FINANCE IN AFRICA

Uncertain times, resilient banks:
African finance at a crossroads

European Investment Bank

FINANCE IN AFRICA

Uncertain times, resilient banks: African finance at a crossroads

European Investment Bank

Finance in Africa
Uncertain times, resilient banks: African finance at a crossroads

This is a publication of the EIB Economics Department.

About the report
The Finance in Africa report is a product of the EIB Economics Department providing an analysis of recent development in the African banking sectors and specific structural topics of relevance. It combines in house research with contribution from leading market experts from commercial banks operating in the region, IFIs and other institutions. This report was prepared on the basis of data available in June 2023.

About the EIB Economics Department
The mission of the EIB Economics Department is to provide economic analyses and studies to support the Bank in its operations and in the definition of its positioning, strategy and policy. The Department, a team of 45 economists, is headed by Debora Revoltella, Director of Economics.

www.eib.org/economics
economics@eib.org

Main contributors to this year's report
Report Directors: Barbara Marchitto and Debora Revoltella.
Report Coordinators: Colin Bermingham, Moses Nyangu, Ricardo Santos.
Communication Editor: Daniel Berze, under the direction of Valentina Kalk, Head of Publications.
Editing: Tamar Vidon, under the direction of Valentina Kalk, Head of Publications, Linguistic Services, European Investment Bank, and Charlesworth Author Services
Coordination: Nathalie Gilson, Senior Operational Assistant, European Investment Bank

Executive Summary:	Debora Revoltella
Chapter 1:	Alfredo Baldini, Colin Bermingham, Moses Nyangu, Eugenio Parigi and Ricardo Santos
Chapter 2:	Colin Bermingham and Emmanouil Davradakis
Chapter 3:	Colin Bermingham and Valerio Castaldo
Chapter 4:	Alfredo Baldini, Colin Bermingham, Emmanouil Davradakis, Kevin Koerner, Moses Nyangu and Ricardo Santos Box 1 by Marina Finken, Grakolet Arnold Zamereith Gourene, Hugues Kamewe Tsafack and Matseliso Teele (all Making Finance Work for Africa)
Chapter 5:	Colin Bermingham, Barbara Marchitto, Rozalia Pal and Serena Sorrentino
Chapter 6:	Colin Bermingham Box 1 by Bertrand Magné. Box 2 by Arthur Minsat and Elisa Saint Martin (both OECD Development Centre)

Disclaimer
The views expressed in this publication are those of the authors and do not necessarily reflect the position of the EIB.

Published by the European Investment Bank.
Printed on FSC® paper..

eBook: QH-05-23-262-EN-E ISBN 978-92-861-5604-5 doi:10.2867/736737
pdf: QH-05-23-262-EN-N ISBN 978-92-861-5598-7 doi:10.2867/141874

CONTENTS

Acknowledgments

The EIB wishes to thank, first and foremost, the staff and management of the African banks who generously gave their time to complete the EIB Banking in Africa survey, 2023.

In addition to the main authors, the EIB thanks all the colleagues from the EIB, Making Finance Work for Africa Partnership (MFW4A), the Global Private Capital Association (GPCA) and the Organisation for Co-operation and Development (OECD) whose contributions supported and enriched this report. In particular we would like to mention:

Toluwani Adedeji (GPCA), Sanja Blatt, Marius Chirila, Carmelo Cocuzza, Marc-Antoine Coursaget, Christian Elias, Jane Feehan, Matteo Ferrazzi, Marina Finken (MFW4A), Grakolet Arnold Zamereith Gourene (MFW4A), Fotios Kalantzis, Sabrina Katz (GPCA), Eleni Kyrou, Hugues Kamewe Tsafack (MFW4A), Hilina Lakew Weldetekle, Chavi Meattle (Climate Policy Initiative), Baysa Naran (Climate Policy Initiative), Patrick Le Goff, Christophe Litt, Sonja Mohnen, Davide Monguzzi, Arthur Minsat (OECD Development Centre), Faith Njoroge, Nicholas Nzioka, Nancy Saich, Elisa Saint Martin (OECD Development Centre), Anne Schmidt-Sheehan, Markus Schulte, Rahul Shah, Inmaculada Soto Riba, Jean-Philippe Stijns, Matseliso Teele (MFW4A), Annamaria Tueske and Peter Zajc.

Foreword

Africa is a continent of opportunity and potential. If you believe in the transformational impact of development finance, you believe in Africa. But we cannot underestimate the current challenges. We need to make every effort to address them. Economic instability, climate change and gender inequality are preventing millions of people from reaching their full potential.

The continent is still recovering from the COVID-19 pandemic, and Russia's invasion of Ukraine is further disrupting the global economy. These circumstances are making it difficult for African countries to attract investment and create jobs. Climate change is also being felt across Africa. The continent is particularly vulnerable to the effects of the changing climate, such as extreme weather events, rising sea levels and desertification.

To face these challenges, we need to mobilise all our resources. Women are still the most underestimated force for transformational change. *Finance in Africa 2023* finds that in most countries, well-managed enterprises are more likely to be led by women; in most cases, the share of non-performing bank loans is lower for lending to female-led firms. This shows that investing in women is arguably one of the best investments in Africa today.

The European Union is committed to achieving the UN Sustainable Development Goals. The Global Gateway provides an opportunity for Europe and its partners around the world to build closer cooperation and to accelerate development. The European Investment Bank, through EIB Global, is committed to delivering on EU objectives, working to address the challenges facing Africa by investing in infrastructure, climate change adaptation and gender equality projects. We do so by developing close cooperation with our partners, working with African innovators, leveraging local expertise and resources, tapping international capital markets and channelling finance and expertise to where they matter most. We finance projects that have a positive impact on people's lives, from essential services to supporting small and medium-sized enterprises, the backbone of the African economy.

Many positive developments are taking place in Africa, and this report sheds light on how finance can accelerate this trend. The continent is increasingly connected to global financial systems, and bond markets and private capital markets are vibrant and growing, with the fintech sector also playing its part in supporting this change.

***Finance in Africa 2023* highlights how we can best support the African financial sector so that it can, in turn, bolster the development of a thriving and resilient private sector**. My hope is that the insights of this report can show us the way forward for future partnerships to improve the lives of people in Africa.

Werner Hoyer
President, European Investment Bank

Executive summary

2023 was another challenging year for Africa due to a combination of factors, including a slowing global economy and tighter global financial conditions following the shocks caused by the COVID-19 pandemic and the invasion of Ukraine. These shocks have resulted in high inflation, impacting the poor most severely by increasing the cost of essential products like food and energy. In 2019 Africa was already extremely poor, and recent events have exacerbated the situation — pushing the number of people living in extreme poverty to 497 million in 2021, a 12% increase from the 2019 level of 444 million.[1] High inflation has also forced central banks around the globe, including in Africa, to raise interest rates, despite a slowing global economy. Indeed, the International Monetary Fund released growth forecasts for the world economy in April 2023 with the lowest projections seen in 30 years. The war in Ukraine dampened risk appetite further, prompting global portfolio outflows from emerging and frontier markets and higher borrowing costs. African sovereign borrowing costs were notably affected by concerns about perceived credit quality. Additionally, during this period, investors preferred to hold safer assets, which caused the dollar to appreciate. This appreciation has had negative consequences for countries with hard currency liabilities.

This report develops a financial conditions index for Africa to gauge the tightening of financial conditions since the onset of the pandemic. First, individual indices were constructed for Nigeria, South Africa, Egypt and Kenya, which were then combined to provide an overview of the financial conditions at the continental level. The African index reveals that financial conditions continued to loosen after the pandemic's onset due to lower policy rates and resilient stock markets. However, from mid-2021, a significant tightening in financial conditions occurred as inflation increased, leading to a reversal of monetary policy and causing African exchange rates to weaken. Although financial markets are not yet as tight as some of the troughs witnessed during previous episodes, the deterioration from an extremely loose position in 2021 suggests increased difficulty in accessing finance.

A growing share of public debt on bank balance sheets has affected credit availability for the private sector. In this report, we update the so-called severity of crowding out index, which indicates intensified crowding out since the pandemic as public finances have come under pressure, increasing the need for banks to finance governments and competing with rising demand from the private sector. However, there is significant variation at the regional level, with crowding out pressures highest in East Africa and lowest in North Africa. Combined with a tightening in financial markets more generally, the information from the severity of crowding out index points to obstacles facing the private sector.

The report also explores the development of African bond markets, tracing a sharp increase in sovereign debt outstanding since 2010. Specifically, the amounts outstanding in sub-Saharan Africa (excluding South Africa) were 22 times higher in 2021 than in 2010, while in North Africa they were seven times higher. Higher-rated sovereign bonds led the increase in sovereign issuance over this period. Hard currency sovereign bonds issued by sub-Saharan African economies are held by overseas investors — primarily asset managers and banks. Over the past 15 years, there has been a marked increase in the integration of African economies into the global financial system, although the extent of this integration differs significantly by region. This increased financial connectivity has implications for the sensitivity of capital flows to changes in global risk sentiment. Sub-Saharan African debt securities issued in hard currency predominantly use the US dollar, which accounts for 83% of all hard currency government bonds in the region. In comparison to other emerging markets, the number of local currency listed bonds in sub-Saharan Africa is notably lower. Moreover, the local currency bond market is dominated by sovereign bonds rather than private bonds, and active trading is primarily focused on sovereign bonds as well.

In 2022, global risk aversion severely affected private capital (private equity and venture capital) fundraising in Africa due to increased global risk aversion, but private investment remained strong. Fundraising fell by 35% in 2022 to $2.1 billion, the lowest fundraising total for the continent since 2013. This trend reflects what has been seen in other financial markets, where riskier credits encountered more difficult financial conditions.

[1] Kibrom et al. (2022). "Africa might have dodged a bullet, but systematic warnings abound for poverty reduction efforts on the continent." World Bank blog.

Despite the challenging fundraising environment, private investment in Africa remained robust. In 2022 it only decreased by 3%, to $6.3 billion, remaining close to the all-time high set in 2021. This resilience was attributed to the deployment of pre-existing capital, indicating the continued strong appetite for deals in the region. Notably, a considerable portion of private capital investment is concentrated in four major national markets: South Africa, Kenya, Egypt and Nigeria, which together account for almost two-thirds of all private capital investment on the continent. The financial services sector continues to attract the largest share of private capital, accounting for almost 40% of all investments in 2022.

Despite the tough environment described in the opening chapters of the report, Africa's banking sector continues to show resilience and a desire to support private sector development. Key banking sector metrics, such as capital ratios, profitability and non-performing loans, have not deteriorated despite the challenges the region has faced. While pandemic support measures to bolster the African banking system may have initially played a role in this success, many of these measures have since been wound down, and most key bank metrics remain solid nonetheless.

The results of the EIB Banking in Africa surveys have shown that banks' concerns have changed over time as the operating environment has changed. After the onset of the pandemic, the banking sector's primary concern in 2021 was asset quality, which remains an issue for some banks. In 2022, however, new concerns emerged against the backdrop of rising inflation and higher domestic interest rates, which caused worry about local currency funding costs. These concerns have persisted despite bank profits benefitting from higher net interest margins. Both banks and sovereigns are facing challenging external financing conditions, which shifted the banks' concerns in the 2023 edition of the survey to the cost and availability of foreign currency funding. This mirrors the situation observed in the sovereign bond markets.

Half of the banks surveyed in the 2023 EIB Banking in Africa survey wish to grow their lending operations at a faster pace over the next 12 months. However, banks are also exercising caution, and credit standards are expected to tighten. Funding could also be a constraint for banks wishing to expand their operations. Structural factors hinder loan supply as well, with small and medium-sized enterprises at a particular disadvantage. As in previous editions of the survey, the two most significant obstacles faced by small and medium-sized businesses in obtaining credit are a lack of acceptable collateral and a poor credit history.

Banks in Africa have embraced the digital era, and providing digital services is now one of their core offerings, with only a few providing no digital services at all. Banks are pursuing several strategies to accelerate their digitalisation processes, with investment playing a key role. More than 90% of banks are targeting investment in both digital infrastructure and staff training. Confirming the ground-breaking, transformative impact of digitalisation in the banking sector, 90% of banks are also reforming their organisational structures to better suit the delivery of digital services. Moreover, two-thirds of banks are cooperating with, partnering with or investing in fintech companies.

An analysis of firm-level data provides valuable insights into the structural differences between female-led and male-led firms in sub-Saharan Africa and the progress made by banks regarding their lending practices. During the COVID-19 pandemic, female-led businesses were slightly harder hit than male-led businesses in terms of sales losses and liquidity problems. However, post-pandemic, female-led firms exhibited similar resilience to their male-led counterparts, with comparable rates of bankruptcy and permanent closures. The data show that well-managed enterprises are more likely to be led by women. Female-led firms tend to invest in innovation, export goods and services and offer employee training. As for banks, the EIB Banking in Africa survey reveals that 65% of banks currently have a gender strategy in place, and another 19% plan to implement one soon. This indicates that only a small minority of banks in the region will lack a gender strategy going forward. Furthermore, banks in Africa continue to observe better asset quality when it comes to female lending, with over half of the sampled banks reporting a lower rate of non-performing loans among women than men.

In recent years, the amount of capital flowing towards climate projects globally has increased considerably. Africa has also witnessed a rise in climate financing. However, its share of global climate financing remains relatively low, at roughly 5%, primarily concentrated in Africa's largest economies. A defining feature of Africa's climate financing landscape is its heavy reliance on overseas and international funding, which accounts for nearly 90% of its total climate flows. This dependence is partly shaped by the substantial role played by multilateral development banks, which financed 45% of climate investment in 2020. Local financial institutions

predominantly use two main instruments to finance climate projects: balance sheet debt financing and market rate project debt.

As climate risks grow, it is important to understand the scale of the risks facing the financial sector; this report reviews the climate risk on bank balance sheets. It analyses the exposures of domestic banks in 21 African countries to sovereign debt, household debt and debt from various industrial sectors. The climate riskiness of each type of borrower is assessed using EIB climate country risk scores to rate sovereign and household debt and sectoral climate risk classifications for different industry sectors. Of the 21 countries studied, 13 have high country physical risk scores, meaning that physical risk is a greater concern for banks in Africa than transition risk, which is mitigated by current low emissions levels. Physical risk exposures for banks are highest in West Africa and lowest in Southern Africa, as indicated by the clustering of country physical risk scores by region. While some banking sectors have relatively large shares of climate exposures, these sectors tend to be shallow, resulting in low overall exposures as a percentage of gross domestic product compared to regions with deeper banking sectors.

Banks show their continued commitment to dealing with the impact of climate change. For example, according to the 2023 EIB Banking in Africa survey, 59% of banks already have a climate change strategy, and a further 22% plan to introduce one — meaning that soon, four out of five banks could have a formal strategy in place. Furthermore, 65% of banks currently consider climate risk when evaluating new clients or projects, with an additional 23% planning to follow suit, highlighting the growing importance of climate risk in the underwriting process. However, it is important to support local banking sectors when they introduce or expand green product lines, and banks continue to seek technical assistance to fully leverage the potential of these new business opportunities, benefiting both themselves and their potential borrowers.

The EIB has been investing in Africa since 1965, supporting infrastructure projects, innovative firms, renewable energy schemes and the public sector in more than 50 countries. To further increase the Bank's engagement beyond Europe, the EIB established EIB Global in November 2021. EIB Global will continue to invest in projects that strengthen the crucial economic relationship between Europe and Africa, unlocking Africa's vast potential while prioritising climate action and development policy within their shared agenda.

Debora Revoltella
Director, Economics Department
European Investment Bank

1

Banking and financial market conditions

This chapter was authored by Albredo Baldini, senior economist, Colin Bermingham, senior economist, Moses Nyangu, economist, Eugenio Parigi, trainee at time of writing, and Ricardo Santos, economist, all staff of the European Investment Bank. The authors would like to thank Barbara Marchitto and Debora Revoltella for their comments on earlier versions.

The views expressed here are those of the authors and do not necessarily reflect those of the European Investment Bank. Any errors are the responsibility of the authors.

Key messages

The opening chapter of this report seeks to understand conditions in Africa's financial markets and banking sectors, considering the unusual turbulence since the onset of the COVID-19 pandemic. The first part of the chapter constructs a financial conditions index for Africa, combining country-level indices for Nigeria, South Africa, Egypt and Kenya. The indices rely on a smaller set of variables than is common for advanced economic financial condition indices, and the variables are chosen to ensure that the financing conditions facing firms are understood. To effectively support the private sector in Africa, the European Investment Bank (EIB) needs a clear understanding of potential stress in the continent's financial systems and the scale of required policy-based interventions. It is also important to understand the degree to which current tightening in African financial conditions has been a result of recent global shocks.

The African index reveals that financial conditions continued to loosen after the onset of the pandemic, with policy rates lowered and stock markets initially remaining resilient. From mid-2021, however, a significant tightening in financial conditions ensued as inflation increased, forcing a reversal of monetary policy and a weakening of African exchange rates. Financial market conditions are not yet as tight as some of the troughs reached during previous episodes, partly because they deteriorated from an extremely loose position in 2021. This is despite some individual variables reaching all-time lows (maximum tightness) during late 2022 and early 2023. The peak-to-trough fall in financial conditions between 2021 and early 2023 is similar in magnitude to the previous fall between late 2012 and mid-2016. However, the latest tightening in financial conditions has not yet concluded, so might ultimately be more significant since inflation remains high. The African index does not closely follow the financial conditions indices for advanced countries, but it does seem to react to measures of international financial market volatility.

The growing share of sovereign debt on bank balance sheets is another reason for concern about the availability of credit to the private sector. Empirical evidence shows that crowding out[1] was common across African countries even before the recent surge in public debt due to the COVID-19 pandemic (Attout et al., 2022; EIB, 2022). The comparatively limited development of Africa's financial systems makes sovereign bills and bonds the dominant securities in markets. However, excessive holding of sovereign bonds hinders financial intermediation as banks prefer to lend to a safe borrower rather than a risky private business. At times of uncertainty and high inflation and interest rates, the incentive to turn to safe assets becomes even greater. The second part of this chapter updates the severity of crowding out index in Africa.

The severity of crowding out indicator shows that crowding out pressures in 2023 match the highs reached in 2022. The increasing crowding out in Africa following the outbreak of the pandemic was initially due to growing public debt, as governments borrowed more. However, as economies recovered from the pandemic and gross domestic product (GDP) rebounded, increased demand for private sector credit become a more important driver of incremental crowding out. There is, however, significant variation among regions in Africa, with crowding-out tendencies strongest in East Africa and weakest in North Africa. Combining these insights with findings from the financial conditions index confirms that conditions in the financial system have been challenging in Africa since the onset of the pandemic, with impeded access to credit for the private sector.

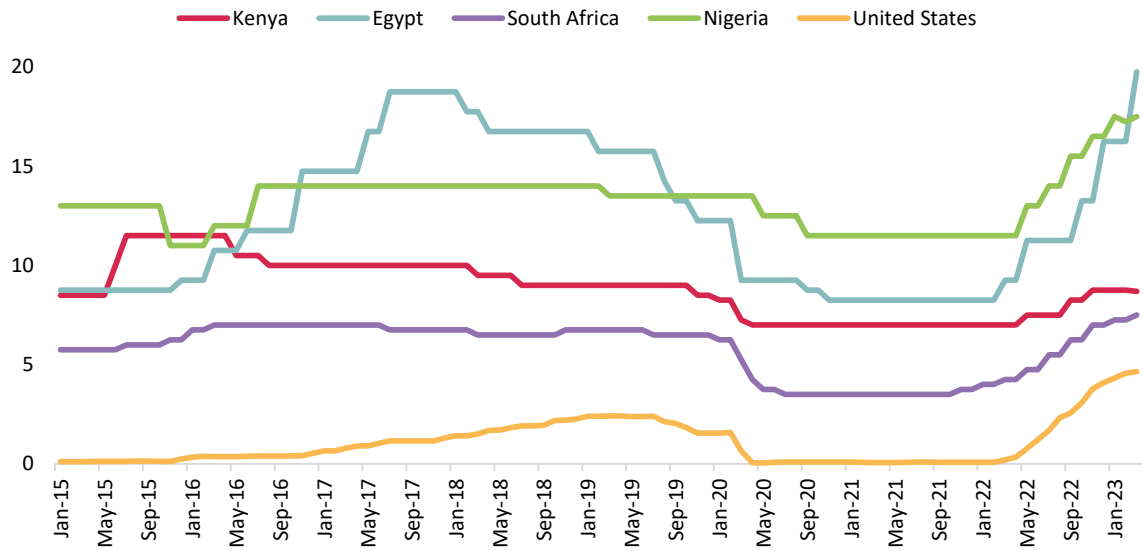
[1] Crowding out occurs when banks choose to put their money in public debt rather than lend to the private sector.

Macroeconomic and financial environment

The African economy stands at a crossroads. Before the pandemic hit, the macroeconomic outlook for sub-Saharan Africa was steadily improving, with forecasts for economic growth increasing from 2017 to 2019 (International Monetary Fund (IMF), 2023a). However, the pandemic derailed these projections, curtailing production and trade through lockdowns and travel restrictions. These factors, along with imbalances between supply and demand, resulted in lower consumption and price increases. As countries were emerging from the pandemic, the Russian invasion of Ukraine created fresh shocks to growth and inflation. Sharp increases in energy and food prices caused inflation to rise. Stubbornly high inflation has been tackled by central banks with a large, globally synchronised tightening in monetary policy.

Central banks across Africa acted early, in line with the US Federal Reserve, to deal with inflation and prevent widening interest rate differentials relative to the United States. The US Federal Reserve initiated the latest tightening cycle in March 2022 with a 25-basis-point rate increase. Figure 1 shows policy rate changes in the United States and a selection of large African economies. The first African country to raise interest rates in the latest cycle was South Africa in late 2021, some months ahead of the United States. Interest rate increases in Kenya, Nigeria and Egypt occurred broadly in line with those of the United States. However, some African countries had to tighten policy far more aggressively than the United States to fight spiralling inflation.

Figure 1. Policy rates in the United States and selected African economies (%)



Source: National central banks.

Rising interest rates combined with higher public debt levels have weakened debt affordability in Africa. Debt was already increasing ahead of the pandemic: In sub-Saharan Africa, debt grew to 50% of GDP in 2019 from 26% in 2010. The pandemic crisis resulted in a further increase to 56% of GDP in 2022, the highest level of public debt since the early 2000s. Increased borrowing costs are not exclusively due to higher domestic interest rates. After the outbreak of war in Ukraine, there was a notable reduction in global risk appetite, raising bond yields for those with market access. The International Monetary Fund (IMF) reported in April 2023 that sovereign spreads in sub-Saharan Africa had reached three times the average of emerging markets since the beginning of the global tightening period (IMF, 2023a). In this sense, besides the broad tightening in global financial conditions, markets are actively discriminating based on credit quality. Some African countries are suffering from weaker sovereign creditworthiness compared to other regions. For certain countries, this is creating an unwelcome policy choice between providing adequate social safety nets and meeting rising debt-servicing costs.

Exchange rate depreciations have further complicated debt dynamics. The higher interest rates on US treasury bonds and the preference of investors to hold safer assets led to a two-decade peak in the US dollar in 2022. Most sub-Saharan African currencies experienced sharp declines in value against the US dollar, further contributing to inflation and increasing the cost of servicing dollar-denominated debt. The accumulation of adverse developments has worsened debt sustainability problems in sub-Saharan Africa. Some countries' ability to repay debts has been severely hindered, with Ghana, Zambia, Ethiopia and Chad applying for debt treatment under the G20 Common Framework. As of the end of June 2023, 21 low-income African countries were either in debt distress (nine) or at high risk of debt distress (12), according to the IMF.

This chapter sets out to measure how much financial conditions in Africa have tightened since the onset of the pandemic by developing a financial conditions index for Africa. To support the private sector in Africa most effectively, the EIB needs a clear understanding of potential stress in financial markets to help it assess the scale of required policy-based interventions. It must also understand the degree to which current tightening in African financial conditions is imported from abroad.

A key feature of Africa's banking landscape in recent years has been high levels of lending to the public sector, generally through bank holdings of government bonds. However, excessive holding of government bonds may hinder financial intermediation and crowd out lending to support private businesses and investments at a time when financial conditions are already tightening and access to credit is becoming more difficult for the private sector. The second part of the chapter explores this issue in more detail and updates the severity of crowding out index, first presented in Finance in Africa (EIB, 2022). By combining the African financial conditions index and the severity of crowding out index, the chapter seeks to produce a clear picture of the conditions in Africa's financial markets and banking sectors.

A financial conditions index for Africa

Financial conditions encompass a set of variables that reflect the ease with which firms, households and governments can secure financing. Their origin is linked to the study of monetary policy implications for the macroeconomy, including the role played by exchange rates in open economies. Originally, financial conditions were assessed with simple metrics based on a weighted index of exchange rates and interest rates. Over time, models were extended through the inclusion of additional variables relevant to economic activity, leading to the creation of more complex financial conditions indices.

Generally, researchers have predominantly employed two methods in constructing financial conditions indices: a weighted-sum approach and a principal component analysis. The first method calculates the financial conditions index as a weighted average of individual indicators, with various methods used to determine the weights. According to Moccero et al. (2014), one can choose either equal weights[2] (for example the Bloomberg financial conditions index) or different weights based on other criteria such as GDP (as in the financial conditions indices of Goldman Sachs (Hatzius and Stehn, 2018), Citi, and the Organisation of Economic Co-operation and Development). By contrast, the second method estimates the financial conditions indices as a common component derived from a set of financial variables. Following Stock and Watson (2002, 2011), Forni et al. (2000) and Doz et al. (2012), the common component is retrieved through linear projections of underlying variables and captures the greatest common variation, summarising all the information in a single indicator (for example, the St. Louis Fed's Financial Stress Index, IMF index and Chicago Fed National index).

