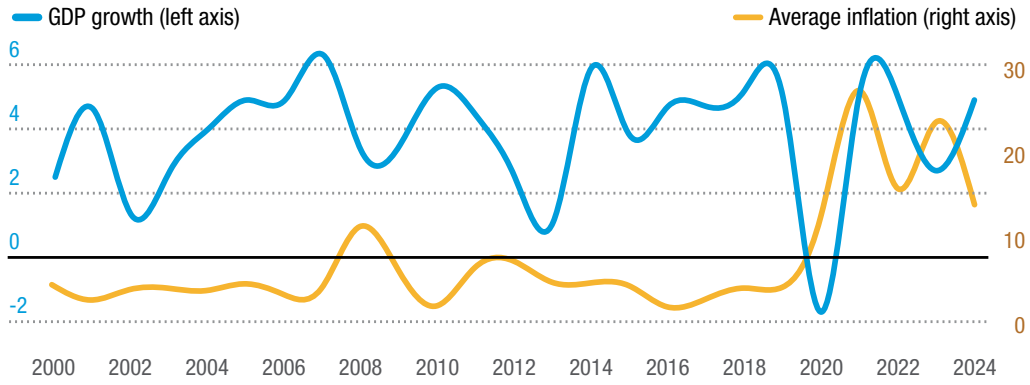
Thus, the annual average year-on-year inflation change for economies that depend on agricultural commodity exports mimics real GDP growth rates, and in some instances, has a delayed inflation reaction, that is, years of high inflation are preceded by a previous period reduction in real GDP growth rates. For instance, a decline in GDP growth to 3.3 per cent in 2008, compared with 6.3 per cent in 2007 due to weather-related shocks in some regions such as Eastern and Southern Africa (Haile et al., 2019), led to an increase in average annual year-on-year inflation to 13.9 per cent in 2008, compared with 6.6 per cent in 2007 (figure II.12). Similarly, the drought periods in various regions of Africa [14](International Organization for Migration, 2023) saw GDP growth fall to 5.0 per cent in 2019, compared with 5.2 per cent in 2018, with a consequent rise in inflation to 15.1 per cent in 2020, although a part of the increase in inflation can be explained by the effects of the pandemic.

[14] East Africa, Central Africa, West Africa, Horn of Africa.

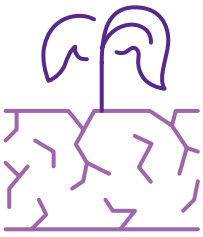
Figure II. 12

Impact of global shocks on prices and economies of agriculture-dependent exporting countries in Africa, 2000–2024

(Growth in gross domestic product and percentage change in inflation)



Source: UNCTAD, based on data from the World Economic Outlook database, October 2024 (International Monetary Fund); UNCTAD, 2023d.



Droughts have become a frequent phenomenon in Africa, **occurring every three years**, compared with every six prior to 2015

Haile et al. (2019) note that droughts have become a frequent phenomenon in Africa, occurring every three years, compared with every six prior to 2015. In East Africa, droughts have had deleterious impacts on agricultural commodity-dependent economies such as Ethiopia, Kenya and Somalia. In addition to climate-related shocks, other economic shocks, such as the COVID-19 pandemic, had negative effects on output growth and inflation. Owing to the pandemic, which affected labour supply and productivity, output declined significantly for economies with agriculture as a large share of GDP value added. Their output contracted by 1.7 per cent in 2020, compared with a GDP growth rate of 5.0 per cent in 2019 as annual average year-on-year inflation increased to 15.1 per cent for agricultural commodity-dependent exporters over the same period (figure II.12).

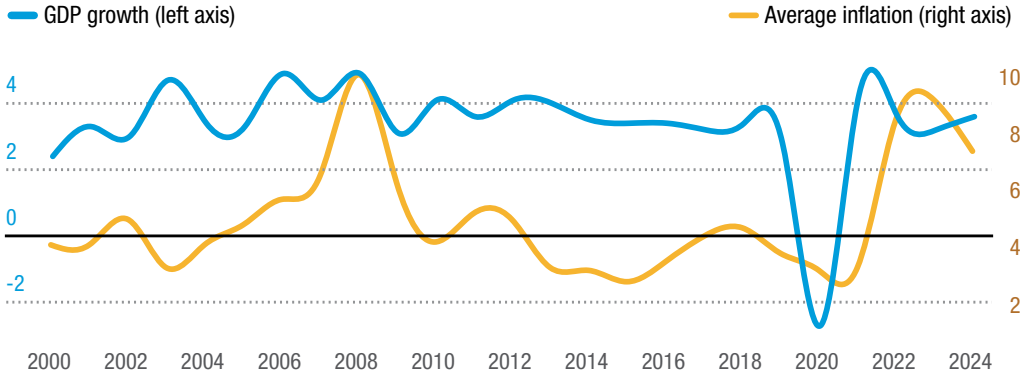
Non-commodity-dependent countries

Unlike mineral-, metal- and fuel-dependent export economies and agricultural commodity-dependent export economies, non-commodity-dependent export economies do not have a distinct relationship between real GDP growth and inflation. This was especially the case after 2008 (figure II.13). This is not surprising, since non-commodity-dependent economies tend to be the more diversified economies in Africa. The diversification of economic sectors, therefore, provides buffers in situations where economic shocks affect one sector, since other sectors provide a source of income from exports, in addition to having less impact on domestic output.

While South Africa is classified as a metal-, mineral- and fuel-dependent export economy, in 2022, the country was the fourth most diversified economy, with an UNCTAD export diversification index measure of 0.6 (Tunisia had the highest score for export diversification in Africa). Consequently, South Africa has one of the more stable exchange rates in Africa, which has a moderating effect on imported inflation (see box II.3).

Nonetheless, in situations of broad-based economic shocks such as the pandemic, a contraction in output in non-commodity-dependent economies will often result in high inflation and increased unemployment. For instance, in Egypt, inflation trended upward between 2007 and 2019, averaging 12.8 per cent over the entire period. High and rising inflation began during the global

Figure II. 13
Price effects on non-commodity-dependent export economies
(Growth in gross domestic product and percentage change in inflation)



Sources: UNCTAD, based on data from the World Economic Outlook database, October 2024 (International Monetary Fund); UNCTAD, 2023d.

financial crisis and persisted beyond the beginning of the Arab Spring in December 2010. The political crisis had adverse effects on the economy of Egypt, the real GDP growth of which averaged 3.8 per cent between 2012 and 2018. Nonetheless, macroeconomic and structural policy reforms carried out alongside political reforms saw the economy withstand the pandemic. The country experienced a relatively low annual average year-on-year inflation rate of 5.7 per cent and a corresponding GDP growth rate of 3.6 per cent in 2020, compared with the group average contraction in GDP by 2.7 per cent.

For mineral-, metal- and fuel-dependent exporters, a rise in prices often implies an increase in real GDP growth. While this effect is contrary to the expectation that a price hike has adverse effects on non-diversified economies, increase in commodity prices is a signal that either the value or demand for commodities has increased, thereby leading to an increase in output.

Agricultural commodity-dependent exporters are affected by agricultural production processes that rely on rainfall, thereby engendering their vulnerability to climate change. The effects of an overheating or underperforming economy are directly addressed in Goal 8 of the Sustainable Development Goals (decent work and economic growth), since a high-inflation environment and an economy performing below capacity generally lead to job loss. When employment and economic growth are adversely affected, the achievement of Goals 1 (no poverty), 2 (zero hunger), 3 (good health and well-being) and 10 (reduced inequalities) is severely compromised.

Economic vulnerability in times of global shocks

External shocks have a dampening effect on economies in Africa, with shocks engendered in two ways: shocks that are manifested by the economy's structure or the macroeconomy, and shocks that are manifested by second-order effects through partner economies, for instance, through a reduction in demand for goods from economies in Africa. External shocks are often the most difficult to predict, with responses to such shocks being reactionary rather than mitigating.

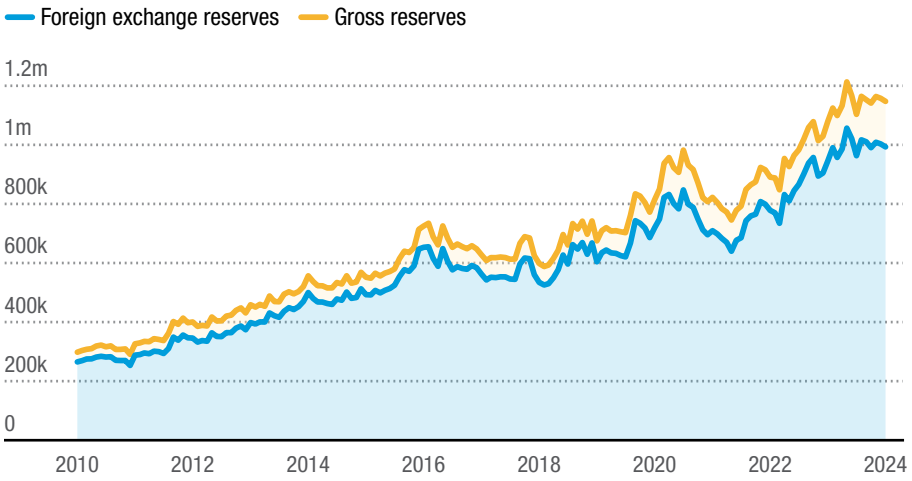
Box II. 2
Exchange rates: The case of South Africa

Between January 2010 and May 2024, the reserve position of South Africa increased in absolute terms by 289 per cent, from R298,016 million to R1,160,761 million. The reserve position is largely underpinned by foreign exchange reserves, with a small percentage attributable to gold reserves.

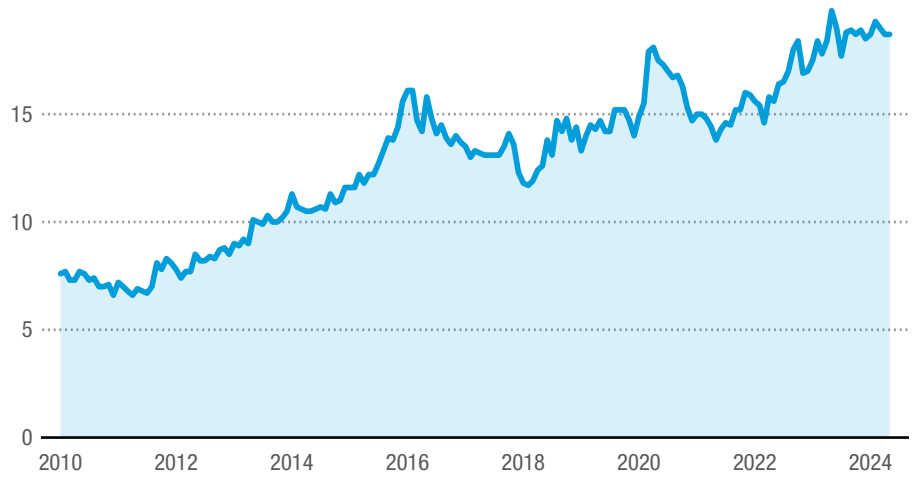
The exchange rate of the rand to the dollar depreciated by 147 per cent between January 2010 and May 2024. The largest depreciation occurred in 2016 and 2020. In 2016, the depreciation was strengthened by lower-than-expected production in the mining and manufacturing sectors, owing to falling commodity prices and external demand, which led to lower-than-expected exports in minerals and metals, such as coal, gold, platinum and iron ore. By contrast, the depreciation of the rand against the dollar in 2020 was an impact of the pandemic, which affected production and therefore, exports from South Africa.

South Africa: Trends in (a) reserve position (SA Rand, Millions) and (b) exchange rate (SA Rand/USD)

(a)



(b)



Source: UNCTAD, based on data from the South African Reserve Bank, 2020.

The following three key factors define the context of the exchange rate of the South African rand:

- The monetary policy framework is based on inflation targeting, with a range of 3 to 6 per cent for the year-on-year increase in consumer price index headline inflation.
- South Africa operates a floating exchange rate framework.
- South Africa is part of the Common Monetary Area, a common currency area that also includes Eswatini, Lesotho and Namibia.

Although South Africa is a member of the Common Monetary Area, the rand is acceptable as legal tender in Eswatini, Lesotho and Namibia, while the reverse is not true.

Source: UNCTAD, based on South African Reserve Bank, 2020.

This section reviews the manifestation of external shocks in economies in Africa, and how they affect these economies. The three shocks discussed are as follows:

- Commodity price shocks, with a focus on fuel prices.
- The COVID-19 pandemic, with a focus on trade-in-services exporters.
- Shocks relating to the environment, climate change and the weather, with an emphasis on agricultural commodity-dependent exporters.

Commodity price shocks in the case of fuel prices

Similarly to the analysis of inflation and GDP growth discussed previously, fuel-dependent exporters have relatively undiversified economies, which means they are dependent on imports for consumption. Moreover, dependency on imports for consumption has implications for inflation (UNCTAD, 2024h).

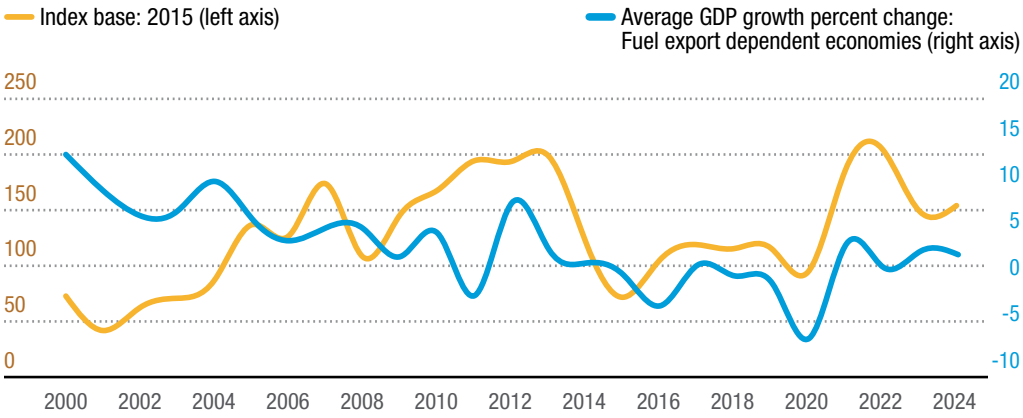
For instance, as depicted in figure 28, the dip in fuel prices between 2000 and 2001 saw a corresponding decline in GDP growth for fuel-exporting countries in Africa, from 14.0 per cent in 2000 to 7.4 per cent in 2002. Consequently, inflationary pressure through imported inflation intensified in those countries, due to declining export prices as import prices either remained the same or increased. By contrast, a rise in the fuel price index from 145.6 in 2009 to 167.6 in 2010 saw a corresponding increase in GDP by 2.5 percentage points from 3.0 per cent in 2009 to 5.5 per cent in 2010, an indication of growth in production capacity driven by the rise in price. The dip in fuel prices between 2014, with the fuel price index declining from 198.8 in 2013 to 122.1 in 2014 and 71.1 in 2015, saw a corresponding decrease in GDP growth for fuel-exporting countries in Africa from 3.7 per cent in 2013 to 2.3 per cent in 2014 and 1.0 per cent in 2015. As in the 2000–2002 period, pass-through inflation from imports led to an increase in inflation in fuel-exporting countries.

According to data from the United Nations Comtrade database, fuel-exporting economies in Africa tend to export crude oil, while reimporting refined fuel for domestic needs. Fuel prices, therefore, have two important implications for fuel-exporting economies.

First, notwithstanding the economic structure, they tend to be undiversified; moreover, the structure within the fuel sector is undiversified. The sector thus depends more on crude oil production without moving further up the value chain to refine fuel for exports (UNCTAD, 2023f).

Figure II. 14

Parallel movement between fuel prices and growth in gross domestic product for fuel-dependent exporters, 2000–2024



Source: UNCTAD, based on data from the UNCTADstat database and the World Economic Outlook database (International Monetary Fund).
Note: Index base: 2015 (taken at the end of each calendar year).

Perhaps the most significant risk to economies in Africa to materialize between 2000 and 2023 **was the COVID-19 pandemic**

Crude oil fuel production depends to a large extent on capital equipment, in addition to either highly specialized or low-skilled labour. This means that the fuel sector does not necessarily absorb much middle-skilled labour in the economy, since resources tend to be reallocated from the more productive tradables sector to the non-tradables sector serving the fuel industry (International Monetary Fund, 2012). For instance, although the fuel refinery capacity for economies in Africa is about 1.3 million barrels per day, only 30 per cent of this capacity was operational in 2022 (Reuters, 2022). In 2023, the Dangote Petroleum Refinery in Nigeria came into operation, with a capacity of 650,000 barrels per day. Since then, as the country with the largest capacity for fuel production, Nigeria has produced over 1.3 million barrels of oil per day. If the current refining capacity in Africa were fully operational, including that of the Dangote Petroleum Refinery, it would only be able to handle one and a half of the equivalent of the country's fuel production capacity. Consequently, the overall undiversified nature of the economies of fuel exporters not only poses structural risks to the economy when fuel prices fluctuate, through risks to output, but to vulnerable low-skilled workers, as well.

Second, fuel exporters face significant risks to macroeconomic stability. An example of the challenges of fuel export dependence in relation to the price of fuel may be seen in the Congo. While national debt sustainability and inflationary pressures are an apparent manifestation of the risks to macroeconomic stability, other effects, such as social sector spending on education, health care and social protection, are not always obvious at the outset. Nonetheless, effects on social sector spending have far-reaching consequences with intertemporal effects. For instance, low levels of spending on education, health care and social protection in the present has implications for labour and socioeconomic vulnerabilities in the future.

COVID-19 pandemic: Trade-in-services exporters find opportunity in crisis

Perhaps the most significant risk to economies in Africa to materialize between 2000 and 2023 was the COVID-19 pandemic. This health pandemic had far-reaching economic implications for economies worldwide. Nonetheless, impacts on individual countries varied, as some countries were affected far worse than others.

Due to the nature of the pandemic, the effects had significant repercussions in the contact sectors, which had serious consequences for the service sectors. For example, to mitigate the spread of the virus, the restaurant and accommodation sector had to put in place restrictions on the number of people having access to their establishments.

As of March 2024, trade-in-services statistics from 2005 to 2022 are available for 33 countries in Africa. The top five exporters of trade in services in absolute terms between 2019 and 2021, on average, were as follows: Egypt ($20.6 billion), Morocco ($16.2 billion), South Africa ($11.2 billion), Ghana ($8.9 billion) and Ethiopia ($4.9 billion). Other countries with trade-in-services exports of more than $1 billion were Kenya, Nigeria, Tunisia, the United Republic of Tanzania and Algeria (figure II.15).

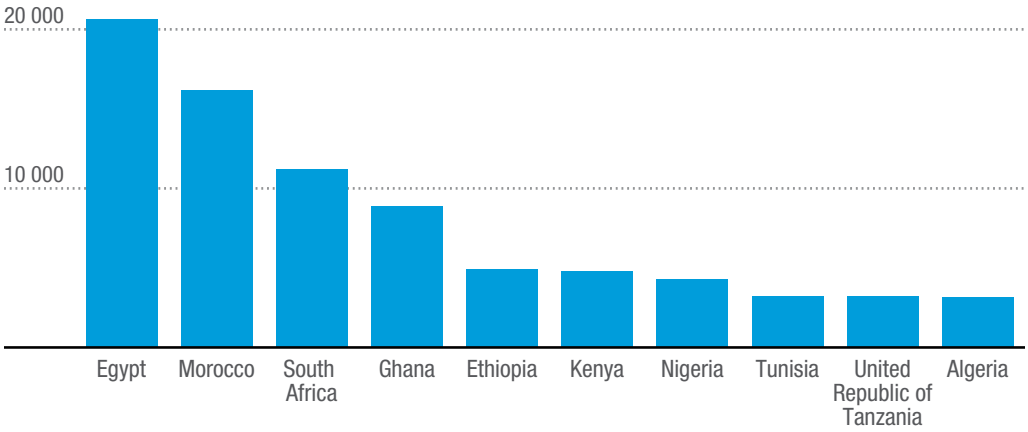
The pandemic caused a decline in the GDP growth of several countries in Africa. For example, of the 10 countries with the highest average trade-in-services exports between 2019 and 2021, six experienced negative impacts, namely, Algeria, Kenya, Morocco, Nigeria, South Africa and Tunisia. Furthermore, Morocco, South Africa and Tunisia experienced a contraction in output of more than 6 per cent. While the effect of the pandemic on trade in services contributed substantially to the contraction in output, especially in countries with large tourism sectors such as Tunisia, in some countries, the decline in output could be attributed to other factors during the pandemic. For instance, in South Africa, output growth in 2019 had already sustained a downward trend before the pandemic.

However, there were some exemplary cases, such as Egypt and Ethiopia (see box II.3). Egypt, the top trade-in-services exporting country between 2019 and 2021, recorded actual GDP growth of 3.4 per cent in 2020. In the same year, Ethiopia and the United Republic of Tanzania also registered GDP growth, of 6.1 per cent and 4.8 per cent, respectively.

Figure II. 15

Trade-in-services exporters adversely affected during the pandemic: Average 2019–2021

(Millions of dollars)



Source: UNCTAD, based on data from the UNCTADstat database.

In Egypt, ongoing macroeconomic and structural reforms ensured that the economy was well placed to mitigate the shocks of the pandemic. Among the policy actions taken was the announcement of a fiscal stimulus exceeding $6 billion, to alleviate the effects of the pandemic through targeted support, such as an increase in pensions and social protection spending for vulnerable populations that lost incomes during the pandemic (International Monetary Fund, n.d-b.). Additionally, monetary policy strengthened fiscal policy action by reducing the central bank rate and applying open-market operations through guarantees for the tourism, agriculture and manufacturing sectors.

Yet Egypt and Ethiopia are exceptions with regard to the impact of the pandemic. Egypt provides a meaningful example of how good policies can strengthen resilience to risk exposure. Ethiopia provides an alternative narrative of how opportunities can arise from crisis situations, for most economies. Be that as it may, the pandemic has eroded positive gains that most countries in Africa took two decades to build. Thus, unforeseen risks emanating from, for instance, the social sector, such as the pandemic, could have resounding impacts on economies. Four years after the pandemic, its far-reaching effects, for example, of lost schooling time on future human capital, have yet to be estimated.

Environmental impacts

Article 1 of the United Nations Framework Convention on Climate Change defines

Box II. 3
Ethiopia: An opportunity in crisis

The economy of Ethiopia is classified as being dependent on agricultural commodities for merchandise exports. It is one of the few economies that displayed agility and flexibility during the pandemic, resulting in gains to output through trade-in-services exports. Between 2019 and 2021, the transport sector accounted for 70 per cent of total trade in services in the country. Yet the total value of transport in trade in services declined from $3.5 billion in 2019 to $2.7 billion in 2020 due to the pandemic. However, revenues from transport rose in 2021 to $4 billion, based on data from the UNCTADstat database.

The main contributor to transport trade in services in Ethiopia is Ethiopian Airlines. In 2020, the airline operated 116 international routes and 23 domestic routes. However, at the onset of the pandemic, the carrier announced the cancellation of flights on 80 routes. By July 2020, the carrier had resumed operation on 40 routes. Although the airline lost revenue from passengers, it responded to the crisis by converting some passenger carrier aircrafts to cargo carriers.

The COVID-19 response webpage of Ethiopian Airlines notes that the airline had extended its global cargo reach to 74 destinations, and by March 2020, had carried 45,848 tons of cargo, which included pharmaceuticals, medical supplies and health-care products, to different destinations. As a result, the revenue from trade in services provided a buffer for the loss in revenue from merchandise trade during the pandemic, thereby smoothing the shocks from the pandemic on the country's economy.

In addition, Ethiopia was one of the few countries that did not institute border closings as a measure to mitigate the pandemic.

Source: UNCTAD, based on International Monetary Fund, n.d-b.

climate change as follows: "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods."

Two key features within the conceptual definition of climate change are human action and the alteration of the global atmosphere. The frequency and intensity of climate change over time is likely an indicator of the alteration of the global atmosphere, which in addition to climate variability, has been observed over similar time periods in the past.

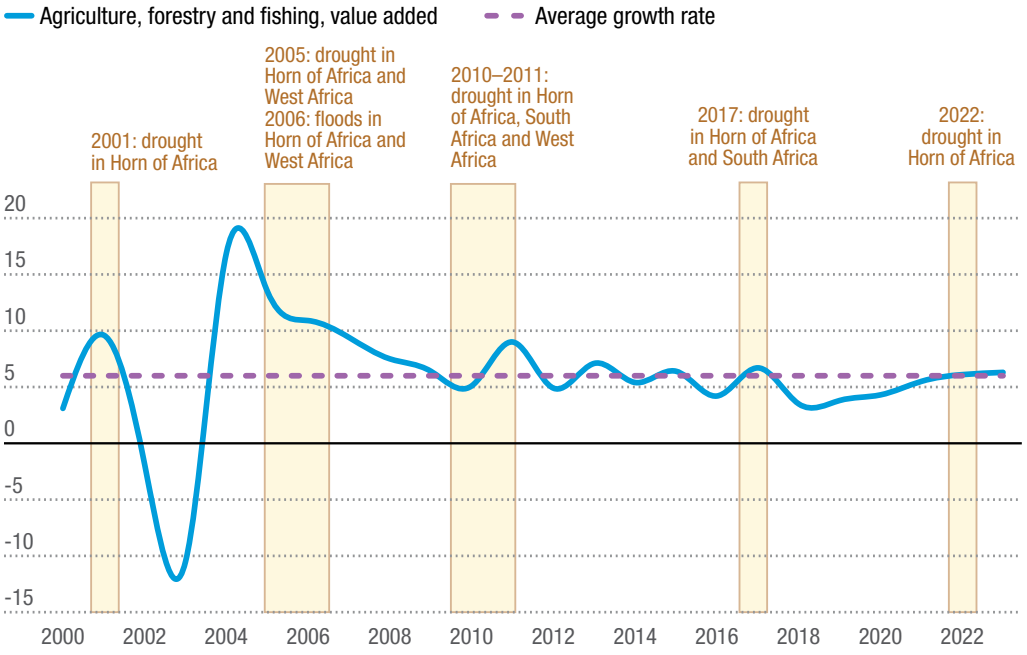
In East Africa, Wainwright et al. (2019) observe that the long rainfall season of March–April–May has been shortening since 1985, thereby confounding the use of climate projections in what has become known as the East African climate paradox. Generally, the drought and flood seasons have increased in frequency and intensity. Between 2020 and 2022, the region spanning East Africa and the Horn of Africa is reported to have experienced five failed rainfall seasons, with serious consequences for livelihoods (International Organization for Migration, 2023), surpassing the previous drought seasons of 2010–2011 and 2016–2017. The International Organization for Migration (2023) estimated that in October 2023, at least 23 million people were affected by food insecurity in the region. Of the nine countries in the region, six (Eritrea, Ethiopia, Kenya, Somalia, the Sudan and Uganda) are agricultural commodity-dependent exporters. Two of the six, Ethiopia and Somalia, reported that agriculture value added contributed to more than 45 per cent of their GDP on average between 1973 and 2022. Thus, periods of weather-related shocks have adverse effects for economic growth, as depicted in figure II.16.

Generally, the drought and flood seasons **have increased in frequency and intensity**

Figure II. 16

Ethiopia: Effects of weather-related shocks on an agricultural commodity exporter

(Percent change)



Source: UNCTAD, based on data from the World Economic Outlook database (International Monetary Fund) and the Famine Early Warning Systems Network.

Climate change effects are particularly challenging for agricultural commodity-dependent export economies, as varying weather conditions, especially during planting seasons, directly affect agricultural output. Yet climate change has dual effects that magnify the effect on agricultural commodity-dependent export economies through the labour effect. For instance, the West and Central Africa regions have in recent years suffered the effects of environmental and climate change events, with varying results, including effects on food security and mass migration (International Organization for Migration, 2023). Consequently, not only do flooding and drought have an impact on agricultural production, but they lead to migration, making labour as a factor of production in agriculture scarce.

Conclusion

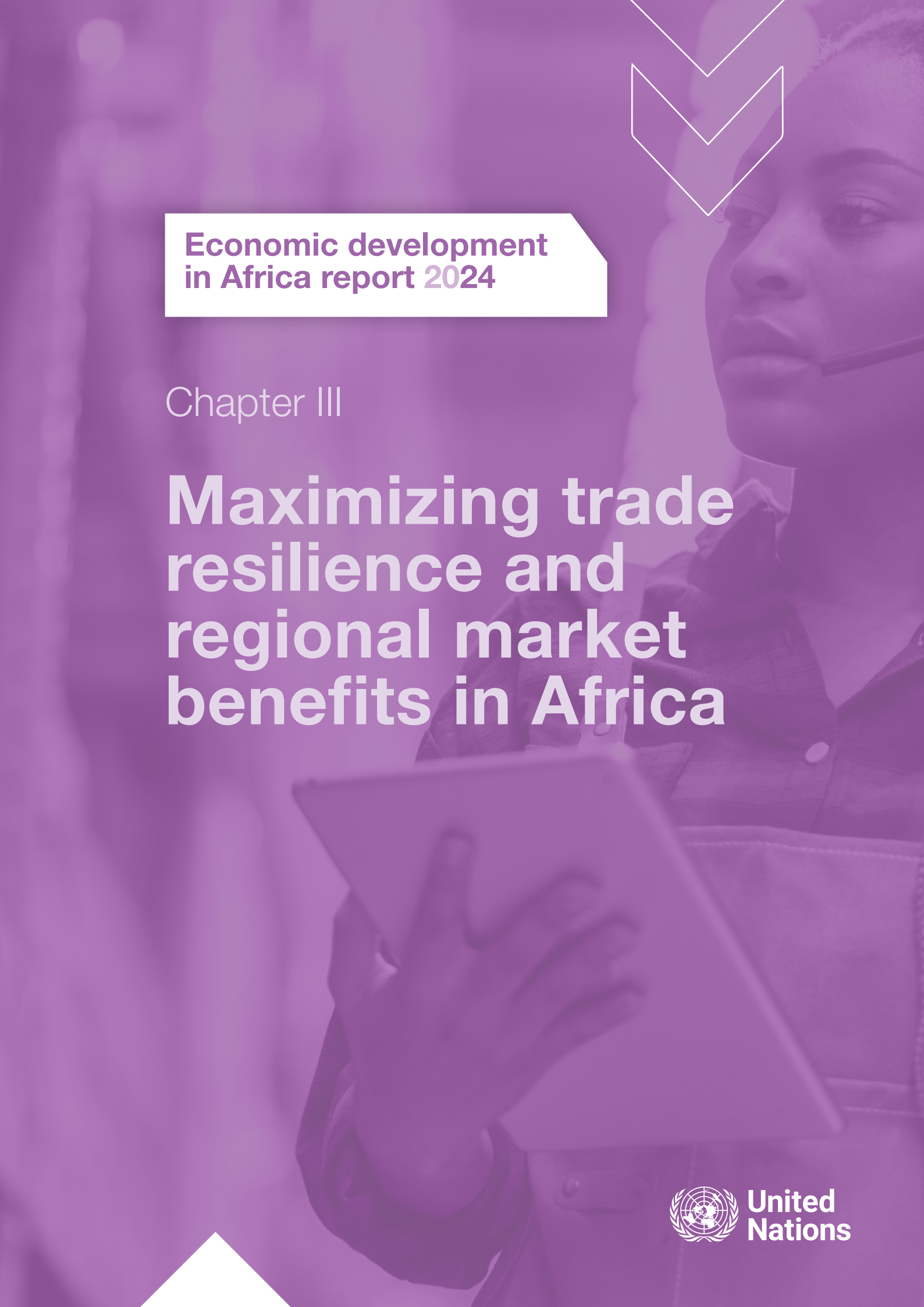
Between 2002 and 2023, economies in Africa experienced upsets that had adverse effects on economic growth and sustainable development, despite the perception that Africa was an attractive region for trade and investments, given its above-average economic performance. Risks to trading and investments can be manifested either through internal or external risks, as discussed in this chapter.

In particular, the chapter explores the internal risks to trading and investments that occur either through deviations from macroeconomic policy targets, or through unbalanced or undiversified economic structures.

Since macroeconomic policy anchors an economy, deviations from macroeconomic targets, such as fiscal or monetary policy targets, may lead to unsustainable intertemporal macroeconomic variables, which would result in adverse exposure to risk for countries in Africa. For instance, deviations from fiscal balance targets could lead to unsustainable debt, which heightens the risks to exposure and directly affects investments into economies in Africa, either through higher premiums or by making economies undesirable for investments. Similarly, deviation from planned monetary policy targets could have adverse impacts on prices.

Moreover, the analysis finds that economies in Africa are relatively undiversified, with overreliance on the production and export of primary commodities. Lack of diversification leaves economies in Africa vulnerable to both internal and external shocks, with direct implications for trading and investing in Africa. For instance, price shocks to economies that are dependent on exports of minerals, metals and fuels, often lead to cyclical effects that can foster economic vulnerabilities.

Lastly, external shocks emanating from the global polycrisis compound the effects of macroeconomic and structural risks, often leading to increased vulnerabilities, thus dimming the prospects for investing and trading on the continent.



Economic development in Africa report 2024

Chapter III

Maximizing trade resilience and regional market benefits in Africa

United Nations

Introduction

Economically vulnerable countries often fall into an instability trap when hit by endogenous shocks, which further weaken their productive and trading capabilities and limit their prospects for equitable and sustainable development. However, the scope for economies of scale and trade expansion provided by the agglomeration of domestic markets under a regional trading bloc could incentivize economically vulnerable countries to build stronger linkages with neighbouring countries and lay solid foundations for vibrant cross-border trade and growth spillover opportunities. UNCTAD research shows that trade within trade agreements has been more resilient to global supply chain shocks such as the COVID-19 pandemic (Nicita and Saygili, 2021), calling for stronger South–South ties (Grynspan, 2022; UNCTAD, 2022c). In a global market where economies are closely connected, risks and opportunities from one country can easily flow over the borders of its neighbours (Borin and Mancini, 2019). Collier (2007) estimated that for each additional 1 per cent in growth from a neighbouring country, a landlocked country could gain between 0.2 per cent and 0.7 per cent in growth. Such growth spillovers are, however, conditional on the infrastructure and policies in place within a regional trading bloc.

As noted by UNCTAD (2022c), the provision of regionally oriented physical infrastructure is an indispensable element of building stronger resilience. Having adequate infrastructure in place to facilitate the cross-border movement of goods and services is a significant challenge for many countries and regional markets in Africa. As stated in chapter I, connectivity ranks among the top two domains across which African countries are most vulnerable in the context of the polycrisis. However, domestic and regional efforts to bridge the gaps in infrastructure and trade capabilities are unfolding. By eliminating barriers to trade and investment, the African Continental Free Trade Area is expected to enhance the cross-national transfer of technology and skills and broaden knowledge diffusion across Africa. In turn, this will make cross-border production easier as firms are better able to diversify into specific value chain components based on their capabilities and the availability of enabling economic infrastructure. More diversified economies are also less vulnerable to external shocks (UNCTAD, 2021a).

While the benefits of effective participation in regional and global value chains have been widely discussed (Ignatenko et al., 2019; Taglioni and Winkler, 2016), little has been done to highlight the potential risks that firms and investors should prepare for when seeking entry into value chains, as well as requirements for their survival therein.

Within the context of regional integration in Africa, this chapter will analyse the opportunities for successful participation in regional value and supply chains and discuss the potential risks. The first part of the chapter provides an overview of the structural changes in intra-African trade in value added since 2012. It focuses on the relative roles and importance of African countries in the trade in value added network to provide valuable insights on the potential risks and opportunities that can be leveraged to enhance trade resilience. The second part of the chapter assesses the role of infrastructure and trade-related policies in reducing potential risks from global value chains and reviews the progress made in improving regional infrastructure.

The provision of regionally oriented physical infrastructure is an **indispensable element of building stronger resilience**

Regional value added trade networks: A means to reduce potential risks from global shocks

Africa in value added trade networks

The overall vulnerability to specific shocks of value chain anchor countries **determines the fragility or strength of the chain or network**

According to data from the UNCTADstat database, the remarkable growth of the gross exports of most African countries is not a reflection of enhanced competitiveness or an ability to integrate into global markets. In today's global production network, there is an increasing utilization of foreign intermediate inputs in the production process, accounting for about two thirds of world trade (UNCTAD, 2022b) and an equally growing share of domestic producers who are moving away from the confinements of their domestic markets and are selling a substantial proportion of their intermediate inputs in international markets. In this regard, effective participation in global value chains provides better opportunities for domestic economies to raise their overall productivity and competitiveness in export markets through better access to competitive inputs and skills and technology transfer. Overall, the nature and level of engagement determine the extent to which countries can leverage the benefits of global value chains. While forward integration allows developing countries to take part in these global networks, the extent of their participation in backward integration is key to unleashing their potential in transforming and adding more value to the goods and services they produce and supply. As suppliers of raw materials or semi-processed goods, most countries in Africa have low levels of backward integration. This implies minimal internalization of advanced technology and other competitive inputs in their production process, as these are generally not easily accessed within their domestic economies (Das and Hussain, 2017; UNCTAD, 2021b). In addition, this limits the returns to industrialization and the development of the continent (UNCTAD, 2022b).

Global production and supply networks can potentially increase the vulnerability of domestic economies to external shocks (Amador et al., 2018; McKinsey, 2020; OECD, 2020; Seric and Tong, 2019). Through intrinsic production and supply linkages, which are the backbone of global value chains, a country's imports of intermediate goods and services and hence, output, are sensitive to the shocks of its partner countries, including indirect trading partners. Without undermining the relevance of all the actors in the value chain, Amador et al. (2018), Carvalho (2014) and Serrano et al. (2007) suggest that the extent of the overall vulnerability to specific shocks of value chain anchor countries determines the fragility or strength of the chain or network. Similarly, Korniyenko et al. (2017) show that the extent of the vulnerability to external shocks also depends on the goods traded. Therefore, for goods that require specialized processing channels, which might be difficult to substitute, failure by any single supplier in the network could affect the entire value and supply chain, with major implications for overall costs when choosing alternative suppliers or halting production (Koenig and Antràs, 2023). Each link in the trade network relies on the next for the production and supply of intermediate inputs and final products, suggesting that both direct and indirect linkages act as transmission channels of the shocks from the source country to the rest of the network. These impacts are also explained by recent global and regional shocks, such as the COVID-19 pandemic and the war in Ukraine. This shows that social and economic shocks and their negative impacts on one part of the value chain are likely to spill over to the rest of the trade and production network and dictate overall aggregate incomes, owing to global supply linkages (UNCTAD, 2020; UNCTAD, 2023a). UNCTAD (2023a) points to higher vulnerability to shocks in the supply chain with a high concentration of markets and sources of inputs.

While some shocks can universally affect supply chains, the sources of exposure and vulnerabilities in the supply chains generally vary with the degree of fragmentation, the length of the supply chain and the geographical spread of production networks (UNCTAD, 2020). Thus, depending on its geographic footprint, a supply chain may be vulnerable to climate change-related shocks, though not necessarily to shocks emanating from geopolitical tensions. Moreover, potential risks threatening the sustainability of part or all of the network can be contained or mitigated when many countries participate more effectively in the production and supply of goods and services, both at the core and periphery of the network. When there are only a few countries at the core of the network, it becomes highly vulnerable to shocks emanating from those countries at the core. This was the case of the 2008–2009 global financial crisis that originated in the United States mortgage market, but quickly spread throughout the entire financial system, affecting financial markets of other developed countries (UNCTAD, 2009). The ensuing economic recession resulting from the credit crunch and the fall in private demand affected world economies due to the central position of the United States and other developed countries in the global trade network (UNCTAD, 2021a). Although the United States is a relatively low-risk country in the entire chain, and therefore should not present a potential risk to the trade network, any instability or uncertainty stemming from its domestic market or affecting its trade can easily be transmitted or spill over to the whole of the global trade network structure because of its hub position in the network (Ge and Wang, 2024).

Understanding the potential risks and opportunities associated with value chains is important in guiding investments to build more resilient ones. The main risks associated with most networks of trade in value added are related to inadequate infrastructure, which heightens the negative impact of the geographical distance between markets and undermines company productivity, as this limits the internalization of high-technology-intensity intermediate inputs. Other common risks include political stability and governance. Valuable opportunities include knowledge and skills diffusion, and better access to a larger variety of inputs at lower cost.

The network analysis of bilateral value added linkages between countries provides a good framework for assessing the potential risks and vulnerabilities associated with the different segments of the African market (Crowe and Rawdanowizc, 2023; Jackson, 2014). However, global trade network dynamics are now changing, and countries that were once at the periphery of the trade network, for example, China, are increasingly moving towards the centre, creating more value added trade ties between a diversified pool of low-risk countries at the core periphery (Ge and Wang, 2024). This shift in the position of China in the global supply network is facilitating the emergence of Bangladesh, Cambodia, India, Pakistan and Viet Nam as important nodes, partly because of their trade links with China (UNCTAD, 2023g). Hence, the evolution of the network over time is also essential in highlighting the changes in the extent of integration, particularly in the context of regional economic integration and the development of regional value chains.

This chapter uses the UNCTAD–Eora Global Value Chain database from 2012 and 2022[1] to analyse the characteristics and composition of the value added trade network in Africa. Although the Eora database is the most comprehensive data set on value added trade for all 54 African countries, its multi-region input-output tables are to some degree modelled when national input-output or supply-use tables are not available, which is the case for most African countries (Casella et al., 2019). (See box III.1 for the description of the key measures of the trade network analysis.)

The main risks associated with most networks of trade in value added **are related to inadequate infrastructure**

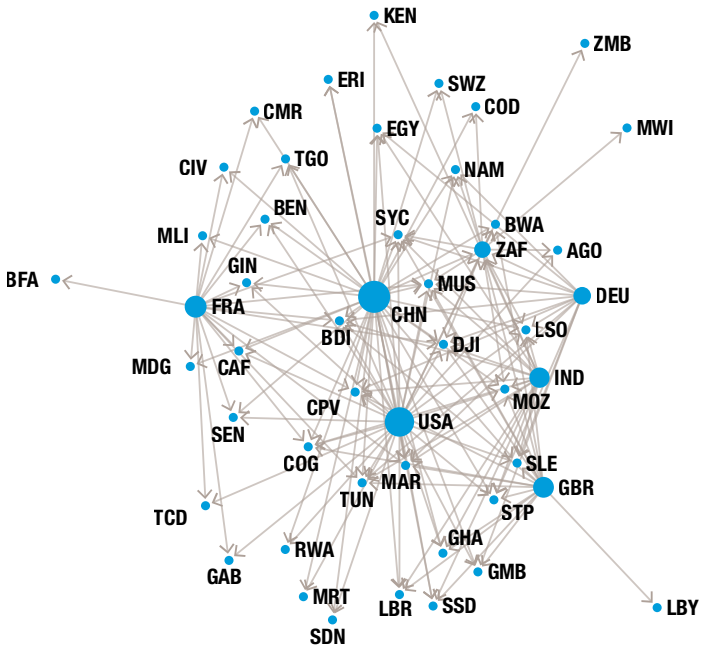
[1] The choice of the period is aimed at highlighting the most recent trends, informing the current status of trade in the value added landscape in Africa.

China, France, Germany, India, the United Kingdom and the United States are major global suppliers of value added **intermediate inputs to African countries**

Figure III.1 shows that China, France, Germany, India, the United Kingdom and the United States are major global suppliers of value added intermediate inputs to African countries. China heads the list, supplying value added goods and services to at least 36 countries in Africa. Its top 10 importers, in order of importance, are Djibouti, Lesotho, Mauritius, Seychelles, Cabo Verde, Tunisia, Burundi, Sao Tome and Principe, Morocco and South Africa. Leading import sectors by country are agricultural and industrial machinery (China, Germany, the United Kingdom and the United States), leather, furniture and wood products (China and France), motor vehicles and parts (France and Germany), technical services for agriculture (China), electricity-generating equipment (Germany), transport-related services (France), communications equipment (the United Kingdom and the United States) and financial services (the United States).

According to the aforementioned Eora database, the domestic content of exported value added in Africa ranges from about 89 to 99.9 per cent in the primary and manufacturing sectors and from about 95 to 99.8 per cent in the service sector. Hence, some countries are marginally integrated into global value chains through backward linkages, meaning that they import little foreign value added.

Figure III. 1
Principal global partners in the value added trade network, 2022



Source: UNCTAD calculations, based on the UNCTAD–Eora Global Value Chain database.
Note: The arrows representing the edges point toward the importer of the value added whose imported share of foreign value added is at least 0.5 per cent of its exported value added. The size of each node is proportional to its total degree. The size of the bigger nodes reflects a country's relative importance as a supplier of foreign value added. Users are depicted by the smallest nodes regardless of their relative weight as a user.
Abbreviations: AGO, Angola; BDI, Burundi; BEN, Benin; BFA, Burkina Faso; BWA, Botswana; CAF, Central African Republic; CHN, China; CIV, Côte d'Ivoire; CMR, Cameroon; COD, Democratic Republic of the Congo; COG, Congo; CPV, Cabo Verde; DEU, Germany; DJI, Djibouti; EGY, Egypt; ERI, Eritrea; ETH, Ethiopia; FRA, France; GAB, Gabon; GBR, United Kingdom; GHA, Ghana; GIN, Guinea; GMB, Gambia; IND, India; KEN, Kenya; LBR, Liberia; LBY, Libya; LSO, Lesotho; MAR, Morocco; MDG, Madagascar; MLI, Mali; MOZ, Mozambique; MRT, Mauritania; MUS, Mauritius; MWI, Malawi; NAM, Namibia; RWA, Rwanda; SDN, Sudan; SEN, Senegal; SLE, Sierra Leone; STP, Sao Tome and Principe; SYC, Seychelles; TCD, Chad; TGO, Togo; TUN, Tunisia; USA, United States; ZAF, South Africa; ZMB, Zambia; ZWE, Zimbabwe.

Therefore, in striking a balance between the focus of the chapter (shedding light on the current value chain landscape in Africa) and ensuring a meaningful evaluation and eased visualization of the networks, only countries that have a considerable share of foreign value added in their exports are considered in the trade network analysis. At the global level, a threshold of at least 0.5 per cent foreign value added content in a country's exported value added is chosen (figure III.1).

Only 16 of the 54 countries in Africa receive 0.5 to 6 per cent of their total intermediate inputs from other African countries, mainly South Africa, followed by Kenya (figure III.1).[2] Furthermore, the figure suggests that the network is highly concentrated in a few countries. These countries represent critical chokepoints of the value chains in Africa, as they have the greatest potential to disrupt production and output in most economies by amplifying the impact of different shocks.

Diversifying sources of intermediate goods and the overall footprint of a value chain strengthens the resilience of countries to external shocks. Although managing a large partner network at a country level might require a substantial commitment of resources (Cigna et al., 2022), a wider network provides firms with options for substituting trading partners (suppliers and buyers) (Solingen et al., 2021), increasing access to a range of inputs that gives them more options for adjusting to the shocks and cushioning their businesses from the impact of the shocks through trade (OECD, 2020).

A network analysis of intra-African trade

Low levels of technology internalization, reduced investment in research and development, high trade costs, limited sources of capital and weak productive capacities, as reflected by poor economic infrastructure, are among the most commonly cited reasons for the low degree of integration of African countries into global value chains. Nonetheless, countries in Africa have great potential for upgrading and diversifying their exports and improving the likelihood of better integration into the global market by leveraging the opportunities of deeper regional integration (UNCTAD, 2021a; UNCTAD, 2023e).

While most of the exports from Africa to the rest of the world are either raw or semi-processed, processed and semi-processed goods account for 61 per cent of intra-African exports and are more diversified (UNCTAD, 2021c).

More viable and well-integrated regional value chains are generally expected with deeper integration, as they enhance the odds of more profitable engagement in the global production and supply networks for the countries concerned (Obasaju et al., 2021). The regional economic integration of Africa has gradually deepened over the years. Eight regional economic communities have received official recognition from the African Union[3] and, recently, the African Continental Free Trade Area.

However, the development of value chains in Africa was modest from 2012 to 2022. Figure III.2 shows minimal additions to the overall trade linkages in the network. For intra-African trade, a threshold of 0.05 per cent foreign value added in exports is chosen to allow for more trade connections. The overall density of the networks between 2012 and 2022 remained relatively unchanged across three sectors (manufacturing, service and primary sectors).

Only 16 of the 54 countries in Africa receive 0.5% to 6% of their total **intermediate inputs from other African countries, mainly South Africa, followed by Kenya**

[2] Angola, Botswana, Burundi, Democratic Republic of the Congo, Djibouti, Eswatini, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Sao Tome and Principe, Seychelles, Togo, Uganda, Zambia.

[3] The Arab Maghreb Union, the Community of Sahelo-Saharan States, the Economic Community of Central African States and the Intergovernmental Authority on Development do not have free trade agreements. The Common Market for Eastern and Southern Africa, the East African Community, the Economic Community of West African States and the Southern African Development Community have a free trade agreement and/or a customs union.

Box III. 1
Value added trade network measures

A description of the parameters used to measure a value added trade network is provided below.

Nodes: Countries in the network.

Edges: Lines highlighting the linkages between countries.

Density: Share of existing connections relative to potential total connections.

Assortativity: Measures the extent to which countries (nodes) with similar characteristics connect. Its values range between -1 and 1, where values closer to 1 reflect an assortative network, that is, a higher probability that countries trade more based on their similarities (for example, size of the economy).

Centralization: Measures the relative importance of countries and the extent of concentration of trade in the network. Indegree centralization measures the importance of a country as a user (importer), outdegree centralization measures the importance of a country as a supplier (exporter) of value added and between centralization illustrates the extent to which a country is important in connecting other countries. For instance, higher values of outdegree centralities reflect a country's central role as a supplier of value added intermediate inputs in the trade network. In this chapter, the commonly used eigenvector centrality is applied, where the overall relative importance of a country in the network recursively accounts for the importance of the nodes to which it is connected.

Reciprocity: Measures the extent to which trade ties between countries are reciprocated, while accounting for the density of the network. For instance, negative values of the reciprocity coefficient indicate that the probability of countries acting both as suppliers and buyers of value added goods and services is low.

Transitivity or clustering: Measures the extent to which a group of nodes is densely connected within the network. For a network with a wide regional footprint such as the one discussed in this chapter, higher values of the transitivity coefficient could reflect deeper trade ties within the regional economic communities.

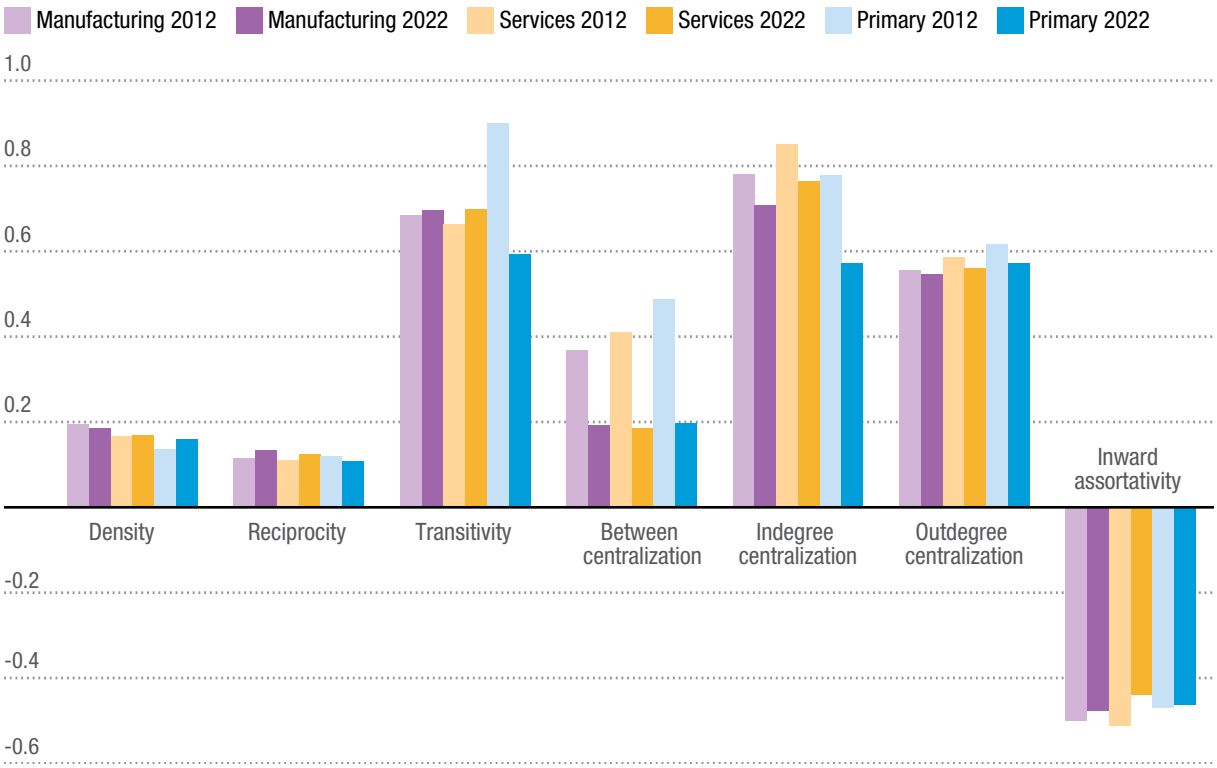
Source: UNCTAD, based on Amador and Cabral, 2016; Amador et al., 2018; Miura, 2012; Taglioni and Winkler, 2016.

This is an indication that countries in the region have not been able to effectively expand their value added product lines or partners, despite a rise in the net volume of existing goods. Most importantly, this highlights an increased proportion of disengagement in value chains by some countries in the region relative to those who joined due to greater dependence on domestic and/or extra-continental markets for their intermediate inputs. This is clearly illustrated by the average reduction in the trading edges identified by the indegree and outdegree centralization coefficients in figure III.2 (see table III.1 for country-level values of indegree and outdegree centralities).

A sectoral view of intra-African trade in value added: Manufacturing sector

To perform the trade network analysis of the manufacturing sector discussed in this section and enable a good visualization of the networks with only key trade flows captured, manufacturing foreign value added trade network is presented at a 0.1 per cent threshold in 2012 and 2022 (figure III.3 (a and b)). While the lower thresholds (0.05 per cent as used in the intra-African total trade network) increase the overall number of trading edges in the networks, this does not affect the core components of the analysis as regards the relative importance of countries in the networks and the associated potential risk. In other words, the network metrics tell the same story, regardless of whether the analysis is performed at 0.05 per cent or 0.1 per cent. The intra-African value added networks analysis of the service and primary sectors in 2012 and 2022 is maintained at the threshold of 0.05 per cent, as these sectors are not as dense as the manufacturing sector.

Figure III. 2
Intra-African value added network metrics



Source: UNCTAD calculations, based on the UNCTAD–Eora Global Value Chain database.
Note: The metrics are drawn from the assessment carried out under the 0.05 per cent of foreign value added content in exports.

Table III. 1

Outdegree and indegree centralities in the manufacturing, service and primary sectors, 2012 and 2022

	Manufacturing sector				Service sector				Primary sector			
	2012		2022		2012		2022		2012		2022	
Country	Outdegree	Indegree	Outdegree	Indegree	Outdegree	Indegree	Outdegree	Indegree	Outdegree	Indegree	Outdegree	Indegree
Algeria	3	22	2	2	1	25	3	3	1	17	2	2
Angola	1	21	1	13	1	18	0	8	0	13	0	11
Benin	12	2	16	9	8	2	8	9	8	1	9	9
Burkina Faso	8	5	13	13	7	4	12	13	4	4	2	13
Botswana	7	1	6	18	5	1	6	17	8	2	11	13
Burundi	26	2	14	2	14	1	9	1	5	1	15	2
Cameroon	10	6	11	5	8	6	10	6	6	3	6	6
Cabo Verde	8	2	13	10	14	1	16	12	18	1	19	10
Central African Republic	15	2	9	1	6	2	8	2	6	1	12	1
Chad	17	3	9	9	15	2	8	6	3	2	3	6
Congo	1	21	0	18	1	20	0	17	1	17	0	17
Côte d'Ivoire	13	8	11	5	10	7	11	4	3	7	3	5
Democratic Republic of the Congo	4	7	5	23	3	5	3	20	3	5	3	16
Djibouti	20	1	18	37	14	1	17	38	14	1	19	25
Egypt	4	6	3	4	3	5	3	6	3	5	3	9
Eritrea	19	1	20	1	14	1	21	1	17	1	21	1
Eswatini	10	4	9	3	16	0	10	3	7	3	7	3
Ethiopia	1	28	2	0	13	3	2	0	2	17	1	0
Gabon	5	6	4	6	2	29	2	4	2	3	2	5
Gambia	27	1	29	2	2	4	24	1	15	1	21	1
Ghana	4	9	5	17	17	1	5	18	3	6	2	18
Guinea	8	5	9	19	4	6	6	20	4	4	5	13
Kenya	8	23	9	6	4	5	7	5	6	15	6	7
Lesotho	4	18	10	16	8	24	13	15	12	11	19	12
Liberia	2	15	2	5	11	14	2	5	2	12	4	4
Libya	2	11	3	2	2	15	3	1	2	9	3	2
Madagascar	2	3	3	2	2	6	3	2	3	3	4	3
Malawi	9	7	6	2	3	2	6	0	6	6	6	2
Mali	14	4	10	7	7	5	7	5	6	0	5	3
Mauritania	6	23	18	11	9	3	12	10	3	15	7	11
Mauritius	6	17	4	23	6	19	4	22	3	15	4	21
Morocco	1	23	1	20	4	20	1	19	1	20	1	26
Mozambique	7	2	9	22	2	21	8	17	3	1	4	17
Namibia	2	7	4	8	8	1	5	6	5	3	5	8
Niger	5	10	6	3	5	4	11	0	8	4	12	0
Nigeria	2	22	1	11	6	6	5	7	1	8	1	4
South Africa	12	48	10	44	4	17	10	46	12	45	12	36
Rwanda	17	4	15	4	9	50	14	5	7	1	12	2
Senegal	14	5	21	7	13	3	15	6	6	6	9	7
Seychelles	6	6	11	25	12	3	11	21	3	3	5	15

	Manufacturing sector				Service sector				Primary sector			
	2012		2022		2012		2022		2012		2022	
Country	Outdegree	Indegree	Outdegree	Indegree	Outdegree	Indegree	Outdegree	Indegree	Outdegree	Indegree	Outdegree	Indegree
Sierra Leone	10	7	12	4	5	2	10	2	10	1	17	1
Somalia	14	0	6	0	9	1	7	0	5	0	4	0
South Sudan	15	0	14	0	14	0	14	0	15	0	14	0
Sao Tome and Principe	22	5	2	0	15	0	1	0	14	2	3	0
Sudan	16	0	6	0	15	1	9	0	16	0	20	0
Togo	12	10	15	7	9	7	9	6	7	5	8	6
Tunisia	4	16	4	14	4	10	5	15	4	14	4	23
Uganda	8	1	8	2	8	1	7	1	5	2	5	3
United Republic of Tanzania	8	8	9	1	8	6	9	0	6	5	6	0
Zambia	7	17	8	9	7	15	5	8	6	12	5	8
Zimbabwe	37	20	36	0	37	19	36	0	37	14	36	0

Source: UNCTAD, based on data from the UNCTAD–Eora Global Value Chain database.
Note: The intra-African trade network threshold used is 0.05 per cent. Outdegree centrality reflects the number of trade ties from a node (country) to its trading partners, while indegree centrality is the number of trade ties directed to the node from its trading partners.

At the 0.1 per cent threshold of the foreign value added content of exported manufacturing value added, meaning that when exports of manufacturing goods include more than 0.1 per cent of value added from the source country, generally, a marginal reduction in import sources and export destinations is observed in about 18 countries between 2012 and 2022 (figure III.3 (a and b)), along with improvements of comparable magnitudes in most countries. However, drastic changes in countries such as Ethiopia and Zimbabwe are concerning, as these countries used to be among those at the network core as value added users in 2012 but lost their centrality in the network in 2022. Zimbabwe was among the most diversified users of foreign value added in 2012, providing a market to over 10 countries, and Ethiopia, to 19 countries. However, Ethiopia and Zimbabwe are currently not utilizing intermediate goods and services from other African countries unless the volume of such imports is less than 0.05 per cent of their exports (table III.1).

The table provides the results for all sectors at the 0.05 per cent threshold, showing that, in 2012, Ethiopia and Zimbabwe used to provide a market to over 28 and 20 countries, respectively, at that reduced threshold. Consequently, prolonged political or economic instability in countries such as Ethiopia and Zimbabwe can make regional trade and private sector activity riskier and less attractive (Khafaga and Albagoury, 2022; Masiyandima and Edwards, 2018; Siyum, 2021; World Bank, 2021). Thus, issues such as currency volatility, political instability and inconsistent economic policies can be deterrents to intra-African trade.

Extreme changes at the 0.1 per cent threshold between 2012 and 2022 are also observed in countries such as Kenya, Mauritania and South Africa, whose outgoing edges were reduced by more than 50 per cent during that period (figure III.3 (a and b)). Furthermore, only Botswana and Djibouti increased their import network by adding 7 and 28 countries, respectively.

The same trend can be seen when the threshold of analysis is reduced to 0.05 per cent,[4] with the addition of countries such as Sao Tome and Principe, which used to export to at least 22 countries but currently has only two outgoing edges without any imported inputs in its exports at this threshold (table III.1). Similarly, a few countries, including Burkina Faso, Cabo Verde and Guinea, expanded their array of import sources.

Overall, the assessment shows that, on average, there have been marginal improvements in export destinations. Yet changes in input sources, particularly for the countries at the core of the network, have a negative impact on overall trade intensity. The relevance of some countries in connecting at least two other countries also waned between 2012 and 2022. This trend, as shown by the centralization variables in figure III.2, is somewhat retrogressive to the development of value chains in the African Continental Free Trade Area. This illustrates the growing fragility of most of the existing value chains to socioeconomic shocks through the supply and market demand channels. However, there is a modest level of exploitation of complementarities between countries at different levels of development in the value chains, as highlighted by the negative assortativity coefficient in figure III.2. It is a positive attribute worth leveraging for countries in Africa to strengthen existing value chains and explore other viable areas for developing new value chains in the African Continental Free Trade Area. Notably, these complementarities indicate a growing potential for profitable integration into regional value chains for developing countries to enhance their competitiveness and growth, encouraging opportunities for growth in African trade.

The exploitation of complementarities between countries is worth leveraging for **developing new value chains under the African Continental Free Trade Area**

The relatively high concentration level in the networks is another area of concern in the current structure of intra-African trade in value added networks regarding the effective development of value chains in the African Continental Free Trade Area. There was a marginal deterioration in overall concentration between 2012 and 2022 (figure III.3 (a and b)). Suppliers at the core of the network with at least 20 outgoing edges decreased from four in 2012 (Burundi, the Gambia, Sao Tome and Principe, Zimbabwe) to two in 2022 (the Gambia, Zimbabwe) without any change in the total number of users (table III.1). The net deterioration in the overall concentration stems mainly from the sharp reduction in the incoming and/or outgoing edges of the countries that used to be at the core in 2012 but are currently either at the periphery or remained at the core but with a significant reduction in their trade flows at the 0.05 per cent threshold. However, at the network core, Djibouti, Seychelles and South Africa feature both as key suppliers and users of value added goods and services, while in the intermediate stages, the only suppliers and users are Burkina Faso, Cabo Verde and Lesotho.[5] The overall fragility of the network to supply-and-demand-side shocks greatly depends on the risks to which these countries are exposed and the ease of their substitutability in the event of failure as key suppliers and/or users of foreign value added.