The financial conditions indices in this chapter use the weighted-sum approach, rather than principal component analysis. More specifically, a simple average is used in which each variable has equal weight. The literature does not suggest that either the weighted-sum approach or principal component analysis is a clearly superior method. Averaging often yields similar results to principal component analysis, as demonstrated by Arrigoni et al. (2011). While the averaging approach was favoured, principal component analysis was also conducted. For some countries, results from the two methods are very similar. For other countries, however,

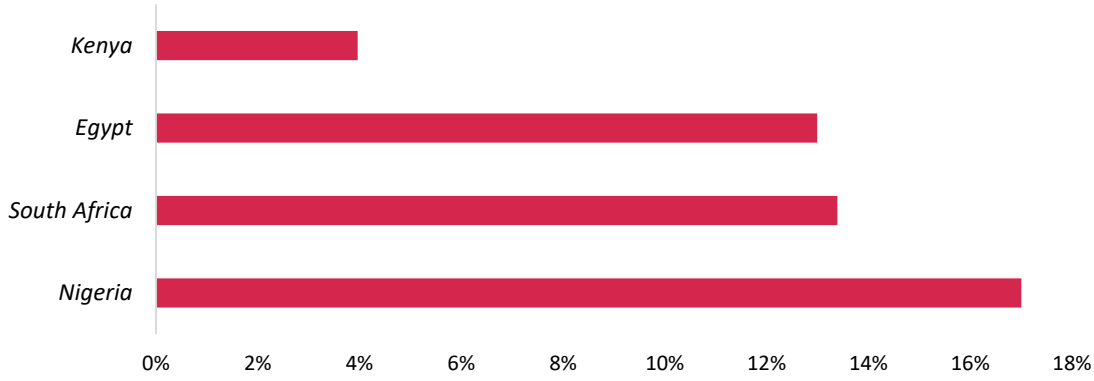
[2] European Central Bank (2009), Lall et al. (2008) and Rosenberg (2009) are examples of studies that use this method.

there are major differences during certain parts of the study period and the results from averaging provide more plausible descriptions of trends in financial conditions.[3]

Data and methodology

The analysis is based on monthly data for four countries in sub-Saharan Africa from February 2009 to February 2023. Egypt, Nigeria, Kenya and South Africa were chosen because they are among the region's major economies, and the regional heterogeneity allows us to approximate trends at the continental level. As Figure 2 shows, these countries represent about 50% of Africa's GDP at purchasing power parity. Seven country-level variables are included: credit growth (private and public sectors), the corporate lending spread[4], the 12-month change in the nominal exchange rate change vs. the US dollar, the 12-month policy rate change, the 12-month change in the stock market, and inflation. Global financial variables like the S&P 500 Volatility Index and the JPMorgan Emerging Market Bond Index Total Return Index are sometimes included in financial condition indices. These variables were tested but generally had limited impact on the calculated financial condition indices. Moreover, if these international factors were included in each country's index, they would implicitly have a larger weight than other variables in the aggregate African index, without any obvious justification.

Figure 2. Shares of total African GDP at purchasing power parity



Source: IMF World Economic Outlook Database, April 2023 (IMF, 2023b).

The chosen variables aim to capture different aspects of the financing conditions facing firms, subject to data availability**.** Private and public credit growth help to describe supply conditions in the credit market for the private sector, with the public credit growth capturing crowding out effects.[5] The lending rate spread reflects how effectively monetary policy decisions are transmitted to the broader economy by comparing the policy rate (a measure of the borrowing costs) to the corporate lending rate (for loans to businesses and households).[6] Exchange rate changes are crucial for assessing capital flows, which are particularly important for sub-Saharan African economies that have faced depreciations. Furthermore, exchange rate changes influence the costs of services and debt, thereby significantly influencing financial conditions. Inflation is included because it is structurally higher in Africa than in developed countries, meaning inflation can become extremely high, with detrimental impacts on real wages and borrowing capacity. The stock price index provides a measure of investors' sentiment in financial markets, the risk pricing of capital and the ease with which firms can raise funding. While a model of this sort would typically include the spread between long-term government bonds, for example at the 10-year horizon, and the equivalent US treasury yield, many African countries have no benchmark bond at this maturity, meaning it is not possible to create sufficiently long historical series for this type of variable.

[3] For additional details on the comparison between principal component analysis and averaging, please see Appendix A.
[4] This is the difference between corporate interest rates and the policy rate.
[5] While the second part of the chapter has a dedicated crowding out index, it is not used as an input for the financial conditions index as most of that indicator's variables have an annual, rather than monthly, frequency.
[6] In South Africa, the lending spread is computed as the difference between the policy rate and the 10-year government yield because lending rate data are unavailable.

The model's variables were normalised using z-scores, and any outliers were capped at four standard deviations to avoid excessive volatility. As mentioned previously, a simple average approach was used to build the country-level financial conditions indices, which were then aggregated through a weighted-sum approach to build the African financial conditions index, with weights based on each country's annual GDP. Positive weights were assigned to growth in private sector credit and the stock market index, meaning that an increase represents a loosening of financial conditions. In contrast, for the other variables, to which negative weights were assigned, an increase in their value represents a tightening in financial conditions.

The African financial conditions index

The estimated African financial conditions index reveals that the study period is characterised by four loosening periods and four tightening periods. An upward movement of the index implies a loosening of financial conditions, whereas a decline means tighter financial conditions (Figure 3). The index shows the overall path of financial conditions from soon after the global financial crisis until the initial months of 2023. In general, tightening periods are slightly longer in duration than loosening periods. The evolution of the index during each of these periods is explained in the commentary below.

Post-crisis period

The period after the global financial crisis was characterised by initial loosening of financial conditions up to 2009, then progressive tightening in the following two years. The initial loosening was caused by accommodative central bank policy rates, a stock market rally and firm exchange rates. However, financial conditions deteriorated again from early 2010. Inflation had increased and this was followed by policy rate rises and a quick reverse in the stock market trajectory. During the entire post-crisis period, African credit markets were quite stable, with little movement in either private or public sector credit growth rates.

December 2011 to March 2016

Financial conditions loosened between December 2011 and March 2013. The period was characterised by a significant increase in available funds worldwide, resulting in abundant liquidity in the global economy. This surplus prompted investors to actively seek higher returns, searching for yield across various investment opportunities. Frontier markets like Zambia were able to issue bonds at lower yields than developed countries like Spain, reflecting investors' risk appetite and an acceleration of African growth, which more than doubled, to about 7% in 2012 from 3% in 2011. The economic landscape improved almost everywhere, especially in countries that experienced a limited impact from the global financial crises, such as Kenya and Nigeria. A notable exception is South Africa, where economic activity faced a slowdown. The financial conditions index components that drove the loosening were the stock market, policy rate and, to a lesser extent, narrowing credit spreads and lower inflation.

Figure 3. Financial conditions index for Africa

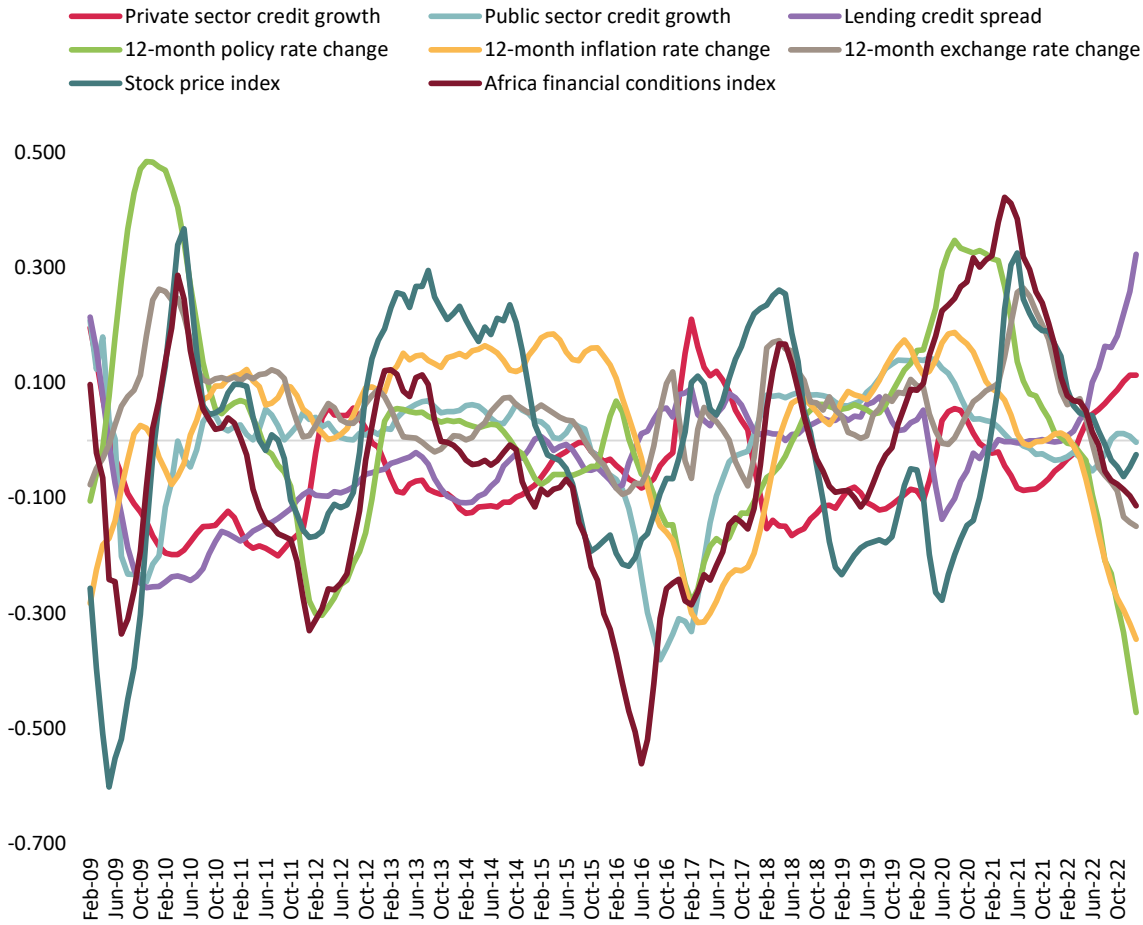
Sources: National central banks; IMF International Financial Statistics (IMF 2023c); IMF World Economic Outlook, IMF (2023b) and authors' calculations. Based on data available up to May 2023. GDP-weighted average.

A prolonged tightening in financial conditions began in mid-2013, potentially precipitated by US monetary tightening, particularly the so-called Taper Tantrum in May 2013, when the US Federal Reserve signalled its intention to scale back bond purchases. The initial tightening was due to falling stock prices and a shift towards increased public sector lending. However, the tightening accelerated in 2015, influenced by several domestic factors. According to the IMF (2016), growth in sub-Saharan African economies decreased to 3% in 2016 from 5.2% in 2014. Furthermore, the Ebola outbreak from 2014 to 2016 severely hit Southern Africa and East Africa. All these factors contributed to souring risk appetite, further denting stock market rates, widening interest rate spreads and leading to increased public sector lending. Inflation also increased, and policy rates rose.

Loosening from late 2016 to early 2020

From March 2016 to the end of 2019, the financial conditions index reveals an overall loosening trend, albeit with a temporary dip in mid-2019. The economic environment was more benign, and growth started to strengthen in Africa, as detailed in at the beginning of the chapter. Inflation pressures began to subside which enabled a policy loosening, which led to higher stock prices in the first half of this period. However, stock markets eventually ran out of steam and dragged down the index during the second half of this period. Growth in credit to the public sector subsided across this period as growth prospects improved and lending spreads were lower than in previous periods. However, private sector credit growth was relatively weak during 2018/2019. Exchange rate dynamics were volatile, exhibiting no discernible trends.

Figure 4. African financial conditions index and its drivers



Sources: National central banks; IMF International Financial Statistics (IMF 2023c); IMF World Economic Outlook, IMF (2023b) and authors' calculations. GDP-weighted average.

The pandemic and war

Financial conditions continued to loosen for the first year after the onset of the pandemic. Just as it did between 2011 and 2013, the worldwide economy saw abundant liquidity. From February 2020 to May 2021, policy rates were reduced and stock markets experienced a sharp rally. Inflation subsided and credit spreads began to narrow somewhat. The period immediately after the pandemic was also characterised by relative exchange rate strength.

However, the financial conditions index signals an abrupt tightening from mid-2021, mainly due to two major trends. First, monetary policy became increasingly less expansive because of the need to unwind the exceptional support granted during the pandemic and to contain inflation. Policy rates increased, while the depreciation of exchange rates — driven by the worsening economic outlook — led to higher borrowing costs and more expensive debt issuance. Second, the Russian invasion of Ukraine in 2022 compounded the situation, with further depreciations, soaring inflation and increasing policy rates (Figure 4). Despite policy rates rising sharply, lending rates increased to a lesser extent, possibly explained by banks trying to protect lending volumes, and this led to narrowing credit spreads. Private sector credit growth also performed relatively well, partly thanks to government support measures. These factors have prevented more pronounced tightening in financial conditions.

Financial tightness in the recent period has not reached the trough seen in 2016 and is also higher than in 2012. This is partly because the 2021 peak — the starting point for recent tightness — was higher than previous peaks. It also reflects government measures to support the economy and financial sector. The peak-to-trough fall between 2021 and early 2023 is 0.58 standard deviations, very close to the peak-to-trough fall between late 2012 and mid-2016. However, the latest tightening in financial conditions has not yet concluded so might ultimately be more significant, considering that inflation remains high. A final point to note about the recent period is that the financial conditions index component values are unusually dispersed. Private credit and credit lending spread have generally been loosening but are starting to tighten, whereas inflation, exchange rates and policy rates were all at their tightest levels during the study period in late 2022.

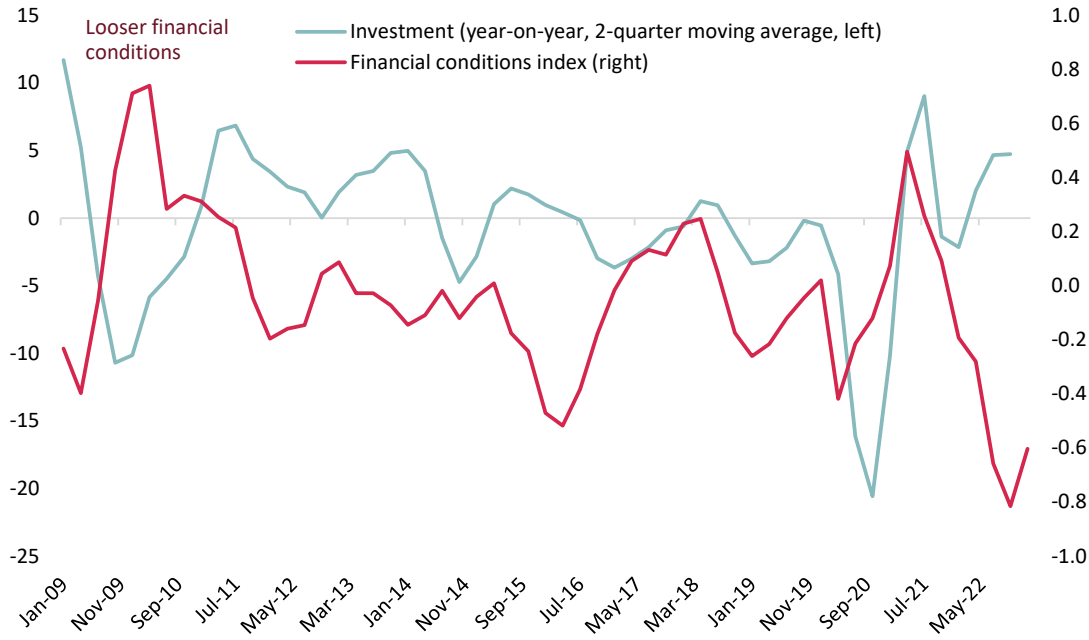
National financial conditions indices and economic activity

Theoretically, one would expect a national financial conditions index and measures of real activity to be related. As financial conditions tighten, individuals and firms find economic conditions more challenging, credit becomes scarcer and more expensive, and this eventually spills over into measures of real activity. Thus, while financial conditions indices are not devised as predictors of real activity, it is common to compare a financial conditions index to real activity. Following this approach, the country-level financial conditions indices are compared to domestic activity in the four respective African countries. Where possible, investment is used as a measure of real activity: Investment is likely to be the GDP component most sensitive to financial conditions, and the EIB is interested in fostering investment in countries where it operates. However, where investment data are not readily available, GDP growth or other measures are used instead. To preview the results, the country-level financial conditions indices track real activity in some but not all periods, and divergence can occur during periods of economic volatility.

The South African financial conditions index exhibits a loose relationship with growth in domestic investment. After the global financial crisis hit, financial conditions loosened significantly in South Africa in 2009 (Figure 5), initially due to easing of monetary policy but later driven by a stock market rally and lower inflation. Investment growth subsequently picked up, with a lag of about one year relative to the change in financial conditions.[7] Financial conditions then began to tighten relatively quickly in 2010, and investment began to decline in 2011, though the financial conditions index deteriorated more than investment. For the next few years, the financial conditions index and investment growth were relatively stable but did not exhibit any strong signs of association, except that turning points in the financial conditions index continued to lead those in investment. From 2016-2017 onward, the two series aligned more closely, and during 2019-2021 a coincidental relationship emerged, rather than a lead-lag relationship. The sharp deterioration in the financial conditions index in 2021 was initially mirrored by a drop in investment but investment subsequently rebounded, whereas the financial conditions index continued to fall. However, the overall outlook in South Africa is a slowdown in growth to almost zero in 2023, down from 2% in 2022 (IMF, 2023b) meaning that investment might again converge towards the path of the financial conditions index. In summary, the financial conditions index and investment growth are only loosely associated over the sample period. If there is a relationship between the two, it appears to be unstable, with variable lag lengths.

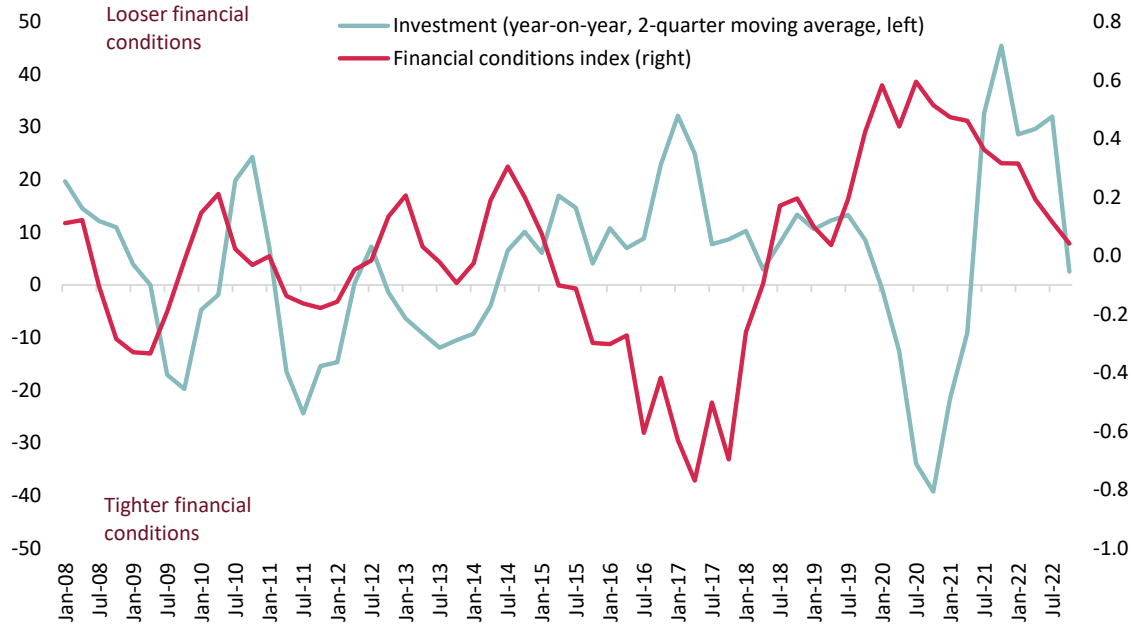
[7] This is purely observational and not a suggestion of causation.

Figure 5. Financial conditions index and real investment growth (%) in South Africa



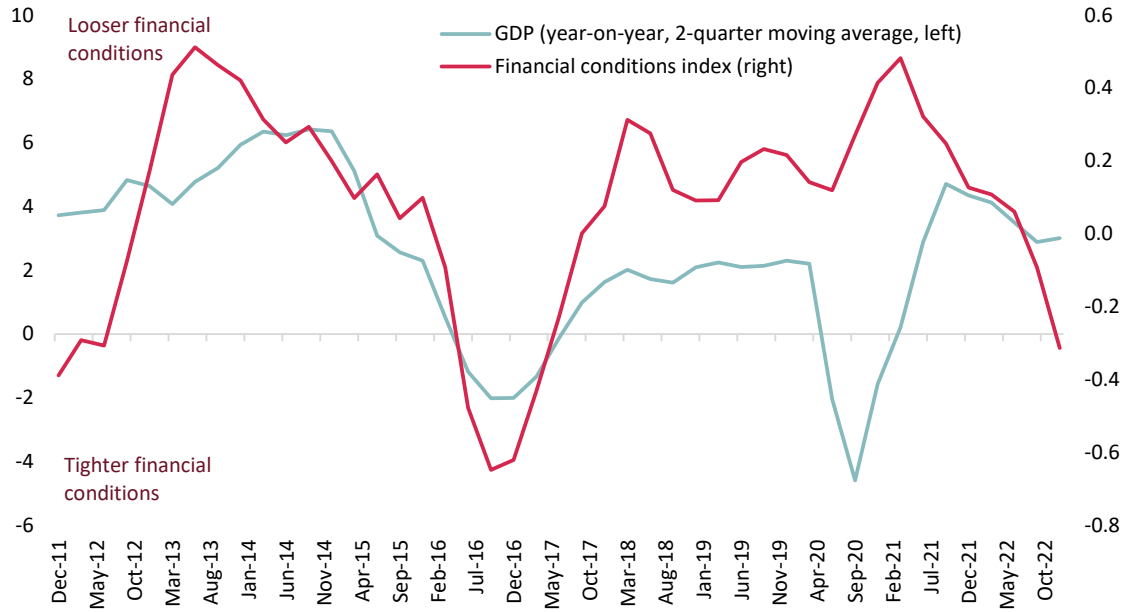
The Egyptian financial conditions index tracks investment growth relatively well in the first half of the sample period, but the relationship breaks down from 2015. In the early part of the sample period, changes in the financial conditions index led changes in investment growth, and this pattern held loosely until 2015 (Figure 6). However, the period from 2015 was turbulent, eventually leading to an IMF programme for Egypt in late 2016. Inflation started to accelerate sharply in 2015, leading to monetary tightening, followed by a large devaluation in 2016. These factors caused a deterioration in the financial conditions index. However, real activity was resilient and investment growth accelerated temporarily, thereby decoupling from the financial conditions index. Nonetheless, investment as a share of GDP remained low compared to the period leading up to the global financial crisis. The financial conditions index loosened between 2017 and 2020 because of policy loosening, falling inflation and less signs of crowding out. However, investment started to weaken by late 2019, just ahead of the pandemic, meaning the two series remained divergent. Overall, there is some possibility that financial conditions eventually influenced investment during the sample period, albeit with a very long lag. However, this theory is supported by data for the other three countries.

Figure 6. Financial conditions index and real investment growth (%) in Egypt



In Nigeria, the financial conditions index tracks GDP for most of the sample period, except for the start of the pandemic. Generally, the financial conditions index appears to coincide with or move slightly ahead of GDP (Figure 7). The tightening in financial conditions between 2013 and 2016 — due to factors such as rising inflation, rapid expansion in public sector credit and a slowdown in private sector credit — coincided with a reduction in GDP growth. However, as the financial conditions index subsequently rebounded due to a stabilisation of the policy rate, renewed growth in private sector credit and a slowdown in public sector lending, GDP growth also recovered. The two series diverged during the pandemic, when GDP growth fell. The financial conditions index remained loose as monetary policy was eased, corporate lending spreads narrowed and credit to the private sector remained resilient. GDP growth rebounded relatively quickly as the pandemic wound down, but as financial conditions began to tighten significantly from 2020, GDP growth also slowed from 2021. Consequently, the two series again coincided somewhat at the end of the sample period.

Figure 7. Financial conditions index and GDP growth (%) in Nigeria

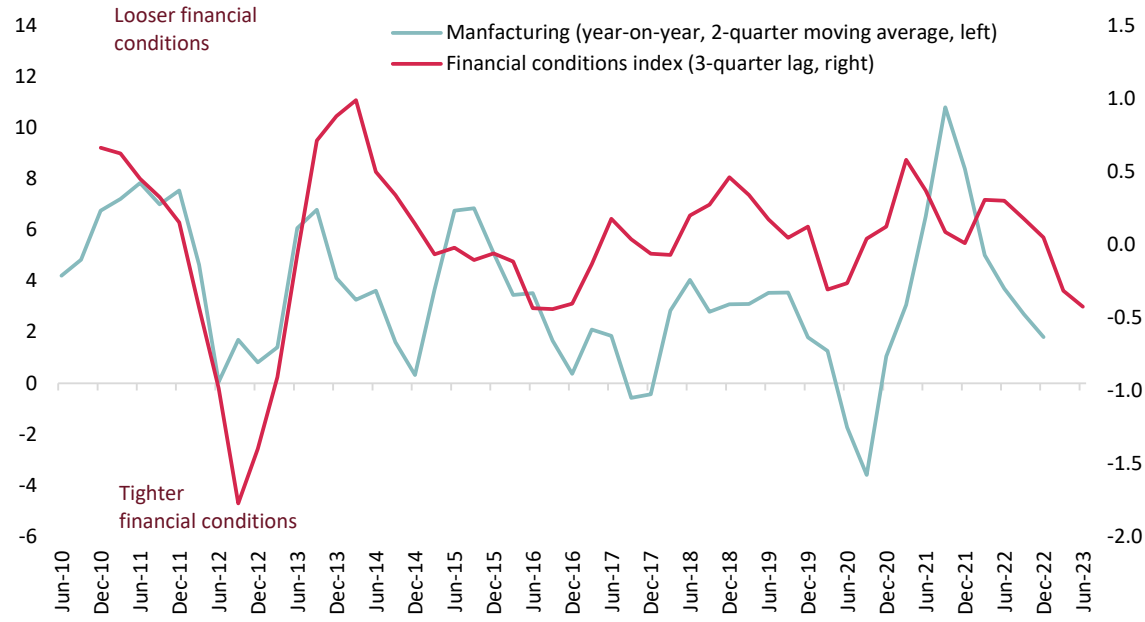


The relationship between real activity and the financial conditions index appears loose in Kenya, partly explained by high volatility in the financial conditions index in contrast to relatively stable GDP growth. It is necessary to dig into the components of GDP growth to find something resembling a relationship with the financial conditions index. Figure 8 plots manufacturing growth against the financial conditions index from three quarters earlier.[8] These two series appear to have similar trends, particularly at the start of the sample period. The deterioration in financial conditions in 2011-2012 in Kenya was among the most severe of all four countries in the index: inflation increased, policy rates rose, the exchange rate depreciated, private sector credit declined, public sector credit rose, credit spreads increased, and stock prices fell — in sum, every element of the financial conditions index deteriorated. It is thus unsurprising that there are some elements of GDP matching the financial conditions index's trend during the start of the sample period. Some, albeit weaker, agreement between the series persisted throughout the rest of the sample period. While Kenya's national accounts data end at the fourth quarter of 2022 at the time of writing, the lagged financial conditions index continued to deteriorate at the end of the sample period, suggesting that manufacturing growth could have further to fall.

In summary, the country-level financial conditions indices show a moderate tendency to lead or track real activity, but any relationship varies over the sample period. During a period of economic turbulence, financial conditions, as captured in these indices, can occasionally move in the opposite direction to economic activity. This is sometimes because changes in inflation or policy rates happen before activity is affected. In this situation, the index would react before real variables. Another issue is that the available dataset for Africa is much smaller compared to the financial conditions indices for Europe or the United States, meaning each variable has a larger impact on the index. Two of the seven variables in the African financial conditions index are credit growth rates, which tend to react more slowly to economic events than other financial indicators. In this situation, the index would react after real variables.

[8] The series are quite volatile, so it is difficult to see a relationship in the chart without imposing the lagged relationship. However, the financial conditions index can be expected to affect activity with a lag in any case.

Figure 8. Financial conditions index and manufacturing growth (%) in Kenya



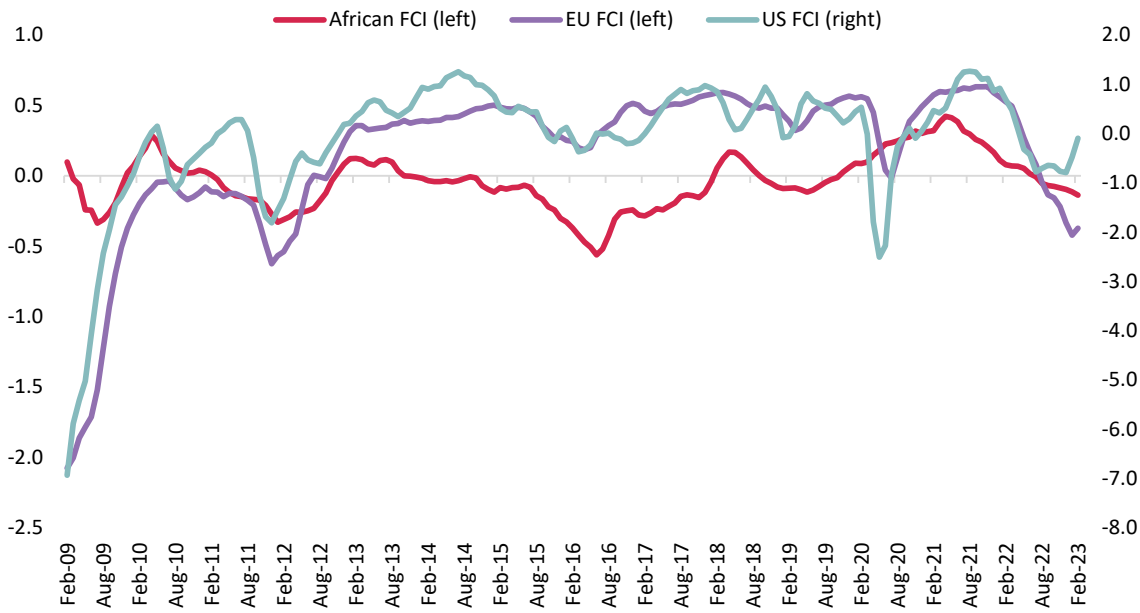
International comparison

A quick analysis was conducted of whether African financial conditions may lead or lag behind international financial conditions. The EIB has previously devised a financial conditions index for Europe (Maurin et al., 2014) while Bloomberg publishes an index for the United States, allowing a comparison between Africa and advanced regions. Some components of the African financial conditions index, such as credit and inflation, are quite domestically focused. However, stock prices, exchanges rates and policy rates are all conceivably influenced by international events. Figure 9 shows that there are some periods in which the African financial conditions index followed a similar trend to the US and European versions but also periods where the series behaved quite differently. In very loose terms, the series behaved similarly after the global financial crisis and during the pandemic and war in Ukraine, but exhibited more individual behaviour in the interim period. Plausibly, financial conditions were more synchronised during the periods of heightened global stress, which is consistent with some previous findings.

There is some evidence to suggest that African financial conditions have followed international financial conditions in a systematic way. A simple vector autoregressive model was estimated with the three financial conditions indices (Africa, Europe and the United States) as endogenous variables and the S&P 500 Volatility Index as an exogenous variable. Granger causality tests rejected the hypothesis that EU and US financial conditions predict African financial conditions. However, African financial conditions do appear to react to the S&P 500 Volatility Index with a lag. Specifically, the S&P 500 Volatility Index with a lag of three to four months is a strongly significant predictor of the African financial conditions index. Thus, rather than following the advanced-region indices, the African financial conditions indices appear more sensitive to changes in international risk appetite.[9] This result is not too surprising since the African index is a simpler construction with more limited financial market information compared to the advanced economy versions. Nonetheless, the finding is in line with the fact that African financing conditions are susceptible to changes in global risk appetite, particularly in terms of portfolio flows, as shown in Chapter 2 of Finance in Africa 2022 (EIB, 2022). While this is the first time an African financial conditions index has been constructed for the Bank's Finance in Africa report, the methodology will be refined in future years and, if possible, geographical coverage will also be increased.

[9] The S&P 500 Volatility Index is a small input to these other financial conditions indices for Europe and the United States.

Figure 9. African financial conditions index vs. US and EU financial conditions indices



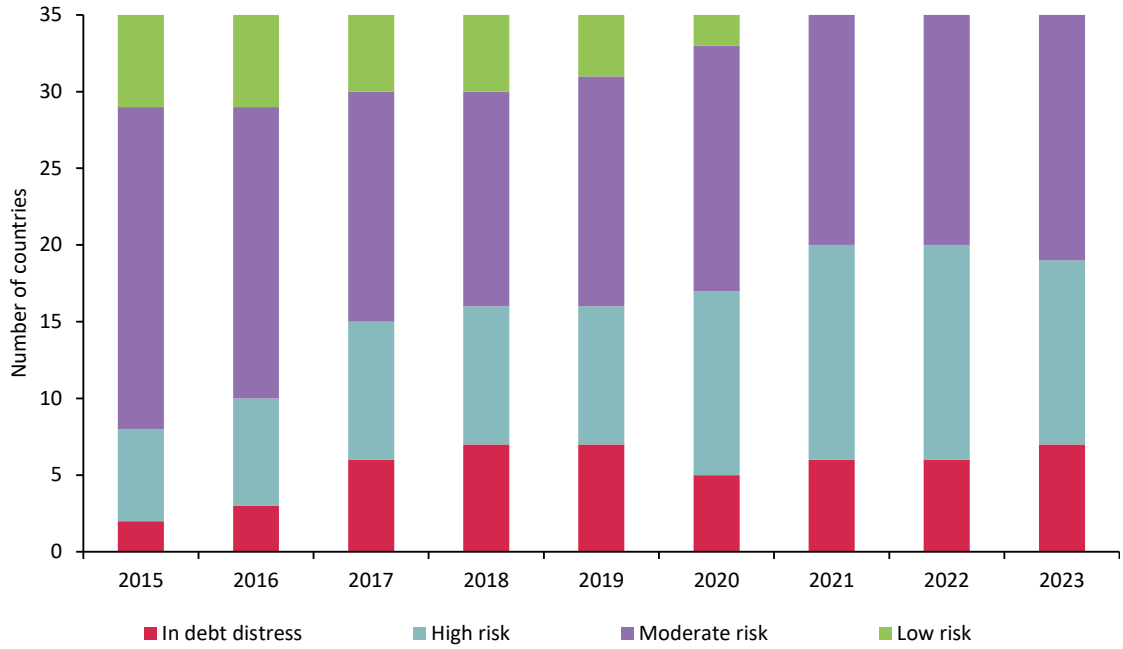
Sources: Bloomberg's US financial conditions index; the EU and African financial conditions indices are calculated by the European Investment Bank.
Note: FCI stands for financial conditions index.

Public debt and private sector credit in Africa

Rising public debt levels in Africa have been reflected in an increasing share of government securities in banks' assets, further intensifying the bank-sovereign nexus in many countries. Public debt measured as a percentage of GDP was lowest during 2010-2012 after most sub-Saharan countries were granted debt relief in the late 1990s under the Heavily Indebted Poor Countries Initiative. However, public debt in sub-Saharan Africa has been accelerating since 2011, to 67.4% of GDP in 2022 from 37.7%. The debt overhang was recently exacerbated by the COVID-19 pandemic and the indirect effects of Russia's military invasion of Ukraine. A similar trend can be observed in North Africa, where public debt increased on average to 72% of GDP in 2022 from 45% in 2010 (IMF, 2023b).[10] As shown in Figure 10, the IMF reported that over half of low-income African countries were either in debt distress or at high risk of debt distress as of the end of June 2023, up from one in six in 2015. Growing public debt is also leading to a rise in banks' exposure to domestic sovereign debt (issued in local currency), with downside risk implications for financial sector stability should the sovereign issuer go into debt distress. For example, the decision by Ghana to restructure the country's local-currency and overseas debt at the end of 2022 resulted in the first loss on record for two of the West African nation's top banks.[11] Ghana Commercial Bank Plc, the country's largest lender by assets, posted a GHS[12] 593.4 million ($50.5 million) net loss for 2022, its first since 1993. Meanwhile, Standard Chartered Bank Ghana Ltd, the country's biggest lender by market value, reported a loss of GHS 297.8 million (about $25.4 million). Banks operating in Nigeria are also estimated to have suffered losses of about $1.4 billion because of Ghana's public debt restructuring (Bloomberg, 2023).

[10] Excluding Sudan, whose public debt reached 127% of GDP, the average of public debt in North Africa increased to 62.9% of GDP in 2022, from 40% in 2010.
[11] Ghana exchanged GHS 87.8 billion of local notes paying an average of 19% with bonds returning as little as 8.35%, resulting in losses for financial institutions.
[12] GHS denotes Ghanaian cedi.

Figure 10. Debt risk status for low-income countries in Africa



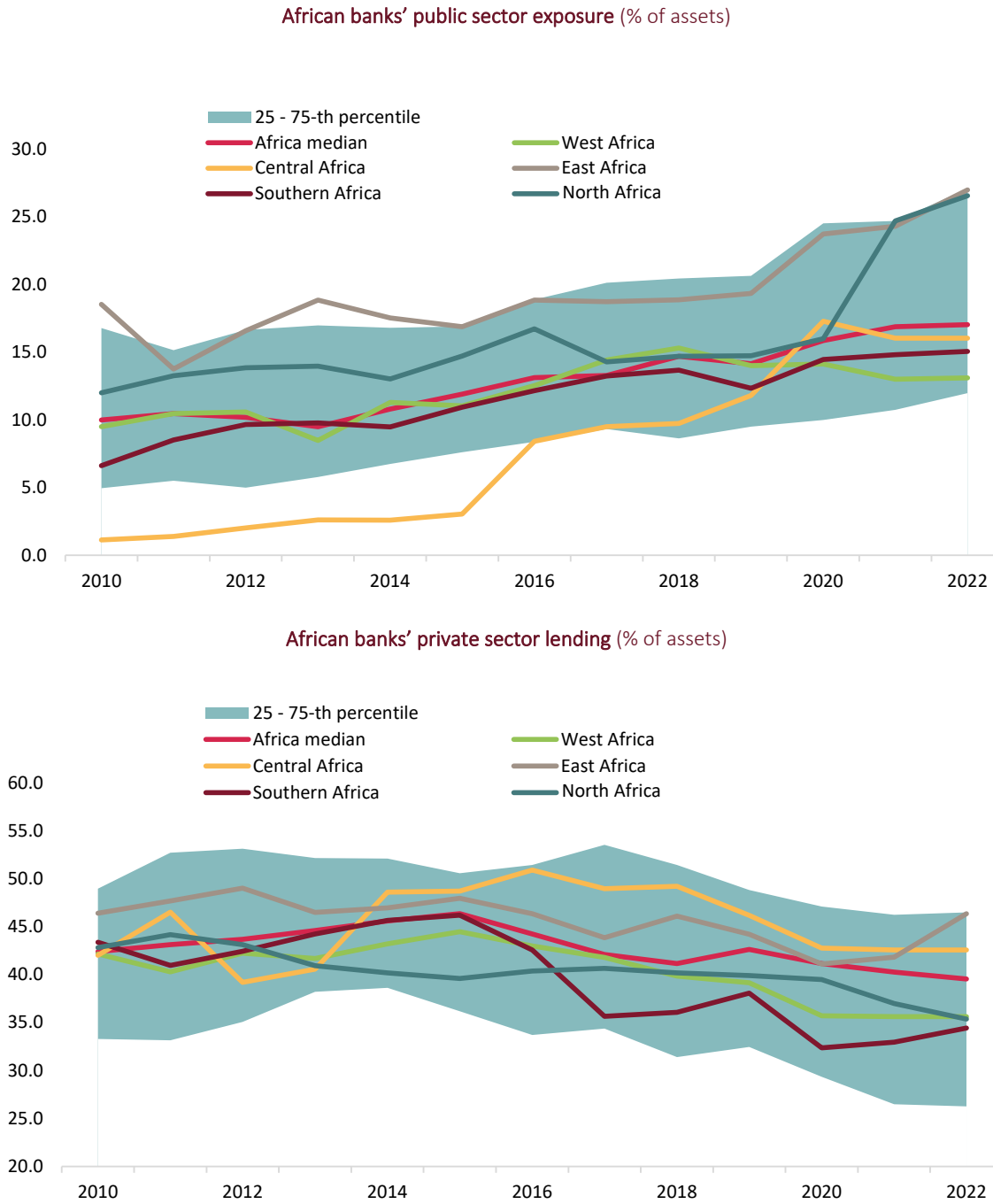
Sources: Low-Income Countries Debt Sustainability Analysis Comprehensive List, June 2023; IMF (2023d).
Note: As per the joint IMF-World Bank Debt Sustainability Analysis of Poverty Reduction and Growth Trust Eligible Low-Income Countries. 2023 data cover up to the end of June. Constant sample of 35 African countries.

Governments' reliance on domestic bank financing has been accelerated by the ongoing global financial tightening and increasing domestic inflation through two main channels. First, higher nominal rates and above-inflation rates made sovereign securities even more attractive assets compared to lending to the riskier private sector. This effect also reduced private sector demand for credit because debt became more expensive. Second, risk aversion reduced foreign investors' appetite for local-currency bond markets, thus virtually preventing African emerging countries from issuing bonds in hard currency and leaving mainly domestic banks and few domestic investors to fill the void.[13]

Growing public debt is also leading to an increase in banks' exposure to domestic sovereign debt (issued in local currency). As shown in Figure 11 (top panel) the sample median of banks' public sector exposure increased to 17% of total assets in 2022, from 10% in 2011. In parallel, Figure 11 (bottom panel) shows a decreasing trend in banks' private sector lending (the sample median declined from 44% to 39% during the same period). Looking at the regional level, the most marked decline in banks' private sector lending was observed in North, West, and Southern Africa, with declines of about 10 percentage points. Correspondingly, banks' public sector exposure increased particularly in North and East Africa (around 10-13 percentage-point increase). In Central Africa, public sector exposure increased from virtually zero to 16% of total assets. East and Southern Africa, however, recorded slight increases in banks' private sector lending in 2021 and 2022. These increases may reflect interventions by monetary and national authorities to reduce the pandemic's negative impact on banking sectors, credit to the economy, and small and medium-sized enterprises. The interventions included loan guarantees and other measures aimed at easing collateral requirements; liquidity provision to the financial system and other forms of indirect and direct financial assistance to non-financial firms; and reductions to policy rates to ease the elevated lending rates to the economy.

[13] In some sub-Saharan countries undergoing public debt restructuring, a large share of domestic debt was explicitly included in the restructuring process (for example, Ghana in early 2023). Other countries requested some non-resident domestic debt holders to provide debt relief, further reducing the attractiveness of these securities to foreign investors.

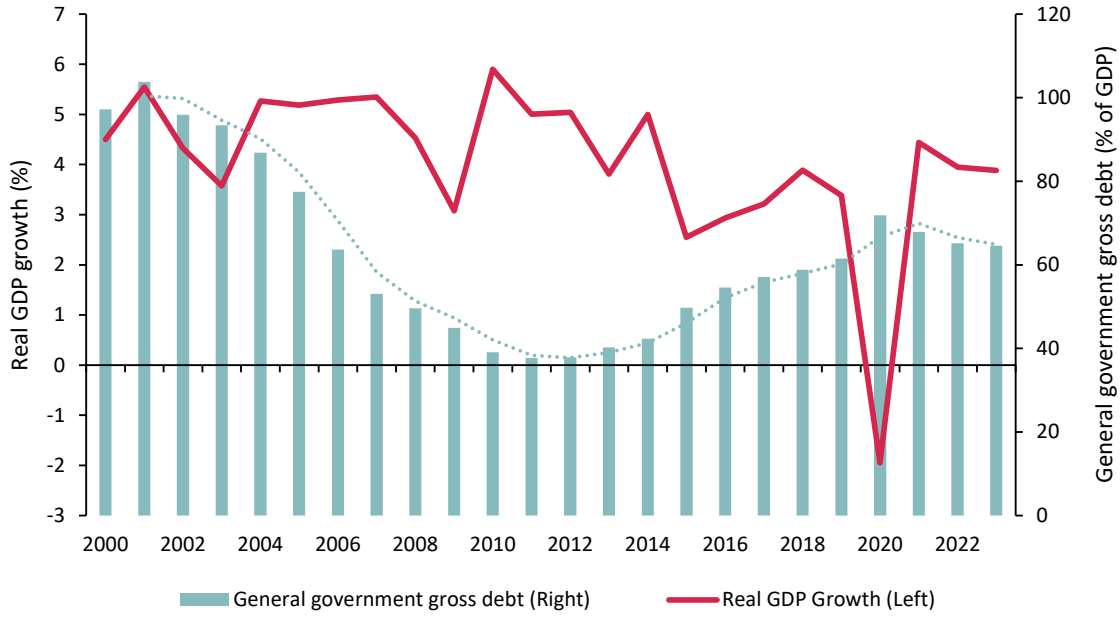
Figure 11. Banks' public sector exposure and private sector lending



Note: The figure shows aggregated data for 48 African countries.

A global economic slowdown, high and volatile inflation, and severe drought in some parts of the continent (such as Ethiopia, Kenya and Somalia) are set to increase gross financing needs in Africa and continue to crowd out private sector lending. While real growth rates have been somewhat volatile over the last 20 years (Figure 12), there has been a slow reduction in trend growth, even considering the sharp decline observed in 2020 due to the pandemic. While African countries had started to recover from the impact of COVID-19 in 2021, experiencing higher growth and slowing public debt accumulation, Russia's war in Ukraine has weakened the momentum of recovery. With slower global growth, sovereign debt vulnerabilities in Africa may be prolonged, with potentially more countries seeking debt restructuring, negotiation and moratoria.

Figure 12. Real GDP growth and debt-to-GDP ratios in Africa



Source: IMF World Economic Outlook, April 2023 (IMF, 2023b).
Note: Excluding Libya, Somalia and South Sudan.

Crowding out indicators in Africa

Crowding out occurs when banks lend more to the public sector because of increased government borrowing, thus reducing lending to the private sector. Increased sovereign borrowing pushes up borrowing costs, making sovereign debt instruments more attractive to financial institutions compared to private sector lending. Moreover, sovereign debt instruments are classified as less risky and more liquid, and require no due diligence or monitoring. Empirical evidence (Attout, et al., 2022; EIB, 2022) shows that crowding out was a common phenomenon across African countries even before the recent surge in public debt due to the COVID-19 pandemic. The limited development of financial systems in Africa makes sovereign bills and bonds the dominant market securities. At the same time, excessive holding of sovereign bonds hinders financial intermediation as banks prefer to lend to a safe borrower rather than a risky private business. In times of uncertainty and high inflation and interest rates, the incentive to turn to safe assets grows.

Higher and persistent fiscal deficits in recent years have increased the crowding out of private sector investments. The need to sustain economic activity through countercyclical expansionary fiscal policies became more pronounced following the outbreak of COVID-19. Consequently, African countries issued more sovereign debt to finance their growing deficits. Once the pandemic started to abate in 2021-2022, Russia's invasion of Ukraine triggered higher energy and food prices, leading to a global economic slowdown that has further increased government financing needs and reduced credit to the economy. In several African countries, this challenging situation has been compounded by severe drought in recent years, impacting the agricultural sector and significantly affecting the cost of living. Much-needed fiscal support to address such negative shocks has pushed debt levels in some African countries to record highs and further suppressed banks' lending to the private sector (Figure 11).

The crowding out of private sector lending in Africa can be measured using an index developed presented in Attout et al. (2022). The index illustrates the severity of crowding out across African countries over time,[14]

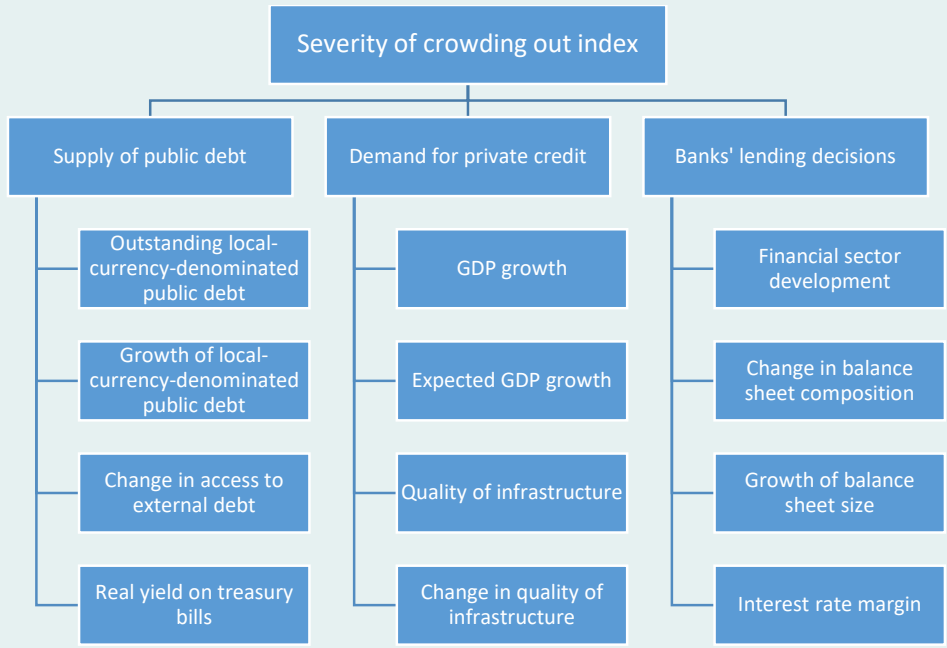
[14] The severity of crowding out index methodology is not specific to Africa and could be applied or refined to other regions for comparisons.

capturing the impact of the COVID-19 pandemic on bank lending conditions.[15] It comprises three sub-indices, which facilitate understanding of the key factors at play: the supply of public debt, demand for private sector credit, and banks' lending decisions towards the private sector (see Box 1 for more details).

Box 1. The severity of crowding out index, sub-indices and underlying variables

The construction of the severity of crowding out index allows for comparisons between countries and over time. Each country is assessed using 12 indicators categorised into three sub-indices to enhance understanding of each factor. The first sub-index estimates the supply of public debt and includes the local-currency debt-to-GDP ratio (level and change), changes in the composition of debt (foreign currency vs. local currency) and the real yield on treasury bills. The second sub-index captures the demand for private credit by examining GDP growth rates for the current year and the forecast for the following year. It also includes the African Infrastructure Development Index (level and change), a structural indicator of economic development. Finally, the third sub-index explicitly explores banks' behaviour towards lending to the private sector and considers financial sector development, balance sheet developments (growth and composition) and pricing. Figure 13 provides an overview of the index, the sub-indices and underlying variables.

Figure 13. The severity of crowding out index, sub-indices and underlying variables



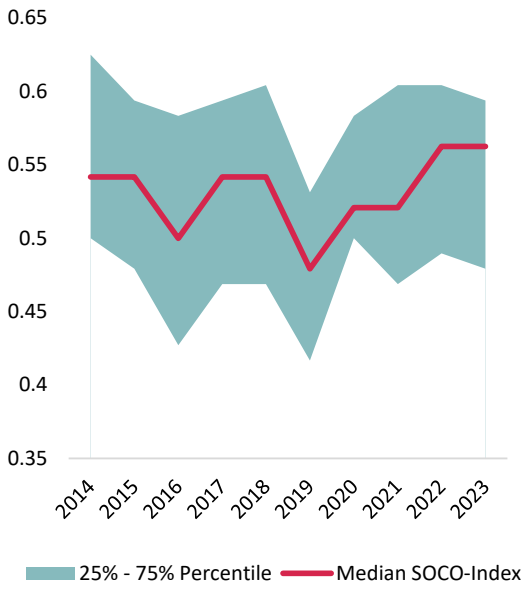
Source: Attout et al. (2022).

As shown in Figure 14, crowding out has been increasing significantly across different sub-regions in Africa since the COVID-19 pandemic started in 2020.[16] The severity of crowding out index has exceeded its average value of 0.5[17] for the entire period (Figure 14, panel B), implying a higher crowding out risk. The index declined between 2014 and 2016 as an economic slowdown reduced demand for private sector credit. However, when economic activity recovered in 2017 and 2018, the index picked up with a rise in loan demand from the private sector. The index dropped in 2019 as public finances improved, before sharply increasing in 2020 in the wake of the COVID-19 pandemic. The severity of crowding out index is expected to continue accelerating amid global economic challenges and war in Ukraine, which have significantly affected global prices and led to exchange rate depreciation shocks. Figure 14, panel A, shows the 25th to 75th percentile range for the index, depicting its distribution across African countries.