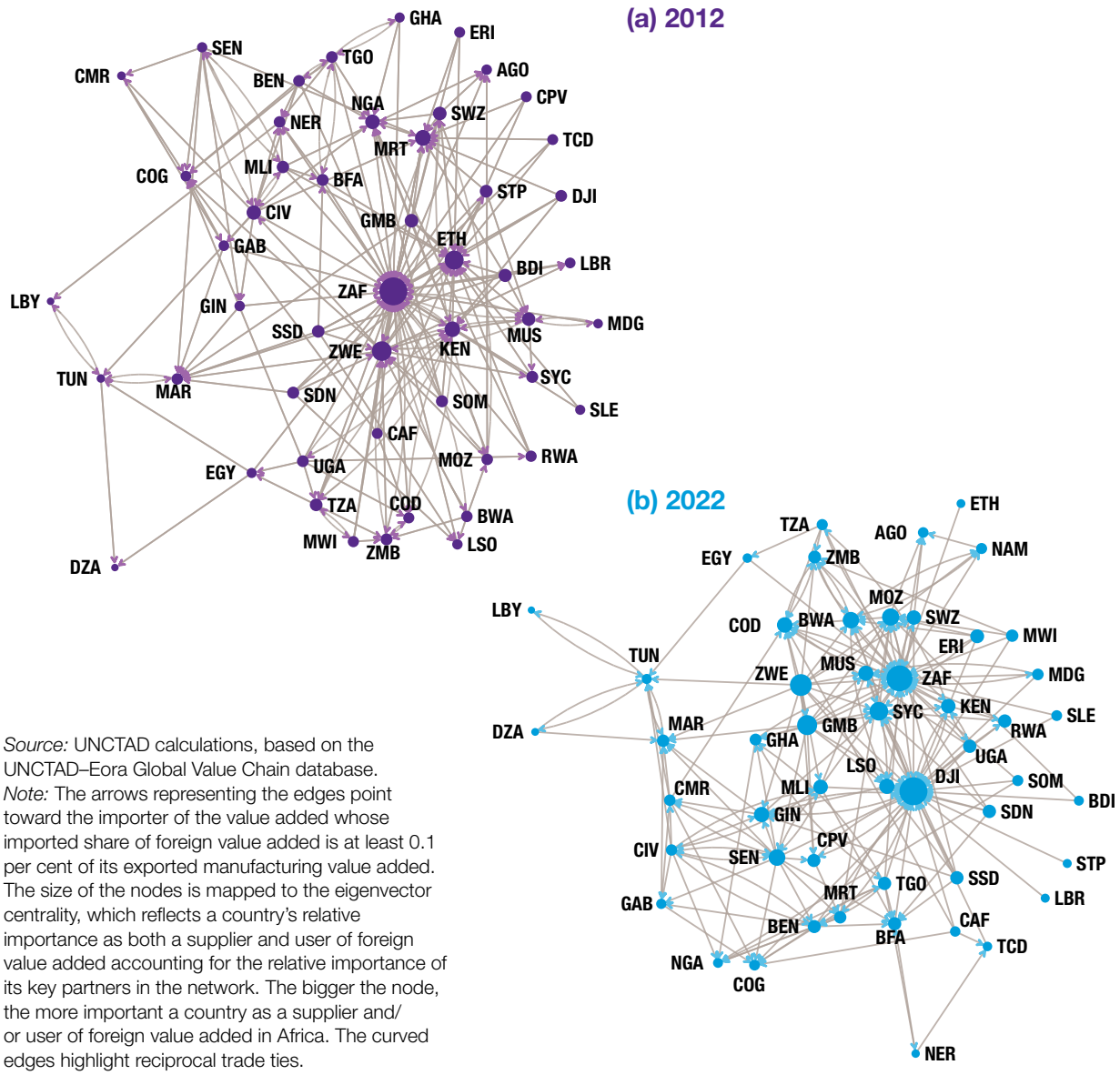
Notwithstanding the impact of intermediate goods and services, the centrality of the suppliers in these networks has two key implications. Firstly, the quality and type of inputs imported from these countries have a significant bearing on the overall quality of goods and services produced and, hence, the viability of the value chains in the region. Generally, in value added trade networks, big economies are at the core of value chains as principal suppliers and/or users of intermediate inputs due to their advanced productive capacities and financial capabilities to establish and sustain multiple connections with suppliers (Amador and Cabral, 2016; Flori et al., 2023).

[4] The rest of the section focuses on the 0.05 per cent threshold, as it gives a fair representation of the current foreign value added flows at the continental level.

[5] Details on indegree and outdegree centrality are provided in table III.1.

Figure III. 3

Intra-African value added trade network: Manufacturing sector, selected years



Source: UNCTAD calculations, based on the UNCTAD–Eora Global Value Chain database.
Note: The arrows representing the edges point toward the importer of the value added whose imported share of foreign value added is at least 0.1 per cent of its exported manufacturing value added. The size of the nodes is mapped to the eigenvector centrality, which reflects a country's relative importance as both a supplier and user of foreign value added accounting for the relative importance of its key partners in the network. The bigger the node, the more important a country as a supplier and/or user of foreign value added in Africa. The curved edges highlight reciprocal trade ties.
Abbreviations: AGO, Angola; BDI, Burundi; BEN, Benin; BFA, Burkina Faso; BWA, Botswana; CAF, Central African Republic; CIV, Côte d'Ivoire; CMR, Cameroon; COD, Democratic Republic of the Congo; COG, Congo; CPV, Cabo Verde; DJI, Djibouti; DZA, Algeria; EGY, Egypt; ETH, Ethiopia; GAB, Gabon; GHA, Ghana; GIN, Guinea; GMB, Gambia; KEN, Kenya; LBR, Liberia; LBY, Libya; LSO, Lesotho; MAR, Morocco; MDG, Madagascar; MLI, Mali; MOZ, Mozambique; MRT, Mauritania; MUS, Mauritius; MWI, Malawi; NAM, Namibia; NER, Niger; NGA, Nigeria; RWA, Rwanda; SDN, Sudan; SEN, Senegal; SLE, Sierra Leone; SOM, Somalia; STP, Sao Tome and Principe; SWZ, Eswatini; SYC, Seychelles; TCD, Chad; TGO, Togo; TUN, Tunisia; TZA, United Republic of Tanzania; UGA, Uganda; ZAF, South Africa; ZMB, Zambia; ZWE, Zimbabwe.

Almost half of the countries in the network rely on intermediate inputs from four or fewer countries at the network core or intermediate levels

To this end, of the 20 countries[6] at the core of this network with at least 10 outgoing edges, 14 are least developed countries. While this reflects their proportion in African countries, most importantly, this highlights possible chokepoints in the network. Owing to their weak productive capacities, most of these countries might find it difficult to increase and/or sustain intermediate inputs outflows and effectively meet market demand (UNCTAD, 2022d). Furthermore, improving the complexity and diversity of their intermediate goods in supporting the development of the value chains in the region might also be an obstacle. Most of these economies are rural based and highly dependent on natural resource-based commodities,[7] as characterized by their overall low diversification index (see chapters I and II). Moreover, the low level of technology internalization and inadequate productivity-enhancing services in these economies (UNCTAD, 2022b), coupled with generally weak labour productivity (McMillan and Headey, 2014), greatly undermine their odds of effectively supporting the development of viable value chains in the African Continental Free Trade Area.

In addition, the increased concentration of import sources leaves most countries, and hence, overall trade in the value added network, in general, highly exposed to the vulnerabilities emanating from a few countries that are at the core of the network. There are few countries with diversified sources of inputs and, hence, potentially better resilience to external and domestic shocks. However, almost half of the countries in the network rely on intermediate inputs from four or fewer countries at the network core or intermediate levels (table III.1) and depend heavily on domestic markets, notwithstanding their potential linkages with the rest of the world for intermediate inputs. The risk of failure for these countries in the network is higher, as failure in their suppliers has an increasing potential to undermine their net output with possible negative ripple effects to the rest of the network. Therefore, the gravity of the impact of these shocks on their production and supply processes, and its potential spillovers to the rest of the network will, to a large extent, depend on the flexibility of the affected value chain as to how easy it is to substitute suppliers and their associated costs and also the extent of sunk costs in the event of shutting down operations due to shocks originating from key suppliers.

Of the six countries[8] at the network core as suppliers and/or users of manufacturing value added in figure III.3 (b), only Seychelles and South Africa, compared with other African countries, have a relatively low level of exposure to most of the key risks that greatly weaken trade and investment flows in Africa. Specifically, Seychelles and South Africa are among the countries that scored lowest on measures of economic, governance and connectivity vulnerability (see figures I.9, I.10 and I.11). Djibouti and Mauritania have a low level of exposure to energy-related risks but a high level of exposure to connectivity-related risks. The Gambia and Zambia are also highly exposed and most vulnerable to economic- and connectivity-related issues (see chapter I). Furthermore, as indicated by the inclusive growth analysis in UNCTAD (2021c), low levels of inclusive per capita GDP growth leave three[9] of the core suppliers of value added in the network more at risk to internal and external economic shocks.

6 Benin, Burkina Faso, Burundi, Cabo Verde, Cameroon, Côte d'Ivoire, Djibouti, Eritrea, Gambia, Lesotho, Mali, Mauritania, Rwanda, Senegal, Seychelles, Sierra Leone, South Africa, South Sudan, Togo, Zimbabwe. Except for Cabo Verde, Cameroon, Côte d'Ivoire, Seychelles, South Africa and Zimbabwe, the rest are classified as least developed countries.

7 Except for Djibouti, Lesotho and Togo, all the countries with at least 10 outgoing edges are dependent on commodities.

8 Djibouti, Gambia, Mauritania, Seychelles, South Africa, Zambia.

9 While only Gambia and Mauritania have experienced poverty- and inequality-reducing growth, Djibouti and South Africa have experienced poverty-reducing growth but inequality-increasing growth, and Seychelles and Zambia, poverty- and inequality-increasing growth.

Key suppliers in the intermediate level of the network with an increased level of vulnerability to economic risks include Cameroon, Côte d'Ivoire, Kenya, Uganda and the United Republic of Tanzania. Governance- and/or energy- and social-related issues affect countries such as Angola, Chad and Mozambique. Moreover, most of these countries are equally struggling across different domains of trade facilitation and trade logistics indicators, highlighting the risk of increased transaction costs when trading with them (see section "Resilience in connectivity: The potential of regional integration"). The extent of vulnerability to the identified risks of those that are at the core and intermediate levels of the network, both as suppliers and/or users of value added, combined with the centrality of the intermediate good or service being traded, shows the extent of the potential impact on the affected value chains in the network in figure III.3 (b). For example, the potential failure of Djibouti port due to governance-related risks, which can decrease the efficiency of port logistics, would have a significant impact on the flow of intermediate inputs for most countries, including those that indirectly rely on the port, with a significant impact on most of the value chains in Africa. Nevertheless, the threat of failure of the port of Djibouti due to those risks is low. However, the port has a higher potential of undermining the productivity and growth of the value chains through higher trade costs, as indicated by its weak performance across several domains of the trade facilitation and logistics indicators (see section "Addressing the gaps in trade logistics and facilitation").

There are subtle differences between the primary and service sectors based on the general trends observed in the manufacturing sector. While there were no significant changes in the overall intensity of trade and density of the service value added network between 2012 and 2022 (see table III.1), some countries expanded their network over the 10-year period. These countries include South Africa, which added 29 new partners (nodes) to its service value added trade network, sourcing value added service inputs from 46 African countries in 2022, compared with 17 countries in 2012. Expansions are also observed in the indegree centralities of Botswana, Djibouti, the Gambia, Ghana and Seychelles. In countries such as Algeria, Gabon and Rwanda, there is a considerable decline in the number of their import sources. For instance, the value of indegree centrality in Rwanda fell to 5 in 2022 from 50 in 2012. This means that Rwanda imported services representing more than 0.05 per cent of value added from only five African countries in 2022. Interestingly, these are among the few countries in Africa whose ICT networks leapfrogged over the period, suggesting that they have an increased potential to be among the key suppliers of high-intensity business services, for instance, if their ICT growth is to be effectively leveraged.

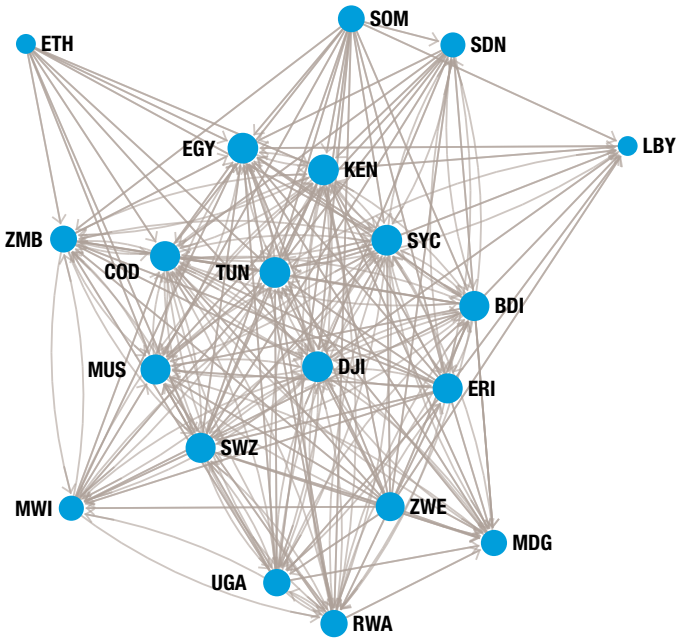
Dynamics of subregional trade networks: Insights from the Common Market for Eastern and Southern Africa

High transitivity coefficients, measuring the extent to which a group of nodes are densely connected within the network, suggest a strong concentration of the traded value added among regional economic communities (see figure III.2), possibly in line with the progress made under the regional economic communities in reducing non-tariff trade costs through improvements in trade logistics and facilitation (see section "Addressing the gaps in trade logistics and facilitation"). Except for the primary sector, where the transitivity coefficient decreased between 2012 and 2022, suggesting that the flow of intermediate inputs in the primary sector is not restricted by trade barriers across the regional economic communities, the marginal increase in the transitivity coefficient for both the manufacturing and service sectors underscores the importance of deeper trade integration.

A more resilient network is observed at the level of a regional economic community **due to lower tariff and non-tariff trade costs**

To capture larger numbers of connections, the analysis at the regional economic community level is carried out at a threshold of 0.01 per cent. Comparable sizes of the nodes indicate comparable levels of integration (backward and/or forward) across countries, owing to reduced tariff and non-tariff trade costs relative to the continental level. With regard to the Common Market for Eastern and Southern Africa, five countries (Djibouti, Egypt, Kenya, Seychelles and Tunisia) have the highest centrality scores, about 0.25 (figure III.4). With the exception of Egypt and Tunisia, which are major users of foreign value added, the other three countries hold central positions as key users and suppliers of intermediate inputs. Their central positions are closely followed by Burundi, the Democratic Republic of the Congo, Eritrea, Eswatini and Mauritius, with centrality scores of 0.23. All of these countries have 8–17 incoming or outgoing edges (figure III.4). Of the remaining 10 countries, 8 have centrality scores of about 0.2, and 2 (Libya and Ethiopia) have scores of about 0.1 but still with at least 8 incoming or outgoing edges. The concentration of trade ties in the regional economic communities is observed through the curved edges in figure III.3 (a and b), where visualization at the global level is improved with a threshold of 0.1 per cent. However, minimal benefits are derived from value chain participation for countries such as Ethiopia,

Figure III. 4
Common Market for Eastern and Southern Africa value added trade network: Manufacturing sector, 2022



Source: UNCTAD calculations, based on the UNCTAD–Eora Global Value Chain database.
Note: The arrows representing the edges point toward the importer of the value added whose imported share of foreign value added is at least 0.01 per cent of its exported value added in the manufacturing sector. The size of the nodes is mapped to the eigenvector centrality, which reflects a country's relative importance as both a supplier and user of foreign value added, accounting for the relative importance of its key partners in the network. The larger the node, the more important a country as a supplier and/or user of foreign value added in Africa. The curved edges highlight reciprocal trade ties.
Abbreviations: BDI, Burundi; COD, Democratic Republic of the Congo; DJI, Djibouti; EGY, Egypt; ERI, Eritrea; ETH, Ethiopia; KEN, Kenya; LBY, Libya; MDG, Madagascar; MUS, Mauritius; MWI, Malawi; RWA, Rwanda; SDN, Sudan; SOM, Somalia; SWZ, Eswatini; SYC, Seychelles; TUN, Tunisia; UGA, Uganda; ZMB, Zambia; ZWE, Zimbabwe.

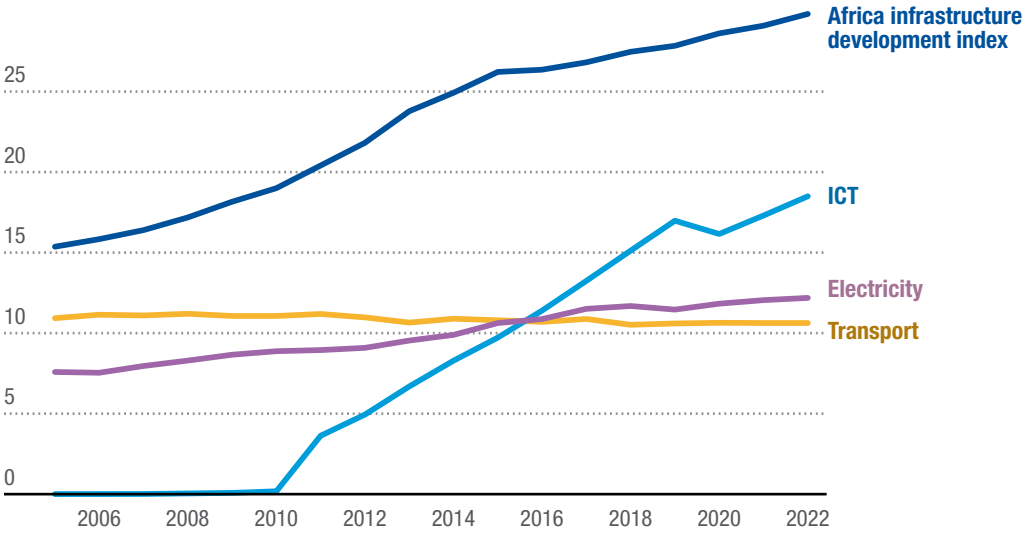
Somalia and Zimbabwe (see table III.1), as these benefits generally grow with backward integration. In other words, most of the value addition – and hence, profits – accrue in the downstream segments of the value chain.

In sum, the analysis shows the need for deeper regional integration to achieve more resilient value chains. Africa has great potential for developing viable value chains, as highlighted by the increased level of trade complementarities within and across economies that are at different levels of income and development. However, the assessment emphasizes that such complementarities can be effectively leveraged when both tariff and non-tariff costs are addressed. A more resilient network is observed at the level of a regional economic community rather than at the continental level, due to higher tariff and non-tariff trade costs. Nevertheless, the traded foreign value added volumes by most countries, even at the regional-economic-community level, are too low to have a significant impact on the quality and diversity of exports.

Resilience in connectivity: The potential of regional integration

This section discusses the increased potential of African countries for enhancing their regional trade and development through intraregional value chains. However, high trade costs imply limited access to competitive intermediate inputs, which has a spiking effect on the overall cost of production and, hence, a dampening effect on industrial productivity and competitiveness. This section aims to quantify the effects of economic and connectivity-related risks on the development of intra-African value chains through their net impact on industrial value added, followed by an assessment of how greater trade connectivity (trade logistics and facilitation) and investments can be leveraged to alleviate these key risks.

Figure III. 5
The evolution of connectivity in Africa, 2005–2022



Source: UNCTAD calculations, based on the Africa Infrastructure Development Index.

Box III. 2
Methodology: Infrastructure–industrial output

To assess the effects of infrastructure on industrial output in the Common Market for Eastern and Southern Africa, the conventional Cobb–Douglas aggregate production function is adopted:

$$Y = K^{\alpha}(Al)^{1-\alpha} \quad \text{.....(1)}$$

Where Y is industrial value added, K is capital, l is labour and A is the productivity of labour. In this model, capital is proxied by the stock of infrastructure measured by the Africa Infrastructure Development Index of the African Development Bank. The index has four components: transport, ICT, energy and water and sanitation. However, the industrial value added by the World Bank includes energy (electricity, gas, steam and air conditioning), as well as water and sanitation. As such, these two components of the index are not included as regressors in the model.

In log-linear form, (1) becomes:

$$Y_{i,t} = \beta_0 + \beta_1 tpt_{i,t} + \beta_2 ict_{i,t} + \beta_3 l_{i,t} + \beta_4 X_{i,t} + \varepsilon_{i,t} \quad \text{.....(2)}$$

Where i refers to the country, including 16 countries of the Common Market for Eastern and Southern Africa (Burundi, Comoros, the Democratic Republic of the Congo, Djibouti, Egypt, Eswatini, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, the Sudan, Uganda, Zambia, Zimbabwe) and t refers to the period 2005–2022.

All the variables are in natural logs, tpt is the transport composite index, ict is the ICT composite index, l is the labour participation rate and X is a vector of three factors that affect industrial output. These are inflation, which affects the overall cost of production through the general increase in the cost of intermediate inputs; domestic credit to the private sector as a percentage of GDP; and foreign direct investment. Domestic credit is used as a proxy for the private sector's access to credit. $\mathcal{E}$ is the white noise error term.

Assuming that infrastructure development affects industrial output with a lag, the long-run growth relationship is expressed as follows:

$$Y_{it} = \theta_{0i} + \theta_{1i} lY_{it} + \theta_{2i} tpt_{i,t} + \theta_{3i} ict_{i,t} + \theta_{4i} credit_{i,t} + \theta_{5i} \pi_{i,t} + \theta_{6i} fdi_{i,t} + \theta_{7i} l_{i,t} + \upsilon_{i,t} \quad \text{.....(3)}$$

Assuming that all variables in equation (3) are I (1) and cointegrated such that the error term is an I (0) for all i, then the following autoregressive distributed lag model (1,1,1,1,1,1) holds for equation (3):

$$Y_{it} = \rho_i + \tau Y_{i,t-1} + \beta_{10i} tpt_{it} + \beta_{11i} tpt_{i,t-1} + \beta_{20i} ict_{it} + \beta_{21i} ict_{i,t-1} + \beta_{30i} credit_{it} + \beta_{31i} credit_{i,t-1} + \beta_{40i} \pi_{it} + \beta_{41i} \pi_{i,t-1} + \beta_{50i} fdi_{it} + \beta_{51i} fdi_{i,t-1} + \beta_{60i} l_{it} + \beta_{61i} l_{i,t-1} + \varepsilon_{it} \quad \text{.....(4)}$$

The error collection model can be specified as follows:

$$\Delta Y_{it} = \phi_i [Y_{i,t-1} - \theta_{0i} - \theta_{1i} tpt_{it} - \theta_{2i} ict_{it} - \theta_{3i} credit_{it} - \theta_{4i} \pi_{it} - \theta_{5i} fdi_{it} - \theta_{6i} l_{it}] - \beta_{11i} \mathrm{d}Y_{it} - \beta_{21i} \mathrm{d}tpt_{it} - \beta_{31i} \mathrm{d}ict_{it} - \beta_{41i} \mathrm{d}credit_{it} - \beta_{51i} \mathrm{d}\pi_{it} - \beta_{61i} \mathrm{d}fdi_{it} - \beta_{71i} \mathrm{d}l_{it} - \varepsilon_{it} \quad \text{.....(5)}$$

Where:

$\theta_{0i} = \rho_i / (1-\tau); \theta_{1i} = (\beta_{10i} + \beta_{11i}) / (1-\tau); \theta_{2i} = (\beta_{20i} + \beta_{21i}) / (1-\tau);$
$\theta_{3i} = (\beta_{30i} + \beta_{31i}) / (1-\tau); \theta_{4i} = (\beta_{40i} + \beta_{41i}) / (1-\tau);$

$\theta_{5i} = (\beta_{50i} + \beta_{51i}) / (1-\tau); \theta_{6i} = (\beta_{60i} + \beta_{61i}) / (1-\tau);$
$\theta_{7i} = (\beta_{70i} + \beta_{71i}) / (1-\tau); \Phi_i = -(1-\tau)$

This panel vector autoregressive model is estimated using a pooled mean group estimator. It is augmented with the impulse response function to visualize the nature of the interaction between industrial output and the infrastructure variables of interest and to ascertain the nature of the interaction between the different components of infrastructure.

Thus, it is assumed that on one hand, good infrastructure is expected to promote industrial growth, albeit with a lag. On the other hand, the growth of industries could also stimulate the development and maintenance of economic infrastructure. Although a potential endogeneity bias cannot be verified completely, endogeneity from reverse causality is addressed in the first lag of all the independent variables. The estimated panel vector autoregressive model is specified as follows:

$$Y_{it} = \beta_0 + \sum_{i=1}^{n} \beta_1 Y_{i,t-1} + \varepsilon_{it} \quad \text{.....(6)}$$

Where Y is a five-vector variable: industrial growth, transport infrastructure, ICT, credit to the private sector and labour participation rate. This is estimated using a panel vector autoregressive model estimator. The stability of the model is confirmed before proceeding with the estimation of the orthogonalized impulse response function, which estimates and maps the response path of, for example, variable X to a standard deviation change in, for example, variable j, while holding the responses of all other variables constant. In other words, the orthogonalized impulse response function is preferred to isolate the unique response path of industrial growth to a standard deviation change in, for example, transport infrastructure, such that the response of X to a standard deviation in j at time i is specified as follows:

$$IRF_{x,j}(i) = \psi_{x,j}(i) \quad \text{.....(7)}$$

The Im–Pesaran–Shin and augmented Dickey Fuller unit root tests are used to ascertain the independence of the panels and the Akaike information criterion for optimal lag selection.

Source: UNCTAD.

Mitigating regional connectivity-related risks

Both ICT and transport infrastructure remain underdeveloped in Africa, notwithstanding significant improvements in ICT infrastructure since 2010

Good infrastructure, generally perceived as the stock and quality of transport, energy, ICT and water and sanitation, lays a robust foundation for enhanced efficiency in production and distribution (Gondwe and Mbonigaba, 2023) and boosts the ability of countries to leverage their comparative advantage and, in general, exploit regional economies of scale (Azolibe and Okonkwo, 2020; Fontagné et al., 2023; Hummels, 2007). Therefore, it remains central to the geographical patterns in investment and production and, hence, in the advancement of regional value chains in the African Continental Free Trade Area.

However, all components of the Africa Infrastructure Development Index of the African Development Bank are low in most African countries, forming deterrents to industrial productivity and growth (figure III.5). Notwithstanding the turnaround and steady improvements in the ICT network and utilization since 2010, aggregate scores of less than 20 indicate persistent gaps in most countries. Minimal improvements can be observed for net energy generation per capita; on average, the road transport network has been deteriorating in some countries.

This section empirically evaluates the extent to which these infrastructure gaps affect industrial value added using data on countries from the Common Market for Eastern and Southern Africa and draws relevant inferences for Africa as a whole, with a focus on transport and ICT infrastructure (figure III.6). The methodology used for the analysis is provided in box III.2.

Transport

Although well-functioning transport networks and corridors are essential for countries' trade, economic growth and employment creation, transport infrastructure is extensively highlighted in the literature as a key driver of trade costs (UNCTAD and Islamic Development Bank, 2022). These are generally characterized by higher and sometimes comparable impacts, with tariffs in facilitating trade and enhancing the productivity and competitiveness of firms (Anderson and van Wincoop, 2004; Baier and Bergstrand, 2001; Fontagné et al., 2023). UNCTAD research also shows that the potential benefits of tariff reductions in the context of the African Continental Free Trade Area are by far outweighed by the elimination of non-tariff barriers (Vanzetti et al., 2018).

Developing countries must do twice as much transport work (calculated as multiplying the weight of the goods by the distance they need to be shipped) as developed countries (UNCTAD, 2024i). Moreover, in landlocked countries, transport costs are estimated to be generally higher by up to 50 per cent, compared with in countries on the coast, losing up to 40 per cent of the export value in transport costs (Economic Commission for Africa, 2004; Economic Commission for Africa et al., 2010; Naudé and Matthee, 2007; Piermartini, 2021; World Trade Organization, 2021). This is mainly because of their remoteness from the main global markets, the impact of which on trade costs, in most cases, is further compounded by underdeveloped transport infrastructure and inefficient transport and logistics systems. Notably, these differences in the net transport costs between countries and regions significantly contribute to the viability of the comparative advantage that underlies the productivity of industries and, hence, the mapping of investments and production hubs and the overall value chains within and across regions.

Africa has 16 landlocked countries[10] – more than any other region – and is among the continents with the least developed transport infrastructure. Notwithstanding various efforts at the national and regional levels to improve transport and logistics

[10] Botswana, Burkina Faso, Burundi, Central African Republic, Chad, Eswatini, Ethiopia, Lesotho, Malawi, Mali, Niger, Rwanda, South Sudan, Uganda, Zambia, Zimbabwe.

infrastructure, missing links persist within and across different modes of transport. For example, focusing on road transport, which accounts for the bulk of African trade and distribution costs, only Botswana, Cabo Verde, Egypt, Libya, Mauritius, Seychelles and South Africa have well-integrated road networks (figure III.6). According to the World Trade Organization (2021), transport costs in Africa are three times higher than in the United States. In addition, UNCTAD (2021c) shows that intra-African transport costs, measured as the share of trade value per 10,000 km, are much higher than extra-African transport costs, undermining the development of intra-African value chains.

Transport costs constitute the lion's share of trade and marginal costs of production and are thus key in influencing the direction of industrial productivity and competitiveness. Countries in Africa with good quality roads – Egypt, Mauritius and South Africa, for example – are also more advanced in other transport and logistics infrastructure, such as railways, ports and airports, as well as in the development of economic infrastructure, such as energy and ICT (figure III.6). This suggests an increased skewness of potential investments and a high concentration of value chain components in these few countries because of better connectivity and lower trade and production costs.

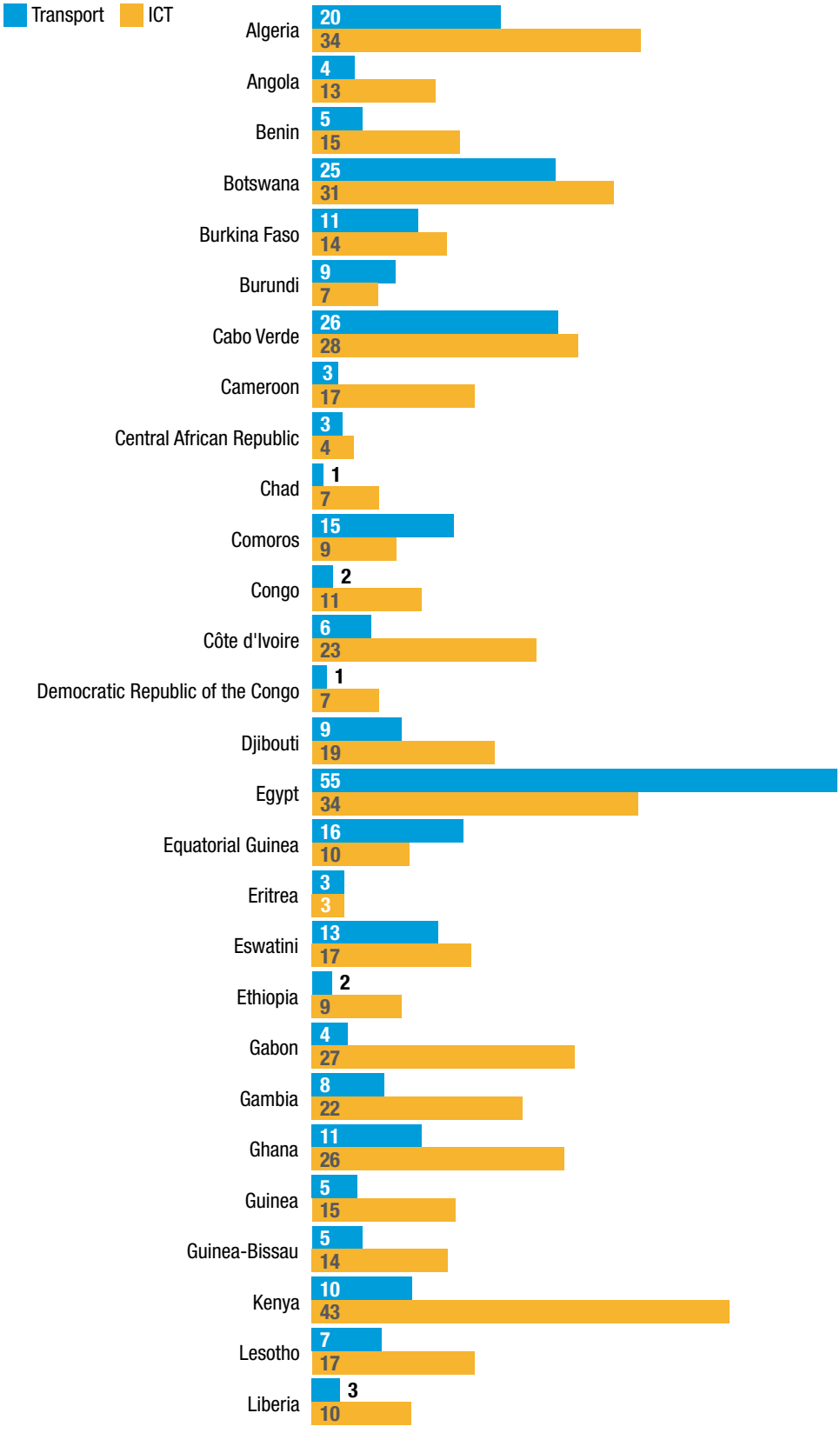
A well-developed transport infrastructure, as in Egypt (figure III.6), has a positive influence on industrial productivity, which may be a contributing factor to the effective development of intra-African value chains in the African Continental Free Trade Area, particularly regarding the essential role of the geographical footprint of the value chain in minimizing the impact of country-specific risks. Most importantly, this underscores the extent to which connectivity-related benefits can improve the ability of African countries to effectively participate in regional value chains. A lack of infrastructure, in particular reliable transport connectivity, compounds the difficulties of establishing well-integrated production and supply networks across the continent (UNCTAD, 2023a).