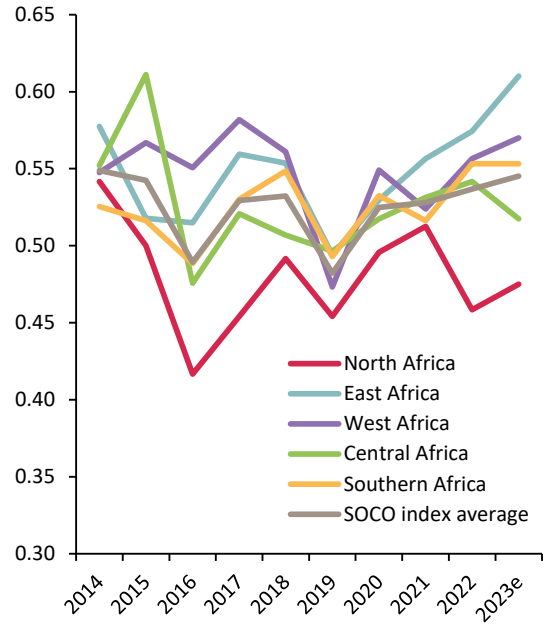
[15] For a comprehensive study on crowding out in Africa using the severity of crowding out index, as well as details about the index, see Attout et al. (2022).
[16] The severity of crowding out index for each African country is presented in Appendix A.
[17] Each variable used in estimating the severity of crowding out index is scaled to an average of 0.5; hence, the constructed average severity of crowding out index is 0.5 (Attout et al., 2022).

Figure 14. Crowding out in Africa: 2014-2023

A. Index median and 25th to 75th percentiles



B. Index by African regions



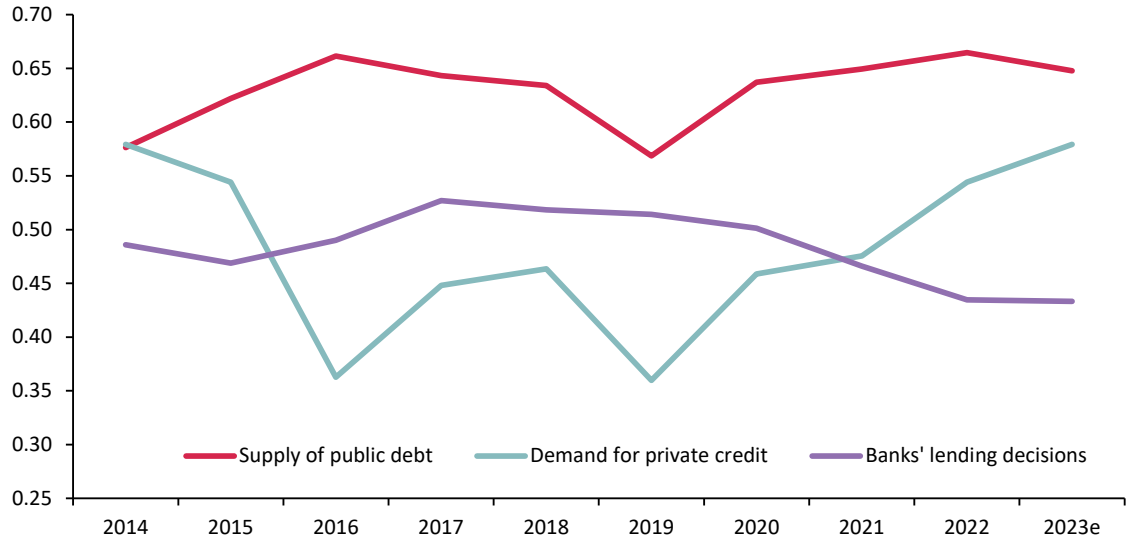
Source: International Financial Statistics data and authors' calculations.
Notes: 0 and 1 indicate low and high severity, respectively. The severity of crowding out (SOCO) index median is computed across 41 countries in Africa. The shaded band depicts the 25th to 75th percentiles, showing the heterogeneity of the whole sample. 2023 values are estimates.

East and West Africa have the highest levels of crowding out, especially after 2020 (Figure 14, panel B). This is explained by the increased government financing needs following the pandemic outbreak and a simultaneous sharp decline in credit to the private sector. Furthermore, as governments lost access to international markets, their reliance on local funding grew even further, thereby exacerbating the crowding out of private sector investments. The severity of crowding out index for Southern Africa declined in 2021 thanks to improved credit conditions in Angola, Eswatini and South Africa[18]; however, the index deteriorated noticeably in 2022 and 2023, in parallel with increased private sector demand for credit. As shown in Figure 14 (panel B), Central and North Africa have the lowest severity of crowding out, mostly explained by structurally low demand for private credit. Moreover, improvement in the index for North Africa in 2022 is largely explained by Algeria and Morocco, with the lowest demand for private credit. Except for Central Africa, an increase in the severity of crowding out index is expected throughout Africa in 2023.

Overall, public debt issuance and private sector credit needs are driving the severity of crowding out index up in every region (Figure 15). Although banks' lending decisions indicate a crowding out of the private sector due to the banks' declining claim to the private sector (Figure 11), the continuous growth in balance sheet size means private sector lending is still growing, and this offsets the effect of the crowding out (Figure 15). The severity of crowding out index shows how banks' appetite for sovereign debt appears undiminished despite the deteriorating creditworthiness of many sovereign borrowers. For 2023, increased demand for private credit will drive the index upwards.

[18] See the yearly severity of crowding out index for each African country in Appendix A, where 0 indicates low severity and 1 high severity.

Figure 15. Trend analysis of the severity of crowding out sub-indices



Source: Authors' calculations based on publicly available data.
Notes: 0 and 1 indicate low and high severity, respectively. The values for 2023 are estimates.

References

Arrigoni, S., Bobasu, A. and Venditti, F. (2021). "The simpler the better: measuring financial conditions for monetary policy and financial stability."

Attout, A., Baldini, A., Schmidt, V.F. and Zwart, A. (2022). "Is crowding out of private sector credit inhibiting Africa's growth?" European Investment Bank (EIB). Available at: https://www.eib.org/attachments/lucalli/20220180_is_crowding_out_of_private_sector_credit_inhibiting_africas_growth_en.pdf. doi:10.2867/041314.

Bloomberg (2023), Ghana's Top Banks Post First Loss as Nation Restructures Debt. Bloomberg news report. Available at: https://www.bloomberg.com/news/articles/2023-04-25/ghana-s-top-banks-post-first-loss-as-nation-restructures-debt#xj4y7vzkg.

Doz, C., Giannone, D. and Reichlin, L. (2012). "A quasi–maximum likelihood approach for large, approximate dynamic factor models." *Review of Economics and Statistics*, 94(4), 1014-1024.

European Central Bank (2009). "A global index of financial turbulence." ECB Financial Stability Review, Box 1, 21-23 December.

EIB (2022). "Finance in Africa: Navigating the financial landscape in turbulent times." Luxembourg.

Forni, M., Hallin, M., Lippi, M. and Reichlin, L. (2000). "The generalized dynamic-factor model: Identification and estimation." *The Review of Economics and Statistics*, 82(4), 540–554.

Hatzius, J. and Stehn, S. J. (2018). "The case for a financial conditions index."

International Monetary Fund (IMF) (2016). "Regional economic outlook. Sub-Saharan Africa: Multispeed Growth." Washington, DC. Available at: https://www.imf.org/en/Publications/REO/SSA/Issues/2017/02/01/Multispeed-Growth.

International Monetary Fund (IMF) (2023a). "Regional economic outlook. Sub-Saharan Africa: The big funding squeeze." Washington, DC. Available at: https://www.imf.org/-/media/Files/Publications/REO/AFR/2023/April/English/text.ashx.

International Monetary Fund (IMF) (2023b). "IMF World Economic Outlook Database, April 2023." Available at: https://www.imf.org/en/Publications/WEO/weo-database/2023/April.

IMF (2023c). International Financial Statistics (database), International Monetary Fund. Available at: https://data.imf.org/?sk=4c514d48-b6ba-49ed-8ab9-52b0c1a0179b&sId=1409151240976.

IMF (2023d), *Low-Income Countries Debt Sustainability Analysis Comprehensive List, June 2023.* Available at: https://www.imf.org/external/pubs/ft/dsa/dsalist.pdf.

Lall, S., Cardarelli, R. and Elekdag, S. (2008) "Financial stress and economic downturns." In: "World Economic Outlook." Chapter 4. Washington, DC: International Monetary Fund, pp. 129-58.

Maurin, L., Moccero, D. and Darracq Paries, M. (2014). "Financial condition index and credit supply shocks for the Euro Area." ECB Working Paper Series no 1644, March 2014.

Moccero, D. N., Pariés, M. D. and Maurin, L. (2014). "Financial conditions index and identification of credit supply shocks for the euro area." *International Finance*, 17(3), 297-321.

Rosenberg, M. R. (2009). "Bloomberg Financial Conditions Index." *Financial Conditions Watch*, 2(6), 12.

Stock, J. H. and Watson, M. W. (2002). “Forecasting using principal components from a large number of predictors.” *Journal of the American Statistical Association*, 97(460), 1167-1179.

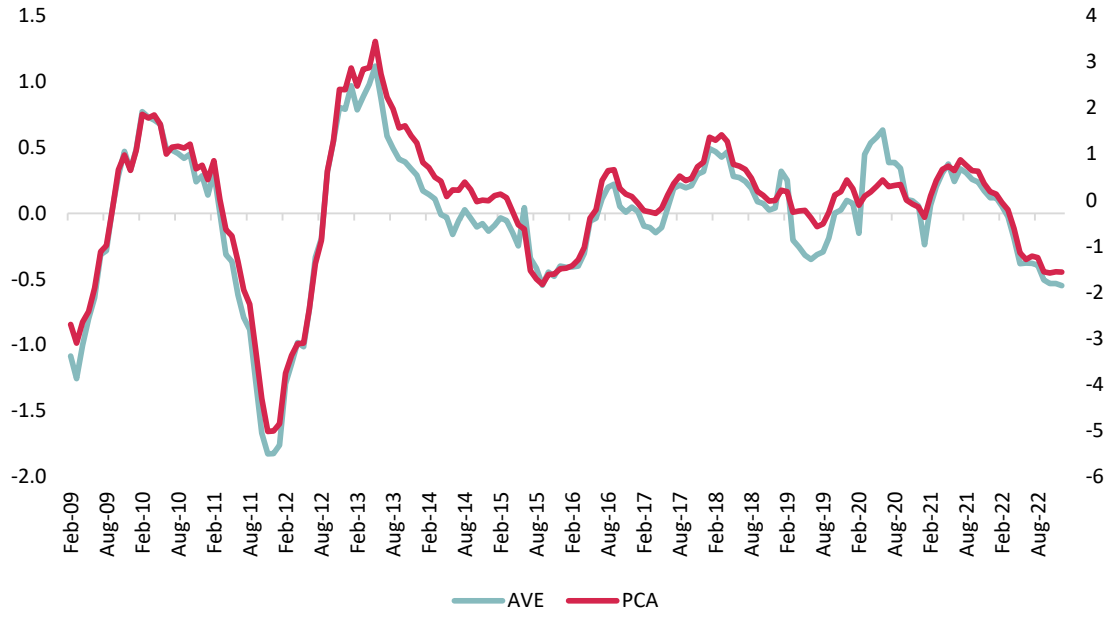
Stock, J. H. and Watson, M. (2011). “Dynamic factor models.” Oxford Handbooks Online.

Appendix A: Averaging vs. principal component analysis

The results of testing favour the use of averaging rather than principal component analysis in constructing the financial conditions index. Principal component analysis is typically employed when trying to represent the pattern common across numerous individual series. The African financial conditions index comprises just seven series. Nonetheless, principal component analysis could still be useful. The African financial conditions index is calculated as the GDP-weighted average of the four country-level financial conditions indices. It makes most sense to employ principal component analysis at the country level and then combine the country-level financial conditions indices to produce the aggregate index for Africa. This is because the correlation structure of the data is quite different at the country level. For example, Egypt has quite strong correlations across several of the series, reflecting the especially volatile swings experienced in the country during the study period, which includes some spells of intense stress. By contrast, there are low correlations across all series in Nigeria. It is therefore appropriate to conduct principal component analysis country-by-country.

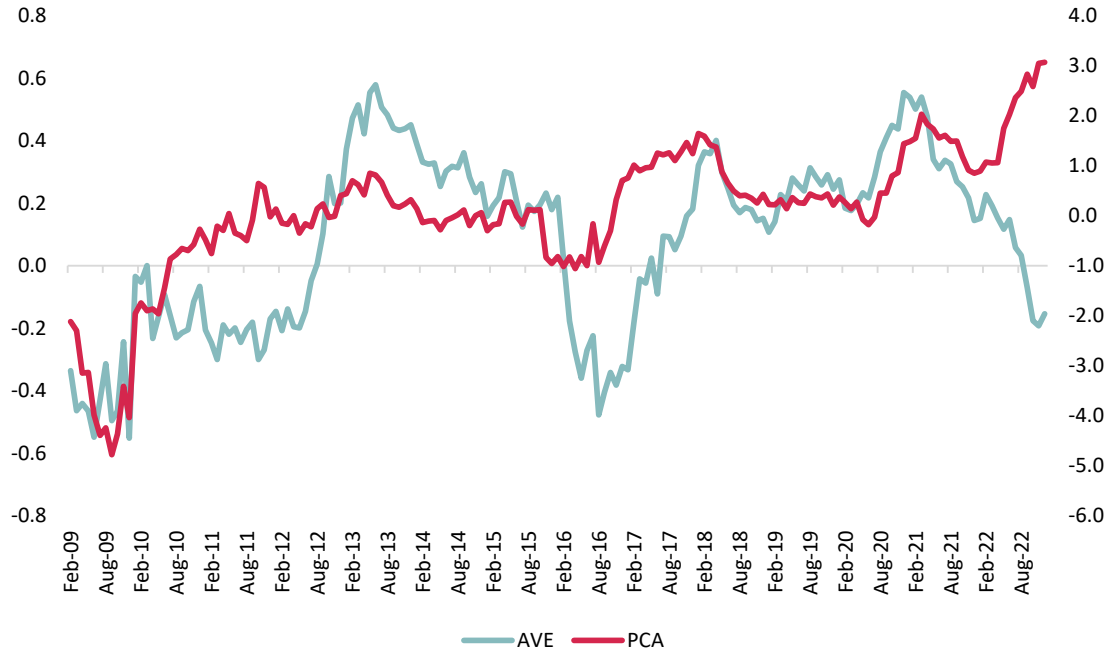
For some countries, the choice of methodology has little impact on the calculated financial conditions indices. Where differences emerge, however, the financial conditions indices calculated using simple averaging appear more plausible. Figure A1 shows the Kenyan financial conditions index calculated using both approaches, and the results are very similar. The South African financial conditions index also produces very similar results from the two methods. By contrast, there is much less similarity between results from the two methods for the Nigerian financial conditions index (Figure A2). This might be explained by the very weak correlation structure of the data. In general, there is much less variability in the Nigerian financial conditions index calculated using principal component analysis. Accordingly, there are spells during the sample period when changing financial conditions in Nigeria are not necessarily reflected in the financial conditions index. The Egyptian financial conditions index calculated by principal component analysis also exhibits high volatility around 2016-2017, when sharp moves in the financial conditions index's underlying components somewhat offset one another. For example, high inflation, unfavourable policy rate changes, and brisk public lending were somewhat offset by strong private sector lending growth and exchange rate stabilisation. Principal component analysis failed to capture these nuances and instead projected an overly sharp, short deterioration in financial conditions. For these reasons, the simple averaging approach, especially when combined with control of outliers, can generate a more plausible pattern for the financial conditions index. Accordingly, based on experience with African data, simple averaging was preferred.

Figure A1. Kenyan financial conditions index constructed using principal component analysis (PCA) and averaging (AVE)



Sources: IMF, World Bank, national central banks, authors' calculations.
Note: Averaging (AVE) is on the left axis and principal component analysis (PCA) is on the right axis.

Figure A2. Nigerian financial conditions index constructed using principal component analysis (PCA) and averaging (AVE)



Sources: IMF, World Bank, national central banks, authors' calculations.
Note: Averaging (AVE) is on the left axis and principal component analysis (PCA) is on the right axis.

2

Trends in financial integration and bond markets

This chapter was authored by Colin Bermingham and Emmanouil Davradakis, senior economists at the European Investment Bank. The authors would like to thank Barbara Marchitto and Debora Revoltella for their comments on earlier versions.

Key messages

Attracting more international capital to sub-Saharan Africa could facilitate greater domestic investment and accelerate development. The size of a country or region's external assets and liabilities is referred to as its financial integration, as it gives a sense of the degree of connection with the global financial system. Financial integration on the African continent is on a par with some other developing regions: Africa's financial integration was 174% of its gross domestic product (GDP) in 2021, compared with 178% in South America, 165% in Central America and 148% in Southeast Asia, whereas South Asia's financial integration was significantly lower at 95% of GDP. Africa's financial integration as a whole is bolstered by Southern Africa's very high level of financial integration, which can be attributed to the developed financial markets in South Africa and Mauritius. For other African regions, financial integration is significantly lower.

Remittances remain a critical source of income for many countries. Almost 80% of remittances globally flow to low- and middle-income countries, but sub-Saharan Africa receives less than 8% of global remittances. Nigeria and Ghana are the largest recipients of remittances in Africa in absolute terms ($21 billion and $4.6 billion, respectively). Nigeria alone accounts for 43% of sub-Saharan African remittances. However, remittances are a more important source of income in many countries where the domestic income is relatively low. Remittances make up more than 20% of GDP in The Gambia, South Sudan, Lesotho and Somalia. Remittances to sub-Saharan Africa tend to be more volatile than global remittances.

Outstanding sovereign debt in Africa has increased significantly since 2010. Outstanding amounts were 22 times higher in 2021 than in 2010 in sub-Saharan Africa, excluding South Africa, and were seven times higher in North Africa. Over this period, mainly higher-rated governments increased sovereign issuance. Hard currency sovereign debt securities issued by sub-Saharan African economies are entirely held by overseas investors and primarily by asset managers and banks, making capital flows more vulnerable to changes in global risk sentiment. The preferred hard currency of sub-Saharan African debt security issuance is the US dollar, with dollar-denominated debt representing 83% of all hard currency sub-Saharan African government bonds. With risk appetite diminished on global markets, bond yields increased across emerging markets and developing economies to 7.4% in 2022 from 2.6% in 2020. Yield increases were more pronounced in Africa, increasing to 12.9% from 5.8%. This was mainly driven by sub-Saharan Africa, where yields increased to 14% from 6.2%. The number of bonds issued in local currency is significantly lower in sub-Saharan Africa than in other emerging markets and is dominated by sovereign bonds rather than private bonds, especially for active trading.

Increased global risk aversion has hurt private capital fundraising in Africa more than in other regions. Fundraising fell by 35% in 2022 to $2.1 billion, the lowest total for Africa since 2013. This seems to mirror other financial markets, where riskier credits have faced more difficult financial conditions. Despite difficult fundraising conditions, private capital investment in Africa remained buoyant in 2022, albeit mainly in a small number of key markets. For example, South Africa recorded $1.3 billion in private capital investment in 2022, which was the most of any individual country. Kenya was the next largest market with $1.1 billion. Together with Egypt and Nigeria, these markets accounted for nearly two-thirds of all private capital investment across Africa. The financial services sector draws the greatest share of private capital, accounting for almost 40% of investment in 2022.

Trends in financial integration

Attracting more international capital to sub-Saharan Africa could facilitate greater domestic investment and accelerate development. This part of the chapter looks at the external assets and liabilities of a country or region, that is, its financial integration. The size of an economy's external assets and liabilities, including holdings in the public and private sector, gives a sense of the degree to which the economy connects with the global financial system. Debt and equity are large components of an economy's external position. In the case of the bond market, non-residents could be holding both hard currency and local currency bonds, so external liabilities could be a mix of these instruments.

Financial integration improves portfolio diversification opportunities for investors and offers greater borrowing opportunities to facilitate consumption or investment during financial shocks or when domestic savings are low. All these benefits are important in the African context. However, greater exposure to foreign capital also increases a domestic economy's sensitivity to international shocks like pandemics and war. Notably, interest rate shocks and the propagation of monetary policy from advanced economies to emerging markets and developing economies increase when financial integration is higher.[1] Financial integration, defined as the sum of external assets and liabilities divided by GDP, allows for comparison of the size of a country's international balance sheet and, consequently, the degree to which it is connected financially with the rest of the world.

The solvency of external debt is also important. This is better measured by the net international investment position, again expressed as a percentage of GDP: where external assets exceed external liabilities, the country is an external creditor; otherwise, it is an external debtor. Therefore, the financial integration metric captures the size of a country's international balance sheet, while the net international investment position gives a sense of that country's solvency pressures.[2] Both metrics are necessary for meaningful understanding and comparison of the international balance sheet of countries or regions. The data for this analysis come from the latest edition of the External Wealth of Nations database (Lane and Milesi-Ferretti, 2018), which was last updated in December 2022.

[1] Please see Chapter 2 of last year's *Finance in Africa* report (EIB, 2022) for a more detailed discussion of the potential advantages and disadvantages of higher global financial integration.

[2] When a country runs a current account deficit, it requires external financing for the deficit. Conceptually, the net international investment position is the sum of past current account deficits, whereas the change in the net international investment position in a given year is equivalent to the current account deficit, abstracted from any changes in the value of external positions caused by exchange rate changes.

Figure 1. Financial integration by global region
(% of GDP)

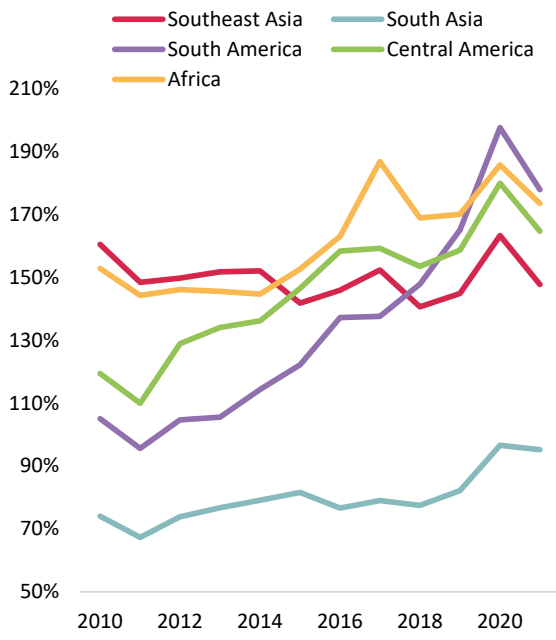
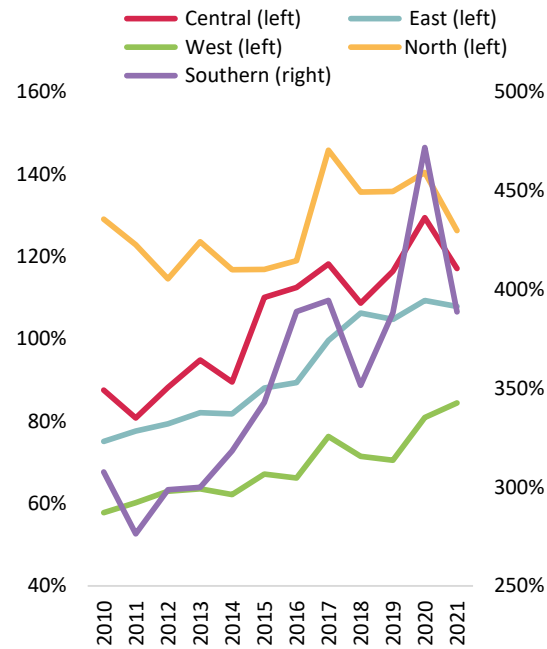


Figure 2. Financial integration by African region
(% of GDP)



Financial integration on the African continent is on a par with some other developing regions (Figure 1). For example, financial integration in Africa was 174% of GDP in 2021, compared with 178% in South America, 165% in Central America, and 148% in Southeast Asia, whereas South Asia's financial integration was significantly lower at 95% of GDP. Growth in financial integration has been noticeably slower in Africa since 2010, relative to Central and South America. Financial integration has also grown slowly in South Asia and even declined slightly in Southeast Asia.

Focusing on the regional level in Africa, the high level of financial integration in Southern Africa dwarfs that of other regions (Figure 2). In 2021, financial integration stood at 84% of GDP in West Africa, 108% in East Africa, 117% in Central Africa and 126% in North Africa. Accordingly, financial integration in West Africa is lower than in South Asia, while financial integration in East, Central and North Africa lies somewhere between the levels in South and Central Asia. Financial integration in Southern Africa is on a different scale, at 389% of GDP, driven by the large financial sectors of South Africa and Mauritius. This level of financial integration is not only significantly higher than in other African regions but also much higher than in other developing regions globally.[3]

Turning to the net international investment position, East and Central Africa are the largest external debtors, with net liabilities in 2021 worth 73% and 65% of GDP, respectively. West and North Africa have smaller net liabilities of 27% and 26% of GDP, respectively, while Southern Africa's external position is broadly balanced. The increase in financial integration between 2009 and 2016 was accompanied by deteriorating net international investment positions as liabilities grew more quickly than assets. Since then, asset and liability growth has been more balanced across regions, bringing more stability to net international investment positions over the last six or seven years. There has even been some improvement in the net position in Southern Africa due to the region's strong asset growth.

[3] There are several reasons why the coronavirus pandemic did not lead to a retrenchment in financial integration across African regions. First, financial integration is measured relative to economic activity, and the pandemic led to nominal GDP contractions in 2020 in every region except East Africa. This denominator effect was large in Southern Africa, where nominal GDP fell by 16% in 2020, only to increase by 32% in 2021, bringing significant volatility to financial integration in the region. Second, during periods of global risk aversion, domestic currencies tend to weaken relative to the US dollar. When GDP in the local currency is converted into dollars, this weakening results in a lower denominator in financial integration calculations. Third, a weaker domestic currency also increases the valuation of foreign currency external liabilities.