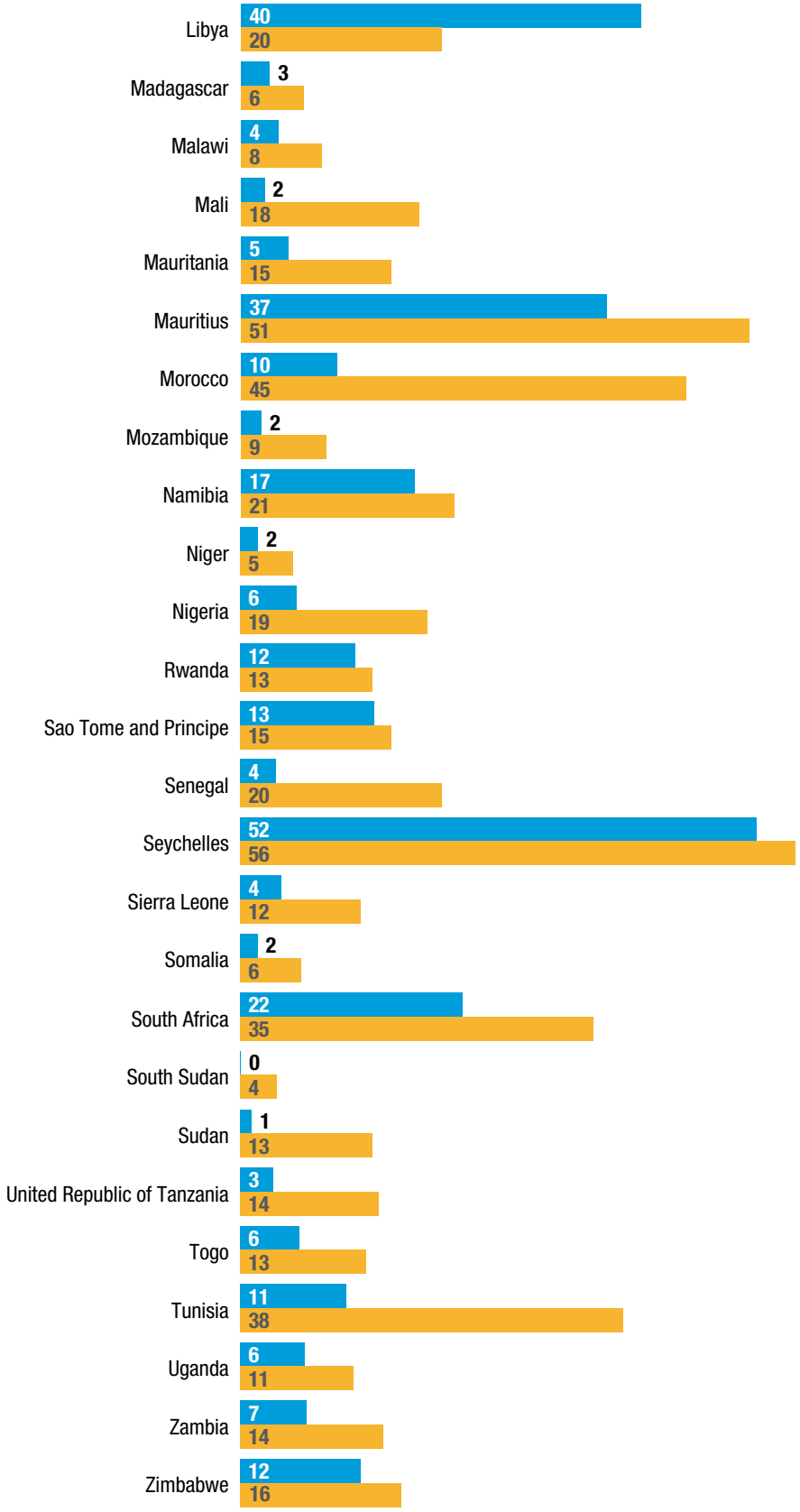
Estimates for the Common Market for Eastern and Southern Africa show that well-established transport infrastructure stimulates industrial growth positively at the regional level (box III.2 and figure III.7). While this could be an impact of the good network in a few countries, along with other factors, the small value of the transport coefficient further emphasizes a low positive impact, if any, on industrial growth in several countries in the long term. This is further highlighted in figure III.7, which indicates an initial negative response of industrial output to improvements in transport infrastructure, albeit with marginal improvements over the projected 10-year horizon. Thus, while improvements in road transport networks are effective in stimulating growth from the second or third year, their positive influence is marginal before becoming constant in the medium term. While this might suggest that the value addition of an additional stock of quality road networks to industrial output diminishes over time, in most countries, deterioration of the road network, for instance, through lack of proper maintenance or overload of heavy trucks, could be the most plausible reason for this trend (UNCTAD and Islamic Development Bank, 2022). Fontagné et al. (2023) suggest that complementing the implementation of the African Continental Free Trade Area with substantial investments in transport and logistics to reduce associated monetary and time costs could expand exports from Africa by 11.5 per cent, compared with the 3.4 per cent gains in the African Continental Free Trade Area but without cutting transportation costs. Moreover, Tandrayen-Ragoobur et al. (2022) found that paving all roads in the West African Economic and Monetary Union would increase its trade flows by 3.5 per cent. Thus, the reduction of net transportation and logistics costs across countries is bound to boost the productivity of industries and the overall trade competitiveness of most countries in the region.

Africa has 16 landlocked countries – more than any other region – and is among the continents with the least developed transport infrastructure

Figure III. 6

Transport and information and communications technology infrastructure composite indices, 2022





Source: UNCTAD, based on data from the Africa Infrastructure Development Index.

Information and communications technology

Digital technologies will be key to strengthening supply chain resilience (UNCTAD, 2024i). The interaction between transport and ICT infrastructure development is important. Figure III.7 shows potentially divergent (non-complementary) development efforts in the two infrastructure components. On aggregate, each infrastructure component has a somewhat insignificant response to improvements in the other component, potentially highlighting non-complementary prioritization in the development planning of infrastructure in the region. Notably, this undermines the importance of a good road network, including in remote areas, to enhance access to intermediate goods and services that are necessary for higher industrial productivity. For example, in Africa, a resource-rich continent, the internalization of technology in essential sectors such as agriculture to raise industrial output requires good access roads for both the movement of machinery and human skills. Thus, in addition to the direct reduction of marginal production costs, the enhancement of transport and logistics infrastructure is also relevant in stimulating development in other pivotal areas with a direct and/or indirect bearing on overall industrial output and growth.

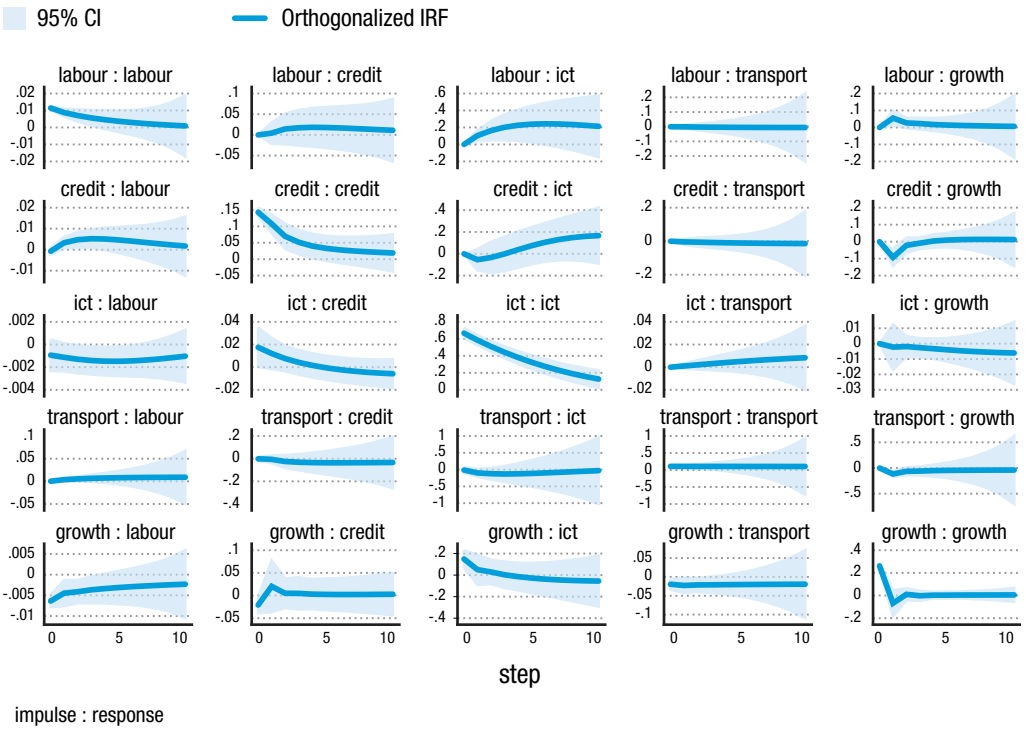
Notwithstanding the steady growth of ICT infrastructure, **only 9 African countries have reliable and efficient ICT networks**, indicating significant gaps for most countries

Notwithstanding the steady growth of ICT infrastructure and utilization of its services from 2010, the aggregate score of the index remains below 20 (figure III.5). This indicates significant gaps in ICT goods and services from within the continent for most countries. Only nine countries in Africa[11] have compact ICT networks with countries that are developing ICT potential, including Cabo Verde, Côte d'Ivoire, the Gambia and Namibia. This is equally reflected in the composition of the region's exports where, for example, ICT goods and services accounted for only 5.2 per cent of its total services exports in 2019 (UNCTAD, 2022b). Thus, on aggregate, most African countries that have a relatively higher level of internalization of technology and other pertinent ICT-related goods and services do so at relatively higher costs than comparable countries in other regions, owing to limited accessibility from within the continent.

In some countries in the Common Market for Eastern and Southern Africa, the net impact of ICT on industrial value added and growth is negligible and sometimes negative (figure III.7). For instance, while short-term estimates show that ICT positively influences industrial growth in countries such as the Comoros, Kenya and Rwanda, significant negative outcomes are observed for others, such as Zambia. Of interest in these results are the positive outcomes in countries such as the Comoros, which is among the 12 countries having the least developed and accessible ICT goods and services from domestic markets, suggesting the importance of regional and international markets in closing domestic ICT gaps. Overall, the growing ICT sector has yet to unleash the expected positive transformation in the industrial sector, notwithstanding the marginal favourable impact on industrial growth between 2005 and 2022. This is reflected in figure III.7, where the response in industrial output to changes in the ICT sector remains negligible. However, the current pace of development in the ICT sector across Africa has contributed to reducing the digital divide between Africa and the rest of the world and in effectively supporting smart manufacturing and spurring industrial growth, particularly when it translates into the increased internalization of innovative technologies in industrial production and processes.

[11] Algeria, Botswana, Egypt, Kenya, Mauritius, Morocco, Seychelles, South Africa, Tunisia.

Figure III. 7
Common Market for Eastern and Southern Africa: Impulse response function



Source: UNCTAD.
Note: Credit is the domestic credit available to the private sector as a percentage of GDP. Growth is the industrial value added growth rate. Labour is the total labour participation rate. Transport and ICT are the composite transport infrastructure and ICT indices of the African Development Bank. All variables are in natural logs. The variables are stated as impulses and responses. The first variable in each frame is the impulse; the second is the response. For example, in labour : credit, the frame shows that credit is the response or reaction to the impulse of labour or labour market shocks.

Addressing the gaps in trade logistics and facilitation

While countries in Africa have experienced reduced tariffs owing to bilateral and multilateral trade agreements, non-tariff barriers remain high in the region. Non-tariff barriers generally refer to policy measures other than ordinary customs tariffs, which can potentially have an economic impact on international trade in goods, changing prices traded, quantities or both (UNCTAD, 2019b).

Non-tariff trade costs

The latest trade cost database of the Economic and Social Commission for Asia and the Pacific and the World Bank indicates that, on average, goods traded between African countries accrue a 292 per cent ad valorem equivalent in non-tariff trade costs, which include all additional costs other than tariff costs involved in trading goods. Figure III.8 depicts several patterns in non-tariff trade costs within regional economic communities. The intraregional and interregional economic community non-tariff trade costs range from about 135 per cent to over 400 per cent, with large variations among regional economic communities. For instance, the average in intra-East African Community non-tariff trade costs from 2016 to 2021 is 135 per cent, indicating that on average, the non-tariff costs of trading all goods within

Intraregional and interregional economic community **non-tariff trade costs range from about 135% to over 400%**, with large variations among regional economic communities

the Community amount to about 135 per cent of the value of goods. Similarly, the average of non-tariff trade costs for the East African Community and the Common Market for Eastern and Southern Africa during the same sample period is 254 per cent, suggesting that traded goods between these regional economic communities are subject to additional ad valorem equivalent trade costs of 119 percentage points, compared with traded goods within the East African Community. Intraregional economic community non-tariff trade costs are sizeably lower than those in an interregional economic community, which can be attributed to more harmonious sanitary and phytosanitary measures, shorter transportation times, fewer border formalities, more consistent licencing and documentation requirements and fewer technical barriers to trade within the regional economic communities. In addition, the data show that non-tariff trade costs are widespread in Africa. Non-tariff trade costs decreased in some regions, for example, within the Common Market for Eastern and Southern Africa, and between the Common Market and the East African Community and the Economic Community of West African States. However, these costs rose within various interregional economic communities, for instance, between the Common Market for Eastern and Southern Africa and the Southern African Development Community, as well as between the East African Community and the Economic Community of West African States. This calls for stronger initiatives at the continental level to reduce non-tariff trade barriers systematically. The online mechanism for reporting, monitoring and eliminating non-tariff barriers under the African Continental Free Trade Area is a key operational instrument to report and resolve perceived non-tariff barriers to trade. According to UNCTAD (2021c), most reported non-tariff barriers relate to rules of origin, lengthy and costly customs procedures, costly road charges and technical barriers to trade and sanitary and phytosanitary measures.

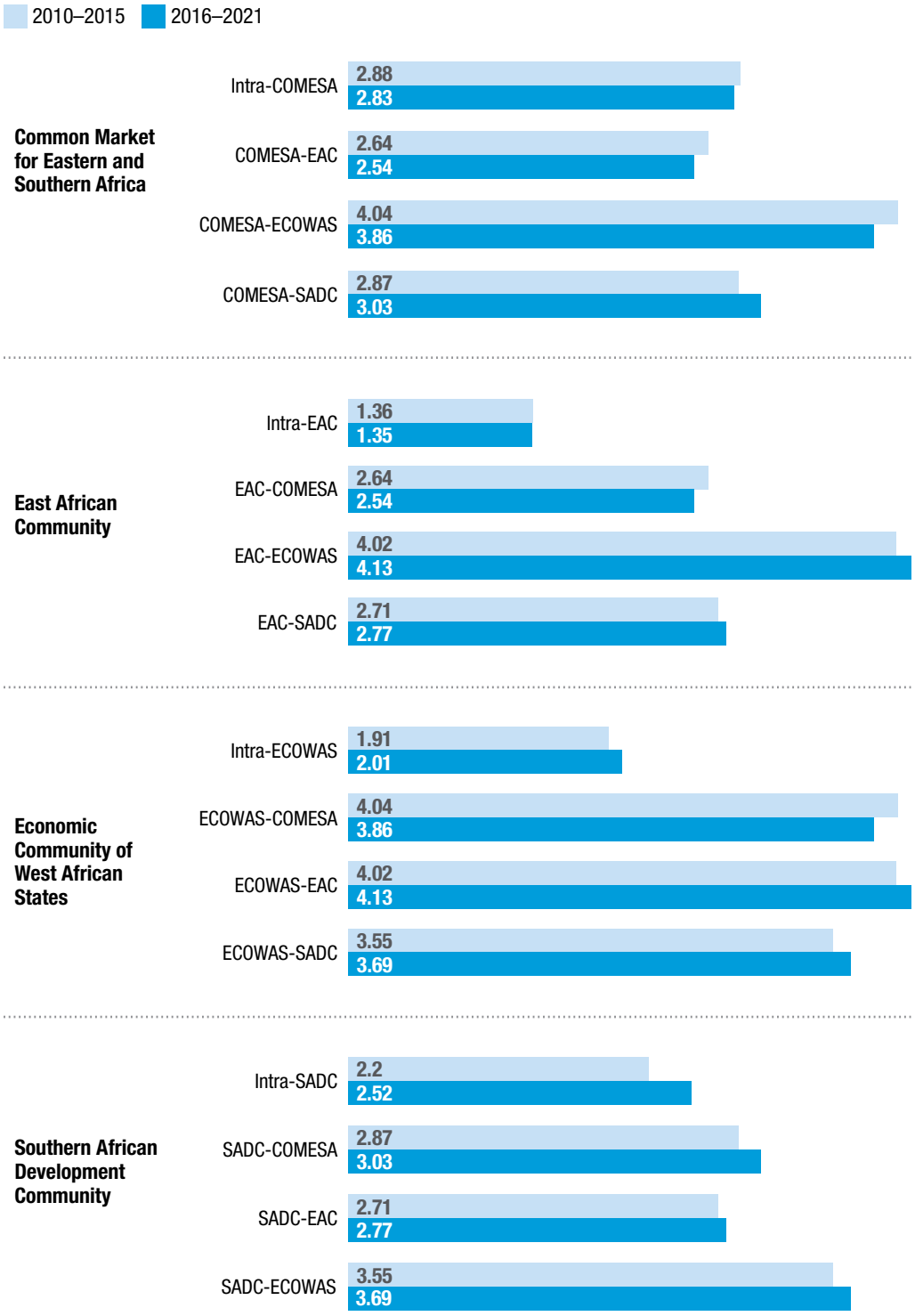
While non-tariff measures are trade rules and regulations introduced to attain legitimate policy objectives such as protecting the environment and ensuring consumer safety, health and well-being, they can affect prices and quantities traded through a range of technical and non-technical requirements such as sanitary and phytosanitary measures (UNCTAD, 2024k).

With the gradual, significant reduction of tariff costs following the successful implementation of various free trade agreements and in 2018, the adoption of the Agreement Establishing the African Continental Free Trade Area, non-tariff measures – not tariffs – are likely to represent a major risk to trading in Africa, with each non-tariff measure estimated to raise trade costs by at least 1.5 per cent on average (UNCTAD, 2018b). UNCTAD (2018b) further suggests that African countries could gain $20 billion in GDP growth by tackling non-tariff measures at the continental level. Overall, non-tariff measures are estimated to restrict intra-African trade three times more than regular customs tariffs (Sanjuán López et al., 2021; UNCTAD, 2018b). In particular, inadequate transport and logistics infrastructure, inefficient border and port management, costly and lengthy customs procedures and stringent regulatory frameworks are among the main risks that undermine gains from trade across countries and regions. Among other things, they result in border delays and the increased unpredictability of delivery times of intermediate and final goods, with an overall surging effect on transaction costs. This section assesses how and the extent to which the trade logistics and trade facilitation instruments undertaken by African countries have been effective in curbing non-tariff trade costs.

Figure III. 8

Average non-tariff trade costs among and between regional trading blocs in Africa

(Percentage ad valorem equivalent)



Source: UNCTAD calculations, based on data from the trade cost database (Economic and Social Commission for Asia and the Pacific–World Bank).
Note: The non-tariff trade costs capture all additional costs other than tariff costs involved in trading goods bilaterally rather than domestically. These include, but are not limited to, transportation costs, direct and indirect costs associated with currencies and languages and various import and export procedures.

The implementation of a single window in Rwanda, with assistance by UNCTAD, **achieved a reduction of export clearance times from 67 hours to 34**

Progress in trade facilitation

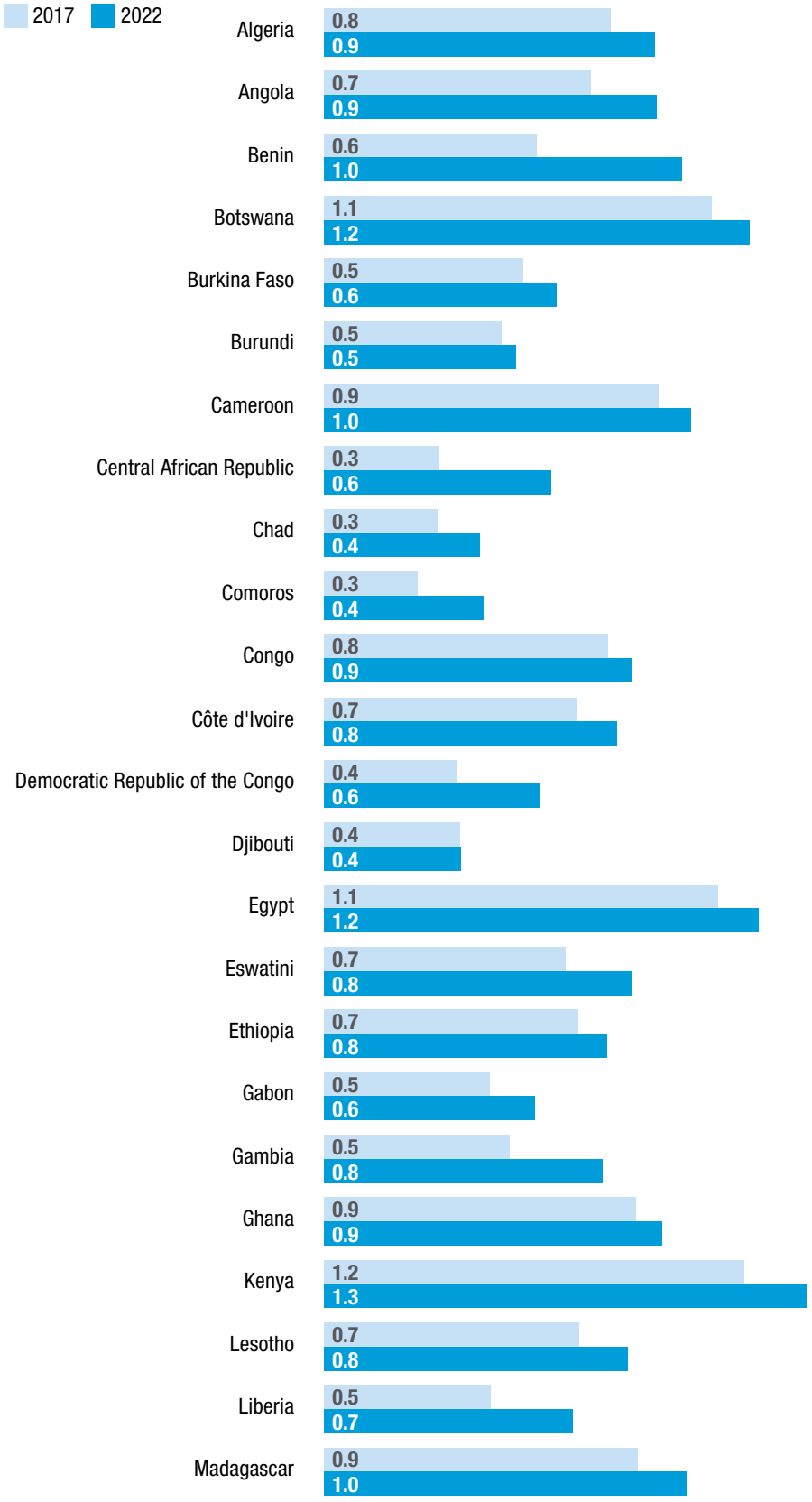
Trade facilitation remains central in the simplification and harmonization of import and export procedures to reduce or eliminate the negative effect of non-tariff measures on total trade costs. It broadly encompasses border policies and procedures, ranging from documentation and inspection requirements to border agency cooperation. Trade facilitation provisions in the regional economic communities and the African Continental Free Trade Area are generally consistent with the provisions in other international agreements (for example, the Agreement on Trade Facilitation of the World Trade Organization) and customs conventions (for instance, the Revised Kyoto Convention of the World Customs Organization). At the national level, most countries have adopted a multidimensional approach to improve their competitiveness and enhance market access, covering regulatory frameworks relating to trade and investment and economic infrastructure. Notably, the measures undertaken by countries are aligned with their commitments at the regional-economic-community level, suggesting consistency with relevant provisions in other international agreements. UNCTAD assists African countries in identifying their trade facilitation needs and supports the implementation of specific facilitation measures. For instance, the implementation of a single window in Rwanda, with assistance by UNCTAD, achieved a reduction of export clearance times from 67 hours to 34 (UNCTAD, 2023h).

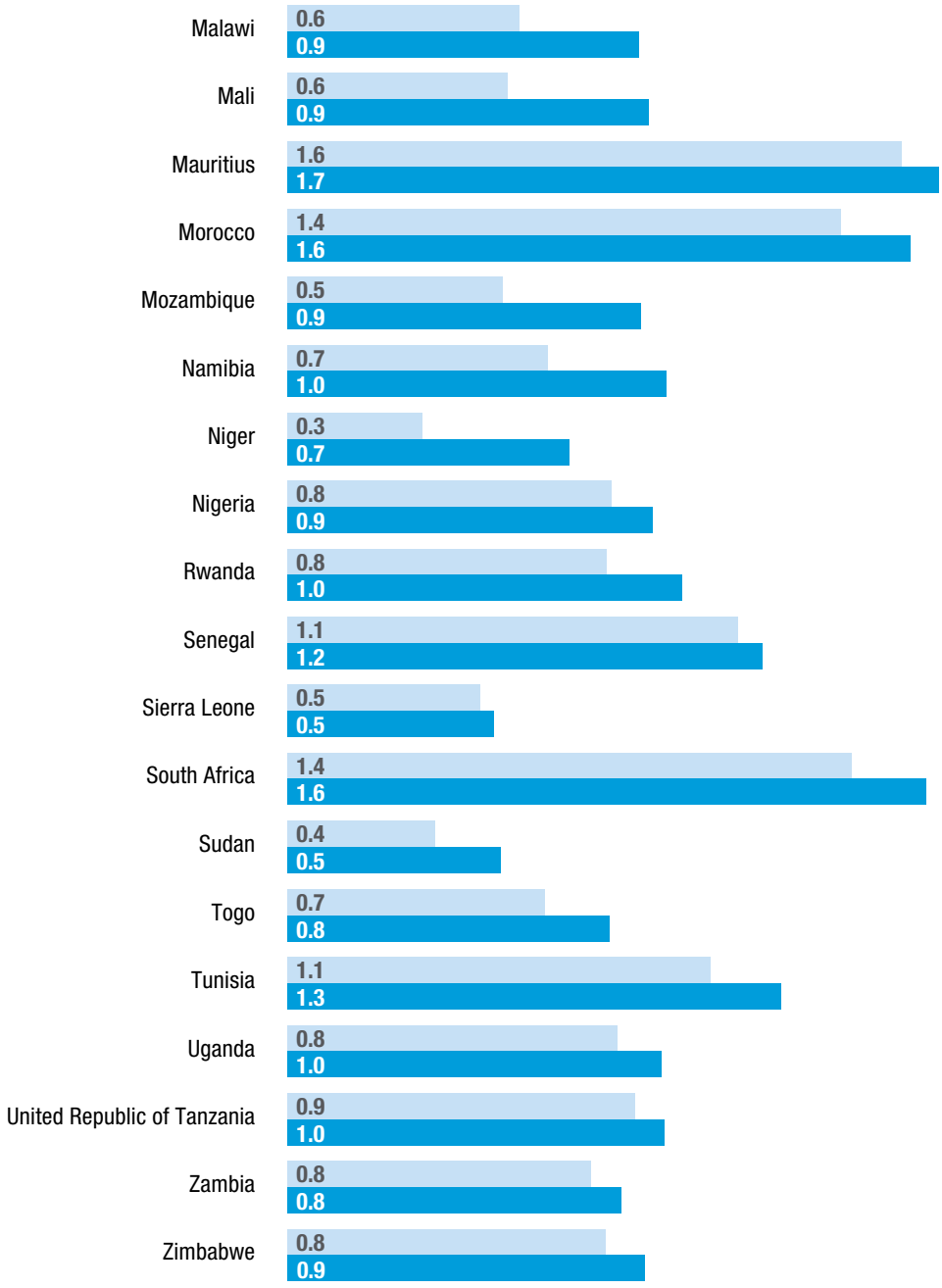
Assessing the trade facilitation performance of countries in Africa using the agreed indicators under the aforementioned Agreement on Trade Facilitation, figure III.9 illustrates significant improvements across Africa from 2017 to 2022. The top 10 performers during this period are Benin, the Niger, Mali, Mozambique, the Central African Republic, Namibia, the Gambia, the Democratic Republic of the Congo and Liberia (in order of performance). However, the figure further shows that notwithstanding these improvements, there remains a mounting need for further progress in most countries in ensuring efficiency and less costly processes in the movement of intermediate inputs, final goods and people within and across African regions. Except for Morocco, South Africa and Tunisia, the average score for most countries in 2022 was considerably below the average global best-practice score. Other countries that made commendable strides in this area are Botswana, Cameroon, Egypt, Kenya, Senegal and Tunisia.

At the regional-economic-community level, trade facilitation programmes include initiatives such as one-stop border posts, which focus on streamlining and facilitating trade and the movement of goods and people between neighbouring countries (UNCTAD, 2021c). Countries in Africa have also collaborated to report and monitor non-tariff barriers jointly. In 2008, the Common Market for Eastern and Southern Africa, the East African Community and the Southern African Development Community set up a freely accessible online platform[12] that enables economic operators to identify, remove and monitor the non-tariff barriers that occur while conducting businesses within these three regional economic communities (World Bank and Horn of Africa Initiative Secretariat, 2023). Within this tripartite non-tariff barrier monitoring system, each regional economic community has established specific regulations that provide the legal foundation for adopting this platform, as follows: Regulations for the Elimination of Non-tariff Barriers, 2014 (Common Market for Eastern and Southern Africa), the Elimination of Non-tariff Barriers Act, 2017 (East African Community) and the Protocol on Trade (Southern African Development Community).

[12] See www.tradebarriers.org/.

Figure III. 9
Average trade facilitation performance, 2017 and 2022





Source: UNCTAD calculations, based on data from the Trade Facilitation Indicators database (OECD).

The Southern African Development Community Business Council (2023) mentions six deficiencies regarding non-tariff barrier resolutions in the region, including an opaque resolution process, ineffective national monitoring committees and underprepared national focal points. Moreover, poor trade logistics and glaring trade facilitation gaps in most countries compound non-tariff trade costs in Africa.

Other key trade facilitation instruments in Africa include the Regional Customs Transit Guarantee scheme, a customs bond guarantee transit programme that facilitates the smooth movement of goods in the Common Market for Eastern and Southern Africa.

Among other things, the scheme ensures recovery of taxes by respective Governments from their guarantors in the event of the illegal disposition of goods for domestic use in the transit country. The Common Market for Eastern and Southern Africa also has a virtual trade facilitation system, which monitors consignments along its corridors, providing real-time full visibility of goods with a Common Market for Eastern and Southern Africa seal. The online system further integrates other key trade facilitation instruments in the region, including a "yellow card" insurance scheme for motor vehicles, a transit data transfer module and a customs declaration document (Common Market for Eastern and Southern Africa, 2024). Other regional online monitoring and resolution systems include the Economic Community of West African States trade obstacles alert mechanism and the West African Economic and Monetary Union Observatory of Abnormal Practices. At the continental level, the Guided Trade Initiative of the African Continental Free Trade Area, regulatory audits and online non-tariff barriers reporting, monitoring and eliminating mechanisms help to further reduce non-tariff barriers in intraregional economic communities and most importantly, in interregional economic communities, to facilitate the development and strengthening of trade and investment ties across regions.