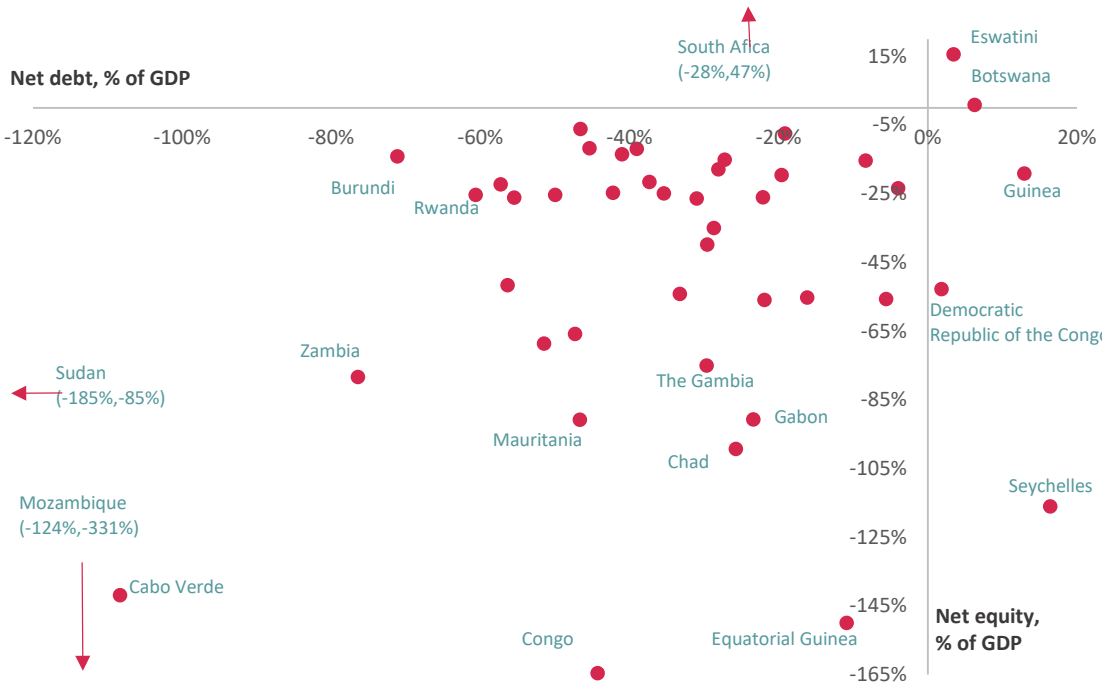
Structure of external assets and liabilities

The typical financial structure of advanced economies' external assets and liabilities is long equity but short debt. This combines the significant external equity assets of the private sector, including volatile portfolio equity and more stable foreign direct investment, with substantial public sector debt liabilities. In sub-Saharan Africa, countries are typically short equity and debt, as inward investment is outweighed by outward investment. This is shown in Figure 3, which charts net external debt and net external equity by country. In sub-Saharan Africa, nearly all countries lie left of the y-axis, meaning they are net external debtors, and below the x-axis, reflecting their negative external equity positions. This means that foreign investment remains crucial to the region.

The growth in equity liabilities in Africa over recent decades is generally viewed positively, as most take the form of foreign direct investment inflows, rather than portfolio equity inflows. This means there is less risk of capital flight in periods of increased global risk aversion. Countries at the bottom of Figure 3, such as Mozambique, Congo and Equatorial Guinea, have large equity liabilities relative to their GDP. Large net equity exposures are viewed as less risky than large debt exposures. Countries with the largest net debt exposures include Sudan, Cabo Verde, Mozambique and Zambia (dots on the left-hand side of Figure 3).

Few African countries have positive external equity positions, and those that do are all in Southern Africa: South Africa (47% of GDP), Eswatini (16%) and Botswana (1%). Eswatini and Botswana also have positive net external debt (3 and 6% of GDP, respectively), making them the only two African countries with positive balances for debt and equity. Other countries with positive debt positions are the Seychelles (16%) and the Democratic Republic of the Congo (2%). However, given that most African countries are debtors, stable and reliable sources of external funding are evidently still vital in Africa.

Figure 3. Net external equity versus net debt by country in 2021 (% of GDP)



Source: External Wealth of Nations (Lane and Milesi-Ferretti, 2018).
Note: Unlabelled dots represent less prominent countries among those analysed and are included in the chart to show the full distribution of the countries.

Remittance flows

Remittance flows remain a critical source of income for many African countries. The analysis has so far focused on capital flows, meaning flows associated with a change in asset ownership, and the consequent changes in financial integration. This section furthers the analysis by focusing on remittances, a form of non-capital flow.[4]

Almost 80% of remittances globally flow to low- and middle-income countries, but sub-Saharan Africa accounts for less than 8% of global remittances. This low share might be partly explained by proximity effects. The Global Knowledge Partnership on Migration and Development (KNOMAD) bilateral remittance matrix shows that the largest recipients of remittances are India ($89 billion), Mexico ($54 billion) and China ($53 billion) (KNOMAD/World Bank, 2021). India receives more than 60% of its remittances from countries in the Gulf and Asia; Mexico gets 97% of its remittances from the United States; and China receives about 45% of its remittances from Asian countries. In contrast, many African countries have few high-income neighbours where migrants can seek work. Furthermore, the cost and administrative barriers to obtaining employment in high-income countries may be more problematic for Africans compared to other developing regions with closer ties to high-income neighbours. This can lead to increased reliance on remittances from farther away, such as Europe, the United States and the Middle East. Remittances to some African countries, such as Nigeria, Morocco and Ghana, exhibit notable correlations (30-70%) to GDP growth in their advanced economy trading partners. This is suggestive of a close relationship between the remittances to these countries and economic growth in geographically distant partner countries. But the correlations in several other African countries are weak.

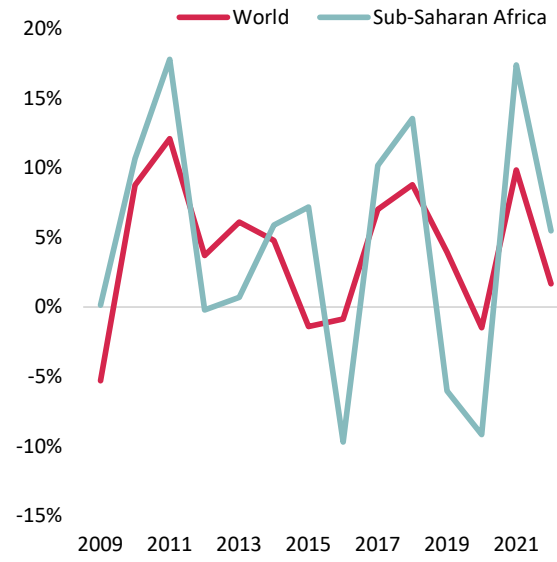
Nigeria and Ghana are Africa's largest recipients of remittances in absolute terms, receiving $21 billion and $4.6 billion, respectively. Nigeria alone accounts for 43% of sub-Saharan African remittances, but remittances are a more important income source for many other countries with relatively low domestic incomes. Figure 4 shows that remittance amounts exceeded 20% of GDP in The Gambia, South Sudan, Lesotho and Somalia. However, South Sudan and Somalia saw remittances fall by over 10% of GDP in 2022, highlighting that volatility in remittance income can be substantial relative to the size of the economy.

Remittances to sub-Saharan Africa tend to follow a similar, albeit more volatile, path compared to world remittances (Figure 5). Early in the pandemic, there was widespread concern that lockdowns and reduced economic activity in advanced economies would significantly impact global remittances. In hindsight, global remittances showed considerable resilience during the pandemic, falling only 1.5% in 2020 and rebounding by 10% in 2021, although this might have been due to inflation of formal remittances relative to informal remittances (discussed further below). Overall, global remittances were estimated at $794 billion in 2022, exceeding the $722 billion recorded in 2019. However, remittances to sub-Saharan Africa exhibited more pronounced volatility, falling sharply in 2019 and 2020 before jumping by 17% in 2021 and 5.5% in 2022 to reach a level 13% higher than in 2019. Plausible reasons for this higher observed volatility include the relatively small size of remittances in sub-Saharan Africa, the large number of recipient countries and the wide geographical spread of donor countries.

[4] For a more detailed discussion of trends in foreign direct investment, please see Chapter 2 of last year's *Finance in Africa* report (EIB, 2022). Also, please see the 2020 edition of *Finance in Africa* for a chapter dedicated to remittances and how they are linked to investment, financial inclusion and financial sector development.

Figure 4. Formal remittances in sub-Saharan Africa (% of GDP)

Figure 5. Formal remittance growth globally and in sub-Saharan Africa (%)



Source: KNOMAD/World Bank (2021).

Formal remittances may have been artificially inflated during the pandemic. According to a recent analysis by the World Bank (Dinarte-Diaz et al., 2022), lockdowns raised problems for most informal remittances, such as sending cash with travelling friends or relatives, leading to a shift towards formal channels. This was corroborated by evidence from Mexico: Close to the US border, where informal remittances had previously been convenient, there was a significant increase in formal remittances during the pandemic. In contrast, most remittances to sub-Saharan Africa tend to go through formal channels because of the distance from the main remittance sources. Therefore, when informal remittances dropped globally in 2020, it did not lead to the same increase in formal remittances in sub-Saharan Africa.

Sovereign bond markets in Africa

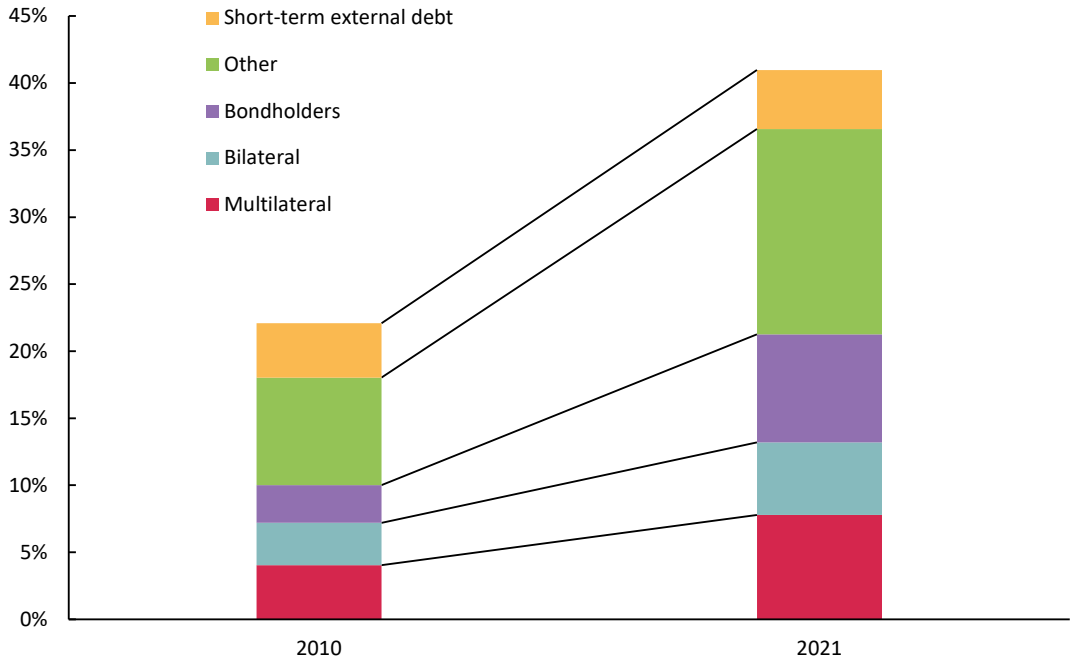
Several sub-Saharan African economies have no or only underdeveloped stock markets (EIB, 2022), making bond markets the only way for them to source funding. While the first part of the chapter reviewed the external assets and liabilities of countries and regions, this section delves into the key features of sovereign debt markets in sub-Saharan Africa, exploring how they compare to those of other emerging markets and developing economies. The section focuses primarily on the sovereign side of the fixed-income market, rather than on corporate debt, as public and publicly guaranteed debt accounts for 76% of sub-Saharan Africa's total gross external debt, with the private sector share accounting for the remaining 24% (World Bank, 2022).

A review of sovereign debt is important given the tumultuous moves in sub-Saharan African bond markets over the past two years. The rapid rise in global inflation after the onset of war in Ukraine accelerated the tightening of global monetary policy, resulting in higher bond yields in advanced economies and emerging markets. Sovereign spreads for sub-Saharan Africa have soared to three times the emerging market average since the start of the global tightening cycle. Higher US interest rates and waning global risk appetite supported the US dollar and increased the value of dollar-denominated debt and interest payments. As the International Monetary Fund (IMF) reported in April 2023, sub-Saharan Africa suffered more than other emerging regions because of lower credit ratings, and virtually all of the region's frontier nations were cut off from international

market access in spring 2022. Against this background, the IMF forecast a decline in sub-Saharan Africa's real GDP growth rate for the second consecutive year, dropping to 3.6% in 2023, from 3.9% in 2022 and 4.8% in 2021.

The government debt accumulation of emerging markets and developing economies accelerated in the years after the global financial crisis because yields were attractive to investors and liquidity flowed freely from advanced economies. The role of private creditors grew in parallel to that of official lenders. This resulted in a significant increase in the share of non-concessional borrowing in the external debt of emerging markets and developing economies (World Bank, 2019). According to the World Bank's *International Debt Report 2022* (World Bank, 2022), the external debt of sub-Saharan countries to bondholders more than doubled over a decade, increasing to 8% of GDP in 2021 from 3% in 2010, while the share of debt owed to multilateral lenders increased to 8% of GDP from 4% in the same period (Figure 6). A significant increase is also noted in the share of sub-Saharan countries' external debt to bilateral lenders, which increased to 5% of GDP in 2021 from 3% in 2010, while the debt owed to banks and other private investors increased to 15% of GDP from 8% in the corresponding period.

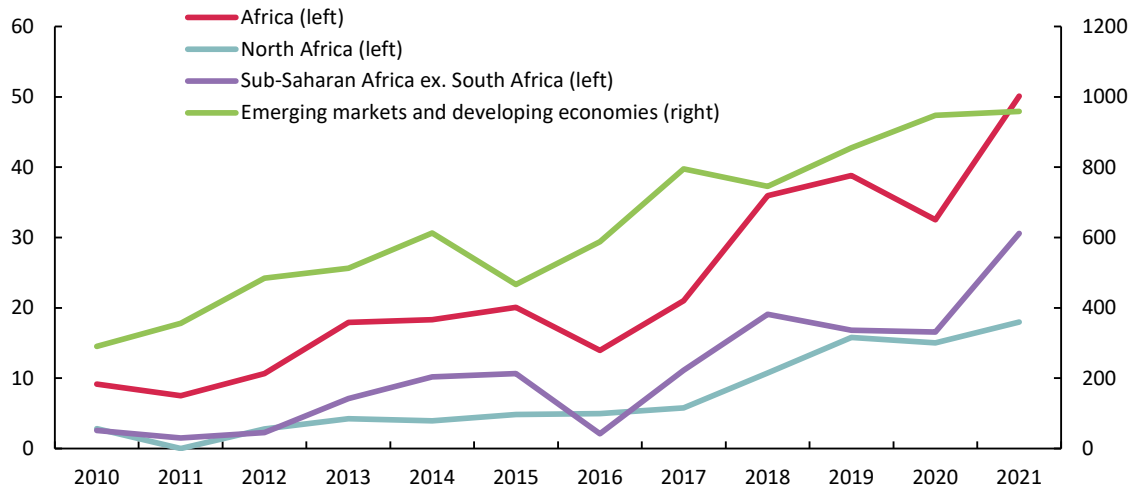
Figure 6. Sub-Saharan Africa (excluding Seychelles) gross external debt stock by creditor (% of GDP)



Source: World Bank (2022) and authors' calculations.

Gross issuances of hard and local currency sovereign bonds in emerging markets and developing economies increased to $958.5 billion in 2021 (latest data) from $290 billion in 2010. All regions in Africa saw greater issuances. Governments increased issuances to $50.1 billion in 2021 from $9.1 billion in 2010. Governments in sub-Saharan Africa (excluding South Africa) increased issuances to $30.6 billion (2.1% of GDP) in 2021 from $2.6 billion (0.3% of GDP) in 2010, while North African government issuances increased to $18 billion (2.3% of GDP) from $2.8 billion (0.5% of GDP) in 2010 (Figure 7). These two African regional markets are historically similar in size, both relative to GDP and in absolute terms. They were almost identical in absolute size in 2020, but issuances in sub-Saharan Africa increased by $14 billion in 2021 — the highest annual increase in a decade — whereas issuances in North Africa increased by only $2.9 billion.

Figure 7. Gross sovereign debt issuances ($ bn)



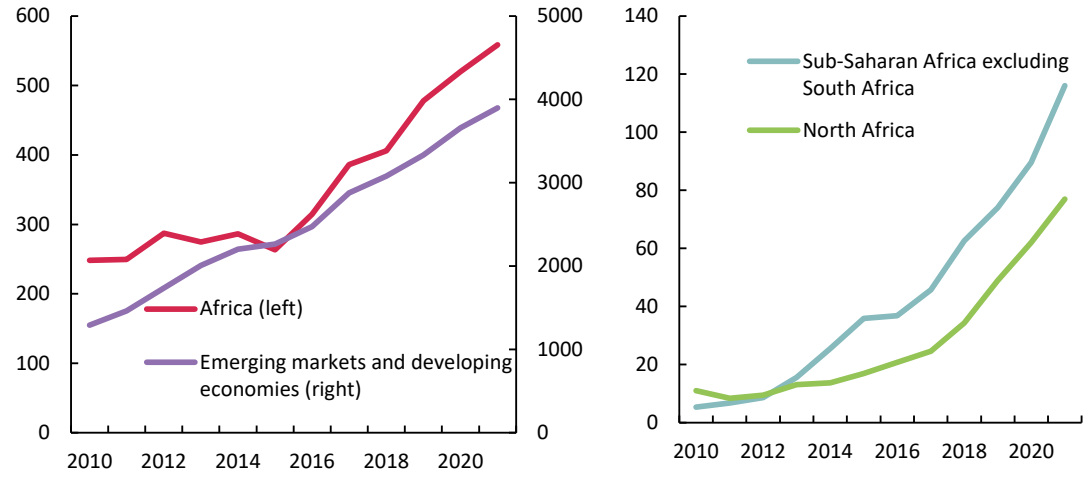
Source: Bank for International Settlements (2023) and authors' calculations.

Outstanding government debt securities in emerging markets and developing economies were three times higher in 2021 than a decade earlier. The governments of emerging markets and developing economies rolled over maturing debt and assumed new debt. However, this acceleration was somewhat less pronounced in Africa, where outstanding government debt securities doubled over the same period (Figure 8, Panel A). The bulk of outstanding bonds are South Africa's. However, even not including South Africa, the bond markets in sub-Saharan Africa and North Africa grew rapidly. Relative to 2010, the amounts of outstanding sovereign debt in 2021 were 22 times higher in sub-Saharan Africa (excluding South Africa) and seven times higher in North Africa (Figure 8, Panel B).

Figure 8. Outstanding sovereign debt in Africa ($ bn)

Panel A

Panel B



Source: Bank for International Settlements and authors' calculations.

Hard currency debt securities

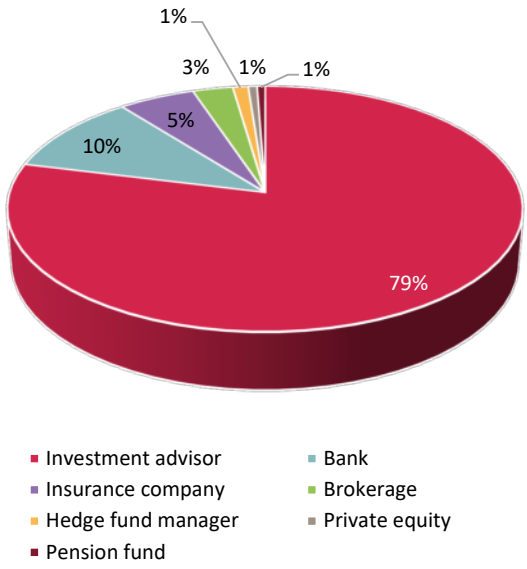
Hard currency debt securities issued by sub-Saharan African governments are entirely held by overseas investors, indicating a complete absence of home bias — investors' preference to invest primarily in bonds issued by their home country. Overall, 50% of hard currency debt security holders (mostly institutional) are domiciled in Europe, 48% in North America, 1% in Asia and another 1% elsewhere in the world. According to prior research, home bias has implications for sovereign debt sustainability and generally reduces the cost of borrowing when debt levels are moderate to high (Asonuma et al., 2015). Thus, African governments could theoretically benefit from local participation in hard currency bond markets. However, worsening market sentiment appears to diminish the favourable impact of home bias on borrowing cost, particularly for emerging markets and developing economies.

Hard currency sovereign debt of sub-Saharan countries is held primarily by asset managers and banks (Figure 9, Panel A). Asset managers are the most active investors as their usual strategy is to manage their portfolio to maximise profits, rather than holding to maturity. Therefore, they swiftly reposition in response to economic and political developments in the issuing country, which could help to explain the sensitivity of capital flows to international risk appetite. Insurance companies and brokers also manage a small portion (not exceeding 8% of the total outstanding amount) of hard currency government debt securities.

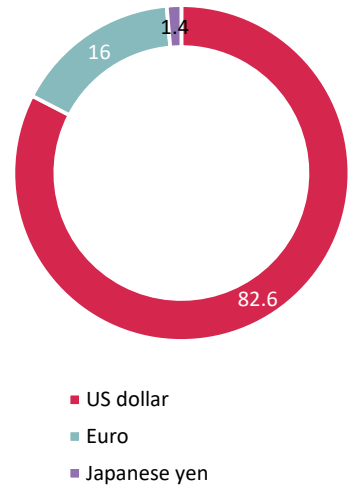
The preferred hard currency of issuance for sub-Saharan government debt securities is the US dollar (Figure 9, Panel B). US dollar debt represents 83% of all hard currency government bonds in sub-Saharan Africa. The euro is the second currency of choice, followed by the Japanese yen. Currency choice is primarily determined by the extent to which the economy has cash flows in that currency, the currency of deposits in the local banking system and the country's foreign exchange arrangements. For example, commodity exporters issue mostly in US dollars because international commodity markets quote almost exclusively in dollars.

Figure 9.

Panel A. Sub-Saharan Africa's hard currency sovereign debt by holder



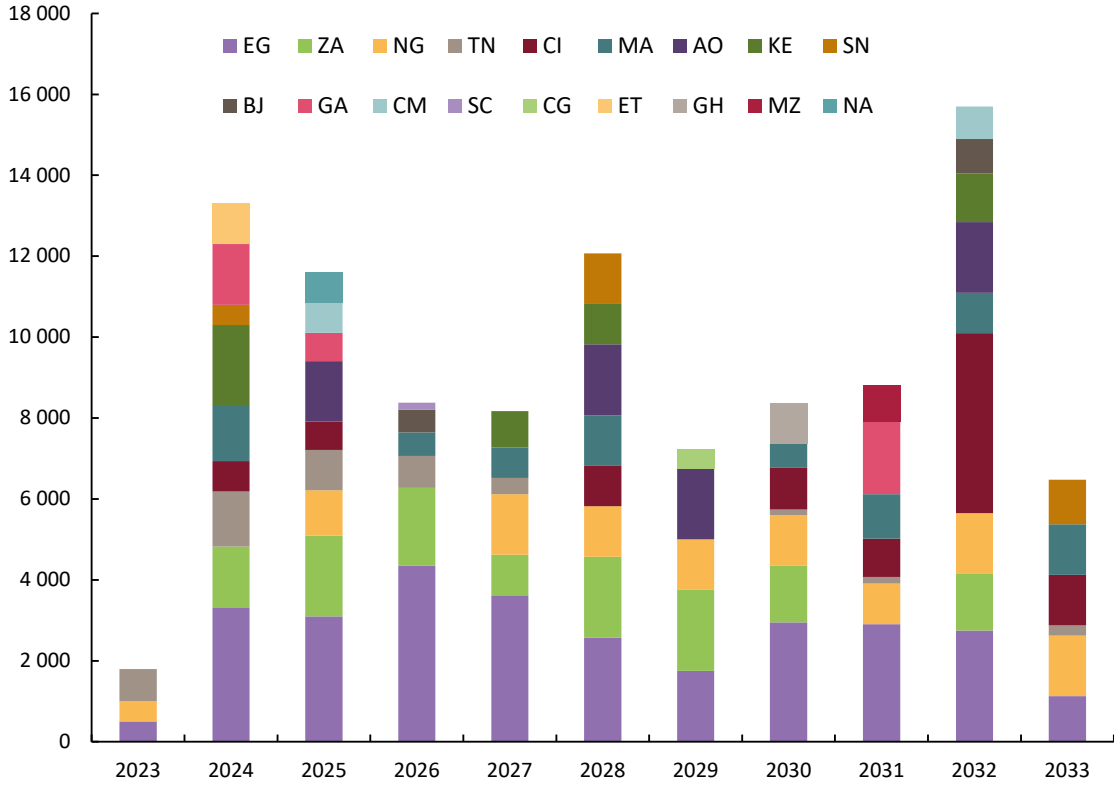
Panel B. Sub-Saharan Africa's hard currency sovereign debt issuances by currency (%)



Source: Bloomberg and authors' calculations.

Hard currency sub-Saharan African government bonds typically have long maturities. The average residual maturity of all hard currency sub-Saharan government bonds is 9.3 years.[5] This reduces the rollover risk of maturing hard currency debt, as payments of the coupon and principal are spread in the future (Figure 10). However, we note a sharp increase in debt maturing in 2024, which could create difficulties for some borrowers.