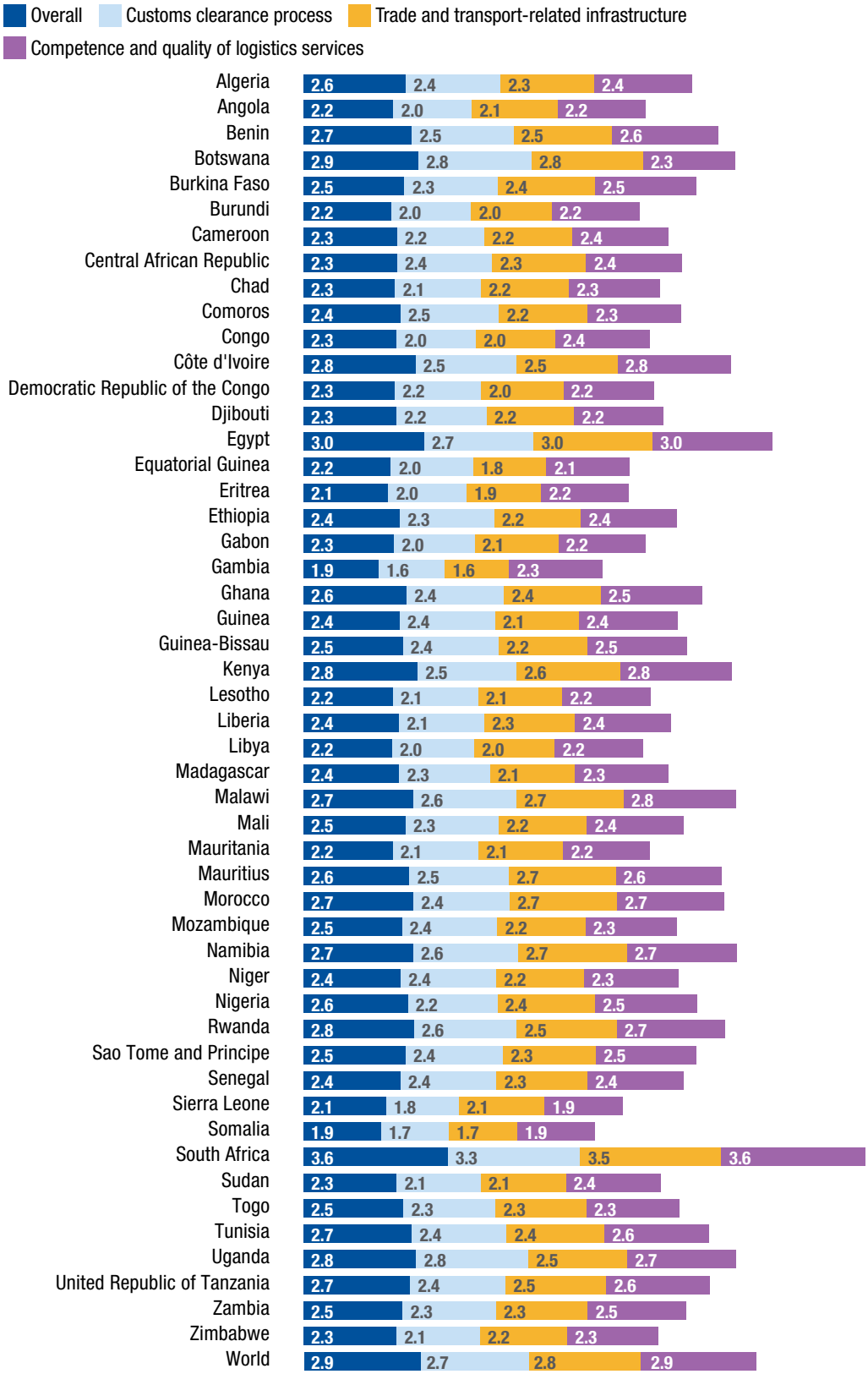
Persistent gaps in trade logistics

Trade logistics, understood as the management process that includes the entire flow of goods and information between suppliers, producers and consumers, remains an indispensable component of supply chains. This process has a significant implication on the mobility and timely delivery of intermediate and final products. Gaps across key logistical components across Africa compromise the potential for supply chain diversification and pose a major risk to building resilience.

In the overall logistics performance index, only Egypt and South Africa exceeded the global average score (figure III.10). With regard to specific indicators, the performance of Botswana, South Africa and Uganda surpasses the global average score on customs clearance and processes; only Egypt and South Africa score higher on trade and transport-related infrastructure and the quality of logistics. In line with the centrality scores under trade in value added networks, the logistics performance of the countries holding these networks (Djibouti, the Gambia, Mauritania, Seychelles, South Africa, Zambia) is notable. Increased transaction costs are a potential deterrent to the effective development of the supply and value chains in the African Continental Free Trade Area. For instance, Zimbabwe stands out in 2022 as one of the principal suppliers of intermediate inputs in all three sectors (manufacturing, the primary sector and services). With an overall score of 2.3 against the global average of 2.9, Zimbabwe performs better than many other African countries (figure III.10), but the deficiencies in its logistics-related infrastructure and services still pose risks to supply chains in Africa. Moreover, the Gambia, which is also at the core of the manufacturing and primary sector networks as a supplier, ranks lowest in the logistics performance index. In particular, it has the lowest score in customs clearance processes and is third from the bottom after Sierra Leone and Somalia in competence and quality of logistics services. This suggests significant delays and increased uncertainty in the delivery of intermediate inputs originating from the Gambia and/or passing through it. With a large proportion of countries participating in the value chains in Africa through forward integration (as suppliers of raw and/or semi-processed intermediate goods), the weak performance of most of these countries in the index is a potential deterrent to the development of supply and viable value chains in the African Continental Free Trade Area.

Gaps across key logistical components across Africa compromise the potential for supply chain diversification **and pose a major risk to building resilience**

Figure III. 10
Logistics performance, by country, 2012–2022



Key challenges in logistics performance across countries are observed in border-agency management and, **mostly, process automation**

Source: UNCTAD calculations, based on data from the World Development Indicators database (World Bank).
Note: Index scores range from 1 (low) to 5 (high).

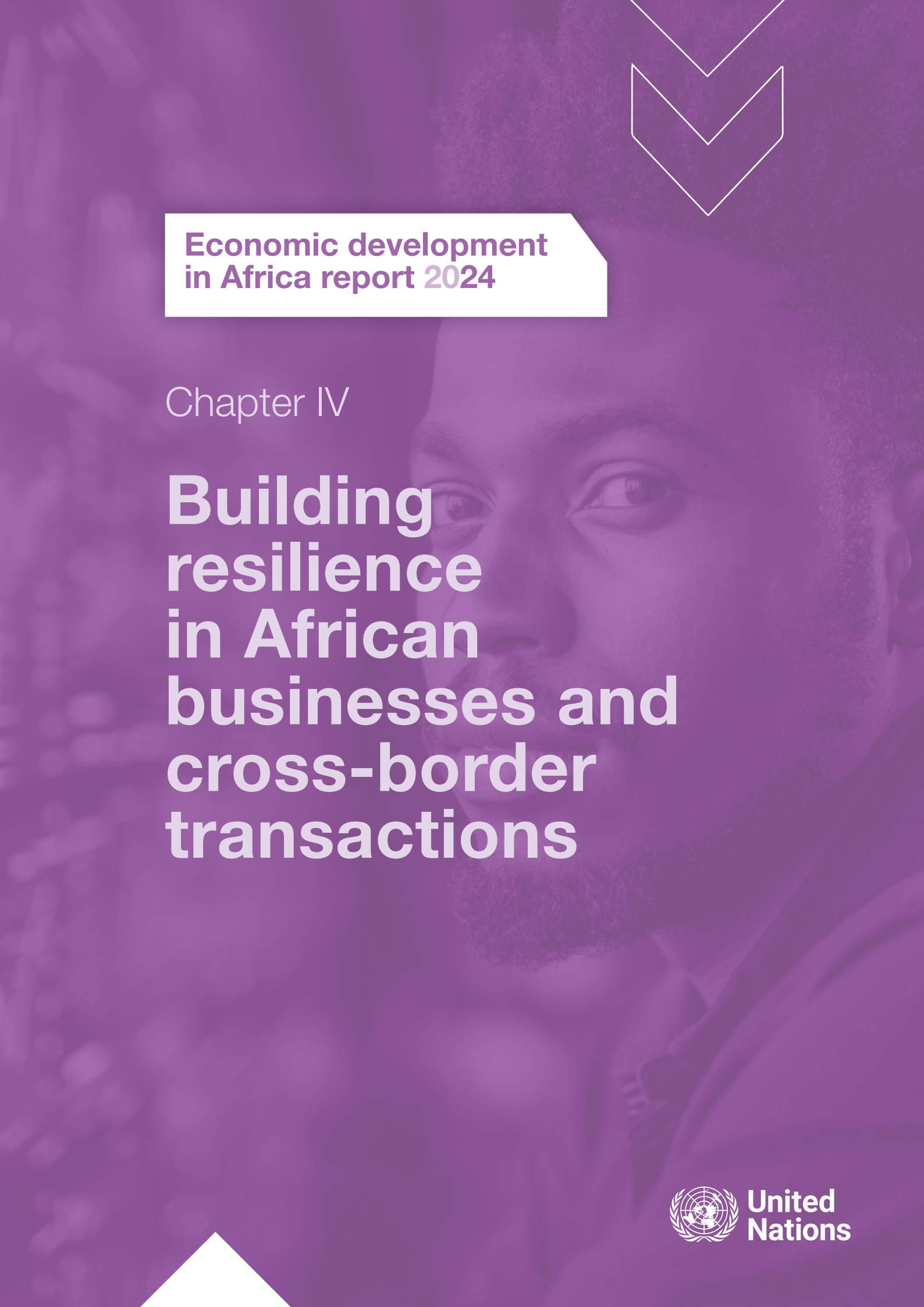
Conclusion

Within the context of regional integration and the African Continental Free Trade Area, this chapter assesses opportunities for effective participation in regional value chains and highlights potential risks. Through network analysis, the chapter provides an overview of the structural changes in intra-African trade in value added from 2012 to 2022, outlining the roles and importance of the respective countries in the trade in value added networks. In addition, the chapter also empirically evaluates the extent to which the potential risks for the regional value chains are undermining the development of viable value chains in Africa through impacts on industrial productivity and growth. Lastly, the chapter discusses avenues for minimizing potential trade and investment risks.

The assessments underscore the heightened potential that countries in Africa have for enhancing their regional trade and development through intraregional value chains. However, the high concentration of intermediate input markets, strong dependence on a limited range of primary export commodities and poor economic infrastructure limit their capabilities in exploiting comparative advantages for profitable participation in regional and global value chains. Moreover, non-tariff trade costs remain a daunting hurdle in the movement of people and goods within and across regional economic communities. On average, non-tariff trade costs account for nearly three times the value of traded goods in Africa, potentially weakening the capabilities of most countries to take part effectively in regional value chains.

Transport, ICT and energy are also necessary for growth and development in the region. However, these sectors remain underdeveloped in most countries, restraining industrial output and growth. This is likely to hinder the development of viable value chains. Although Africa is using less than 10 per cent of its power-generation capacity, it has the potential to fully meet its energy needs with renewable and non-renewable energy sources (see chapter IV).

Well-established transport, ICT and energy infrastructure is crucial to de-risk trade opportunities



Economic development in Africa report 2024

Chapter IV

Building resilience in African businesses and cross-border transactions

United Nations

Introduction

In many countries in Africa, situations of vulnerability to polycrisis shocks that prevail in the economic and connectivity domains, such as high non-tariff trade costs, weak infrastructure connectivity, low levels of participation in trade networks, high concentration of exports and a low degree, or lack of, economic complexity, can contribute to a shrinking appetite for business operations and capital flows to countries in Africa and further undermine the already challenging business and investment environments on the continent (see chapters II and III). Such structural downside factors may affect the ability and willingness of businesses and investors, both foreign and domestic, to venture into Africa or move their goods, services and capital across frontiers. This also concerns investors seeking business partnerships beyond windfall profit expectations (Hartwich and Hammer, 2021). Ultimately, barriers to the flow of goods and capital across borders, whether tariff-based or structural, culminate in regional market vulnerability, which may place African companies at a disadvantage and breed inconsistency in their ability to reap the economic benefits and growth potential of regional trade blocs such as the African Continental Free Trade Area.

However, the private sector's potential to leverage regional market advantages is offset by deficits in the financial system; scarcity in the factors of production, such as capital and entrepreneurship; regulatory compliance challenges and insufficient infrastructure integration in most African countries (see Economic Commission for Africa, 2020; UNCTAD, 2023a; Hartwich and Hammer, 2021).

These are clearly factors that derive from or can further contribute to the economic, connectivity and energy vulnerabilities faced by many countries in Africa (see chapter I), affecting their ability to mitigate the trade and investment risks presented by the global polycrisis. As outlined in previous sections of the report, key structural factors of economic and connectivity vulnerabilities, such as a lack of adequate infrastructure and technological solutions, limited trade logistics and high trade costs, can erode stability and growth prospects in African economies. This chapter will assess key financial and operational enablers and instruments that can help businesses in Africa, especially SMEs, better manage various and often contiguous crises.

Firm-related risks and opportunities

The general narrative overemphasizes the risks of trading and investing in Africa, as the region continues to score poorly in critical areas, including access to finance, infrastructure, bureaucratic red tape and governance. For instance, in 2023, the Economist Intelligence Unit Operational Risk Services painted a picture of entrenched political instability and democratic recession across most of Africa. The region scored 74/100 for political stability and governance effectiveness, which represents the largest operational risk in Africa (Economist Intelligence Unit, 2023).[1] The five countries in Africa with the lowest rating for operational risks in mid-2023 due to their "comparatively business-friendly tax and trade policies and relative political stability and government effectiveness" were Mauritius, Cabo Verde, Botswana, South Africa and Morocco (Economist Intelligence Unit, 2023).

Situations of vulnerability to polycrisis shocks can contribute to a **shrinking appetite for business operations and capital flows** to countries in Africa

[1] The Economist Intelligence Unit operational risk model assesses 180 countries according to overall operating risk. The model evaluates business conditions in the markets covered against the changing political and economic landscape to rank countries by operating risk. It produces scores quarterly across 10 key operational risk categories and 70 subcategories. Risk levels are based on a score out of 100, with 100 being the highest risk.

Figure IV. 1
Resilience to shocks in selected countries

Source: UNCTAD.
Note: Values represent a score out of 100.

These are also countries that demonstrated resilience across many of the six domains of vulnerability identified in chapter I. Figure IV.1 shows that the level of vulnerability of these five countries across at least five of the six identified domains is low, compared with the general average in Africa. Their overall and comparatively low levels of vulnerability to shocks can help explain their ability to mitigate entangled shocks and recover from the adverse effects of the polycrisis, which are attributes that businesses and investors look for in a market when making an entry or investment decision.

Exceptions can be observed for Botswana and Cabo Verde, in the area of connectivity vulnerability and for Morocco, in that of economic vulnerability. In a country such as Botswana, vulnerability in supplying reliable electricity can further reduce a firm's productivity when exposed to a market or supply chain disruption emanating from external shocks and related economic downturns. In the 2023 World Bank Enterprise Survey, 64 per cent of the firms surveyed in Botswana had experienced failures in the provision of electricity, which resulted in higher operational costs, disrupted some of their production and decreased their profitability (World Bank, 2023b).

Despite the existence of sound frameworks and capabilities in some of the most resilient African economies and an improved business environment in a growing number of countries, most private companies in those countries are left unprepared in the event of internal or external shocks, with limited capacity and resources for emergency responses to a crisis. In other countries in Africa, firms operate in complex and uncertain macroeconomic and geopolitical environments, which can pose high risks to their finance, products, operations, compliance and conduct. These challenges are not specific to African firms. In many parts of the world, the effects of global crises, such as the COVID-19 pandemic and geopolitical tensions, have brought additional challenges to SMEs, including limited financial and managerial resources, low international exposure, serious informational constraints and heavy regulatory burdens (UNCTAD, 2024d). To embrace the vast opportunities offered by African markets, such as good returns, greening investment, economies of scale under the African Continental Free Trade Area, burgeoning services and middle-class-based consumption (Hruby and Arditti, 2022), it is important for companies to understand the rules and requirements concerning compliance, regulatory issues, tax challenges and financing conditions related to business practices, cross-border trade and capital movements in Africa. It is also essential that firms identify these key issues and acquire adequate knowledge of the landscape of African markets. This can help them pre-empt potential risks and successfully manage risk exposures.

This section will examine some of the risks that can threaten business and trade activities across Africa and exacerbate disruptions to production, uncertainties and service liabilities, namely regulatory risks and currency risks.

Legal and regulatory risks

Firms face multiple, complex and changing regulatory risks that affect their performance and compliance behaviour (Vincent and Ntim, 2021). Compared with large multinational enterprises, SMEs face distinctive bottlenecks, including limited access to finance, skills and technology constraints, low institutional quality and international exposure, regulatory complexities and international competition (UNCTAD, 2024d). There is a strong correspondence between institutional quality and the regulatory environment. The regulatory risks faced by firms are often in the form of unclear and inconsistent legal and institutional frameworks. For instance, not having access to clear information about the specific legal and regulatory provisions of a given Government can undermine the ability of a firm, especially a foreign one, to comply effectively with

Most private companies in Africa are left unprepared in the event of internal or external shocks, **with limited capacity and resources for emergency responses to a crisis**

domestic policies and laws pertaining to its operations or investment in a specific sector, such as mining. The legal and regulatory clarity surrounding resource-based investments is critical in linking the extraction and sale of resources for broad-based economic development. Existing quality and price provisions contained in most of the policies and legislation of countries in Africa may provide an excuse for non-compliance (White, 2017). In addition, quality requirements and the inspection of standards are enforced differently between registered and unregistered firms, with the latter establishments skirting the enforcement efforts of government authorities.

Another obstacle that firms face with regard to laws and regulations concerns the unpredictable and stop-start nature of regulations, rules and procedures. If a given legal and regulatory framework is unpredictable, unclear and inconsistent, it opens a door for interpretation and is often considered a disincentive to entrepreneurs' investment intentions. The disincentive to investment or production by firms is not restricted to domestic investment but to foreign direct investment as well. The certainty of legal and regulatory frameworks is necessary for investment decisions made by firms. In practice, a Government can establish a coordinating framework or council that involves responsible bodies across the whole public administration to implement clear, well-coordinated legal and regulation frameworks. This helps firms plan for the future and clarify decisions made with regard to investment and company growth.

Owing to the changing regulatory landscape, complying with rules and regulations brings high transaction costs for SMEs, hampering their growth and internationalization process (UNCTAD, 2024d). In particular, tax compliance can be especially burdensome for SMEs, due to complex and evolving tax laws, resulting in high transaction costs. In many African countries, tax collection and revenue systems are characterized by significant complexity, extensive face-to-face interactions between tax collectors and taxpayers and informal payments (Dom et al., 2022). This indicates that African SMEs need more time spent on tax compliance, which increases their transaction costs and may hinder their ability to thrive in the market. Moreover, the number of documents and processes that firms must comply with to make tax payments – both inland and at border crossings – and register or renew a business licence can be costly and hence serve as a disincentive for traders and investors alike. Tax administration efficiencies are generally weak in Africa and can lead to tax avoidance, evasion behaviour (Abdu et al., 2020; Otusanya et al., 2022), informality (that is, with a strong incentive to not register firms) and a lack of transparency. Investors may perceive these challenges as risks to their investments. However, many countries have introduced two tools developed by UNCTAD, the Automated System for Customs Data and the Debt Management and Financial Analysis System, which are aimed at increasing efficiency, transparency and accountability in revenue administrations and helping address the complexity and high cost of complying with tax regulations.

In addition to complex tax rules and structures, which can present a considerable burden for businesses (World Bank and Pricewaterhouse Coopers, 2019), many countries have inadequate domestic legal frameworks and enforcement mechanisms for protecting intellectual property rights. Although regional institutions have been established to manage intellectual property in 37 countries, namely the African Regional Intellectual Property Organization and the African Intellectual Property Organization, their limited capacity and resources raises the likelihood of the proliferation of applications for intellectual property rights (UNCTAD, 2023i). The lack of protection exposes foreign investors to the risk of piracy, counterfeiting and unauthorized use of their intellectual assets. One way of de-risking operational and growth opportunities, especially for firms in the process of internationalization – firms with exporting and investment ambitions abroad – is to raise the

One way of de-risking operational and growth opportunities is **to raise the level of trust with regard to the protection of property rights**

level of trust with regard to the protection of property rights. Limited awareness among businesses and government agencies about the importance of intellectual property rights and insufficient institutional capacity to enforce these rights undermines investor confidence. At the global level, compliance with the Agreement on Trade-related Aspects of Intellectual Property Rights of the World Trade Organization, acknowledged as the most comprehensive standard for intellectual property rights in the multilateral trading system, can also be constrained by reduced resource capacities in some countries in Africa. The enhanced alignment of domestic and regional intellectual property right frameworks with multilateral rules can contribute to increased investment and innovation in Africa. For instance, the dispute-settlement mechanism under the Agreement Establishing the African Continental Free Trade Area, which is modelled on that of the Agreement on Trade-related Aspects of Intellectual Property Rights, will help diminish intellectual property right risks related to cross-border trade and investment (UNCTAD, 2021c).

However, registering and enforcing intellectual property rights can be lengthy and bureaucratic, which can discourage innovation and investment. Delays in dispute resolution can increase costs for investors and undermine contractual certainty. While international arbitration and alternative dispute-resolution mechanisms offer alternatives to domestic courts, their availability and effectiveness vary across Africa. The enforceability of arbitration awards and mediated settlements depends on the legal framework and adherence to international conventions on arbitration. Moreover, inconsistencies in enforcement procedures across jurisdictions can weaken the credibility of dispute-settlement mechanisms. The limited access to affordable and impartial dispute-settlement mechanisms, particularly for SMEs, poses challenges for investors seeking a timely resolution of commercial disputes.

Addressing issues associated with tax, intellectual property rights, the judicial system and dispute-settlement mechanisms with investors requires concerted efforts by Governments in Africa to reform tax systems, strengthen intellectual property rights protection, improve judicial efficiency and independence and enhance access to effective dispute-settlement mechanisms. Such reforms can create sound institutional frameworks and conditions for good economic governance, especially in the areas of regulations, business licencing and taxation, which are fundamental pillars of a favourable business and investment climate and, hence, a lever to promote business resilience and sustainable economic development on the continent.

Many countries in Africa have simplified procedures on the entry and sustainability of foreign investment with incentives, such as repatriation, investment allowances and a wide range of tax incentives and in some cases, protection from competition. These simplified procedures and incentives were adopted to facilitate investment and contribute to the diversification of investment instruments on the continent, with the signing of various bilateral and multilateral investment treaties and the domestication of foreign investment laws (see box IV.1 on intra-African investment and related instruments). However, tax exemptions and incentives, when not properly administered, can undermine revenue potential through artificial profit shifting and tax avoidance (African Tax Administration Forum, 2024; International Monetary Fund, 2022). Notably, enhanced frameworks protecting investments or contributing to the proliferation of investment promotion agencies, special economic zones and other targeted mechanisms aimed at prompting foreign investment inflows into the region could be introduced or strengthened in countries in Africa to protect against harmful tax regimes or the risk of tax avoidance, base erosion and profit shifting, profit misalignment and the race to the bottom in corporate income taxation (Etter-Phoya et al., 2022).

Simplified procedures and incentives were adopted **to facilitate investment and contribute to the diversification** of investment instruments on the continent

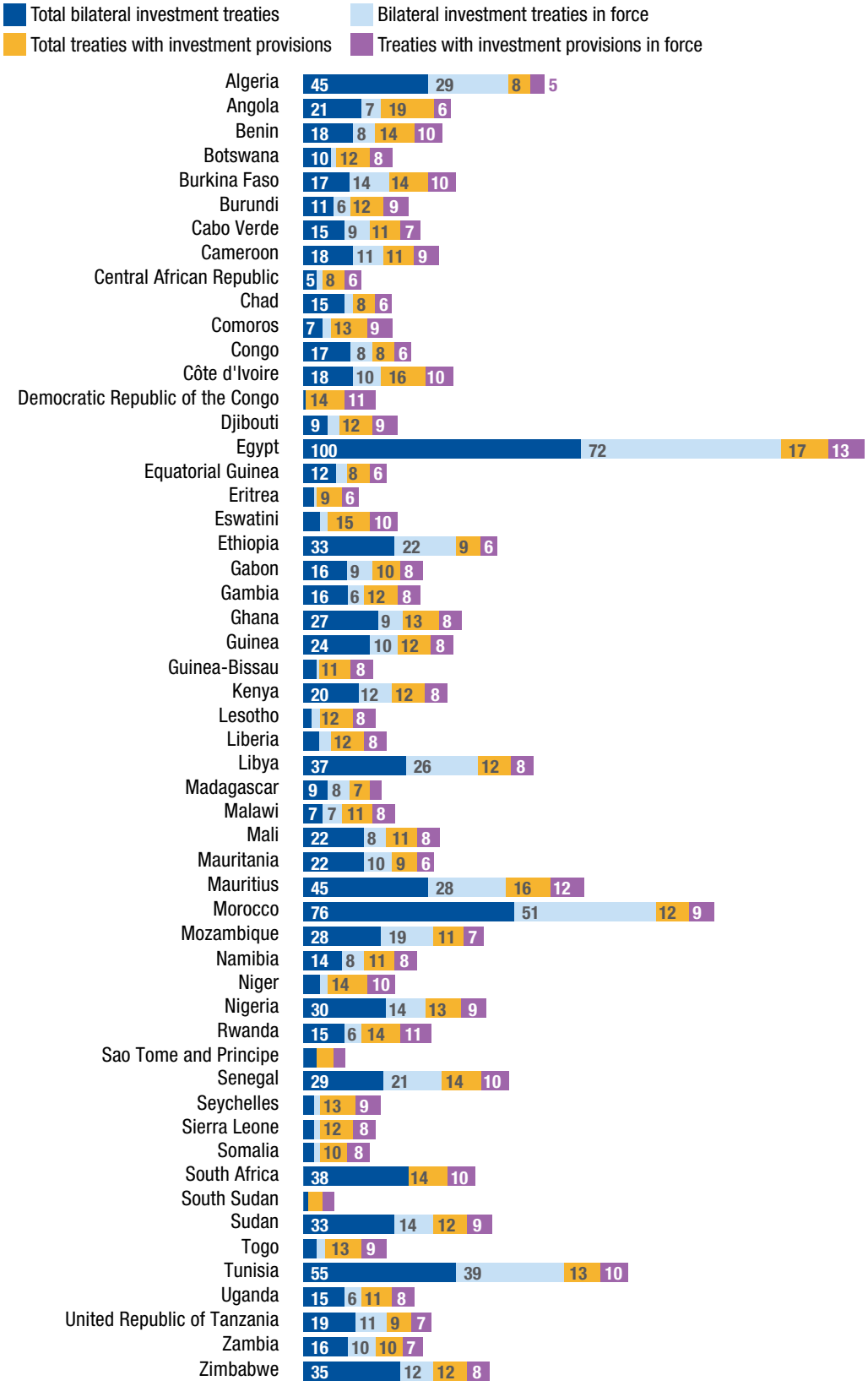
Africa is a signatory to several bilateral and international trade and investment agreements that minimize the risks of trading and investing in the region (figure IV.2). However, old-generation treaties and most international investment agreements concluded by countries in Africa carry their own risks. They fail to balance investment protection with the State's right and obligation to regulate in the public interest. Countries can be liable for damages amounting to billions of dollars, awarded by ad hoc tribunals.

Bilateral investment treaties are among the key instruments used globally to minimize investment risks associated with factors such as trade and investment disputes, employment and wages, ownership and control of businesses, expropriations and transfers. Egypt leads the region in this respect, having signed 100 such treaties, 72 of which are in force with countries in Africa and elsewhere (figure IV.2). Morocco follows with 76; Tunisia, with 55; Algeria, with 45; Mauritius, with 45; and South Africa, with 38. Given the large number of outdated international investment agreements established by these countries, reform of the international investment regime is urgent to ensure that investment is further protected, while safeguarding the regulatory space of countries in Africa to act in the public interest. The Protocol on Investment to the Agreement Establishing the African Continental Free Trade Area, adopted by African Heads of State in February 2023, is a modern international investment agreement that is more comprehensive than previously established investment policies in most countries in Africa, building on decades of investment policy reform on the continent, integrating innovative principles from other relevant international investment instruments, agreements and frameworks, such as the UNCTAD Investment Policy Framework for Sustainable Development, and providing provisions that protect or enhance legitimate public morals, public health, climate action and investor–State security (Danish et al., 2023).

Africa offers growing investment opportunities in precious minerals, renewable resources, alternative energy, infrastructure, financial and business services

Figure IV. 2

Bilateral investment treaties and treaties with investment provisions signed by countries in Africa



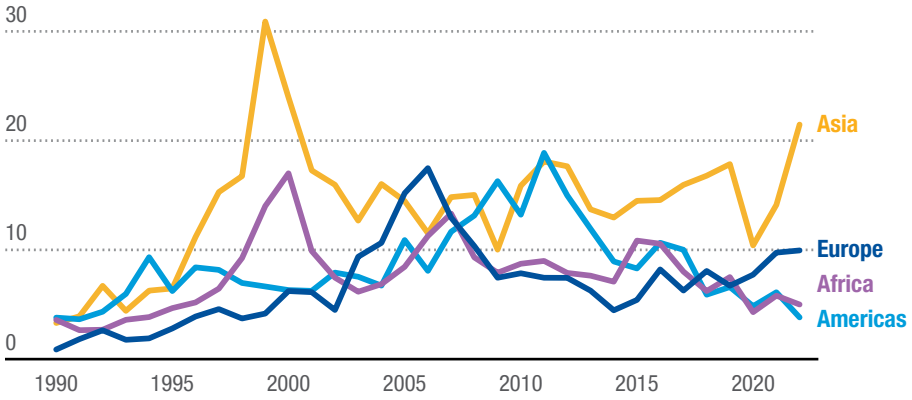
Source: UNCTAD, based on data from UNCTAD, 2024l.

Box IV. 1
Opportunities in intra-African investment and related instruments

Africa offers significant investment opportunities across sectors. Its rich natural resource base provides a wide spectrum of investment opportunities in precious minerals, renewable resources, alternative energy and food and beverages. Other prominent sectors with growing investment options include infrastructure, financial and business services, health care and education. These opportunities are underpinned by a growing youthful population and emerging middle class. Moreover, the region also accords its traders and investors access to the largest free trading market in the world measured by the number of countries participating.

While the domestic environment plays a role in domestic and foreign investments, global shocks also account for many investment decisions across regions. The UNCTAD World Investment Report 2023 reported a declining trend of 2 per cent in 2023 for global foreign direct investment flows, partly due to weakening and uncertain global economic trends, including trade and geopolitical tensions, and supply chain disruptions. Flows of foreign direct investment to Africa were also on a downward trend in 2023, falling by 3 per cent to a total stock of $53 billion. In developing Asia and in Latin America and the Caribbean, foreign direct investment inflows decreased by 8 per cent and 1 per cent, respectively. The figure shows the extent to which such inflows to Africa (as a share of gross fixed capital formation) resonate with general global trends, underscoring that it is not only the investment environment in Africa that plays an important role in influencing international investors' decisions. Specifically, shocks that affect the liquidity of its top foreign investors will generally be reflected in its foreign direct investment inflows. For instance, except for in the Americas in 2001, foreign direct investment inflows to all regions grew following the global price boom of certain commodities in the early 2000s (figure). Similarly, except for in the Americas, there was a decline in foreign investments in Africa, Asia and the European Union following the global financial crisis in 2008 and a general decline in 2020 due to the pandemic. This downward trend may be primarily a function of a series of global shocks, including spikes in food and energy prices and rising debt. With Europe accounting for the bulk of foreign direct investment in Africa, followed by China and the United States, all shocks affecting their liquidity will compress their investment portfolios in Africa and affect its development prospects.

Regional foreign direct investment inflows as a percentage of gross fixed capital formation, 1990–2022
(Percentage)



Source: UNCTAD calculations, based on data from the UNCTADstat database.
Note: Data are only available up to 2022.

Therefore, the increased volatility and, most importantly, the current dip in global foreign direct investment flows, is a wake-up call for firms in Africa to champion growth and development aspirations by broadening their geographical footprint. Expanding intra-African investments with a wider geographical spread across the continent remains a key channel for consolidating the gains from deeper regional integration and a major driver of value and resilience under the African Continental Free Trade Area. It is expected that the implementation of the Protocol on Investment to the Agreement Establishing the African Continental Free Trade Area will facilitate further intra-African investment. Of the $64 billion of international projects financed in Africa in 2023, 20 per cent of the projects in the services sector and selected manufacturing industries, and 13 per cent of the projects in resource-based processing industries, were funded by investors from Africa. This indicates the market attractiveness of countries in Africa and intra-African investment opportunities for African investors, which can be further increased with the aforementioned Protocol and other regional investment agreements.

Progress is being made at the subregional level to diversify investment instruments and partners, better align investment laws with inclusive economic development needs and offer more incentives and opportunities to minimize the potential impact of economic, social and political risks on investment. For example, there is a new generation of investment treaties and related instruments adopted by regional economic communities as part of their commitment to promoting greater economic integration on the continent. Most of these regional economic communities have adopted legal frameworks to encourage the development of intra-African investment, including the Common Market for Eastern and Southern Africa Common Investment Area, the Economic Community of West African States Common Investment Code and Policy and the Southern African Development Community Investment Protocol. For instance, the Economic Community of West African States Common Investment Code and Policy identifies key policy dimensions that can help mitigate financial risks in cross-border trade and business activities in the subregion, including investment dispute resolution, financial infrastructure development, investment-related tax policy, responsible business conduct and environmental protection (Economic Community of West African States, 2018; UNCTAD, 2024m).

In 2017, the African Union Commission adopted the Pan-African Investment Code, which served as a drafting model for the Protocol on Investment to the Agreement Establishing the African Continental Free Trade Area. Many of these new investment-related instruments include provisions for the domestication of investment treaties and their contribution to sustainable development. For instance, African bilateral investment treaties and intra-African investment treaties are increasingly required to provide a more balanced distribution of rights and obligations between States and investors. In addition, some investment laws have provisions encouraging foreign investment to be conducted through joint ventures with a domestically established company or for investment disputes involving African States to be administered by African dispute resolution centres.

Source: UNCTAD, based on Pricewaterhouse Coopers, 2023; UNCTAD, 2023a; UNCTAD, 2024c; United Nations Development Programme, 2022; United Nations Development Programme, 2023; World Bank, 2020a.

Currency risks

As price takers, firms in Africa are vulnerable to swings in the exchange rate. The impact of currency volatility on trade flows is well established (Bahmani-Oskooee and Gelan, 2018). The recent macroeconomic instability in many countries in Africa shows the degree to which international reserves have been depleted in those countries. Since there is no direct indicator of exchange rate volatility, a proxy variable (another measurable and accessible variable) is used to capture exchange rate volatility, namely macroeconomic instability.

Challenges relating to foreign exchange liquidity and restrictions are major obstacles **limiting new investors from investing and fully optimizing opportunities in African markets**

The macroeconomic fundamentals that play a role in explaining some of the impacts of exchange rate volatility, including uncertainty in the economic environment, which can affect decisions relating to trade and capital flows by businesses and financial institutions, is examined in chapter II (Audi, 2024; Caporin et al., 2024; International Monetary Fund, 2003). The transmission of such exchange rate volatility or economic uncertainty through cross-border financial channels, such as capital flows, credit and asset prices, can have an impact on the level of risk aversion (Glebocki and Saha, 2024), including firms in both advanced economies, and emerging and developing countries. For instance, in South Africa, about 35 per cent of firms (out of a total sample of 2,002 surveyed in 2007 and 2020) stated that macroeconomic instability was a major concern. Many macroeconomic challenges faced by developing economies include a high premium attached to foreign currency-denominated assets and/or loans (for example, high interest rates in a tight monetary policy environment). Most African currencies are weakening in the current global macroeconomic climate. This exposes firms to exchange rate risks that could affect demand for their goods, financial performance and competitiveness (Salomao and Varela, 2022).

Given the vulnerability of African firms to international markets, exporters face various types of exposure, as follows:

- Transaction exposure, which is directly associated with the value of their cross-border or international trade transactions.
- Translation exposure, also known as translation risk or accounting exposure, which is an exchange rate risk faced by multinational corporations when they consolidate financial statements from subsidiaries or foreign operations denominated in foreign currencies into their reporting currency (usually the home currency). It is a risk that a company's equities, assets, liabilities or income will change in value as a result of exchange rate changes. This occurs when a firm denominates a portion of its equities, assets, liabilities, or income in a foreign currency.
- Economic exposure, which is faced by foreign investing firms hosted in a country with severe currency volatility. An African firm with foreign subsidiaries and investments is exposed to fluctuations in exchange rates that can have an impact on the valuation of assets and liabilities denominated in foreign currencies. A survey conducted by the African Private Equity and Venture Capital Association (2022) found that 56 per cent of limited partners[2] perceive currency risk to be a key challenge when investing in the private equity market in Africa, while 44 per cent of general partners[3] consider macroeconomic risk, particularly currency volatility and political instability,

[2] A limited partner, also known as a silent partner, invests money in exchange for shares in a partnership but has restricted voting power on company business and is not responsible for the day-to-day management of the fund and related businesses. The limited partner has at least one general partner and one other limited partner.

[3] A general partner is part-owner of a business that is structured as a partnership and assumes a day-to-day role in managing it. Unlike limited partners, general partners can have unlimited liability for the debts of the business.

to be a major challenge when managing the operations of a private equity fund on the continent. Challenges relating to foreign exchange liquidity and restrictions are major obstacles limiting new investors from investing and fully optimizing opportunities in African markets (see box IV.2 on some of the instruments that can be deployed at a scale to manage currency risk in Africa).

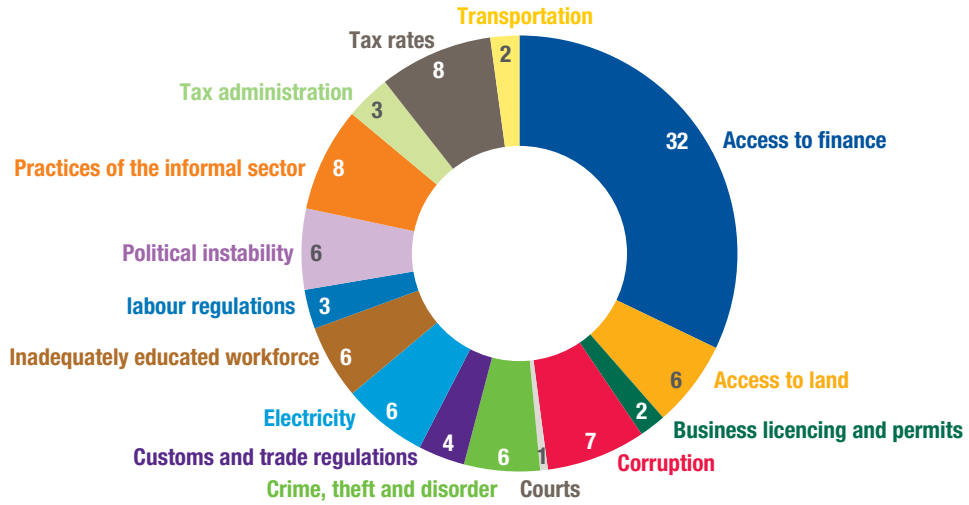
In 2023, 32 per cent of the African firms that took part in an enterprise survey conducted by the World Bank in 13 countries in Africa[4] identified finance and investment opportunities as a principal challenge to their operational, financial and trading performance (figure IV.3). In South Africa, where the enterprise survey was last carried out in 2020 (World Bank, 2020b), about 240 exporting firms (12 per cent of the firms surveyed) were found to be vulnerable to translation risk. Their competitiveness is limited in a host economy with long-term currency appreciation.

Equally, an economy with a depreciating currency increases the cost of servicing debt, which is often held in major currencies such as the dollar and exposes firms to funding and financing risks. For instance, a study by the International Monetary Fund (2023b) shows that a total of 84 per cent of exports, 67 per cent of imports and 60 per cent of external debt are priced in dollars in the median country in Africa.

Firms holding debt in local currency or trading within a monetary union, such as the West African Economic and Monetary Union, may still face exchange rate risk but the nature and extent of that risk can differ, as opposed to firms operating in countries with floating exchange rates. Firms holding debt in local currency are generally less exposed to exchange rate risk, compared with firms holding debt denominated in foreign currency. This is because their debt obligations are in the same currency as their revenue streams, reducing the risk of currency mismatches.

SMEs could enter into a forward contract with a bank or financial institution **to protect themselves against a potential depreciation of the local currency**

Figure IV. 3
Business environment obstacles faced by African firms, 2023
(Percentage)



Source: UNCTAD calculations, based on data from the Enterprise Survey database (World Bank).
Note: The latest available data for the 13 countries covered are from 2023.

[4] The countries surveyed are as follows: Botswana, the Central African Republic, Cote d'Ivoire, the Gambia, Ghana, Lesotho, Mauritius, Morocco, Rwanda, Seychelles, Sierra Leone, Togo and the United Republic of Tanzania.

However, firms holding debt in local currency may face exchange rate risk if they have significant operations or revenues in foreign currencies and, as such, their portfolio flows can exhibit greater sensitivity to fluctuations or volatility in foreign currency-denominated debt markets (Bertaut et al., 2024). Exchange rate movements can have an impact on the competitiveness of their exports or the cost of imported inputs, affecting their profitability and ability to service debt. Furthermore, if there are concerns about currency depreciation or inflation in the local currency, firms may face increased borrowing costs or difficulty in accessing credit markets. Firms trading within a monetary union such as the West African Economic and Monetary Union share a common currency, the West African CFA franc, eliminating exchange rate risk among member countries. Since member countries of the Union peg their currencies to the euro, exchange rate fluctuations between those countries and the euro are minimal. While exchange rate risk within the West African Economic and Monetary Union is mitigated, firms operating in the Union may still be exposed to external shocks that have an impact on the value of the euro, such as changes in European Union policies or global economic conditions (Santillán-Salgado et al., 2019).

For SMEs, careful financial planning based on mechanisms for robust risk management **could provide a strong buffer**

There is not much room to alleviate exchange rate risks in Africa, as firms have limited opportunities to implement hedging strategies, such as forward contracts, options and hedging practices. SMEs could enter into a forward contract with a bank or financial institution to sell dollars and euros forward at an agreed-upon exchange rate, locking in the exchange rate for the futures transaction. By doing so, they can protect themselves against a potential depreciation of the local currency, ensuring that they receive the expected amount of local currency when converting dollar and euro receivables into the local currency.

Firms engage in natural hedging practices and can use them as leverage. For instance, in the tourism sector, a company in Kenya generates revenue from domestic tourists (paying in Kenya shillings) and foreign tourists (paying in dollars or euros). The company incurs expenses, such as staff salaries and utilities, in Kenyan shillings. As a strategy, the company can use natural hedging practices to offset its foreign exchange risk. By diversifying its revenue streams across multiple currencies, the company can reduce its dependence on any single currency and mitigate the impact of currency fluctuations on its financial performance. Additionally, the company can align its expenses with the currency composition of its revenue to naturally hedge its exposure. For example, it could negotiate supplier contracts and payables in the same currency as its primary revenue source, reducing the need for currency conversion and minimizing exchange rate risk. See box IV.2 on some of the currency hedging practices in Africa and related regulations and policies that can help firms mitigate their exposure to financial risks.

For SMEs, careful financial planning based on mechanisms for robust risk management could provide a strong buffer. This should be complemented by closely monitoring exchange rate movements and tailoring trading and investment decisions accordingly to soften the impact of currency volatility, for example, reversing entry decisions to certain markets and reshoring business relationships. Furthermore, as SMEs face a vicious cycle of limited capital access, worsening creditworthiness and higher borrowing costs – which could lead to insolvency and smaller sales margins – policy interventions promoting financialization, credit-guarantee schemes and SME support can palliate these effects on trade and investment and foster business resilience.

Box IV. 2
Creating opportunities through foreign exchange hedging practices

While predicting the trajectory of domestic and foreign currencies can be challenging, and unforeseen fluctuations can have an impact on the cost of goods and transactions, disrupt company balance sheets and potentially raise their investment risk premium, there are practical measures that can help diminish such currency-related risks. The need for a currency risk premium is more prevalent in a flexible exchange rate regime than in a fixed exchange rate regime where currency fluctuations are generally minimal. For instance, when currency fluctuations become excessive, investors risk earning negative risk-adjusted returns on the foreign assets in their portfolios, forcing them to require a premium commensurate with the perceived risk of volatile exchange rate fluctuations.

In other circumstances, investors prefer to hedge currency risk by diversifying the investment portfolio across investment assets, stages, vintage years,[a] sectors and/or by investing in the exporting companies to mitigate currency depreciation risk. However, many SMEs and investment funds, especially in African markets, may need more liquidity, market access and fund management experience than others, all essential requirements of such portfolio diversification. According to the African Private Equity and Venture Capital Association, 94 per cent of general partners in the private equity industry do not hedge against currency risk because of the high cost of hedging facilities. Only a few stock markets in Africa, such as those in Egypt, Kenya, Morocco, Nigeria and South Africa, offer sophisticated currency-hedging products, for example, foreign exchange options and cross-currency swaps. Commercial banks on the continent mainly offer foreign exchange forwards but with limited tenors or periods of the forwards contract (12–36 months), often subject to liquidity. Moreover, the administrative costs and the regulatory and compliance challenges related to the use, monitoring and supervision of currency hedging instruments can discourage African firms, especially SMEs, from taking advantage of financial instruments and tools to hedge against currency fluctuation risks, stabilize revenue flows and reduce uncertainties in cross-border and international transactions. Robust policies and regulatory frameworks governing not only the trading and hedging instruments in the securities and derivatives markets but also the protection of funds and assets belonging to financial institutions and corporations are essential. Such measures will contribute to enhanced financial stability, increased market liquidity and improved cross-border de-risking across the continent.

Regional banks, such as the African Export–Import Bank, the Ecobank and the Standard Bank, are increasingly addressing the currency hedging gaps on the continent. For instance, the African Export–Import Bank and the African Continental Free Trade Area Secretariat established the Pan-African Payment and Settlement System, a centralized payment and settlement system for intra-African trade in goods and services. It allows companies in Africa to pay for intra-African trade transactions in their local currency, thus reducing the costs of trade transactions. The network comprises 8 central banks, 28 commercial banks and 6 switches.[b] As a partner of the Pan-African Payment and Settlement System, a leading pan-African commercial bank, such as Ecobank, can leverage the capabilities of the aforementioned system through its local offices in 33 countries in Africa and hence diminish the cost and risks of funds transfers in African currencies. The investment arm of commercial banks, such as the Standard Bank, also offers currency-hedging products and provides equity investors with information and advice on foreign exchange regulations and risks in cross-border transactions.

Source: UNCTAD, based on African Private Equity and Venture Capital Association et al., 2022; Kenton, 2022; Kodongo and Ojah, 2018; Opus, 2024.

[a] A vintage year is the year in which the first influx of investment capital is delivered to a project or company, marking the moment when capital is committed by a venture capital fund, a private equity fund or a combination of sources.

[b] A payment switch platform is a technology that connects system participants and supports the passing of financial transaction data. Switches enable dynamic payment transactions among acquirers and endpoints of payment services providers, in cross-border payments, electronic-commerce platforms, online billers, banks and other service providers.

Value and resilience through the energy, infrastructure and trade nexus

The risks inherent in the polycrisis require a major upgrading of infrastructure in Africa, failing which, **the economic risks of doing business will grow substantially**

The current state of energy, infrastructure and trade in Africa leaves economies and businesses vulnerable to adverse global and domestic events, affecting their growth prospects. Energy, infrastructure and trade are three enablers of economic development; when lacking, this results in binding constraints on development in Africa. Moreover, with the interdependencies between them, shortcomings in either one can accentuate and worsen shortcomings in the other. In recent decades, countries in Africa have made great strides in building up their energy, infrastructure and trade capabilities. However, any trend in the global economy with an impact on energy, infrastructure and trade investments implies both costs and benefits for Africa. In the context of the global polycrisis and the levels of exposure and vulnerability of countries in Africa to the polycrisis shocks described in chapter I, the energy, infrastructure and trade nexus serves as a bulwark against the risks that the polycrisis represents for African economies and businesses.

Energy capabilities

One of the main risks perceived by many countries and businesses is that of energy security and costs. Two global trends have increased uncertainty. The war in Ukraine led to raised energy prices, but more importantly, it led to the European Union moving away from the Russian Federation as a source of natural gas and fossil fuels. The agreement of the twenty-eighth Conference of the Parties to transition away from fossil fuels is inspiring many regions, including the United States and the European Union, to quickly seek access to renewable energy and the minerals and materials necessary for renewable energy production.

These trends raise risks to investment and trade in Africa in that they create both costs and benefits. For instance, the European Union renewable energy plan, known as "REPowerEU", aims to accelerate its green transition,[5] reduce reliance on fossil fuels from the Russian Federation and diminish its energy consumption[6] (European Union, 2022). This will have an impact on the global energy market in terms of price, sourcing and supply. There is a risk that these shifts in the global energy landscape may increase the strains on African economies (International Energy Agency, 2023c) and diminish the energy supply in Africa, which is already low in absolute and relative terms. In 2022, 43 per cent of the population in Africa lacked access to electricity and fossil fuels accounted for more than 50 per cent of its energy supply; only 3 per cent of its energy supply was being sourced from renewables (International Energy Agency, 2023c).

However, the global shift in energy security and strategy also creates an opportunity for those countries in Africa that can supply gas to Europe. The shift of China, the United States and the European Union, as well as other countries, towards renewables, including green hydrogen, creates a potential cost in terms of a new rush for African minerals and the diversion of clean energy away from addressing local energy poverty towards providing resources for the global North. However, the rise of the green hydrogen economy also generates opportunities for countries in Africa to supply energy-related minerals and green hydrogen to domestic and external markets.

However, there is much expansive potential in Africa, both in terms of its rich natural resource base and the potential to fully meet its energy needs and significantly contribute to global energy systems.

[5] The European Union seeks to obtain 45 per cent of its energy from renewable sources by 2030.

[6] For example, the European Union plans to lower its gas consumption by 30 per cent by 2030.

For instance, Africa has 60 per cent of the world's solar resources. Yet the region has only 1 per cent of this solar potential in use, notwithstanding its increasing affordability (International Energy Agency, 2023c). Moreover, Africa is utilizing only about 8 per cent of its hydropower capacity, and about 60 per cent of the hydropower infrastructure is outdated (over 60 years old) and in need of modernization to enhance its efficiency. Similarly, the International Finance Cooperation estimates that Africa has an onshore wind energy potential of 180,000 terawatt hours per year, enough to meet its electricity demand by more than 250 times or supply the current levels of global wind energy 90 times. However, the region accounts for only 1 per cent of the 650 gigawatts of installed global wind energy capacity. Overall, at least 40 per cent of the total electricity that Africa generated between 2020 and 2022 was from natural gas, followed by coal, water, oil, wind and solar energy (International Energy Agency, 2023c; Pricewaterhouse Coopers, 2023). Industrial productivity and growth are being undermined by low electricity generation in more than 80 per cent of Africa (figure IV.4). Access to electricity is also limited; 43 per cent of the total population lacked access to electricity in 2022.

Notably, for most African firms, the low level of energy generation entails both intermittent power supply and high per capita energy costs. The limited access of SMEs, in particular, to a reliable energy supply has adverse impacts on their productivity and competitiveness, which in turn undermines their profitable involvement in national and regional value chains. Minimizing energy costs and maximizing the benefits of renewables would require that countries in Africa fundamentally address the weaknesses in their energy and related infrastructure capabilities.

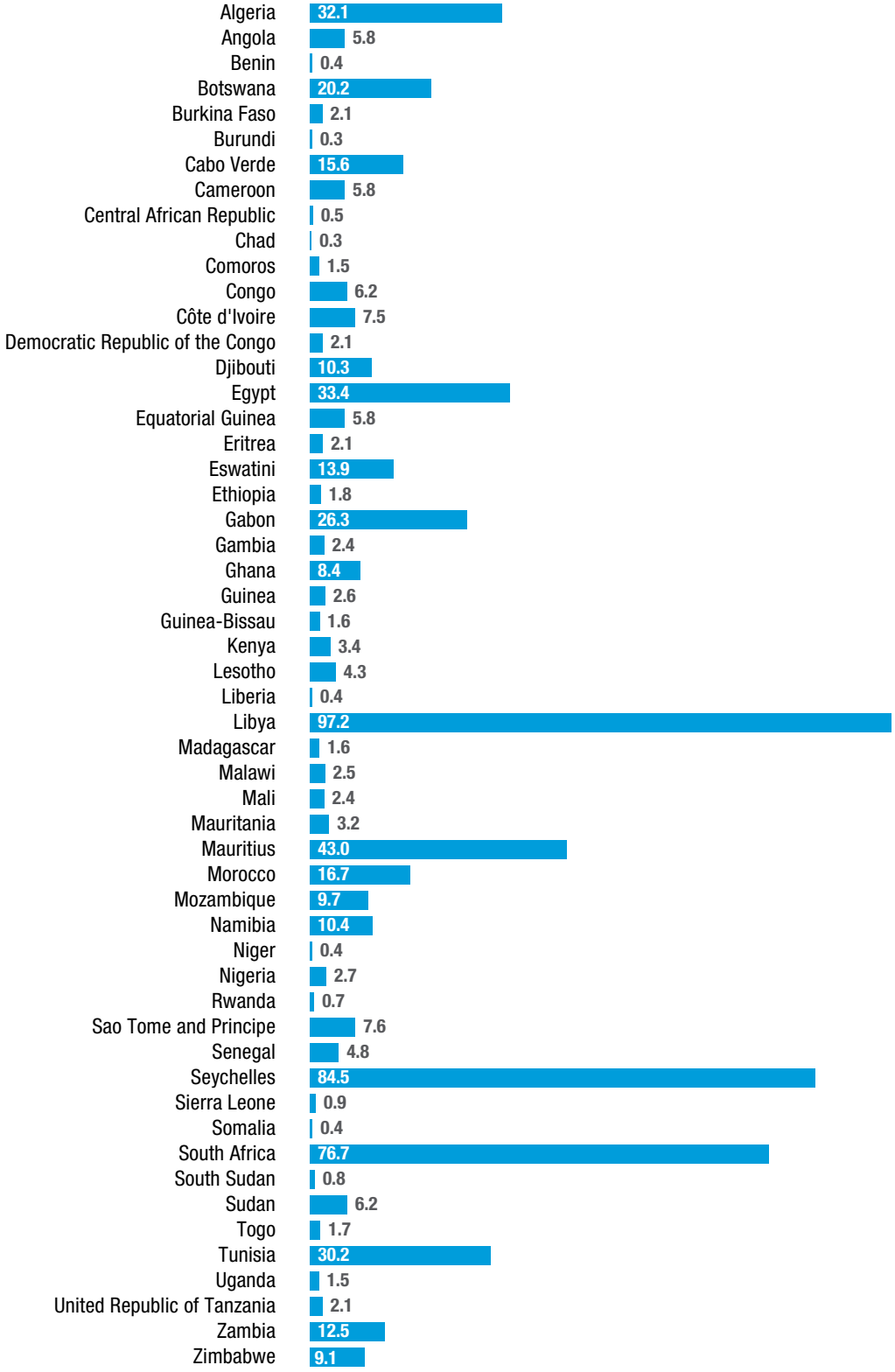
Infrastructure capabilities

The risks inherent in the polycrisis require a major upgrading of infrastructure in Africa (see chapter III), failing which, the economic risks of doing business will grow substantially. To spur infrastructural investment, it is necessary to improve, upgrade and diversify infrastructure, especially energy infrastructure required to extend connective infrastructures to facilitate regional economic integration and bridge the digital divide. A major obstacle to the ability of Africa to invest in and build the additional infrastructure required to deal with the costs and benefits created by the global context is being able to finance such investment. At least $190 billion will be required annually between 2026 and 2030 to address energy needs and risks, implying energy investment equal to 6.1 per cent of GDP by 2030 (International Energy Agency, 2023c).

The energy transition can increase economic risk in Africa if the costs it imposes outweigh the benefits with regard to infrastructure needs and capabilities. Under the Sustainable Africa Scenario, in which Africa transitions to renewable energy-related development goals, triples the rate of access to affordable electricity and achieves its climate pledges, the projected expansion of energy-generating capacity across Africa will require an additional investment of $80 billion per year over the period 2021–2030 (International Energy Agency, 2023c). Given growing domestic energy needs, however, the benefit is that supply for local use may be more abundant and perhaps cheaper. Realizing this benefit requires the development of appropriate energy infrastructure, including storage and distribution infrastructure, to meet domestic demand for transport fuels and liquid petroleum gas. Moreover, rolling out such infrastructure, as well as upgrading and extending existing grids and installing new solar-based local grids across Africa to provide universal access to electricity, can create millions of new jobs. Infrastructure is also central if regional integration is to be a source of resilience in the face of the polycrisis (see chapter III).

The rise of the green hydrogen economy generates opportunities for countries in Africa to supply energy-related minerals and green hydrogen to domestic and external markets

Figure IV. 4
Access to electricity, by country, 2022



Source: UNCTAD, based on data from the African Infrastructure Development index.
Note: The index is measured in millions of kilowatt hours per inhabitant. It captures the total of domestically produced and imported electricity. It takes values between 0 and 100, with higher values reflecting higher levels

Moreover, infrastructure investment in ICT is needed to underpin the expansion of the data-driven economy; digital platforms and artificial intelligence-enabled businesses are sorely needed to prevent the digital divide between Africa and the rest of the world from widening. To minimize these costs and maximize the benefits, it is necessary for countries in Africa to address the fundamental weaknesses in their infrastructure capabilities, namely, those related to roads, transport and ICT. Infrastructure investment in ICT requires complementary investments in skills and research and development, areas in which Africa is lagging.

Trade capabilities

Underlying the polycrisis is a world in which the nature of trade has changed in significant ways. Polycrisis-induced instabilities have had a bearing on developments in international trade, including a tighter monetary stance by central banks in advanced countries, a more geostrategic policy approach to international economic relations, the growing influence of industrial policy on the trade strategies of major economies and multiple geoeconomic risks (UNCTAD, 2023h). This is reflected in waning growth in trade, as well as a decline in foreign direct investment and in participation in global value chains (see chapters II and III). Driving this are various factors: mounting conflict, geopolitical fragmentation within and between countries, inequality and secular stagnation in some of the advanced economies. The impact of the polycrisis on the external position of Africa is further compounded by unfavourable external factors, for example, weak export demand from its principal trading partners (China and Europe); restrictive monetary policy in the leading developed economies, resulting in higher borrowing costs and associated debt vulnerabilities for African borrowers; and negative pressures on African currencies and related foreign exchanges (UNCTAD, 2024h).

These changes in the nature of trade hold costs and benefits for countries in Africa. As industries across the advanced and emerging economies attempt to reduce their carbon emissions, they may move production closer to mines and input sources or closer to where renewable energy carriers, such as green hydrogen, may be used. In addition, the global shipping industry, which is responsible for 2 to 3 per cent of greenhouse gas emissions, will undergo structural changes that affect international shipping, the means by which the bulk of African goods is transported.

Thus, the potential cost is that demand for many African exports (outside of green technology minerals) will decline as these carbon-reducing measures are adopted in its main markets (China, the United States and the European Union) and that global transport costs may increase as the shipping industry adjusts.

With regard to benefits, the changes discussed here offer potential opportunities for countries in Africa where critical resources, including energy-related minerals, are available and where green hydrogen production can be economically scaled up. They also offer an opportunity to expand intraregional trade. Indeed, intraregional trade is, from this point of view, a bulwark against the risks of adverse trade and changes in the global shipping industry. Minimizing trade costs and maximizing the benefits requires countries in Africa to tackle the weaknesses in their energy and infrastructure capabilities, as discussed previously.

Other aspects of trade that need to be strengthened to allow the enhancement of the cost–benefit ratios in energy and infrastructure include fostering the integration of African economies into global value and supply chains; diversifying their exports and ensuring appropriate governance where a country's exports are concentrated in commodities and fuels, the prices of which may increase and lead to earning windfalls; and supporting intraregional trade by investing in regional infrastructure and reducing trade barriers in intra-African trade.

Intraregional trade is a bulwark against the risks of **adverse trade and changes in the global shipping industry**

The next section will assess the impact of these capabilities on the export performance and resilience of firms by discussing the case of South Africa. Box IV.3 provides an empirical analysis of the factors that can affect the performance of the country's exporting firms, and hence underscore the significance of the energy and infrastructure capabilities in facilitating trade and building resilience to shocks and stressors

Insights from South Africa: Dynamics of risks and capabilities for exporting firms

The most common means of financing SMEs are from their own resources, followed by credits from suppliers (purchases on credit) or customers (advance payment for merchandise)

South Africa is the third-largest country in Africa in terms of electricity generation, suggesting minimal energy-related hindrances to the productivity and growth of firms relative to most countries in Africa (figure IV.4). While South Africa has a more developed multimodal transport network, compared with many countries in Africa, a score below 30 in the transport component of the Africa Infrastructure Development Index suggests that pertinent gaps persist in ensuring the smooth flow of goods and services within and across its borders. Moreover, as regards cross-border trade, the net effectiveness of good transport and logistics infrastructure goes beyond the domestic economy to include transit cities and countries, as well as trading partners to some extent. Such infrastructure is largely underdeveloped in most of its trading partners based in Africa. Figure IV.5 shows the perception of South African firms of key obstacles that can affect their activities. Some 54 per cent of firms interviewed in 2020 found lack of access to electricity to be the biggest obstacle they faced in South Africa, compared with only 15 per cent of those interviewed in 2007. This can be partly explained by the recent energy crisis experienced in the country and which the Government of South Africa has been actively addressing by investing in new energy generation capacity and promoting the development of renewable energy mixes. This is particularly the case for microenterprises and SMEs in South Africa, which represent over 98 per cent of formal businesses and have recently experienced two-digit growth (UNCTAD, 2023j).

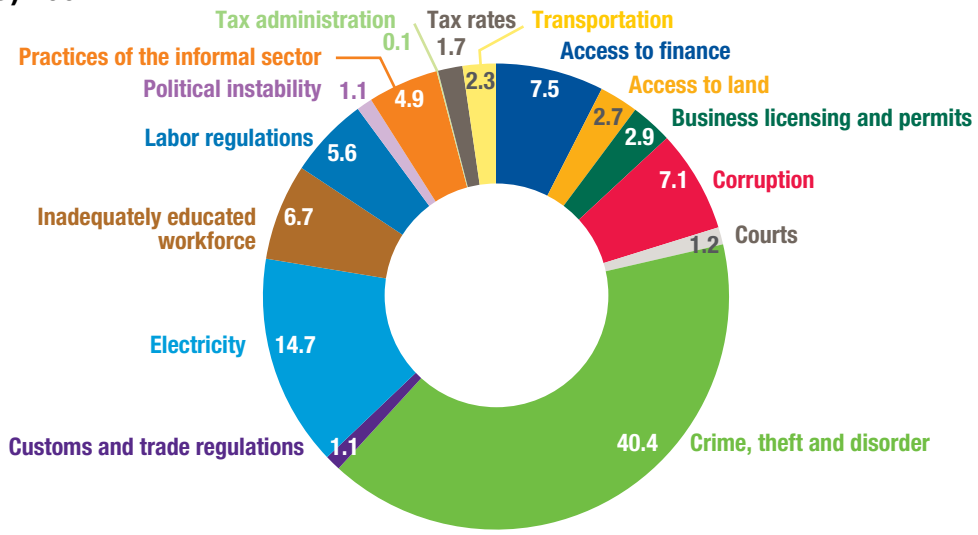
To assess the factors and risks that may have an impact on the export status of South African firms, export data from the world enterprise survey of 2,028 firms was collected for the years 2007 and 2020 (792 firms in 2007, 958 firms in 2020 and 278 firms surveyed in both years). The survey is a comprehensive assessment tool designed to gather data on the business environment from the perspective of firms operating in various countries worldwide. Conducted by the World Bank, the survey collects information on key aspects of the business environment, including business regulations, access to finance, infrastructure and labour market conditions. The firm-level micro data consist of a stratified random sample of non-agricultural formal private sector businesses, which are stratified by firm size: small (5–19 employees), medium (20–99 employees) and large (over 100 employees). The sectors in which those South African firms operate are the following: manufacturing, construction, motor vehicle sales and repair, wholesale, retail, hotels and restaurants, storage, transportation, ICT and other services. See box IV.3 for the model used to estimate the effects of obstacles on the export status of firms in South Africa.