Figure 10. Amount of maturing hard currency sub-Saharan and North African government bonds by year ($ bn)



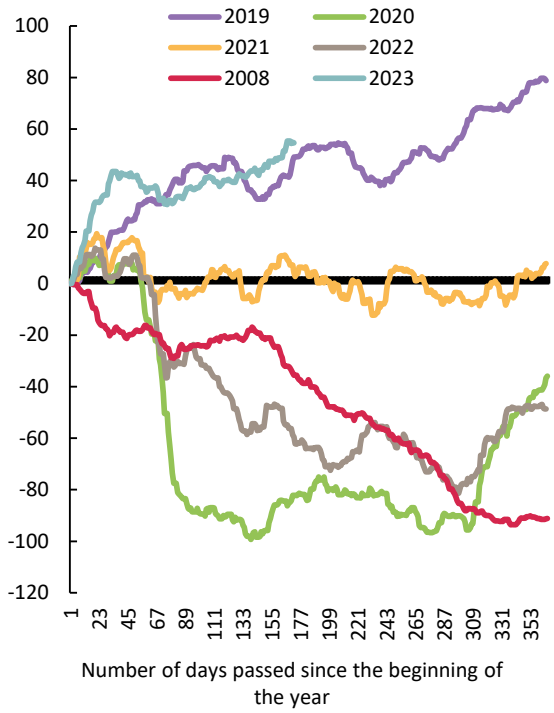
Source: Bloomberg and authors' calculations.
Note: Country abbreviations: EG: Egypt; ZA: South Africa; NG: Nigeria; TN: Tunisia; CI: Côte d'Ivoire; MA: Morocco; AO: Angola; KE: Kenya; SN: Senegal; BJ: Benin; GA: Gabon; CM: Cameroon; SC: Seychelles; CG: Congo; ET: Ethiopia; GH: Ghana; MZ: Mozambique; and NA: Namibia.

Higher inflation and tighter global financial conditions have prompted portfolio outflows from emerging markets and developing economies, where inflation rose to 10.2% in 2022 (from 4.2% in 2020) amid intensifying global inflationary pressures following the outbreak of war in Ukraine. In sub-Saharan Africa, meanwhile, inflation increased to 15.7% from 10.2% in Southern Africa (or to 18.7% from 2.5% excluding South Africa) and rose to 8.1% from 4.8% in North Africa. The concerted tightening in global monetary conditions led to a rebalancing of global investor portfolios away from the risky assets of emerging markets and developing economies to the safer assets of advanced economies. According to data compiled by the International Institute of Finance (2023), the ensuing portfolio rebalancing triggered significant net portfolio outflows from emerging market and developing economy assets, amounting to $49 billion in 2022, compared to net inflows of $8 billion in 2021 and net outflows of $36 billion in 2020 (Figure 11, Panel A). As of mid-2023, emerging market assets have received net portfolio inflows of $55 billion.

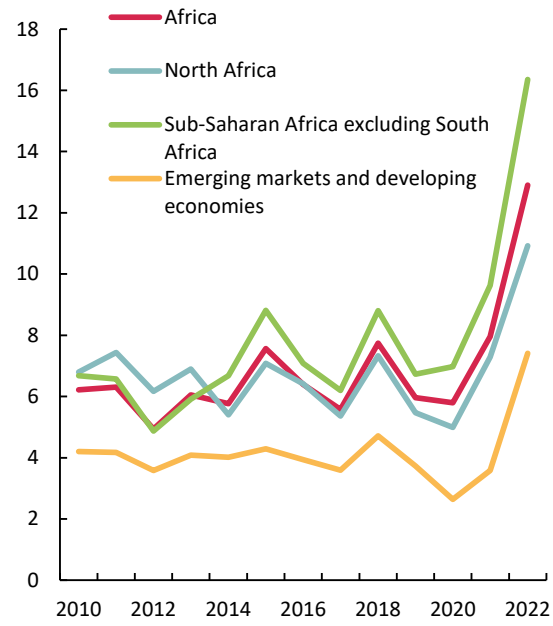
[5] A weighted average calculation using outstanding debt amount as a weight.

Figure 11.

Panel A. Net portfolio flows to/from emerging markets, year to date ($ bn)



Panel B. Yields of US dollar-denominated government bonds in sub-Saharan Africa (%)

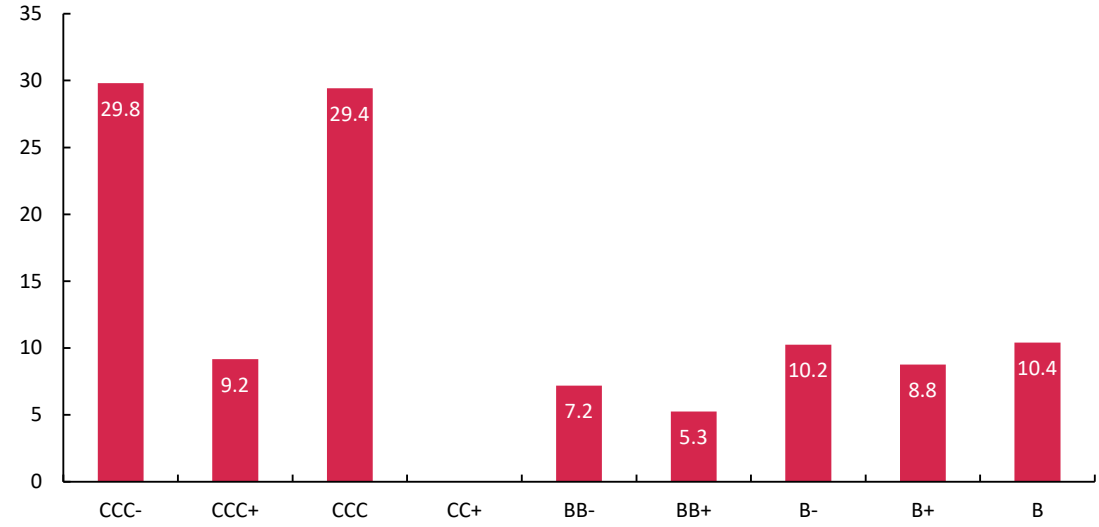


Source: Institute of International Finance and authors' calculations. Source: Bloomberg and authors' calculations.

Portfolio rebalancing is reflected in the increased yields sought by international investors to compensate for holding emerging market and developing economy sovereign bonds. Bond yields increased across emerging markets and developing economies to 7.4% in 2022 from 2.6% in 2020 (Figure 11, Panel B). Yield increases were more pronounced in Africa, rising to 12.9% from 5.8% in the same period. This was mainly driven by sub-Saharan Africa, where yields increased to 14% from 6.2% over this period (or to 16.4% from 7% excluding South Africa). Among sub-Saharan African economies, increases in yields from 2020 to 2022 were most pronounced in Zambia, Mozambique and Ghana, while the largest increases in North Africa were in Tunisia, Egypt and Morocco.

The yields of hard currency debt issued by sub-Saharan governments vary significantly by rating, though not in a strictly linear way. For hard currency bonds rated by an external agency, yields in 2023 range from 5.3% for BB+ rated debt securities to 29.8% for CCC-rated debt securities (Figure 12). While creditworthiness is clearly a key determinant of yields for sub-Saharan government bond yields, another likely factor is that these bonds are held entirely by overseas entities. The lack of a stable home market for these securities means that demand may be flightier during periods of increased global risk aversion, which pushes up yields — particularly as these bonds are mostly held by active asset managers.

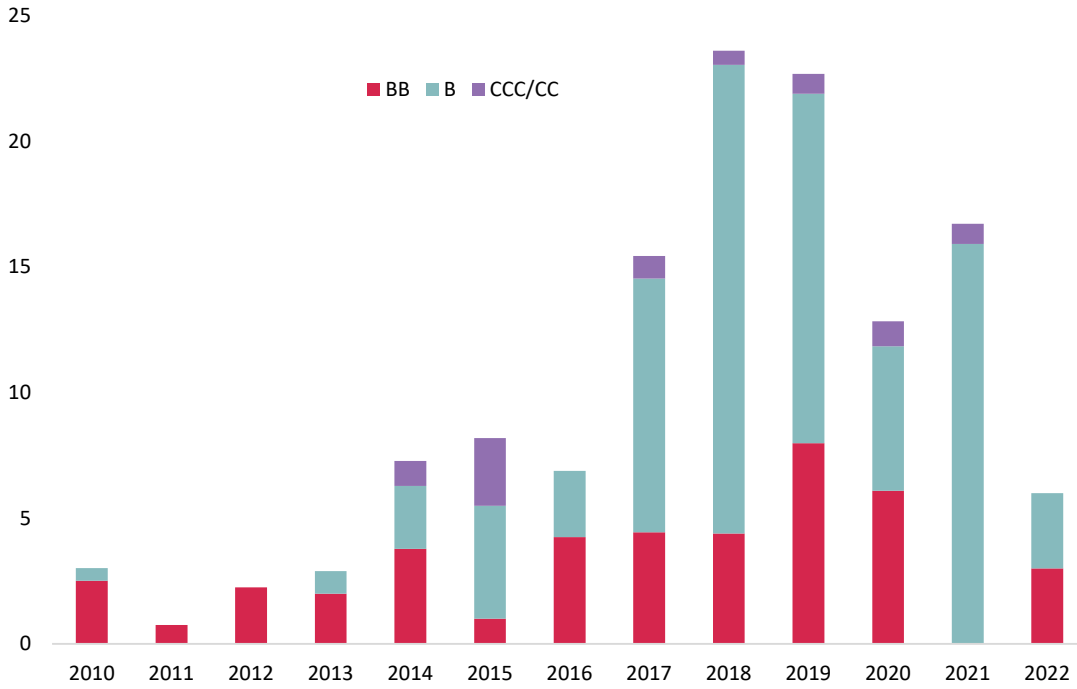
Figure 12. Yields of hard currency bonds by sub-Saharan African sovereign rating in 2023 (%)



Source: Bloomberg and authors' calculations.

Hard currency bond issuance has grown since 2010, mainly due to issuances by higher-rated countries with BB or B ratings (Figure 13). Issuances declined at the onset of the pandemic but recovered somewhat in 2021, albeit not to the pre-crisis level. A second drop occurred in 2022 as global risk sentiment soured against the background of mounting debt sustainability issues, global tightening conditions and rising risk aversion. Very few countries managed to issue bonds, and none had a CCC/CC rating.

Figure 13. Sovereign bond issuances in sub-Saharan Africa by rating ($ bn)

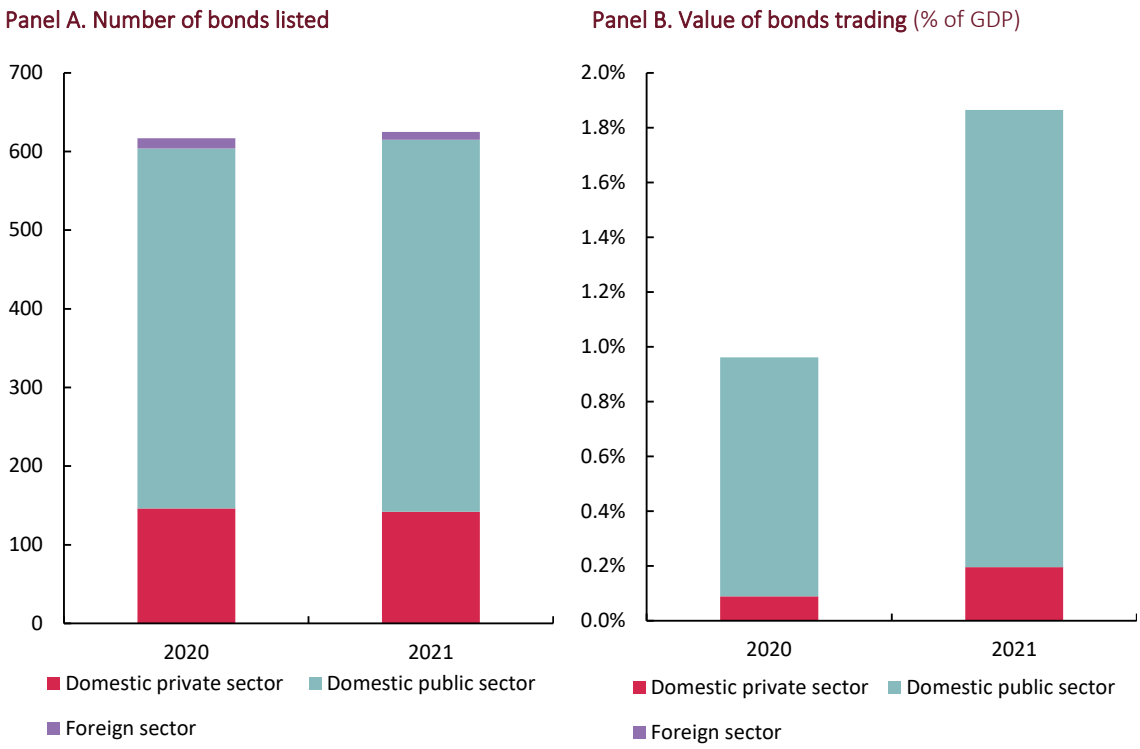


Source: Bloomberg and authors' calculations.

Local currency debt securities

The number of bonds issued in local currency is significantly lower in sub-Saharan Africa than in other emerging markets. Sub-Saharan African stock exchanges had 720 listed bonds in 2021, signalling a lack of depth in fixed-income markets. For comparison, 65 600 bonds were listed in Asian stock exchanges that year, and 7 300 in Latin America. In 2020 and 2021, public sector entities in sub-Saharan Africa issued more bonds than private sector entities (Figure 14, Panel A). The lack of capital market depth in bond markets is further evidenced by the low number of new bond listings in local stock exchanges, which totalled 119 in sub-Saharan Africa and 101 in North Africa in 2021. In the same year, new bond listings in stock exchanges exceeded 10 000 in Asia and reached almost 1 000 in Latin America.

Figure 14. Local bond market characteristics



Source: World Federation of Exchanges (2023) and authors' calculations.
Note: A company is considered foreign when incorporated somewhere other than the exchange location and listed on another exchange in addition to the reporting exchange.

Despite lower market depth relative to other developing regions, the total value of bond trading in sub-Saharan stock exchanges is increasing (Figure 14, Panel B). According to the World Federation of Exchanges (2023), the value of bond trading in sub-Saharan stock exchanges was twice as high in 2021 as in 2020, reaching $35.9 billion or 1.9% of GDP, compared to $34.6 billion or 5.7% of GDP in North Africa. Therefore, as seen in the hard currency bond markets, these regional markets are similar in size. However, the total value of bond trading in sub-Saharan Africa was significantly lower than in other emerging markets such as Asia ($7.1 trillion) and Latin America ($0.7 trillion). Given the low market capitalisation in sub-Saharan Africa, a small number of fixed-income trades can cause instability in the market. Public sector bonds account for most market trading in sub-Saharan Africa, representing an even higher share of traded bonds than of outstanding bonds.

Improving bond market depth in sub-Saharan Africa

Improving the institutional setting could ameliorate the investment environment and make securities issued in sub-Sahara more enticing for international investors. Structural reforms aimed at enhancing contract viability and easing profit repatriation could strengthen bond market development in sub-Saharan Africa (Soumaré et al., 2021). Similarly, minimising delays in bond coupon payments and improving law enforcement could further strengthen the safety of the investment environment.

International literature suggests that the small size of financial intermediation in sub-Saharan Africa is a key impediment to bond market development (Adelagan and Radzewicz-Bak, 2009). To overcome this size constraint, it is necessary to take a regional approach to bond market development. Emerging economies in Asia and Latin America have experienced significant gains in liquidity and market efficiency by regionalising their capital markets, and smaller economies have gained market access through regional capital markets. There are several initiatives to create regional stock exchanges in sub-Saharan Africa, such as the regional stock exchange of the West African Economic and Monetary Union region, the Bourse Régionale des Valeurs Mobilières de l'Afrique de l'Ouest, where stocks and bonds issued by public and private entities domiciled in the eight member countries are issued and traded. The Bourse Régionale des Valeurs Mobilières is further supported by the regional bond market development agency UMOA-Titres, established in 2013 by the central bank of the West African Economic and Monetary Union. Its aim is to help the union's members raise funds through bonds and treasury bills using domestic capital markets. A similar initiative is the regional stock exchange of the Central African Economic and Monetary Community, the Bourse des Valeurs Mobilières de l'Afrique Centrale, and its merger with the Douala Stock Exchange. The Douala Stock Exchange is expected to be instrumental in creating economies of scale and scope to increase the size, depth and liquidity of capital markets. In East Africa, the Dar es Salaam Stock Exchange, the Rwanda Stock Exchange and the Uganda Securities Exchange have connected their trading systems and linked with the East African Community Capital Markets Infrastructure platform (Soumaré et al., 2021).

Sub-Saharan African markets for public and corporate bonds are dominated by limited, relatively undiversified debt securities, further entrenching and restraining bond investors' demand. This shortcoming could be circumvented by increasing and diversifying bond instruments, including through issuance of green bonds by public or corporate entities. The issuance of environmental, social and governance bonds increased substantially to almost $5.1 billion in 2021, up from $1.2 billion half a decade before, attesting to growing demand for the asset class. Nevertheless, its share of the world total of environmental, social and governance bonds issued is still very small (0.3%, compared to Europe's 37.8% share), despite the significant exposure of sub-Saharan Africa to climate change (EIB, 2022). Notably, eight of the ten countries most affected by climate change globally are in sub-Saharan Africa. All ten face losing over 70% of GDP by 2100 under the current climate policy trajectory. Even if the world's warming climate remains below the 1.5°C target, a 40% drop in GDP is still forecast (Riahi, K et al., 2017; Andrijevic and Ware, 2021).[6] The required investment in climate change mitigation and adaptation could be financed through issuance of green debt instruments. In some sub-Saharan countries, such as Nigeria, Kenya and South Africa, governments have already tried to enhance the legal and regulatory framework for green bond issuances (Tyson, 2021a).

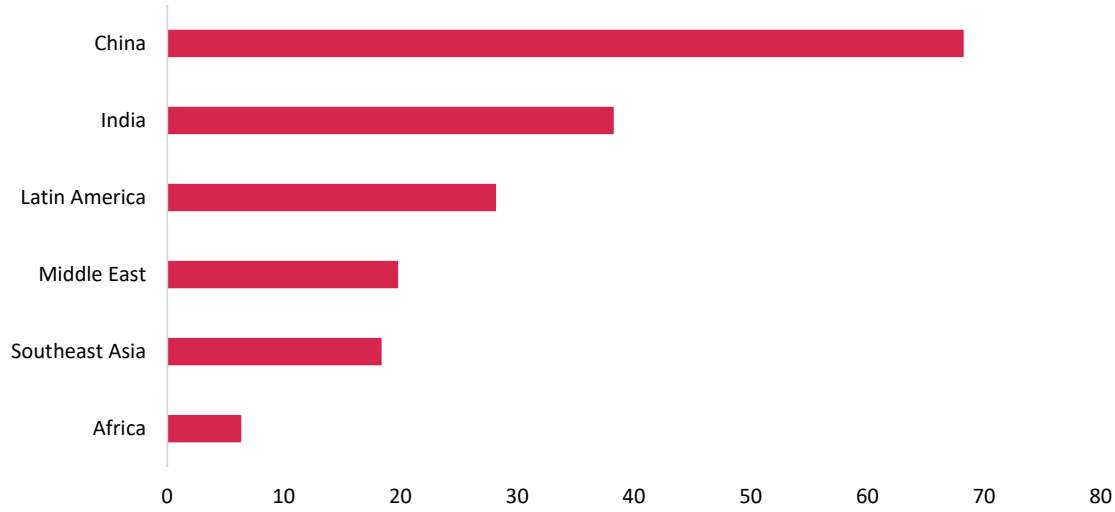
Market efficiency, financial integration and participation in African bond markets could all improve through automated trading, clearing and settlement systems. Several stock exchanges where local currency bonds are issued and traded (such as Botswana, Ghana, Kenya, Nigeria and South Africa) have introduced automated trading systems (Tyson, 2021b). These systems could be further enhanced by including end-to-end processing of trading, clearance and settlement. Market infrastructure could be improved by shortening the listing process and making it more cost efficient, as well as simplifying the administrative procedures and reducing the transaction costs involved (IMF, 2021). Technical assistance from international donors and international financial institutions could help public and private sector entities to issue marketable debt securities for the first time.

[6] Future GDP growth in climate change scenarios is compared to the baseline scenarios in Shared Socioeconomic Pathways, a socioeconomic scenario framework.

Private capital in Africa

Global private capital fundraising and investment remained solid in emerging markets and developing economies in 2022, despite a sharp tightening in global financial conditions. The final section of this chapter considers recent trends in private capital in Africa, an area where the EIB is an active investor. The pandemic's impact on private capital markets mainly manifested through a pause in fundraising growth in 2020 while investment continued to grow. Financial market conditions were favourable globally in 2021, which led to emerging market and developing economy fundraising ($117 billion) and investment ($267 billion) rising sharply compared to 2020 (+34% and +56%, respectively) and reaching record levels. As market conditions deteriorated in 2022, fundraising dropped by 13% to $103 billion and investment fell by 22% to $208 billion. Nonetheless, these totals are the second highest on record (after 2021), meaning that private capital markets remained resilient. The African continent, however, remains a small player in global private capital markets, with African private capital investment accounting for only 3% of the global total in 2022 (Figure 15).

Figure 15. Private capital investment in emerging markets and developing economies by region in 2022 ($ bn)



Source: Global Private Capital Association (2023) *(formerly Emerging Market Private Equity Association). Data as of 31 December 2022.*

The impact of increased global risk aversion on private capital fundraising has been more severe on the African continent than on other regions. Fundraising first took a hit during 2020, falling to $2.4 billion from $3.5 billion in 2019 as travel restrictions inhibited due diligence, especially for new fund managers (Figure 16). Fundraising activity then rebounded strongly in 2021, with $3.3 billion raised, which was a good outturn in historical terms. However, fundraising fell by 35% in 2022 to $2.1 billion — the lowest total for Africa since 2013. This situation mirrors that in other financial markets, with riskier credits facing tougher financial conditions. It also highlights the need for multinational development banks to continue supporting the African banking industry.

Despite difficult fundraising conditions, private capital investment in Africa remained buoyant in 2022. As the pandemic abated in 2021 and financial conditions improved, there was a 65% increase in private investment compared to the 2020 level, reaching a record $6.5 billion (Figure 17). This surpassed the previous high observed in 2014/2015 when the continent was benefiting from elevated commodity prices and a sustained period of robust growth rates. In 2022, private investment fell by only 3% to $6.3 billion, remaining close to the all-time high set in 2021, as appetite for deals remained strong. In this sense, dynamics in the fundraising and investment markets were unusually divergent. Resilience in investment volumes is at least partly explained by a continued appetite for fintech deals in Africa (see below for more details on sector trends). However, unless the flow of funding for new deals improves, this will eventually be reflected in the investment numbers.

Figure 16. African capital fundraising ($ bn)

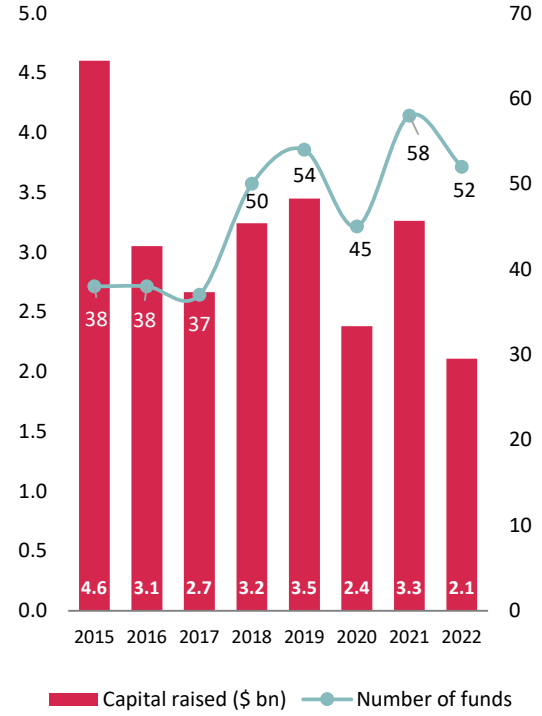
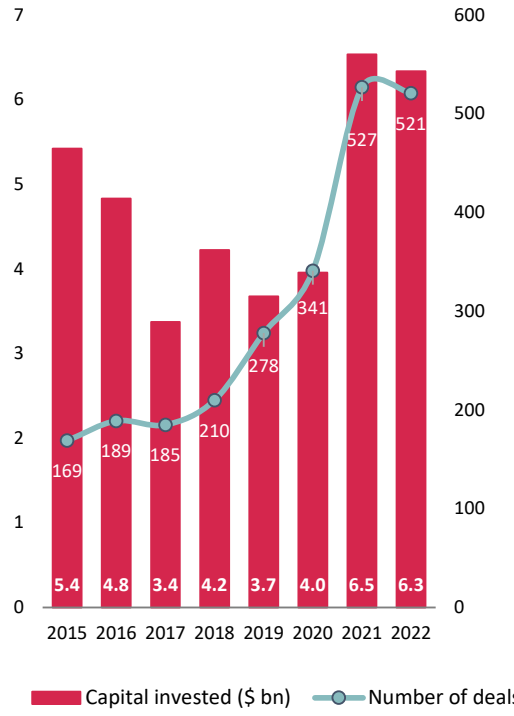


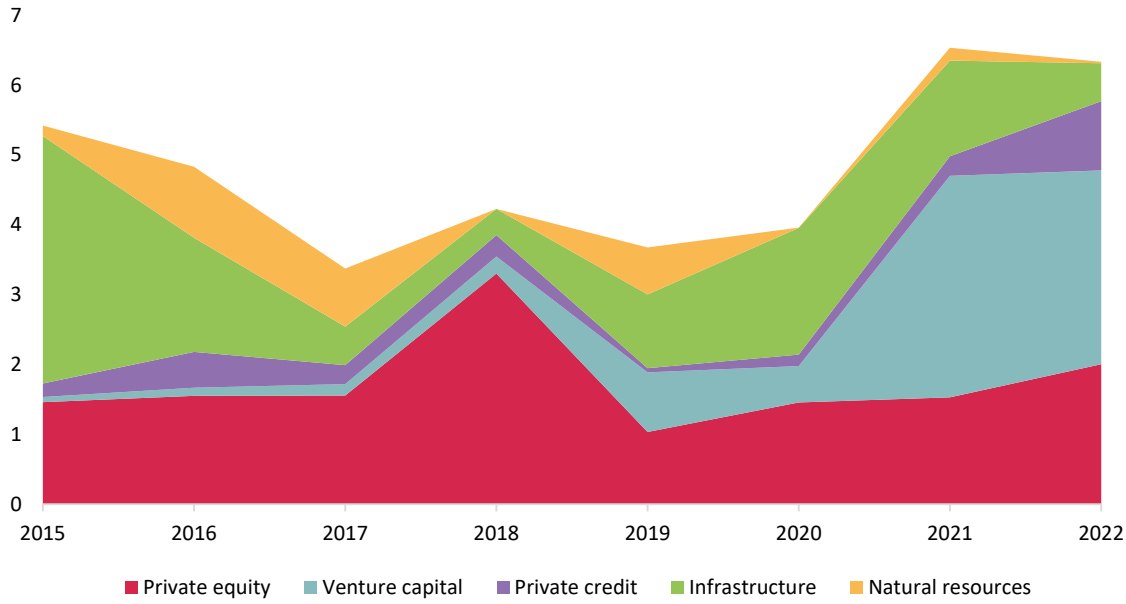
Figure 17. African capital investment ($ bn)



Source: Global Private Capital Association. Data as of 31 December 2022.