Figure IV. 5

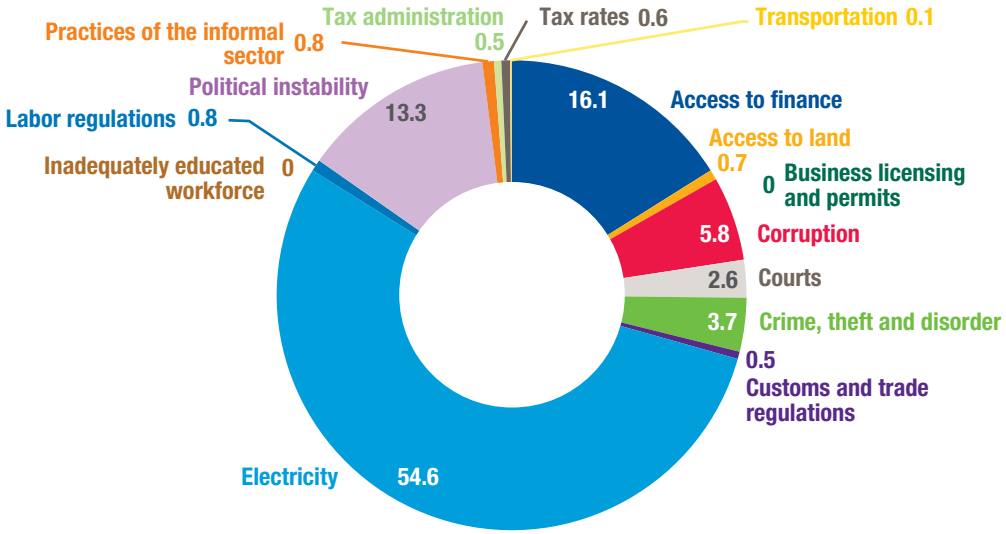
Main obstacles faced by South African firms, selected years

(Percentage)

(a) 2007



(b) 2020



Source: UNCTAD, based on data from the enterprise survey database (World Bank).

Box IV. 3
Random-effects probit estimates of the export status of firms in South Africa

It is hypothesized that factors and risks associated with trading within Africa, as well as firm-specific characteristics, are correlated with a firm's export status (the dependent variable). The dependent variable is used as a dummy variable, which takes on the value of 1 if the South African firm engages in exports and 0 if the firm serves the domestic market only.

The explanatory variables included in the regression are as follows:

- Women's ownership (a dummy variable related to whether the firm has at least one woman owner).
- Foreign ownership (a dummy variable related to whether the firm is foreign- or domestic-owned).
- Power outage (a numerical variable related to the number of power outages experienced by the firm in a typical month in the past fiscal year).
- Transport (a dummy variable that takes the value of 1 if the firm identifies transport as an obstacle).
- Trade and customs regulations (a dummy variable that takes the value of 1 if the firm identifies trade and customs regulations as an obstacle).
- Informal competition (a dummy variable that takes the value of 1 if the firm has competed against unregistered or informal firms).
- Breakage in transit (a dummy variable that takes the value of 1 if the firm has incurred a loss of value in transit due to breakage or spoilage).
- Theft in transit (a dummy variable that takes the value of 1 if the firm has incurred a loss of value in transit due to theft).
- Working capital (share of the firm's own resources or retained earnings used to finance operations and manage the business).

A random-effects probit model is estimated to analyse the probability that each firm-specific factor and risk contributes to a firm's export status, as follows:

$$Pr(y_{it} \neq 0 \mid X_{it}) = \Phi(X_{it}\beta + \upsilon_i)$$

where y is a dummy variable that takes the value of 1 for exporting firms and 0 for non-exporting firms, X_{it} denotes a vector of explanatory variables capturing firm-level characteristics and risk factors associated with firm i at year t and υ_i represents the error term. The regression estimates of the export statuses of South African firms are provided in the table.

Random-effects probit estimates of the export status of South African firms

Explanatory variable	Coefficient	Standard error
Women's ownership	0.1349015	0.1028234
Foreign ownership	0.4757686[a]	0.1324881
Quality certification	0.9629764[a]	0.0881171
Power outage	0.003825	0.0045893
Transport	0.0734484	0.0949082
Trade and customs regulations	0.4412665[a]	0.1001962
Informal competition	-0.3256052[a]	0.0965716
Breakage in transit	-0.3234966[a]	0.1077387
Theft in transit	0.1906519	0.1197621
Working capital	-0.0058727[a]	0.0013858
Contant	-0.9513529[a]	0.1339498
Observations	1 915	
Number of firms	2 028	

[a] p<0.01(statistically significant at the 0.01 level).
Source: UNCTAD.
Note: Direct information on firm productivity based on a single or proxy variable is not available. Another caveat is the data availability and relevancy for all factors of production, which prevents the consideration of productivity as a variable in the regression. However, the availability of data on working capital can be considered as proxy for input of capital used in the measure of total-factor of productivity at a firm level.

Source: UNCTAD.

As shown in box IV.3, the gender dimension of business ownership does not significantly limit a firm's potential to engage in exports in South Africa. In particular, the results suggest that the odds of a firm's involvement in international trade do not increase with either the proportion of men or women owning and/or managing the business. This is aligned with the contention of generally higher productivity in firms, regardless of ownership, that are engaged in international trade, as it increases their odds of exploiting economies of scale and enhancing their productivity. While the findings suggest that the gender dimension does not limit export potential in South African firms and is aligned with the importance of productivity and economies of scale, it remains a debatable topic. There are nuanced considerations of gender dynamics, context-specific factors and broader definitions of success (for example, qualitative aspects of business management and leadership) that could merit further exploration but are beyond the scope of this report. Engaging with these complexities can lead to a more comprehensive understanding of the interplay between gender, firm characteristics and international trade.

One potential solution is to **facilitate the utilization of cross-border financial de-risking instruments**

However, these dynamics differ with regard to the extent of foreign ownership in a business. In general, the literature indicates a higher propensity to export with some level of foreign ownership. The foreign-direct-investment component of these firms makes them more competitive, including through capital, technology and specialized skills that come with the foreign-investment component of the firm that is potentially not competitively available for firms with full domestic ownership (Boddin et al., 2017; UNCTAD, 2020; Vinh and Duong, 2020). Accordingly, some studies have shown that the higher the foreign-share component, the better the export outcomes in terms of complexity and diversity of goods and services for export. In this context, firms with 100 per cent foreign ownership are seen to be more productive and with more competitive exports relative to joint ventures (Vinh and Duong, 2020; Wakasugi and Zhang, 2012).

The potential of better access to business financing is also considered to be a key indicator of a firm's export performance. In South Africa, only 19 per cent of the companies surveyed indicated that they used bank loans, while 3 per cent and 4 per cent indicated that they had borrowed from family and friends and used other non-bank sources of financing for their businesses, respectively. The most common means of financing SMEs are from their own resources (98 per cent), followed by credits from suppliers (purchases on credit) or customers (advance payment for merchandise). However, these two modes of business financing are inadequate for the effective growth of most businesses in Africa and in other regions. South Africa has also been affected; as shown in box IV.3, the odds of a firm's export growth diminish with increased reliance on the owners' credit and funds to finance a business.

The negative and significant coefficient of informal competition suggests that pervasive informality is a principal factor affecting the ability of firms to export. Notably, informal firms often operate outside the regulatory framework, allowing them to undercut prices, avoid taxes and bypass regulations. This distorts the optimal functionality of markets through unfair competition for formal firms and may squeeze their profit margins. Lastly, notwithstanding its potential effect on the overall revenue of firms, incidences of theft in transit are not a deterrent to the export drive of firms in South Africa.

Trade rules and quality certification are related in that a common principle guiding international trade pertains to the quality of products being sold in different markets. All regional and international agreements have specified standards for traded goods and services. These are essential in raising the quality of markets and eliminating information asymmetry and associated market failures. Notably, stringent trade rules, including strict quality standards, could be a potential market entry barrier for most

SMEs. On the other hand, the fairly set trade rules that accommodate the capabilities of SMEs could enhance their participation in regional and global markets as more SMEs meet the quality requirements. This also applies to South Africa, as the trade regulations and quality certification coefficients are positive and significant, highlighting that they are not among the market entry barriers undermining a firm's ability to export. South Africa is one of the few countries in Africa whose indicators on trade facilitation and logistics are generally above the global average (see chapter III).

Maximizing the benefits of cross-border transactions in Africa through financial hedging and enterprise risk management

Global shocks and crises can create market vulnerabilities and heighten companies' exposure to financial risks, including volatility in foreign exchange rates, interest rates and commodity prices (Holman et al., 2013). In response, one potential solution (among the available options discussed earlier in this chapter) for African countries is to facilitate the utilization of cross-border financial de-risking instruments. Companies and financial institutions can employ a range of derivative instruments to hedge against commodity price volatility, currency exchange risks, credit defaults and interest rate fluctuations. This strategic approach aims to mitigate potential losses, reduce financial distress, alleviate the impact of earnings and cash flow volatility, lower transaction costs and minimize the overall costs associated with external financing. Moreover, the implementation of supportive policies and regulatory frameworks is essential in promoting the effective use of these instruments, thereby fostering greater financial stability within the region.

Effective risk-management tools can contribute to risk diversification, thereby enabling businesses and investors to channel investments toward high-risk-adjusted return projects, especially in high-risk perception regions such as Africa (Economic Commission for Africa, 2020). Financial risk-management instruments, such as derivatives, can allow companies to lower their exposure to volatility in exchange rates, interest rates and commodity prices (Holman et al., 2013), thus allowing investors to unbundle and transfer financial risk. In Africa, the development of derivatives markets could enable companies to self-insure against volatile capital flows and lower their dependence on bank financing (Adelegan, 2009). Other risk-management tools and practices, such as strategic planning and business continuity, are also driving forces behind firms' resilience to shocks and disruptions (Kalia and Muller, 2019). This section will explore some of the risk-management solutions that can be used by African firms, particularly those involved in cross-border trade, to foster resilience, stability and growth.

Managing financial risks through derivatives

In many countries around the world, Governments and central banks responded to the global financial crisis and the COVID-19 pandemic with significant fiscal stimulus and moratoriums on debt to support the survival of households and businesses and facilitated buffers to enable markets to provide foreign-exchange liquidity and financing for economic recovery.

Financial shocks and the resulting volatility in stocks and interest rates have spurred demand for financial instruments to unbundle risks (Prabha et al., 2014). In many of the advanced countries, derivatives are used to manage such risks. Derivatives are financial instruments used by banks, investors and businesses to insure against potential risks on their portfolios, advance or postpone cash flows[7] or accumulate wealth (Jarrow and Chatterjea, 2019).

> Underdeveloped or poorly structured de-risking instruments can hinder the ability of companies **to self-insure against volatile capital flows**

[7] This includes borrowing or lending and earning or scaling a return on investment.

They are financial contracts that derive their value from the price of an underlying asset (Jarrow and Chatterjea, 2019). The underlying asset can be a commodity, a stock or an interest rate. Firms use derivatives to manage risks associated with cash flow volatility arising from adverse changes in interest rates, exchange rates and commodity and equity prices (Prabha et al., 2014). This section will focus on using derivatives for insurance or hedging purposes, especially for use by firms and financial institutions to protect against unfavourable outcomes of the polycrisis.

Forwards, futures, options and swaps are the most common types of derivatives (see box IV.4). The underlying assets are usually stocks, bonds, commodities, currencies and interest rates. The use of over-the-counter derivatives in global markets has been growing, and companies are being increasingly exposed to both internal and external risks. They are deploying such financial risk instruments for hedging (for example, price risk, revenue stabilization), risk management (such as financial, climate, insurance and counterparty), leverage and credit enhancement, price discovery and transparency, agricultural financing (for instance, commodity derivatives), portfolio diversification and product standardization (see box IV.4). According to the Bank for International Settlements (2023), the notional value of outstanding over-the-counter derivatives reached $715 trillion at end-June 2023, up by 16 per cent ($97 trillion) since end-December 2022. In South Africa, which provides the most attractive African market for over-the-counter derivatives, the value of those derivatives traded on the Johannesburg Stock Exchange at end-July 2024 stood at R166.5 billion, equivalent to $9 billion. Although this is relatively low, compared with the world value of over-the-counter derivatives, trade in derivatives on the Johannesburg Stock Exchange rose sharply, from $14 million in 2005 to $264 million in 2018 and about $9 billion in mid-2024 (Bekale et al., 2023; Johannesburg Stock Exchange, 2024).

By entering into interest-rate swaps, companies can exchange fixed-rate and floating-rate interest payments **to manage their exposure to interest-rate fluctuations caused by political events**

However, when markets are underdeveloped (for example, small, less liquid or providing unsophisticated hedging instruments), these de-risking instruments are poorly structured or unavailable, which can hinder the ability of companies to self-insure against volatile capital flows and take other risk measures. This is the case in many countries in Africa (for example, underdeveloped financial markets), which can result in limited access to credit for firms, especially SMEs; low investment rates; and high cost of production and supply (see UNCTAD, 2023f). Alabi et al. (2023) note that financial markets in Africa are characterized by volatility, regulatory shortcomings, illiquidity, high prevalence of non-performing loans and inadequate risk-management frameworks, which, when combined, render their ability to mitigate shocks difficult and costly. The relatively limited depth and low liquidity of most financial markets in Africa, which offer few ranges of financial products, restrict the ability of firms to diversify their portfolios and manage financial risk effectively.

By adopting derivatives, African financial markets can gain more influence and help enhance financial and economic stability, while fostering bank lending towards the business sector (Bekale et al., 2023). While the use of derivatives offers lucrative opportunities that can incentivize speculative behaviour (many analysts have linked this function of derivative markets to systemic risk formation in banking ecosystems), the hedging function of derivatives, rather than speculation, has been effective in maintaining a negative relationship towards risk-taking (Cyree et al., 2012). The use of this risk management function of derivative markets is also growing in Africa. For example, the Johannesburg Stock Exchange, the Nairobi Securities Exchange and the Central Bank of Nigeria are among those developing derivatives markets. On the Johannesburg Stock Exchange, companies can use trade-bond derivatives, interest-rate derivatives, equity derivatives, commodity derivatives and currency derivatives. Box IV.4 provides a description of these various types of derivatives.

Box IV. 4
Derivatives

Derivatives are an increasingly common method used for hedging against commodity price volatility and providing protection against various types of risk, including currency exchange risks, credit defaults and interest rate risks. They are also used to mitigate losses and manage exposure to shocks. These financial instruments, whose value is derived from an underlying commodity, enable market participants to speculate on price movements, hedge against price risks or gain exposure to commodity prices without physically owning a commodity.

Three principal types of derivatives are as follows:

- Forwards and futures contracts. These are agreements between two parties to buy or sell an asset such as a specific commodity, currency or other product at a specific date at a price agreed upon in advance. For instance, by entering into a forwards contract, companies can lock in an exchange rate and hedge against potential adverse movements in currency exchange rates. Futures contracts are settled through established clearing houses, while forwards contracts are settled between counterparties, and mostly over the counter. Banks and non-financial firms use futures contracts to help manage risk, enabling banks to extend more loans and firms to invest more capital. Derivatives commodity exchanges facilitate the trading of derivatives contracts based on commodities.
- Options contracts. These give the right, rather than an obligation, as in forwards and futures contracts, to buy or sell an underlying asset (for example, a specific quantity of commodities, currencies or other product) at a pre-determined price known as the strike price. Options can be traded either as a call option (the right, not an obligation, to buy an underlying asset) or a put option (the right, not an obligation, to sell an underlying asset).
- Swaps contracts. These are agreements between counterparties to exchange a series of cash flows at a specific rate and date in the future. These series or streams of cash flows are known as legs of the swap. Interest rate swaps are used to hedge against risks that may have an impact on interest rates, such as changes in monetary policies or government regulations. By entering into interest-rate swaps, companies can exchange fixed-rate and floating-rate interest payments to manage their exposure to interest-rate fluctuations caused by political events. Banks also make use of interest-rate swaps to lower their exposure to risks generated by market interest rates. Credit-default swaps are also used by investors to protect themselves against the risk of default on debt securities issued by Governments or corporations. By purchasing credit-default swaps, investors can hedge against the potential negative impact of political events or policy changes that may lead to a government or corporate default.

Source: UNCTAD, based on African Development Bank, 2013; Bekale et al., 2023; Chidaushe, 2019; Chui, 2012; International Monetary Fund, 1998; Jarrow and Chatterjea, 2019; Prabha et al., 2014.

The benefits and value creation of risk management is evident, yet the practice remains underdeveloped among many firms, especially SMEs

As the use of derivatives, especially when used for speculation, can expose businesses, banks and economies to shocks, cross-border contagion and systemic distress (Bekale et al., 2023), it is important that certain characteristics of the derivatives market be in place. Several requirements are necessary for the effective use of derivatives instruments and the development of a derivatives market. These include a well-developed financial infrastructure, robust clearing and settlement systems, appropriate legal and regulatory frameworks that can facilitate the trading of derivatives, sound institutional frameworks and governance that can enforce derivatives contracts and protect investor rights and skilled personnel using sophisticated financial instruments to perform back-office tasks such as compliance, structuring, clearing and settlement, as well as a diverse pool of knowledgeable investors (Chidauche, 2019; Jarrow and Chatterjea, 2019). When used for hedging, instead of speculation, derivatives increase efficiency in financial markets by allowing more interbank trading of sophisticated financial products, increasing the capitalization potential of banks and improving private sector access to resources. Bekale et al. (2023) note that derivatives contribute to deepening financial markets by enabling a self-efficient process that reduces risks related to bank insolvency and systemic risk formation, and hence promote banking diversification and market-based financing. Policy efforts should be aimed at enhancing financial conditions in Africa to facilitate the development and use of financial innovations such as derivatives. See box IV.5 on the case of Viet Nam in developing its financial market and facilitating cross-border transactions.

As derivatives strengthen the ability of firms to raise capital and insure their assets against adverse effects of shocks or market uncertainties, it is important for firms to extend the valuation of such hedging instruments by ensuring that their overall portfolios and operations are well safeguarded against downside risks.

The next section will explore some of the risk management practices that can help African firms better identify and navigate the risks of doing business in Africa.

Risk management practices at the firm level

In an increasingly globalized and integrated world where geopolitical tensions, economic crises and political instability are merging to create a challenging risk environment (Pillai-Essex et al., 2024) that can curtail a firm's financial and operational performance, the systemic identification, assessment and mitigation of such uncertainties or threats is becoming a critical process for the growth and survival of firms across the world. For instance, analysing the likelihood and impact of shocks emanating from the polycrisis and developing strategies to minimize the harmful effects of such shocks on firms' goods and services can help prepare such firms to enhance their ability to anticipate or control market uncertainties and crisis-proof their portfolios in the event of disruption or failures. The benefits and value creation of risk management is evident, yet the practice remains underdeveloped among many firms, especially SMEs in developing countries. Gius et al. (2018) found that non-financial corporate board members spent only 9 per cent of their time on risk management, mainly because of their lack of capabilities in aligning risk-management operating models with their corporate and performance strategies. Developing risk-management capacities across all sectors or departments of a company is important to raise awareness, understand and prioritize risks, measure and recalibrate performance against these risks and reduce the company's overall exposure to threats from imminent or future events. In addition to assessing and mitigating threats or uncertainties, risk-management practices can also be a catalyst for a firm's pursuit of growth opportunities (Gibson, 2023).

Box IV. 5
Insights from Viet Nam: Reaping the benefits of private capital flows

Since the 1980s, one of the most crucial developments in Viet Nam has been the attraction of cross-border capital inflows, mainly in the form of foreign direct investment. A 1997 report by the World Bank noted that foreign-invested operations contributed to nearly 10 per cent of the county's GDP, over 30 per cent of its gross capital formation, 8 per cent of its total exports and the creation of more than one million direct and indirect jobs at the time. This was facilitated in part by a number of reforms and policy measures aimed at liberalizing the banking sector and financial market and allowing foreign credit institutions to establish a commercial presence in the country or engage in joint ventures. The financial market reform programmes included the restructuring of joint stock banks, the restructuring and equalization of State-owned commercial banks and the improvement of regulatory frameworks, including greater transparency. Such measures opened the banking market to full foreign competition. The series of reforms brought forth sizeable gains for the country, which attracted substantial foreign capital inflows for a period of sustained growth.

The significant amounts of foreign capital inflows can also be reflected in the provision of loans by local banks. As capital demands of Vietnamese firms rose sharply, local banks and foreign financial institutions cooperated to provide offshore loans, making it more attractive and profitable to do business in the country. A multitude of local banks[a] collaborated with international banks and financial institutions to provide syndicated loans to SMEs. In 2019, banks in Viet Nam provided syndicated loans worth over $2 billion. The increasing integration in the international finance market is poised to improve the country's capital mobilization structure and meet the demand of local firms and consumers for foreign currency.

Another transformative force within the financial landscape of Viet Nam was the development of the derivatives securities market, which provides investment opportunities and risk-mitigation tools for investors and businesses. In August 2017, Viet Nam opened a derivatives market, with financial derivatives instruments trading on the Hanoi Stock Exchange and the Ho Chi Minh Stock Exchange. The dimensions and liquidity of the derivative securities market in the country have expanded considerably, with the average trading volume of Viet Nam 30 (commonly known as VN 30) Index Futures contracts[b] reaching 225,178 contracts per session in mid-2024, compared with 10,954 contracts per session in 2017. Such transactions experienced significant growth – up by 79.9 per cent from 2019 to 2020, followed by 43.8 per cent growth between 2021 and 2022 – demonstrating the strength and resilience of the derivatives market in Viet Nam during global shocks such as the pandemic. Moreover, the fact that transactions by foreign investors account for a relatively small share of the total volume of financial products traded on the derivatives market in Viet Nam (3.47 per cent in 2023, compared with 0.1 per cent at the end of 2017), demonstrates that the derivatives market plays an important role in risk hedging and leveraging investment avenues for traders, investors and businesses in the country.

The Viet Nam case study suggests that attracting cross-border capital inflows can be essential to a country's sustainable development. The many policies behind the success, including those that facilitate regional and global trade integration, enable financial market liberalization and promote cooperation with international lending organizations, have profound and replicable significance for many emerging markets and developing countries such as those in Africa. For instance, countries in Africa can learn from the experience of Viet Nam in implementing the types of reforms that create a stable and predictable policy environment, with more transparent regulations, predictable taxation regimes and stronger private investor rights. Moreover, the success of Viet Nam in improving infrastructure (such as transport, energy and ICT), which has been a critical factor in attracting private capital and fostering sector-specific export-oriented industries in manufacturing and agriculture, contributing to raising its levels of productivity and competitiveness, are other lessons learned that may be applied in countries in Africa.

Source: UNCTAD, based on Asian Development Bank Institute, 2008; Viet Nam Chamber of Commerce and Industry, 2023; Hanoi Stock Exchange, 2024; Jun et al., 1997; Thanh and Quang, 2008.

[a] LP Bank, Saigon–Hanoi Commercial Joint Stock Bank, Orient Commercial Bank, Viet Nam Prosperity Joint Stock Commercial Bank, Tien Phong Commercial Joint Stock Bank and Viet Nam Technology and Commercial Joint Stock Bank.

[b] These are derivatives securities products representing potential stocks listed on stock exchanges in Viet Nam.

Several conceptual frameworks serve as guidelines for firms, especially SMEs, in their strategies and practices of managing risks. Internationally standardized, recognized and widely used guidelines include the United States-based Committee of Sponsoring Organizations of the Treadway Commission enterprise risk-management framework, the International Organization for Standardization 31000 standard and the Australia and New Zealand standard 4360, known as AS/NZS 4360.

The enterprise risk-management framework defines risk management as the culture, capabilities and practices, integrated with strategy-setting and its performance, that organizations rely on to manage risk in creating, preserving and realizing value. The framework comprises five interrelated components:

- Governance and culture.
- Strategy- and objective-setting.
- Performance.
- Review and revision.
- Information, communication and reporting (Society of Corporate Compliance and Ethics and Health Care Compliance Association, 2020).

Lack of resources and expertise in implementing enterprise risk management, makes it difficult **for SMEs to prioritize tools and practices that can reduce risks**

Australia and New Zealand standard 4360 provides a four-pronged systematic approach to risk management that aims to establish the context, identify the risks, assess the risks and treat the risks (Dioubate, 2023). The International Organization for Standardization 31000 standard enables firms to integrate risk-based decision-making into their governance, planning, management, reporting, policies, values and culture. Its principles-based system can be applied by all organizations, regardless of type, size, activities and location, and covers all types of risk (International Organization for Standardization, 2018). The enterprise risk-management framework and the Australia and New Zealand 4360 standard can be applied to any organization, regardless of its size or sector (Dioubate, 2023).

While enterprise risk-management guidelines and structured approaches to risk management have proven effective in helping organizations develop sustainable business processes to mitigate risk and improve performance, their use by SMEs in many developing countries, especially in Africa, has been limited. Dioubate (2023) and Al-Tarawneh and Al-Smadi (2018) note that many SMEs in Africa are constrained by the lack of resources and expertise in implementing enterprise risk management, which makes it difficult for them to prioritize tools and practices that can reduce risks, such as conducting risk assessments, developing risk-management strategies and applying risk controls. In Nigeria, for instance, Akinyomi et al. (2020) found that the implementation of enterprise risk management by SMEs operating in the country is mostly constrained by inadequate capital, lack of access to credit and poor infrastructure. In other countries, such as Burkina Faso, Sawadogo and Zerbo (2018) observe the lack of knowledge, limited resources and cultural factors as significant barriers to the adoption of risk-management tools by SMEs. If SMEs are to implement enterprise risk management and better understand its different components – risk identification, risk assessment, risk response and monitoring and reporting – there is a need to build a risk-management culture within an organization, by promoting awareness of the benefits of such a strategy and ensuring that all employees in the company are involved in the risk-management process (Ziemska and Ciesielska, 2018). Beasley et al. (2016) argue that the effective implementation of enterprise risk management requires addressing cultural and organizational challenges associated with risks, which can be facilitated through effective leadership, management of organizational change and staff training.

If SMEs adopt effective risk-management frameworks and integrate the approach into their business processes, they can reduce the impact of risks on their operations and enhance their resilience to unforeseen events (Chen et al., 2020). The value of enterprise risk management was also argued by Brustbauer (2014), who stated that adopting risk management gave a competitive advantage to firms by facilitating mechanisms that could lessen potential losses in the event of market disruption or failures, or simply when exploiting growth opportunities. For instance, more effectively planning, organizing, directing and controlling resources – risk management, in essence – can help SMEs reach their growth or expansion objectives in an environment where unexpected positive or negative events occur (Crovini et al., 2021).

In a sense, enterprise risk management not only contributes to the ability of SMEs to mitigate the effects of unexpected threats or shocks on a specific project or investment, but it can also be a catalyst that drives SME performance, particularly in revenue growth and profitability. Such contributing factors of enterprise risk management were shown by Odubuasi et al. (2022) in their investigation of the effect of enterprise risk management on the earning capacity of African banks. A significantly positive correlation was established between effective risk-management practices and the enhanced earning capacity of selected financial firms in Africa. In developing countries in Asia, such as Indonesia, Malaysia and Pakistan, it was found that enterprise risk management increased the value of firms and shareholders, enhanced corporate governance and improved the quality of internal audits, which together contributed to the overall performance of non-financial firms (Husaini and Saiful, 2017; Nasir, 2018; Ping et al., 2017). In the Middle East, for example, in Bahrain, Jordan, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates, Altanashat et al. (2019) and Rao (2018) found that the adoption of enterprise risk management by selected firms in those countries boosted their institutional performance and corporate governance. In conclusion, risk-management practices can help firms in Africa, especially SMEs, develop sustainable business processes to mitigate risk and build resilience to shocks.

Conclusion

In Africa, firms face a unique set of risks that distinguish them from their counterparts in other regions. One of the most prominent challenges is the volatile political and regulatory landscape, which undermines investor confidence, hinders long-term planning and increases the cost of doing business. Moreover, inadequate infrastructure, including unreliable electricity supply, poor transport networks and limited access to finance, constrain the operational efficiency and competitiveness of firms. These challenges are compounded by external factors, such as climate change, resource scarcity and global economic volatility, which further exacerbate risks for African firms.

Managing cross-border transaction risks in Africa requires a comprehensive approach that involves collaboration between Governments, businesses and financial institutions to address structural and financial constraints, enhance institutional capacities and foster an enabling business environment that builds resilience to shocks and promotes sustainable growth and development. Moreover, the development of deep and liquid financial markets that provide a platform for companies, Governments and individuals to raise capital, manage risks and trade securities is necessary to erect a bulwark in Africa against the global polycrisis.

Considering the positive and sustainable effects of enterprise risk-management practices on the financial performance of SMEs, stakeholder relations and strategic planning, it is important to overcome resource and infrastructure challenges and identify the key drivers for the successful adoption and implementation of these practices by SMEs in Africa.

Enterprise risk management can also be a catalyst that drives SME performance, **particularly in revenue growth and profitability**

The benefits of enterprise risk management extend beyond identifying, assessing and mitigating potential threats or losses, and hence building resilience and reliability in unpredictable risk environments such as that of the polycrisis. It is increasingly becoming a valuable tool for sound performance, sustained growth and competitive business outcomes in new markets and industries. Chapter 5, the final chapter of this report, will set forth some practical recommendations that can help the public and private sectors in Africa navigate complex and uncertain environments while building resilience and stability in economies, markets and businesses.

Risk-management practices can help firms in Africa, especially SMEs, develop sustainable business processes to mitigate risk and build resilience to shocks

Economic development in Africa report 2024

Chapter V

Conclusions and recommended policy actions

United Nations

Introduction

The previous chapters emphasize that the simultaneous and interconnected global crises can significantly harm global prospects for growth, amplify economic and societal shocks and increase the vulnerability of African countries to volatile economic and trade conditions. Between 2012 and 2022, numerous covariate shocks and interconnected uncertainties had a major impact on the global economy, shifting the rhetoric on economic prosperity, financial stability, social cohesion and environmental sustainability. While market dynamics remain unpredictable, there are opportunities to be explored to harness the economic potential of domestic and regional markets in Africa. These include the African Continental Free Trade Area and subregional economic communities. To mitigate or recover from these crises, policymakers and businesses should collaborate closely to build resilient economic, trade and financial ecosystems that enable stronger crisis preparedness and response, encourage inclusive policies and enhance overall stability.

As outlined in chapter I, interconnected global crises exacerbate trade risks in Africa. Six categories of shock – political, economic, demographic, energy, technological and climate – pose significant threats to African trade and development. The differences among the vulnerability landscapes of African countries, particularly across the economic, governance, connectivity, social, energy and climate domains, will determine the extent to which they will be exposed to threats emanating from the polycrisis. Many African countries are highly vulnerable across the economic and connectivity domains, and their vulnerable economic and infrastructure systems increase their exposure to shocks. Hence the need for a multidimensional approach to risk management in Africa that addresses specific vulnerabilities across domains to build resilience against a complex and interconnected global risk landscape. Moreover, the importance of collaborative, resilient and adaptive policies to protect and advance economic and social development in Africa and help strengthen its resilience to the polycrisis cannot be overstated.

In particular, economic resilience should be reinforced to alleviate potential exposure to shocks stemming from the polycrisis. This requires the adoption of sound, stable macroeconomic stability policies that consider the different dynamics of African countries in terms of economic and trade structure and institutional systems. African economies remain largely undiversified and heavily reliant on primary commodity exports, making them particularly susceptible to external economic disturbances and price volatility. For those countries dependent on fuels, minerals and metals, this involves reinforcing the use of fiscal and monetary policies to incentivize diversification away from the fuel and mining sectors into other economic sectors. Countries dependent on agricultural exports should renew policies and invest in technology, skills and sustainable practices to enhance resilience against economic, financial, social and environmental shocks. Additionally, improving public financial management and adhering to fiscal targets can boost financial stability and revenues, helping countries recover from shocks without excessive borrowing and debt risk (chapter II).

The potential of regional economic integration in setting the pace of industrial growth and development in Africa should be taken into account. It is important to broaden the capabilities of African countries to effectively leverage the opportunities accorded by regional trade agreements, such as the Agreement Establishing the African Continental Free Trade Area.

To mitigate or recover from crises, policymakers and businesses should collaborate closely to build resilient economic, trade and financial ecosystems **that enable stronger crisis preparedness and response, encourage inclusive policies and enhance overall stability**

However, infrastructure gaps raise the cost of production and trade, undermining industrial productivity in the process, and eroding the competitiveness of African exports and the ability to develop viable value chains. While countries continue to prioritize their own economic infrastructure development, it is also important to further strengthen regional infrastructure development programmes. A balanced approach to infrastructure development remains essential for the sustainable development of intra-African value and supply chains. The current regional market dynamics in Africa signal a broader narrative about the opportunities to foster stronger trade networks aimed at promoting value added production and the supply of goods and services, and to enhance trade risk defence capabilities. Moreover, greater efforts and capabilities towards a coordinated continental approach to tackle infrastructure gaps, streamline trade procedures and foster deeper integration through the African Continental Free Trade Area are necessary if Africa is to build resilient, diversified and competitive trade networks, enabling it to better withstand global shocks and drive sustainable economic growth across the continent (chapter III).