Venture capital still accounts for the largest share of private capital investment in Africa, following a surge in activity in 2021 (Figure 18). However, the level of venture capital investment fell by 13% to $2.8 billion, while private equity investment increased by 30% to reach $2.0 billion. Traditionally, private credit accounts for a very small segment of the market for private investment in Africa, typically amounting to less than 5%. In 2022, however, the private credit market increased from $280 million to $993 million, accounting for 16% of private capital investment. This occurred against the backdrop of an 89% increase in private credit globally in 2022. Although the data do not explain why this sharp increase occurred, it might be linked to the rising interest rate environment, which made this activity more profitable for private capital, and to traditional banks imposing tighter credit standards. In Africa, increased private credit was principally used to finance conventional and renewable energy products. Thus, while the overall level of private investment in Africa changed little in 2022, there were notable changes in its composition.

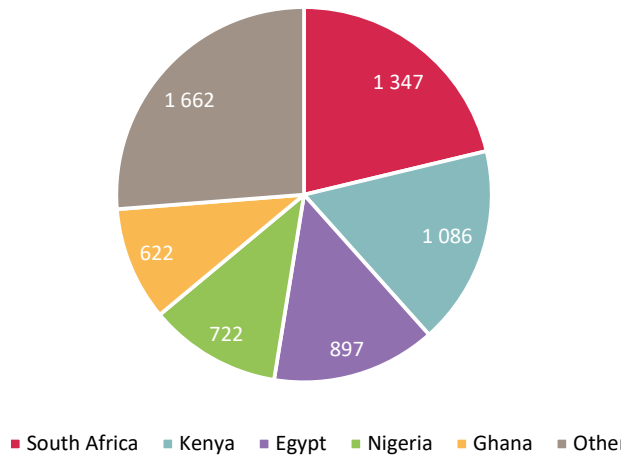
Figure 18. Composition of private capital investment ($ bn)



Source: Global Private Capital Association. Data as of 31 December 2022.

South Africa recorded $1.3 billion in private capital investment in 2022, which was the most for any African country (Figure 19) and an increase from $1.1 billion in 2021. In three of the last four years, South Africa has been Africa's largest market for private capital investment. Kenya was the next largest market in 2022, with $1.1 billion in private capital investment — the largest value ever recorded for Kenya and a sharp increase from $226 million in 2021. Egypt also saw record private investment in 2022, amounting to $897 million, up from $479 million in 2021. A notable exception was Nigeria, which had temporarily held the top spot in 2021 with $1.2 billion in private investment thanks to a surge in fintech-related venture capital activity. In 2022, private capital investment in Nigeria fell to $722 million. These four markets accounted for nearly two-thirds of all private capital investment across Africa in 2022, demonstrating that such activity remains highly concentrated in a small number of key markets.

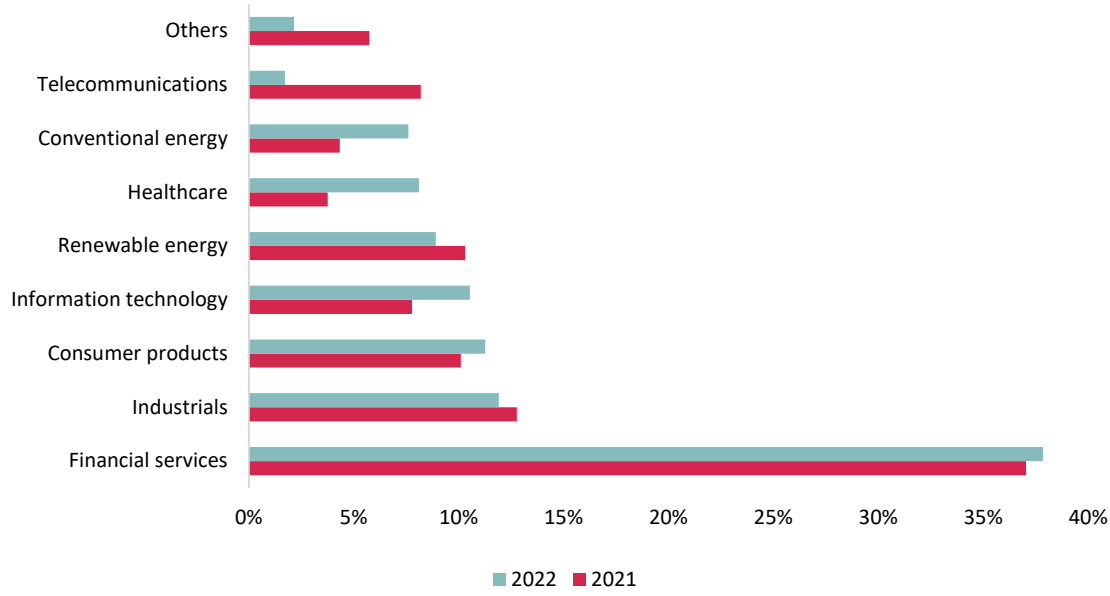
Figure 19. Private capital investment by country in 2022 ($ m)



Source: Global Private Capital Association. Data as of 31 December 2022.

The financial services sector attracts the greatest share of private capital, accounting for almost 40% of investment in 2022 (Figure 20). This reflects the close link between the fintech industry and venture capital. Broadly speaking, the largest sectors' industry shares were relatively stable between 2021 and 2022, with industrials and consumer products again among the next most attractive sectors for private finance. Information technology, which typically attracted less than 3% of private capital before the pandemic, accounted for just over 10% of investment in 2022. The impact of the war in Ukraine might be reflected in the increased share of conventional energy, which rose to 8% in 2022 from 4% in 2021. This represents the sector's largest market share since 2017, having fallen out of favour before the war. Nonetheless, it was still outstripped by the 9% share of renewable energy, which has surpassed the market share of conventional energy every year since 2018.

Figure 20. Private capital investment by sector (share of total)



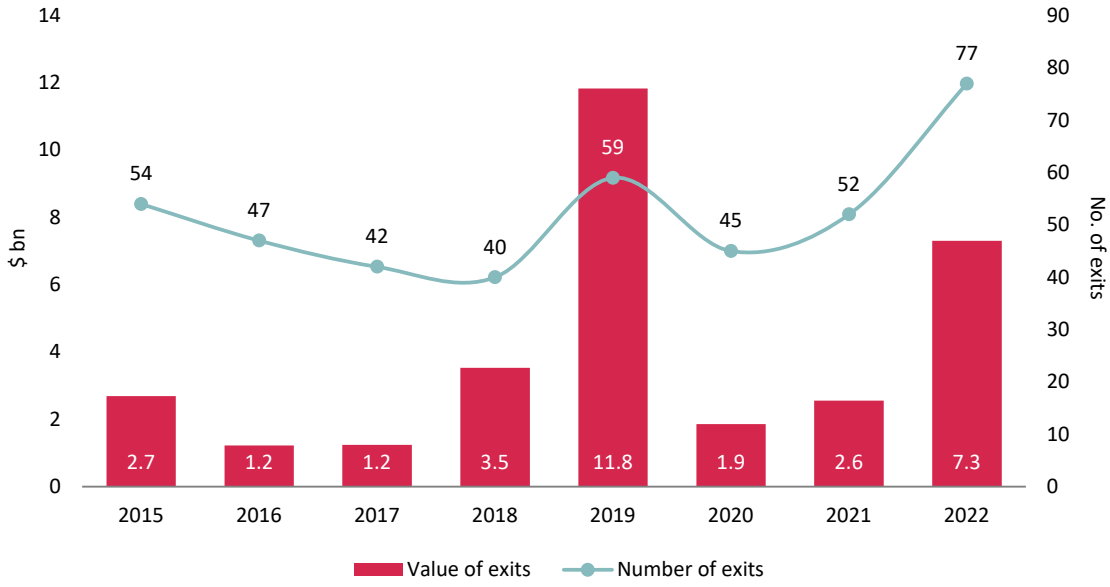
Source: Global Private Capital Association. Data as of 31 December 2022.

A lack of exit opportunities is a long-running problem for private investors in Africa. The most common exit methods for private equity firms include selling their stake to another player in the target firm's industry (strategic sale), to another private equity firm (secondary sale), to the firm's management (buyout) or on public markets. The small size of Africa's public equity markets limits the value of public exits relative to other regions.[7] Nonetheless, exit activity in 2021 (by value) was spread across secondary sales (33%), strategic sales (31%), public sales (21%) and buybacks (12%).[8]

Exit values in Africa increased sharply in 2022 (Figure 21). The number of deals increased to 77 in 2022 from 52 in 2021, while deal value almost tripled from $2.6 billion to $7.3 billion. Exit value in 2022 was the second largest on record after 2019. Exit type was also heavily skewed towards strategic sales (81% of value), with secondary sales (11%), public sales (6%) and buybacks (1%) lagging well behind. Strong exit activity in 2022 included some large individual deals, such as Helios Investment Partners' sale of its stake in Vivo Energy to Vitol, a global energy and commodities trader, for $2.3 billion. This was the largest exit of an African company in 2022 and the fifth largest across emerging markets. Among the notable public exits was the listing of healthcare services provider Akdital on the Casablanca Stock Exchange by Mediterrania Capital, raising an initial MAD 1.2 billion (approximately $114 million).

[7] Please see EIB (2021) for more details on African private equity markets.
[8] The totals do not add up to 100% because not every exit method is known.

Figure 21. Private capital exits in Africa — number and value



Source: Global Private Capital Association. Data as of 31 December 2022.

Multilateral development banks, like the EIB, continue to play an important role in African private capital markets. The data on investment flows show that investors still have an appetite for investing in Africa, but African markets are smaller than those in other developing regions, making fundraising more challenging. Investment in private funds by multilateral development banks can help crowd in private investors. The private equity and venture capital markets provide important complements to debt financing, which is the dominant form of financing in Africa. However, in the credit/debt markets, banking sector depth is shallow in Africa compared to other developing regions, and as this chapter has shown, bond markets are dominated by sovereign bonds. *Finance in Africa 2022* (EIB, 2022) also demonstrated the small size of public equity markets in Africa. Developing private capital markets in Africa therefore remains an important element of the efforts to increase the availability of finance for the private sector.

References

Adelagan, O. J. and Radzewicz-Bak, B. (2009). "What determines bond market development in sub-Saharan Africa?" IMF Working Paper No. 2009/213.

Andrijevic, M. and Ware, J. (2021). "Lost and damaged: A study of the economic impact of climate change on vulnerable economies." Christian Aid. Available at: https://reliefweb.int/sites/reliefweb.int/files/resources/Lost_and_Damaged_-_A_study_of_the_economic_impact_of_climate_change_on_vulnerable_countries.pdf.

Asonuma, T., Bakhache, S. and Hesse, H. (2015). "Is banks' home bias good or bad for public debt sustainability?" IMF Working Paper No. 2015/44.

Bank for International Settlements (2023), International Debt Securities Database. Available at: https://www.bis.org/statistics/full_data_sets.htm.

Dinarte-Diaz, L., Juame, D. and Medina-Cortina, E. (2022). "Did remittances really increase during the pandemic?" World Bank blog. Available at: https://blogs.worldbank.org/developmenttalk/did-remittances-really-increase-during-pandemic.

EIB (2021). "Finance in Africa 2021: For green, smart and inclusive private sector development." Available at: https://www.eib.org/attachments/publications/economic_report_finance_in_africa_2021_en.pdf.

EIB (2022). "Finance in Africa 2022: Navigating the financial landscape in turbulent times." Available at: https://www.eib.org/attachments/lucalli/finance_in_africa_2022_en.pdf.

Global Private Capital Association (2023), GPC Analytics Database. Available at: https://www.globalprivatecapital.org/gpc-analytics/.

Institute for International Finance (2023), Portfolio flows data. Available at: https://www.iif.com/Research/Download-Data#PortFlows (subscription required).

International Monetary Fund (IMF) (2021). "Guidance note for developing government local currency bond markets." Analytical Notes No. 2021/001. Washington, DC: International Monetary Fund.

International Monetary Fund (IMF) (2023). "Regional economic outlook. Sub-Saharan Africa: The big funding squeeze." Washington, DC: International Monetary Fund.

KNOMAD/World Bank (2021). *Remittances. Bilateral remittance matrix*. Global Knowledge Partnership on Migration and Development. Available at: www.knomad.org/data/remittances

Lane, P. R. and Milesi-Ferretti, G. M. (2018). "The External Wealth of Nations Revisited: International Financial Integration in the Aftermath of the Global Financial Crisis." *IMF Economic Review,* Volume 66, pp. 189-222. Available at: https://www.brookings.edu/articles/the-external-wealth-of-nations-database/#:~:text=The%20EWN%20provides%20estimates%20of,and%20its%20total%20external%20liabilities.

Riahi, K., Van Vuuren, D. P., Kriegler, E., Edmonds, J., O'Neill, B. C., Fujimori, S., Bauer, N., Calvin, K., Dellink, R., Fricko, O., Lutz, W., Popp, A., Crespo Cuaresma, J., KC, S., Leimbach, M., Jiang, L., Kram, T., Rao, S., Emmerling, J., Ebi, K. and Tavoni, M. (2017). "The shared socioeconomic pathways and their energy, land use, and greenhouse gas emissions implications: An overview." *Global Environmental Change*, Volume 42, pp. 153-168.

Soumaré, I., Kanga, D., Tyson, J. and Raga, S. (2021). "Capital market development in sub-Saharan Africa: Progress challenges and innovations." Working Paper 2. London: Overseas Development Institute.

Tyson, J. (2021a). “Green bonds in sub-Saharan Africa.” Joint FSD Africa and ODI Briefing Paper. London: Overseas Development Institute.

Tyson, J. (2021b). “Capital market development in sub-Saharan Africa.” Policy Brief 2. London: Overseas Development Institute.

World Bank (2019). “Global economic prospects, January 2019: Darkening Skies.” Washington, DC: World Bank.

World Bank (2022). “International debt report 2022.” Washington, DC: World Bank.

World Federation of Exchanges (2023), Statistics Portal. Available at: https://www.world-exchanges.org/.

3

The banking sector in sub-Saharan Africa

This chapter was authored by Colin Bermingham, senior economist, and Valerio Castaldo, trainee at the time of writing, at the European Investment Bank. The author would like to thank Barbara Marchitto, Debora Revoltella and Ricardo Santos for comments on earlier versions.

Key messages

Banking systems globally have come under increased scrutiny in 2023 following problems with regional banks in the United States and the forced takeover of Credit Suisse in Europe. The problems in US banks are rooted in large holdings of government securities linked to an accumulation of excess deposits. The situation in the sub-Saharan African banking system differs from that of the United States in some key ways. Deposit growth during the COVID-19 pandemic period did not accelerate in sub-Saharan Africa as it did in some advanced economies, and loan-to-deposit ratios remained stable. However, African banking systems often have large concentrations of government securities on their balance sheets. Moreover, the largest concentrations of sovereign debt on bank balance sheets are often found in the least creditworthy countries. This creates vulnerability to further deterioration in global risk sentiment.

The European Investment Bank (EIB) developed the banking industry risk model in 2013 to assess the riskiness of national banking sectors across countries. The model finds that Africa, in particular sub-Saharan Africa, is the region with the riskiest domestic banking sectors, followed by Latin America and the Caribbean. African banking systems tend to suffer from higher non-performing loan ratios and high credit growth, which can put risk management under pressure. The pandemic and the war in Ukraine also increased banking risk to the greatest extent in countries with the weakest economic fundamentals pre-pandemic.

The 2023 EIB Banking in Africa survey reveals a mixture of new and existing issues concerning banks. Worries about asset quality persist, with 47% of banks listing this as one of their main issues, although there are signs that asset quality is improving. Concerns about local currency funding costs emerged as an issue in 2022 following the onset of the war in Ukraine. These concerns have persisted in 2023, cited by 56% of banks, despite bank profits benefitting from higher net interest margins. However, the dominant concern in 2023 is the cost or availability of foreign currency funding, with banks finding it both more difficult and more expensive to issue hard currency bonds, mirroring problems facing sovereigns.

Four out of five banks report that changes in net interest margins are driving higher profits. In this sense, bank profits appear to be benefiting from higher interest rates. Banks remain cautious, however. Credit standards tightened for a third consecutive year in 2022, and a more severe tightening is envisaged over the course of 2023. In 2022, 23% of banks surveyed eased credit standards while 36% tightened them, leading to a net tightening of 13%. However, in 2023, only 14% of banks expect to ease credit standards while 45% expect to tighten them, resulting in an expected net tightening of 31% of banks.

Half of the banks surveyed wish to grow their lending operations at a faster pace in the next 12 months. However, funding could be a constraint for banks wishing to expand their operations, particularly as bond market conditions have become less favourable. Structural factors also hinder loan supply, with small and medium-sized enterprises being particularly disadvantaged. In line with previous versions of the survey, a lack of acceptable collateral and poor credit history are the biggest problems in obtaining credit for small and medium-sized businesses.

Digital services are now a core offering by banks, with only a small share of institutions providing no digital services. Banks are pursuing several strategies to accelerate their digitalisation process. Investment is a key part of this, with more than 90% of banks seeking to invest both in digital infrastructure and in building their employees' digital skills. However, confirming the fundamental and transformative impact of digitalisation in the sector, 90% of banks are also changing their organisational structure to better suit the delivery of digital services. Moreover, two-thirds of banks are either cooperating with, partnering with or investing in fintech.

Recent developments

Banking systems globally have come under increased scrutiny in 2023 following problems with regional banks in the United States and the forced takeover of Credit Suisse in Europe. The problems in US banks have been linked to large holdings of government securities. For example, at Silicon Valley Bank, deposit flight forced the liquidation of hold-to-maturity assets, creating losses for the bank. This led to concerns that other regions around the world could face similar problems or suffer from negative spillovers.

In sub-Saharan Africa, problems could potentially emerge, but it is unlikely that they would manifest in the same way as those in the United States. The situation in the United States could be attributed partly to the swift accumulation of deposits during the pandemic period, as some consumers increased their savings because they spent less. The banks channelled these funds into government securities, with the intention of holding them to maturity. But, for example in the case of Silicon Valley Bank, clients in the tech sector faced more difficult financing conditions, with less access to cash from venture capital and other sources, forcing them to withdraw their deposits. As this process accelerated, the bank started to liquidate assets at a loss.

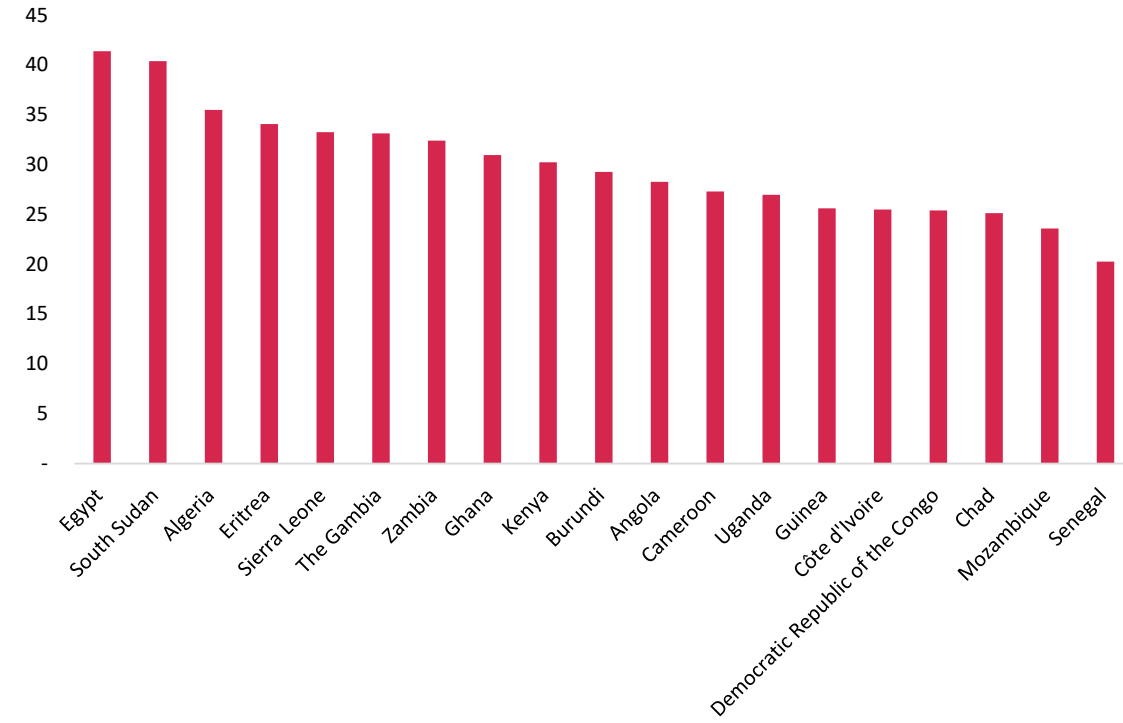
The situation in the sub-Saharan African banking system differs in some key ways, particularly on the liability side of the balance sheet. Deposit growth during the pandemic period did not accelerate in sub-Saharan Africa in the same way that it did in some advanced economies.[1] Wealth levels and saving rates are lower in sub-Saharan Africa, which means that credit depth is typically much lower than it is in more mature banking systems. Accordingly, excess savings were less pronounced. Moreover, nominal growth is typically high in sub-Saharan Africa, as inflation rates are high. While loan-to-deposit ratios might be stable, this often masks brisk growth in both loans and deposits, and banks tend to be used to managing rapid balance sheet growth. Indeed, there is little evidence that loan-to-deposit rates shifted higher after the pandemic, meaning that banks' lending opportunities continued to match their deposit funding consistently. Moreover, high loan-to-deposit ratios above 100% are rare in African countries. Finally, deposits tend to be well diversified, with relatively small concentrations among large institutional investors or industry groups, meaning they are less prone to flight because of the changing preferences of a concentrated group of holders. However, South Africa is a notable exception to this rule.

Similarities to the US situation are more noticeable on the asset side of the balance sheet, however. African banking systems often have large concentrations of government securities on their balance sheet for a variety of reasons. The interest rates offered on government securities and the low regulatory capital risk weights can make lending to government more attractive for banks than lending to firms. Banks may also be cautious about lending to firms given the impact of the pandemic and the war in Ukraine on firms' balance sheets, as detailed later in this chapter. Yet even here there are differences. Firstly, the tenor of the government securities held by sub-Saharan African banks tends to be shorter, as sovereign issuers are not always able to issue at longer maturities, which mitigates the sensitivity of bond valuations to changes in interest rates. Secondly, and more fundamentally, while the situation in the United States related to an untimely liquidation of assets that were theoretically safe and sound, the problem in sub-Saharan Africa is that the sovereign paper held by banks is of much lower credit quality. In this sense, banks are holding large quantities of assets that could drop in value because of solvency concerns. Ghana provides a recent example of this.

In sub-Saharan Africa, the largest concentrations of sovereign debt on bank balance sheets are often in the least creditworthy countries. Figure 1 shows that there are 19 countries where sovereign debt comprises more than 20% of a banking system's assets, and for many of these countries, the sovereign is either "C" rated or classified as either at a high risk of debt distress or in debt distress.[2] Although the feared spillover of problems in the US banking system to other regions has not yet materialised, the banking systems with the largest holdings of risky sovereign paper are among the most vulnerable to a further souring of global risk appetite.

[1] This is relative to previous trends in deposit growth in sub-Saharan Africa, which would be higher than other regions to begin with.
[2] Please refer to Chapter 1 for more details on the bank/sovereign nexus in Africa.

Figure 1. Bank claims to the central government divided by bank assets (%)



Source: International Monetary Fund (IMF) international financial statistics and EIB staff calculations.

Banking sector risk in Africa

The broader question is how the riskiness of the African banking sector compares to that of other regions. The European Investment Bank developed the banking industry risk model in 2013 to assess the riskiness of national banking sectors across countries.[3] The model helps to portray the relative riskiness of banking sectors by region, too. There are ten variables in the model, and its results assign countries to one of four different risk categories: low, medium, medium-high and high risk.

The ten variables in the banking industry risk model are grouped according to four themes or blocks: regulatory and institutional environment, industry structure, performance and soundness, and economic cycle (Table 1). The sovereign risk variable is the key variable in the regulatory and institutional environment block, as it conceivably captures a range of factors relevant to the banking industry risk, such as wealth levels, institutional quality and the ability of the sovereign to backstop the banking industry in times of stress. In the industry structure block, higher levels of private ownership in the banking sector are associated with better risk management practices, while higher levels of banking sector concentration could be associated with ineffective competition and inefficiency, albeit with potentially higher profits.

The performance and soundness block of variables includes indicators of liquidity, profitability, credit growth and asset quality. These indicators come directly from bank balance sheets and are measured on a system-wide level. Asset quality is captured by the ratio of non-performing loans to total loans and is a measure of the risk on bank balance sheets. Credit growth also aims to capture credit risk, since when credit grows rapidly, it may be more difficult for banks to ensure adequate risk control, and it may also signal that a credit bubble is emerging in the economy. This would increase future non-performing loans. Profitability is captured by the return on

[3] Cali et al. (2013).

assets, which is measured as net income over assets. While capital adequacy ratios are not included in the model because their coefficients are often estimated with the wrong sign in this type of model, high levels of profitability allow banks to build greater capital buffers. Liquidity is captured using both loans over assets and the loan-to-deposit ratio. In the final block of the model, the economic cycle is captured with the unemployment rate. Again, this could be a leading indicator of problems with asset quality. Growth in gross domestic product (GDP) is not used for this purpose because there is likely to be more correlation between GDP growth and the sovereign rating.