Some businesses prosper amid the polycrisis, maintaining consistency and success. However, many African businesses, particularly SMEs, are faced with high trade costs, limited infrastructure and regulatory complexities that are worsened by weak energy infrastructure and limited financial support systems, which challenge their ability to manage risks effectively. To navigate the complex challenges posed by structural vulnerabilities, polycrisis shocks and global market fluctuations, there is an urgent need for SMEs in Africa to mitigate financial, operational and regulatory risks to bolster resilience and capitalize on opportunities in an increasingly competitive environment. For instance, access to financial instruments, such as derivatives and risk-management tools at the enterprise level, is essential for African firms to manage risks effectively and enhance their stability in volatile market conditions. Enterprise risk management can guarantee a safer and more reliable future for SMEs in Africa. Dealing with firm-related risks and opportunities calls for systemic, policy-driven efforts to equip African firms with the resilience required to thrive amid global uncertainties and unlock their full economic potential within regional and global markets (chapter IV).

A balanced approach to infrastructure development remains essential for the sustainable development of intra-African value and supply chains

Considerations for policy guidance

UNCTAD concludes its 2024 edition of the *Economic Development in Africa Report* by proposing short-, medium- and long-term actionable policy recommendations for key stakeholders – Governments, private sector trading partners and international organizations. In particular, Governments are encouraged to adopt policy measures that help enhance crisis preparedness and foster resilience to polycrisis shocks. Private firms are invited to develop stronger productive and trade capabilities by leveraging cost-effective risk-management strategies and other useful mechanisms that reduce their potential vulnerability in navigating the waters of uncertain economic environments. Trading partners and international organizations are urged to support and share knowledge about best practices to foster resilience to shocks emanating from the polycrisis. These proposed policy actions could enhance macroeconomic stability in African countries, optimize the resilience potential of regional trade markets, strengthen financial markets to facilitate hedging instruments and encourage SMEs to manage risk and improve performance in a proactive manner.

Enhancing macroeconomic stability to lower economic vulnerability to shocks

In a polycrisis environment beset with successive severe shocks, policymakers face multiple challenges. In the short term, prioritizing actions such as limiting economic losses, reducing inflation or rebuilding monetary and fiscal buffers is a difficult undertaking. This complexity arises when responding to a single supply-side shock, such as an energy sector commodity price shock, with measures such as inflation targeting, monetary tightening or foreign exchange intervention.

Optimal policy responses to multiple lingering shocks with spillover effects should focus on restoring macroeconomic stability, enhancing productive capacity and promoting sustainable consumption, savings and investment. Fiscal and monetary policies are useful for achieving objectives such as ensuring economic stability, wealth redistribution and revenue collection, and warding off harmful activities. For example, fiscal policy can stimulate economic growth, particularly during periods of shocks.

Nonetheless, caution should be observed when utilizing fiscal and monetary policy tools. For African Governments where equity should be a central objective, policies should be applied in such a way as to avoid the creation of uncertain environments or enable an unfair and uncompetitive environment that places other sectors or firms at a disadvantage. For instance, corporate taxes that remain higher for longer in one sector than another disadvantage firms and forge an unequal operational environment. Policy tools should be calibrated to strengthen diversification with sunset clauses. Fiscal and monetary policy regimes should aim for long-term application and consistency, as this ensures economic stability.

Optimal policy responses to multiple lingering shocks with spillover effects should focus on restoring macroeconomic stability, enhancing productive capacity and promoting sustainable consumption, savings and investment

For instance, open market operations supporting the agricultural sector should focus on implementation through a long-term development plan rather than one that brings frequent changes in the medium term.

Proposed policy actions to strengthen macroeconomic systems and achieve resilience

Based on the above, the following policy actions, aimed at strengthening macroeconomic systems to help build resilience across the economic domain, are presented to African policymakers and financial regulators for consideration:

- Optimize government spending and revenue through shock-sensitivity analysis.
- Apply a vulnerability lens to public financial management, monitoring and reporting.
- Facilitate optimal monetary policy by tailoring capital and liquidity requirements to risks and vulnerability to shocks.
- Increase institutional capacity for policy action and impact.

Improving public financial management and adhering to fiscal targets can boost financial stability and revenues, **helping countries recover from shocks without excessive borrowing and debt risk**

Optimize government spending and revenue through shock-sensitivity analysis

It is recommended that African Governments earmark expenditure for building infrastructure (physical and human capital) and essential public services that can help reduce business costs and support long-term economic benefits.

Short-term actions

It is recommended that African Governments identify and analyse revenue streams that can be used to sustainably finance the inputs and activities identified within the sectors allocated for diversification and resilience-strengthening.

Revenue could be generated from existing revenue streams, such as direct or indirect taxes. Such revenue could be earmarked for the activities and inputs identified for increasing economic resilience.

Conversely, revenue could be derived from deficit financing and borrowing (see medium-term actions below).

Medium-term actions

Detailed budgets should be drawn up, including the initial overall budget broken down into medium-term budgets. Budgets should be tied to specific objectives and to the inputs required. For instance, setting a target amount for infrastructure financing needs over a 5- or 10-year period can help Governments in Africa frame fiscal decision-making. Having this medium-term plan would not only help promote fiscal responsibility and sustainability; it would also help Governments perceive how changes due to shocks could affect the spending and revenue changes needed to reach specific infrastructure targets.

Deficit financing should be addressed, with details on where to borrow (internal or external) and the borrowing instruments and estimated borrowing terms. This would require African Governments to enhance debt management practices by improving debt reporting and reducing reliance on non-concessional borrowing. Seeking concessional financing (loans with favourable terms and lower interest rates) from multilateral institutions, such as the African Development Bank and the World Bank, can alleviate interest burdens and lengthen repayment periods, aiding in fiscal sustainability.

Moreover, it is recommended that African Governments establish comprehensive debt management frameworks that include caps on borrowing, regular assessments of debt sustainability and prudent terms for new loans. This is particularly relevant for countries that rely heavily on foreign debt, as seen in the case of Ghana (chapter II).

Effective debt management can prevent unexpected debt distress and improve credit ratings.

Apply a vulnerability lens to public financial management, monitoring and reporting

It is recommended that African Governments apply a vulnerability lens when designing and implementing fiscal policies to keep track of targets versus actuals for both government revenue and expenditure to ensure the fiscal sustainability of their development plans. By doing so, they can gain a better understanding of financial management issues and assess how their vulnerability to specific shocks or crises can affect their public finances and fiscal management processes.

Short-term actions

Applying a vulnerability lens to existing frameworks and tools used at the country level to assess the status of public financial management entails adding risk assessment criteria based on a country's vulnerability to global shocks when conducting public expenditure and financial accountability reviews. Two factors should be taken into account. First, most countries already have budget and financial accountability mechanisms in place, with some countries having conducted reviews of their budgeting and financial systems (see chapter II on fiscal policy). Second, although countries tend to score well in budget reliability, their scores in other areas are not as high.

Medium-term actions

Mechanisms to ensure appropriate monitoring, including regular audits and publication of documents, should be established. This is particularly relevant in a global polycrisis context where countries' vulnerability to shocks can have a bearing on the functions of their oversight institutions and the effectiveness of their public financial management and accounting practices.

Facilitate optimal monetary policy by tailoring capital and liquidity requirements to risks and vulnerability to shocks

It is recommended that African countries adopt financial stability tools to address stresses in the banking system while ensuring monetary policy stability.

Short-term actions

African Governments are encouraged to design a framework that promotes a resilient financial system in which banks can provide valuable credit, risk-management and liquidity services throughout the business and financial cycles, and in which financial regulation and supervision can lessen the probability of systemic risks and the potential costs of a shock hitting the financial system. A periodic review of such a framework should be undertaken to make sure that the regulatory and supervisory requirements deliver the same level of stability and/or resilience as new sources of risk emerge.

Central banks should implement clear inflation-targeting frameworks that maintain inflation within a defined range, such the 3 to 6 per cent target set by South Africa. These frameworks help stabilize prices, enhance investor confidence and mitigate the risks of imported inflation, particularly in countries with fixed exchange rates (see chapter II).

Medium-term actions

It would be advisable for central banks in Africa to support the capitalization growth and resilience of banks, which would contribute to lowering the risks of macroeconomic shocks. This would entail, for instance, the increasing use of tools, such as open market operations, to provide financial guarantees to commercial banks that lend at lower rates to businesses most vulnerable to shocks or to sectors identified for diversification.

Applying a vulnerability lens to public financial management entails adding risk assessment criteria based on a country's vulnerability to global shocks

Moreover, facilitating loan-targeting instruments that can expand private credit at favourable and sustainable rates will help diminish the vulnerabilities of households and businesses to shocks that have an impact on financial conditions.

Long-term actions

Regional development banks could have utility in financing long-term projects, for example, large-scale infrastructure projects and environmental projects that strengthen development. Investing in regional infrastructure projects, such as transport and energy networks, to facilitate cross-border trade and support the free movement of labour and capital within regional trading blocs, such as the African Continental Free Trade Area, will stimulate growth and stability in Africa.

Regional market dynamics in Africa signal a significant **opportunities to foster stronger trade networks** and enhance trade risk defence capabilities

Increase institutional capacity for policy action and impact

It is recommended that countries in Africa institutionalize better risk-informed public financial management processes by strengthening the capacity of public accountants, auditors and other relevant functions.

Short- to medium-term actions

The functions of audit offices can be reinforced or expanded with trained auditors who specialize in different functions related to line ministries whose purpose is to ensure comprehensive monitoring of existing frameworks. While African countries generally perform well in budgeting and planning areas, many lack efficient oversight institutions and often fall short in monitoring. Monitoring usually occurs through audits carried out by one office, with the office expected to audit all government functions, often with limited staff.

Within capacity-building frameworks, Governments should target the acquisition of longer-term technical skills and provide short courses and workshops to match each function. In addition, Governments should aim to ensure the availability of skill sets, such as geology expertise for ministries in charge of water resources or roads.

Long-term actions

African Governments should invest in the technical capacity of fiscal and economic planning institutions to improve long-term economic forecasting, debt analysis and fiscal policy implementation. Transparent and predictable fiscal policy processes, including publishing budget plans, debt statistics and economic performance reports, can improve accountability, reduce corruption and build confidence among investors and citizens.

Optimizing regional market opportunities to reduce trade-related risks

A dynamic network of value added exports and imports connecting businesses, suppliers and institutions across the various components of the supply chain, can enhance industry clustering and competitiveness. Such a network can boost efficiency, technological innovation, skills transfer, infrastructure development and regional economic growth, thereby strengthening the ability of African countries and regions to withstand shocks to trade and disruptions in supply chains. Opportunities to effectively leverage regional markets, such as the African Continental Free Trade Area, both in sourcing competitive inputs and in relocating production where necessary, will increase value addition in the exported products and reinforce existing and new trade networks at the subregional and continental levels, and thus help curb the cascading effects of trade risks and supply chain uncertainties.

As value added trade networks provide an appropriate route for improving the technical efficiency of African firms, their effective participation in such networks requires the upgrading of technical capacities to decrease inefficiencies and enhance the ability of firms to scale up production and exploit economies of scale.

The first step in this direction would be the development of an effective industrial ecosystem to support the growth and development of firms, including SMEs. This should be complemented by stable, consistent and credible macroeconomic and trade policies to ensure the predictability and stability of the business environment and lower risk and uncertainty when engaging in cross-border trade and financial activities. For now, infrastructure gaps remain a major obstacle to trade, raising investment, trade and marginal production costs; undermining industrial productivity; and eroding the competitiveness of African exports and the ability of countries in Africa to develop strong value chains. While these countries continue prioritizing the development of infrastructure that can support the growth of domestic economies, it is also important to focus on further reinforcing regional infrastructure development.

A balanced approach to infrastructure development remains essential for the sustainable development of intra-African value and supply chains. Similarly, investments in the energy sector are necessary to secure the seamless production of goods, particularly more complex manufactured goods. Energy security can help SMEs expand their production processes and diversify their goods, which in turn can help develop viable regional trade networks, while lowering production costs.

Proposed policy interventions to encourage participation in regional and global trade networks

To offset trade-related risks and enhance the participation of African countries in regional and global trade networks, the following policy intervention recommendations are put forth for consideration:

- Create more diversified regional trade networks through improved economic infrastructure and value addition.
- Strengthen regional mechanisms to manage cross-border trade-related risks and mitigate external demand shocks.
- Develop stronger capabilities to enhance industrial productivity, supply chains and resilient markets.

> Leverage the African Continental Free Trade Area, to enhance regional trade networks and **reduce exposure to economic, governance and connectivity risks**

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Create more diversified regional trade networks through improved economic infrastructure and value addition

It is recommended that African Governments and regional institutions improve value added production and trade networks by prioritizing investments in transport, ICT and energy infrastructure to strengthen connectivity across African economies. This prioritization should be aligned with existing continental initiatives such as the African Continental Free Trade Area and the Programme for Infrastructure Development in Africa, which focuses on the cross-border implementation of energy and transport corridors and regional Internet exchange networks.

Short-term actions

Regional trade agreements offer opportunities for African businesses to scale up their operations and increase production capacities for goods and services that would otherwise be imported. Offering incentives that aim to promote industrialization and local manufacturing and sourcing (or supply) of goods and services targeted at regional markets is therefore recommended. For instance, African Governments could offer reduced corporate tax rates for companies that invest in manufacturing or industrial projects, while financial institutions could offer low-interest loans or credits on income tax for capital investments in machinery, technology and facilities that boost production capacity. These incentives would enhance productivity and value addition, reduce the dependence on exporting unprocessed raw materials (for example, crude oil or minerals) to global markets, where prices are volatile, and help stabilize export revenues.

Moreover, it is recommended that African regulators introduce risked-based investment regulations with clearly defined standards of accountability for the fiduciaries of institutional investors and investment managers, which would allow such funds to diversify their portfolios while controlling risks. Such regulations are more appropriate for investing in alternative assets, including infrastructure and other long-term assets. Given the energy potential of Africa, investments in renewable energy sources and regional power-sharing mechanisms are necessary. Improving energy infrastructure reduces production costs and increases the competitiveness of African industries.

Medium-term actions

The African Continental Free Trade Area could be leveraged to mobilize investment in infrastructure through the liberalization of services and the Protocol on Investment to the Agreement Establishing the African Continental Free Trade Area. The provisions for trade in services can provide opportunities for businesses in the infrastructure sector that could reduce investment costs and increase return on investment. By addressing the fragmentation of investment regulations, the Protocol is designed to be the single standard for investments in Africa, which should provide a more predictable governance regime for investments and a more positive investor experience. Further, the Protocol has established the Pan-African Trade and Investment Agency to assist investors in mobilizing financial resources and provide technical and business support.

Regional and international financial organizations and institutional investors could work closely with African Governments to set up co-investment programmes for financing subregional infrastructure networks. In the form of equity (for example, the Pan-African Infrastructure Development Fund) or debt (for example, the Managed Co-Lending Portfolio Programme of the International Finance Corporation), these co-investment vehicles could help leverage the credibility, expertise and experience of regional and international organizations to mobilize additional private capital to finance infrastructure projects in Africa.

Development partners, such as UNCTAD, are encouraged to support countries in reinforcing their investment regulation, building human capacity to promote standards of accountability and diversifying their investment portfolios. This could help improve market and regulatory conditions and thus facilitate safety in the investment decisions of institutional investors in co-investment platforms for regional and cross-border infrastructure financing. Broadening investment opportunities in regional connectivity infrastructure would help bring down logistical and trade costs, enhance connectivity and raise trade efficiency.

Strengthen regional mechanisms to manage cross-border trade-related risks and mitigate external demand shocks in Africa

It is recommended that African Governments and trading partners take steps to leverage regional markets, such as the African Continental Free Trade Area, to enhance regional trade networks and reduce exposure to economic, governance and connectivity risks. Regional trade agreements can shield African economies from external demand shocks by building stronger, more diversified intra-African trade relationships, reducing reliance on external markets and fostering regional production and value addition.

Short-term actions

It is important to promote the alignment of national strategies with regional integration goals through the use of uniform or compatible mapping and assessment standards. This allows for harmonized customs procedures for a more active participation of the private sector in interconnected value and supply chains and streamlined border processes for rapid and efficient response mechanisms to sudden external demand shocks.

African Governments and domestic, regional and multilateral financial institutions are encouraged to set up emergency or crisis-response trade finance and supply chain finance facilities to support African businesses affected by global demand shocks, helping them pivot to regional markets. Such financing can stabilize businesses that depend on exports and prevent job losses in key industries.

Medium-term actions

The establishment of an efficient management system and associated capacity-building for the harmonization of standards relating to regional production and trade networks would lead the way to better regional connectivity. Potential financing solutions could include setting up a regional fund or pooling public and private resources to help implement African Continental Free Trade Area strategies, build early warning systems, develop contingency plans and provide insurance to manage trade-related risks and challenges.

Development partners such as UNCTAD could provide support for customs departments to simplify procedures and reduce time and costs for businesses. This encourages trading countries to recognize their respective clearance forms, thereby helping to resolve time and compliance issues faced by entrepreneurs (see https://asycuda.org).

Long-term actions

African countries and regional institutions are encouraged to establish regional trade hubs and industrial parks that specialize in high-demand sectors such as agriculture, pharmaceuticals and technology. Regional trade hubs can attract investment and promote manufacturing within Africa, making the continent more self-reliant and capable of responding to global demand fluctuations.

Developing or expanding regional financial markets that offer options for financial integration and currency stability for intra-African trade would help increase the ability of African businesses to grow within the continent, stabilize exports and build resilience to external economic conditions.

Set up emergency or crisis-response trade finance and supply chain finance facilities to support African businesses affected by global demand shocks, **helping them pivot to regional markets**

When exporting or sourcing goods, more stable currencies can lessen inflationary pressures from currency fluctuations, particularly during external economic turbulence. The creation of regional payment systems, such as the Pan-African Payment and Settlement System, would allow African businesses to transact across borders without relying on international currencies, reducing their exposure to exchange rate risks and external financial market volatility.

Develop stronger capabilities to enhance industrial productivity, supply chains and resilient markets

It is recommended that African countries design industry-tailored training and capacity-building programmes to improve labour skills and encourage technology and innovation that can boost firm-level specialization and competitiveness in regional production and trade networks.

Short- to medium-term actions

Strengthening the institutions responsible for trade and industrialization policies is necessary to identify gaps and opportunities and thus improve industry competitiveness and ensure compliance with international standards.

Regularly assessing and monitoring productive capacities in key industries and sectors is useful to evaluate and mitigate the impact of macroeconomic shocks and trade policies on value added production demand linkages. For instance, UNCTAD assessments of national productive capacities gaps can help African countries identify and address their limitations and exploit opportunities to reinforce microeconomic and macroeconomic fundamentals for industrial growth and integration into value added trade networks.

Medium- to long-term actions

It is important to provide support for the institutional capacity-building of regional trade organizations, such as the African Continental Free Trade Area, by expanding cooperation in regulatory frameworks, quality standards and trade dispute mechanisms. Strengthening African regional trade agreements would contribute to the development of resilient regional value and supply chains and increase trade volume within the continent, making economies in Africa less vulnerable to external demand shocks.

Access to financial instruments, such as derivatives and risk-management tools, is essential for the management of currency and interest rate risks, **enhancing the stability of African firms amid volatile market conditions**

Strengthening institutional and organizational settings to mitigate risks to cross-border transactions

To facilitate more effective leveraging of intra-African trade opportunities and the potential for regional trade agreements to create buffers against global market shifts, African businesses would need to address foundational challenges, such as regulatory inconsistencies, infrastructure deficits and financial market limitations. Access to financial instruments, such as derivatives and risk-management tools, is essential for the management of currency and interest rate risks, enhancing the stability of African firms amid volatile market conditions. For instance, the use of financial derivatives, such as forward, future, option and swap contracts, can help traders and investors manage or trade, that is, transfer a specific financial risk[1] when engaging in a cross-border business or financial activity. However, the structuring, valuation and settlement of financial derivatives contracts, which are either traded within organized exchange markets, such as stock market or commodity exchanges, or processed over the counter, require sound financial infrastructures and institutional settings, including sophisticated exchange markets and robust clearinghouse systems that provide a safe and regulated trading platform for these risk-mitigating financial instruments.

[1] Either interest rate risk, currency risk, commodity price risk, equity and credit risk.

To guarantee that financial instruments serve their intended purposes to hedge against risk,[2] boost trade opportunities and empower a larger group of market participants[3] to access capital, a supportive legal and regulatory framework should be put in place.

However, underdeveloped financial markets and limited access to sophisticated instruments hinder African businesses from fully utilizing these instruments. Many advantages can be gained by developing and strengthening financial markets in Africa, primarily enabling traders and investors to manage their price risks more effectively, but also boosting linkages between trade and finance, improving the marketing of goods and services manufactured and traded across Africa and making African industries and regional markets more efficient and competitive. Furthermore, the success of these financial markets would also require sound risk management strategies and frameworks, as well as regulatory enhancement that can protect financial institutions and non-financial participants[4] alike and safeguard domestic financial stability.

Proposed policy measures to mitigate risks to cross-border transactions

In view of these opportunities and the potential to reduce the adverse effects of the polycrisis on cross-border trade in Africa, a more effective partnership and collaborative approach is recommended to promote the development of viable markets and tools that can serve the needs of African businesses in mitigating risks to cross-border transactions. In particular, there is a need to:

- Create a supportive environment for the use of sophisticated financial instruments and stability in cross-border financial transactions
- Enhance financial risk-management practices and culture
- Institutionalize enterprise risk management practices.

Create a supportive environment for the use of sophisticated financial instruments and stability in cross-border financial transactions

Short- to medium-term actions

In countries with existing exchanges, it is recommended that African Governments and regulatory authorities assess the current laws and regulations governing the exchanges and their operations to identify potential institutional and operational vulnerability to shocks and propose supportive actions through which derivatives and other risk-mitigation financial instruments can be best deployed and used by traders and investors when engaging in cross-border activities in Africa.

It is important to enhance the effectiveness of African regulators in supervising exchanges and their operations by increasing the adoption and use of supervisory and regulatory technology and tools. The use of emerging technologies, such as artificial intelligence and machine learning, could facilitate greater and better processing of regulatory data and improve supervision.

In some countries in Africa, this would require setting up innovation and/or digital technology units within a regulatory authority, such as a central bank, which could contribute to the design, testing, adoption and monitoring of supervisory and regulatory solutions.

[2] Including cross-border transaction risks emanating from internal and external shocks.

[3] For example, buyers and sellers in derivative contracts, exporters, importers, brokers and clearing banks.

[4] For example, firms engaged in trading financial derivatives and other risk-mitigating financial instruments.

Financial infrastructure, such as a clearing and settlement infrastructure, is important for the good functioning of domestic markets, including the money market, interbank market and bond market. Such infrastructure would also be essential in strengthening the ability to hedge currency risk and mitigate credit risk in response to future crises. For instance, it is recommended that African countries set up a strong clearinghouse that complies with international standards and can manage payment flows that are associated with the clearing and settlement of derivatives, including cross-border transactions, and create the necessary conditions for attracting domestic and international investors and market participants to trade derivatives on the domestic exchange.

African banks and financial institutions to make basic financial hedging tools, such as derivatives, **more affordable and accessible to SMEs**

Medium- to long-term actions

It is necessary for African countries to comply with all Basel standards and, in particular, ensure full implementation of the Basel risk-based capital standards, which would lower financial institutions' exposure to financial shocks and safeguard stability in cross-border capital flows. An assessment by the Basel Committee on Banking Supervision (Bank for International Settlements, 2023) found South Africa to be compliant with the Committee's large exposures framework. This means that the exposure of South African banks to a single counterparty or to a group of connected counterparties was within the required limit of 25 per cent of the banks' tier 1 capital, and hence an indication of their capacity to manage systemic risks.

It is further recommended that African countries (mainly regulators) and standard-setting bodies at the domestic or international level, such as the Basel-based committees, design tailored training programmes that focus on the components of the Basel standards that address key risks in the banking sector or help mitigate a particular vulnerability to shocks that affect the financial sector. Customized training programmes would help African regulatory experts better understand the benefits of the Basel standards and hence contribute to the effective implementation of international standards towards more resilient economic and financial environments.

Moreover, close coordination and interaction between regulators, policymakers and the private sector would help regulators better understand the specific challenges, needs and interests of market participants (in this case, both public and private investors) and thereby remove unnecessary obstacles to the participation of investors and market users in those exchanges. This would entail, for example, joint research on the policy, legal and regulatory determinants of derivates markets or market and risk assessments on financial markets, financial instruments and digital financial services that can further financial stability and financial inclusion.

A practical example of UNCTAD technical cooperation that aims to help countries manage financial risk more effectively and raise investment through enhanced regulation and stock exchange development is the Sustainable Stock Exchanges Initiative. This is a United Nations partnership programme that includes UNCTAD, the United Nations Global Compact and the United Nations Environment Programme. Its purpose is to provide a global platform for exploring how exchanges, in collaboration with investors, companies (issuers), regulators, policymakers and international organizations, can strengthen performance in dealing with environmental, social and corporate governance issues and encourage sustainable investment. The Sustainable Stock Exchanges Initiative seeks to achieve this by conducting evidence-based policy analysis, facilitating a network and forum for multi-stakeholder consensus-building and providing technical guidelines, advisory services and training.[5]

[5] See https://sseinitiative.org.

Enhance financial risk-management practices and culture

In addition to building the necessary skills of the regulators and supervisors who have the authority to set the conditions and rules of derivatives activity, review risk-management and governance processes, and track risk exposures, it is important that market participants[6] understand and appreciate the role and potential of derivatives markets in managing risks and strengthening the resilience of the economy.

Short-term actions

It is recommended that African Governments and the private sector promote basic financial risk awareness by providing training programmes to improve awareness and understanding of financial risk management for SMEs, including introductory training on simple financial risk tools and operational risk.

In addition, it is important to encourage African banks and financial institutions to make basic financial hedging tools, such as derivatives, more affordable and accessible to SMEs. This could be accomplished by launching pilot programmes in sectors exposed to currency volatility, for example, export-oriented industries, and simplifying the process for SMEs to access currency hedging and other basic instruments by reducing regulatory hurdles and transaction costs. Other recommendations are to establish public–private support platforms that can facilitate the access of African businesses to risk-management resources, including guides on mitigating cross-border financial risks, and to support the implementation of credit-guarantee schemes that encourage banks to lend to SMEs. These credit-guarantee schemes can help mitigate the risk for banks and encourage them to offer financing options that SMEs can use to manage financial risks more effectively.

Medium-term actions

It is recommended that African countries develop and deepen derivatives markets in key regional financial hubs, for example, Kenya, Nigeria and South Africa, which can provide firms across the continent with access to more advanced risk-management products, such as currency options, swaps and futures (chapter IV). The development of such markets would require stronger partnerships with regional institutions (for instance, development financial institutions) and established international markets to build the necessary technical capacity and expertise for managing and regulating derivatives markets effectively.

Fostering partnerships with regional banks and financial institutions in developing risk-management products and focusing on currency stability and transaction cost reduction, can be achieved under the Protocol on Investment to the Agreement Establishing the African Continental Free Trade Area (chapter IV), the Pan-African Payment and Settlement System and similar regional initiatives to improve financing opportunities in intra-African trade and lower currency risk when engaging in cross-border transactions.

A strong and well-functioning derivatives market or exchange also calls for the development of capacity-building and training programmes to strengthen the skills of financial market experts in structuring, pricing, trading, leveraging, settling and safeguarding financial derivatives and other financing models. Such institutional capacity-building are a necessity for both policymakers (regulators) and the private sector (investors and market users).

Developing such knowledge and skills can be achieved by designing training and capacity-building programmes, ranging from hedge accounting and standardization certificate programmes to financial risk-management training workshops and management training on valuation and

Facilitate the access of African businesses to risk-management resources, **including guides on mitigating cross-border financial risks**

[6] Including financial institutions, such as pension funds, asset managers, insurers and banks, as well as traders such as exporters and importers that hedge trade-related risks with derivatives.

information systems for measuring and reporting exposures at the firm level.

Long-term actions

It is recommended that African countries and partners expand investment in the building of a comprehensive financial market infrastructure that includes derivatives exchanges, clearinghouses and robust settlement systems across Africa. This would provide SMEs with secure, regulated platforms for managing financial risks. Strengthening regulatory frameworks would contribute to the good governance and trading of derivatives and other risk-management products, ensuring transparency, stability and accessibility for all businesses.

At the regional level, efforts towards harmonizing financial regulations across African countries to support the development of integrated financial markets are highly encouraged, as they would enhance liquidity and access to risk-management instruments. It is also recommended that intraregional banks and financial institutions develop specialized financial products for SMEs, such as currency swaps and risk-sharing facilities, that mitigate financial risks associated with cross-border trade.

Institutionalize enterprise risk-management practices

Many private sector businesses, particularly SMEs, operate in unfavourable business climates or in complex industry-specific risk environments and face risks arising from macroeconomic uncertainties or connectivity vulnerabilities. These conditions affect their business operations, production, trade of goods and services, and finance. Risk management strategies and practices are pivotal approaches that can help them ensure against market uncertainties. This entails, for instance, their ability to anticipate, minimize or mitigate risks from internal (domestic) or external (regional, global) sources of shocks or vulnerability.

Moreover, effective risk management would enable SMEs to make better strategic decisions relating to operational and financial performance.

It is therefore important to formulate policies and practical guidelines on enterprise risk management at the SME level, including the necessary processes, structures and reporting and monitoring systems relating to risks (for example, strategic, operational and financial).

Similarly, there is a need to set risk-management standards tailored to the African context and better adapted to the resource capacity of local SMEs. For instance, such standards could include processes by which risks are appraised and mitigated based on the level or type of vulnerability to shocks (for instance, vulnerability across domains identified in this report) or initiatives to align enterprise risk-management strategy and regulatory frameworks with regional trade agreements, such as the Agreement Establishing the African Continental Free Trade Area, to ensure that cross-border risks are adequately identified and managed.

Table V.1 presents a strategic approach to institutionalizing enterprise risk-management practices in African SMEs and outlines strategic steps and key actions adapted to the unique economic, cultural and regulatory environment in Africa.

By implementing the policies, practices and tools outlined in this chapter, all stakeholders in Africa – Governments, local businesses, trading partners and international organizations – stand to benefit from a more favourable environment in which complex and interconnected crises and risks are assessed and managed effectively to reduce exposure to potential shocks and disruptions, stimulate growth and further development on the continent.

Table V. 1
Strategic steps and key actions for institutionalizing enterprise risk-management practices in Africa

Strategic steps	Key actions
Understand the local regulatory environment and cultural context	Become familiar with the local regulations and cultural attitudes towards risk and decision-making and take them into account.
Promote enterprise risk-management training programmes and build awareness	Develop and offer enterprise risk-management training to SME owners and managers. Organize events to spread enterprise risk-management knowledge and share relevant case studies.
Set up a clear enterprise risk-management framework	Utilize established frameworks,[a] with local adaptations to adopt best practices. Also, the enterprise risk-management framework should be adapted to address specific local risks.
Integrate enterprise risk management into corporate governance	Design enterprise risk-management policies and procedures aligned with organizational strategy and national priorities. African enterprise risk-management practices should address emerging risks, focusing on scenario planning and resilience-building. Risk management should be integrated into strategic planning and decision-making processes of African firms.
Foster a culture of risk awareness	Apply risk management to operations and decision-making, while integrating enterprise risk management into the organizational culture. This requires training SME owners and employees to adopt and implement risk-management practices.
Draw up effective enterprise risk-management implementation processes	Determine risk identification and prioritization processes and develop strategies to mitigate identified risks, for example, diversification and infrastructure for climate-related risks. Each sector has a unique risk profile, and enterprise risk-management practices should be tailored to meet sector-specific needs.
Explore enterprise risk management and ICT tools for business growth	Utilize enterprise risk-management tools and software suitable for the local context. Implement data analytics to enhance risk identification and assessment.
Envisage monitoring, review and evaluation practices	Conduct regular audits and reviews to ensure enterprise risk-management processes remain effective.
Engage in enterprise risk-management learning platforms, networks and cooperation	Collaborate to share best practices on enterprise risk management with government, industry networks, universities, and international organizations for systemic risk management. Public–private partnerships are gaining recognition as an effective means to manage large-scale risks, particularly in infrastructure development.

Source: UNCTAD, adapted from Commonwealth Secretariat (2023); International Labour Organization (2023); KPMG (2021); Lungisa et al. (2023).
[a] For example, Enterprise risk-management framework of the Committee of Sponsoring Organizations of the Treadway Commission; standard 31000 of the International Organization for Standardization.

Risk management strategies and practices are pivotal approaches that can help African SMEs ensure against market uncertainties

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