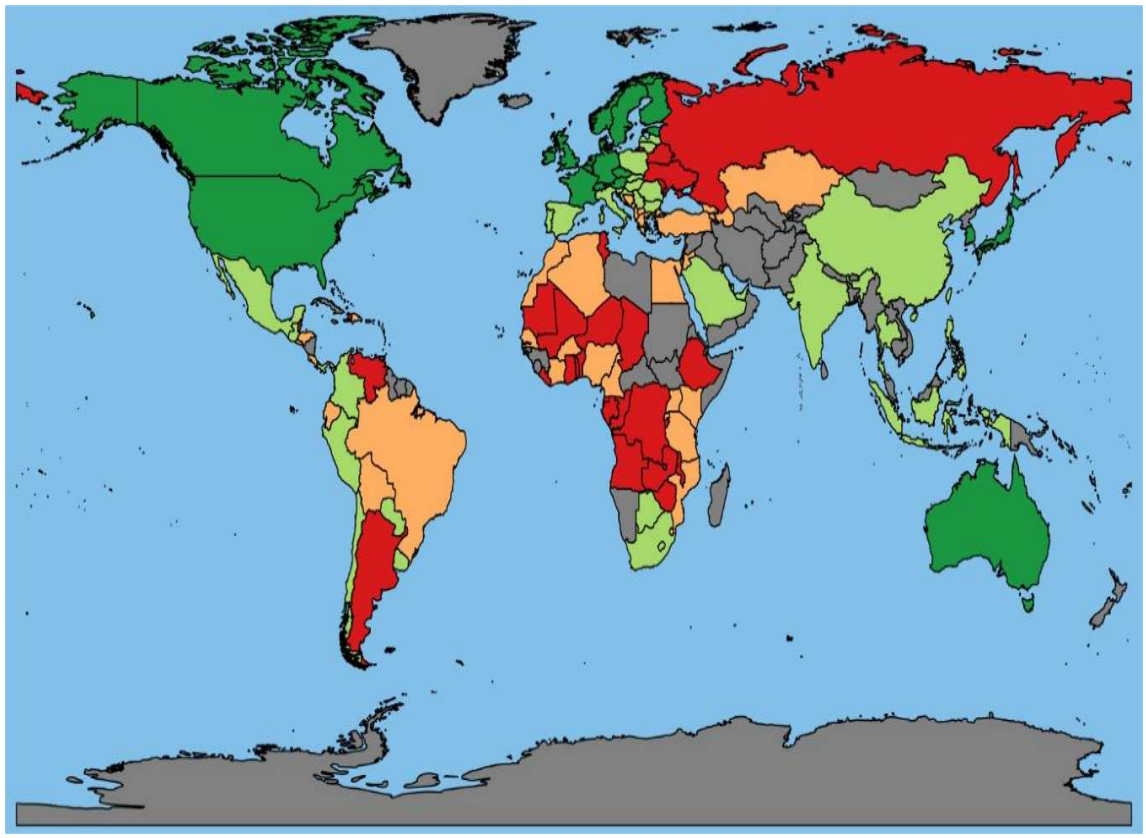
Table 1. Variables in the EIB banking industry risk model

Regulatory and institutional environment	• Financial Action Task Force dummy variable • Sovereign risk rating
Industry structure	• Bank ownership (share of banks in private hands) • Bank concentration (asset share of three largest banks)
Performance and soundness	• Non-performing loan ratio (% of total loans) • Return on assets (net income over total assets) • Change in credit to private sector, annual growth • Loans over assets • Loan-to-deposit ratio
Economic cycle	• Unemployment rate

Source: European Investment Bank.

The model finds that Africa, and particularly sub-Saharan Africa, is the region with the riskiest domestic banking sectors, followed by Latin America and the Caribbean. As mentioned, the model has four different risk levels — low, medium, medium-high and high — which are colour coded from green to red on the map in Figure 2. While Africa and South America have the highest risk scores, banking systems in developing Asia are considered relatively low risk, although the country coverage is lower than other regions. The variable with the largest impact in the model is the sovereign risk rating. In this sense, the poor performance of countries in sub-Saharan Africa is partly a reflection of low sovereign creditworthiness in the region. Credit rating agencies have rated almost all countries in sub-Saharan Africa as below investment grade.

Figure 2. EIB banking industry risk classification by country, December 2022



Source: European Investment Bank.
Note: Dark green = low risk; green = medium risk; orange = medium-high risk; red = high risk; grey = no data.

In some areas of banking risk, such as liquidity and profitability, Africa performs better than other regions. Some countries in other regions have high liquidity ratios, indicating stretched liquidity. This is the case both in developed countries (such as Norway, Sweden, Iceland and Canada) and emerging ones (such as Colombia, Panama, Paraguay and Chile). The shallow nature of many African banking sectors leads to lower liquidity ratios, as loan-to-deposit ratios and loan-to-asset ratios are frequently lower in Africa than they are in other regions. For the countries covered by the EIB model, the loan-to-deposit ratio is 68% in Africa (Table 2) compared to 84% in Latin America and the Caribbean, 92% in advanced economies and 100% in Eastern Europe and Central Asia. Similarly, profitability measures in Africa, such as return on assets, are boosted by higher interest rates, which in turn leads to higher interest margins. Africa and Eastern Europe and Central Asia report the highest profitability, while advanced economies — which have been dealing with structurally lower interest rates and weaker credit growth — have reported weaker profitability.

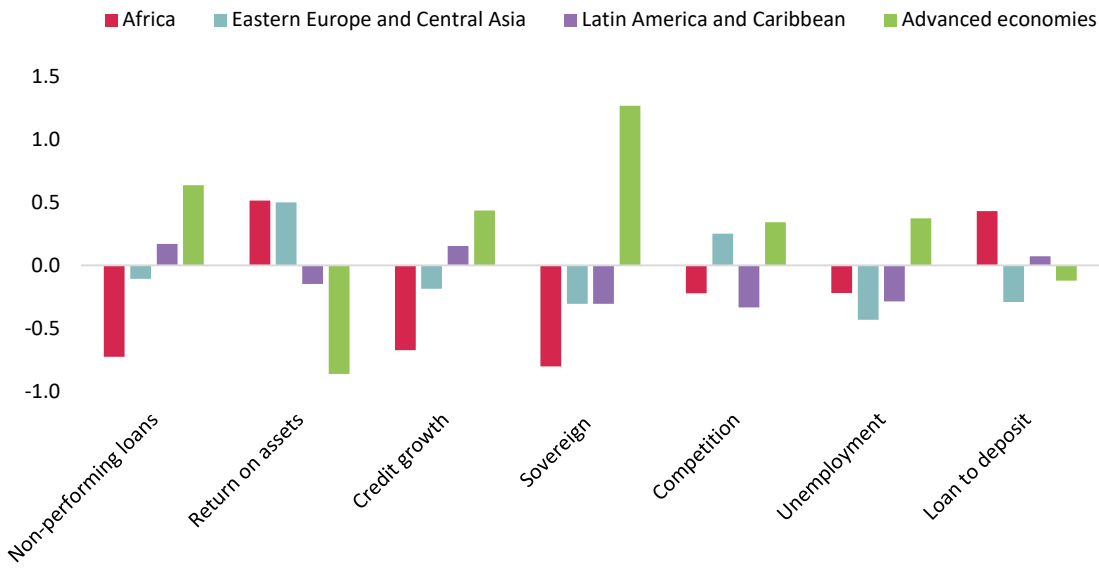
Table 2. Average values for selected variables in the EIB banking industry risk model by region

	Number of countries	Non-performing loan ratio (%)	Return on assets (%)	Credit growth (%)
Africa	50	11.4	1.9	21.0
Eastern Europe and Central Asia	18	7.2	1.9	13.7
Latin America and Caribbean	34	5.4	1.2	8.6
Advanced economies	35	2.2	0.3	4.4
	Competition (%)	**Unemployment rate (%)**	**Loan-to-deposit ratio (%)**	**Rating (0-100)**
Africa	0.7	9.9	67.9	22.8
Eastern Europe and Central Asia	0.6	11.2	99.7	36.7
Latin America and Caribbean	0.7	10.4	83.7	36.7
Advanced economies	0.6	6.4	92.2	80.7

Sources: IMF, World Bank, Bankfocus and national central banks.
Note: Data are the latest available for each indicator. Averages are simple averages and not GDP-weighted. See Table 1 for variable definitions.

Africa's relative performance on various model inputs is shown graphically in Figure 3. For each region, the deviation from the average score across all countries by input variable is calculated and shown in terms of standard deviations from the average, often referred to as a *Z*-score. For example, the figure shows that African performance on non-performing loans is 0.7 standard deviations worse than the sample average for all countries. The variables are rescaled so that a negative deviation in the chart always equates to worse performance, even in the case of variables like non-performing loans where it is preferable to have lower values. The figure clearly demonstrates that non-performing loans, credit growth and sovereign ratings are weaknesses for African banks. The chart also shows that profitability and moderate loan-to-deposit ratios are advantages. In the case of advanced countries, it also conveys the large benefit conferred by a high sovereign rating.

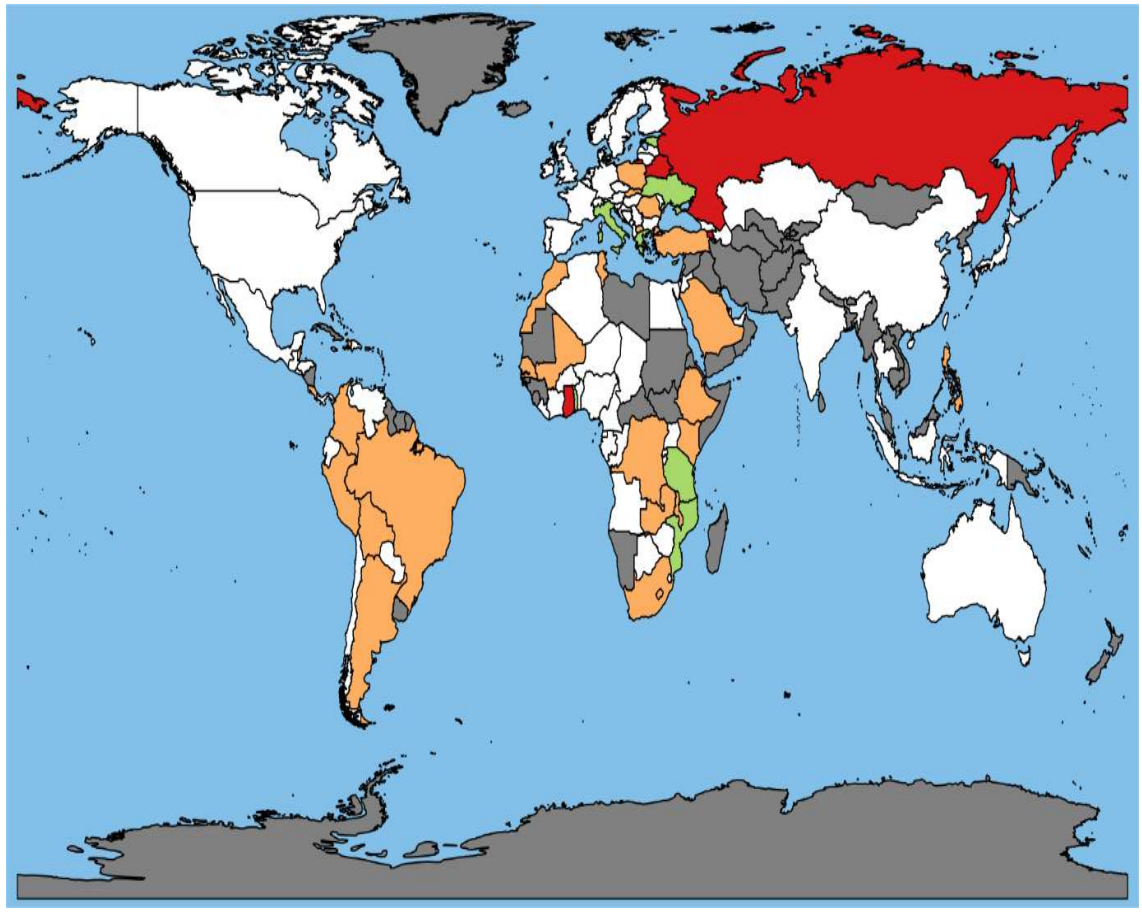
Figure 3. Regional performance on selected economic variables, deviation from average



Sources: IMF, World Bank, Bankfocus and national central banks.
Notes: Data are the latest available for each indicator. Bars show the number of standard deviations from the average score across all countries globally. Variables are rescaled so that a negative value equates to worse performance in the model.

The pandemic and the war in Ukraine also increased banking risk to the greatest extent in countries with the weakest economic fundamentals pre-pandemic. As Figure 4 shows, Latin America and the Caribbean and Africa experienced the largest increases in banking industry risk between December 2019 and December 2022, and these regions already had the riskiest banking sectors. South America was the worst hit, with the largest share of countries experiencing an increase in banking risk scores. Although Africa has a significant number of countries where the banking risk has remained unchanged, this can partly be explained by several of those countries already being in the high-risk category in 2019, meaning that no further deterioration in their risk category was possible. The deterioration in global banking industry risk between 2019 and 2022 can mainly be explained by sovereign rating downgrades. During this period, macroeconomic indicators showed more variability than banking sector indicators, as policymakers in nearly all countries took measures to protect households, firms and banks, including measures of prudential forbearance. Accordingly, banking sector variables have not deteriorated in line with the economy to an extent that would have been normal during previous downturns in the economic cycle.

Figure 4. Changes in EIB banking industry risk classification, December 2022 vs. December 2019



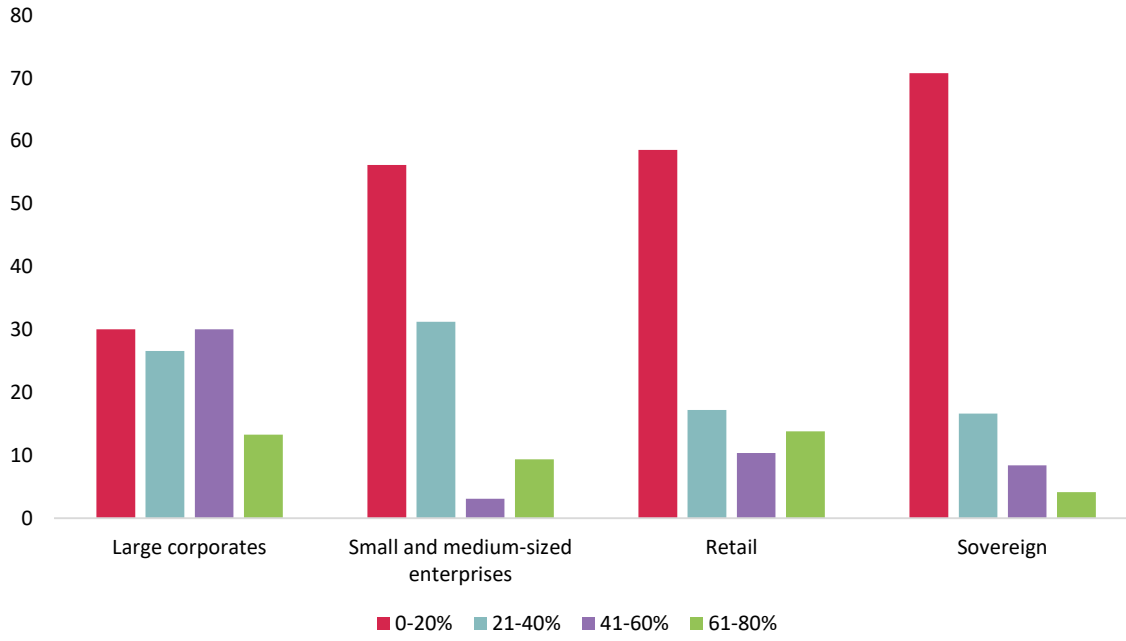
Source: European Investment Bank.
Note: Green = reduced risk; white = no change; orange = increased risk; red = large increase in risk; grey = no data.

Developments from the 2023 EIB Banking in Africa survey

With the support of Making Finance Work for Africa, the European Investment Bank surveyed 33 banks in sub-Saharan Africa in 2023.[4] Although the results of the survey are not fully representative, they provide valuable insights into the financial sector in sub-Saharan Africa, as perceived by its banks. The number of banks in the survey dropped to 33 from 70 in 2022; therefore, caution should be taken when comparing the 2023 results to those of 2022, particularly since new banks make up nearly half of the 2023 sample. The survey was carried out between February and March 2023, when the issues with US banks and Credit Suisse were already known. This chapter will focus on the evolving impact that the pandemic, the war in Ukraine and the tightening of global financial conditions is having on banks. The analysis aims to understand whether banks are well equipped to support the private sector, especially small and medium firms, in an environment that remains challenging. Unlike previous versions of the report, the analysis of banking trends at the regional level for different parts of sub-Saharan Africa is now contained in a separate chapter. However, the final part of this chapter includes a review of the digitalisation of the banking sector based on the survey results.

For the first time, the survey asked banks to reveal the shares of their assets allocated to the sovereign sector, the retail sector, small and medium-sized enterprises and larger corporates.[5] The survey asked banks to indicate these shares as buckets, ranging from 0-20% of assets allocated to a certain sector, up to 61-80% of assets. Figure 5 shows that banks tend to be well diversified across sectors, with the 0-20% bucket (red bars) the most frequently chosen by banks across all asset types. Nonetheless, the banks in the survey show greater exposure to large corporates, with larger shares of banks reporting exposures in the larger buckets, making the distribution much flatter when compared to the other asset types. Chapter 1 showed that crowding out has increased as banks lend more to the public sector at the expense of private sector lending. In the survey, 29% of banks report sovereign exposures above 20% of assets, and one in eight banks has exposures above 40%.

Figure 5. Bank asset allocations (shares of total assets) (% of responding banks)



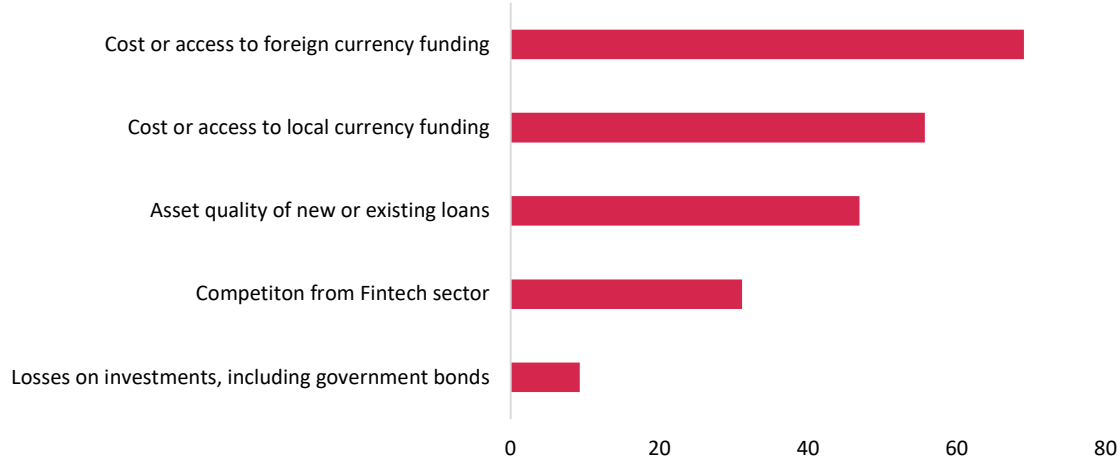
Source: EIB Banking in Africa survey, 2023.

[4] The survey was only carried out in sub-Saharan Africa, but North African banks with a pan-African presence were also included.
[5] The survey asked banks to classify small and medium-sized enterprises according to their own domestic or national definition rather than according to the EIB's definition.

The survey reveals a mixture of new and existing issues concerning banks. Worries about asset quality have been a persistent feature of the survey recently, and 47% of banks list this as one of their main issues (Figure 6). Concerns about local currency funding costs emerged as an issue in 2022 following the onset of the war in Ukraine. This is listed by 56% of banks as a concern in the 2023 survey, compared to 57% of banks surveyed in 2022, despite higher interest rates supporting bank profits over the last year. However, the dominant concern in 2023 is the cost or availability of foreign currency funding. While it is unclear from the survey whether cost or availability is the dominant concern, it seems probable that both factors are at play.

There has been a tightening in global financial conditions, which has affected African countries, as detailed in Chapter 1. There has been virtually no hard currency bond issuance by lower-rated sovereigns, as shown in Chapter 2, and results from the survey reveal that only 4% of banks have issued in hard currency in the last year. Banks' credit ratings are often constrained to make them no higher than the country's sovereign, which means problems in terms of accessing foreign currency are likely to extend from the sovereign to the banking sector. Another factor affecting the cost and availability of foreign currency funding has been the weakness of African currencies against the dollar. While the cost and/or availability of foreign currency might not yet be weighing on profitability, it could be creating a foreign exchange asset/liability mismatch, and this could lead to problems if not rectified.

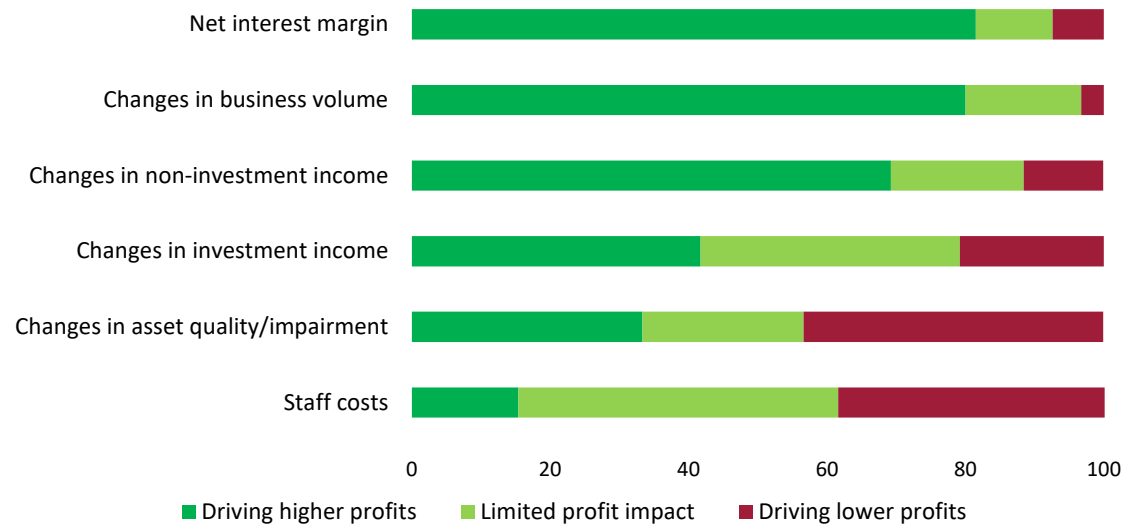
Figure 6. Main factors affecting banking sector in the next 12 months (% of responding banks)



Source: EIB Banking in Africa survey, 2023.
Note: The figure indicates the percentage of responding banks that listed each of the factors as among their top three concerns.

High interest rates have supported net interest margins for banks and are an important driver of higher profitability. The 2023 survey contains a new question to understand which factors are driving profitability for banks in the current turbulent macroeconomic environment. In general, banks report more positive than negative profit drivers (Figure 7). Four out of five banks report that changes in net interest margins are driving higher profits. In this sense, bank profits appear to be benefiting from the higher interest rates. As mentioned earlier, nominal credit growth in Africa is substantially higher than in other regions, and growth in business volumes is again cited by four out of five banks as a profit driver. The third most important driver of greater profitability is changes in non-investment income. In this sense, interest income (captured by changes in margin and volumes) and non-investment income, such as fee income, appear to be supporting profits.

Figure 7. Important profit drivers (% of responding banks)



Source: EIB Banking in Africa survey, 2023.

Changes in investment income, which includes investment returns from holding sovereign bonds, generate a more mixed response from banks. About 40% of banks perceive investment income as improving profits, but 20% see it as a drag on profits. Therefore, despite the rise in sovereign bond yields and the problems that this has caused in other countries, a relatively small share of banks in sub-Saharan Africa have seen their profits affected to date. More than 40% of banks cite changes in asset quality as the largest drag on profits. But the problem is not universal, with one-third of banks seeing their profits improve because of lower provisioning and impairment costs. The impact of asset quality on profits is, therefore, asymmetric, context dependent and likely to be affected by a range of factors, including the performance of the domestic economy and sectoral exposures of the banking system. The final factor driving profits down is staff costs, which nearly 40% of banks cite as an issue, compared to just 15% of banks that say staff costs support profits.

Credit standards tightened for a third consecutive year in 2022, and a more severe tightening is envisaged over the course of 2023 (Figure 8). In 2022, 23% of banks surveyed eased credit standards, while 36% tightened them, leading to a net tightening of 13%. However, for 2023, only 14% of banks expect to ease credit standards while 45% expect to tighten them, meaning that the expected net tightening is 31% of banks, which is significantly higher than it was in 2022. The ongoing impact of asset quality and impairment on profits for a cohort of banks could be one explanation for this. Moreover, as the economic environment continues to be challenging, it seems banks are exercising caution in their underwriting standards. However, there is significant variation at the regional level when it comes to credit standards, with banks in Southern Africa showing less propensity to tighten compared to other regions. Please see Chapter 4 for details on the regional results of the survey.

Figure 8. How credit standards have changed and will change (% of responding banks)

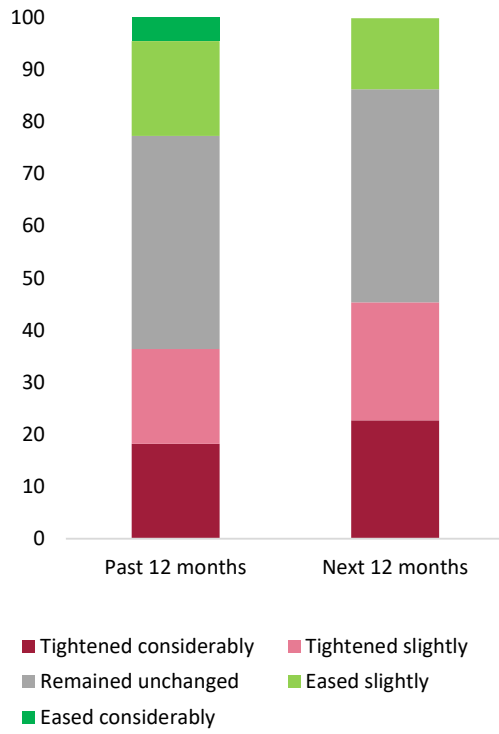
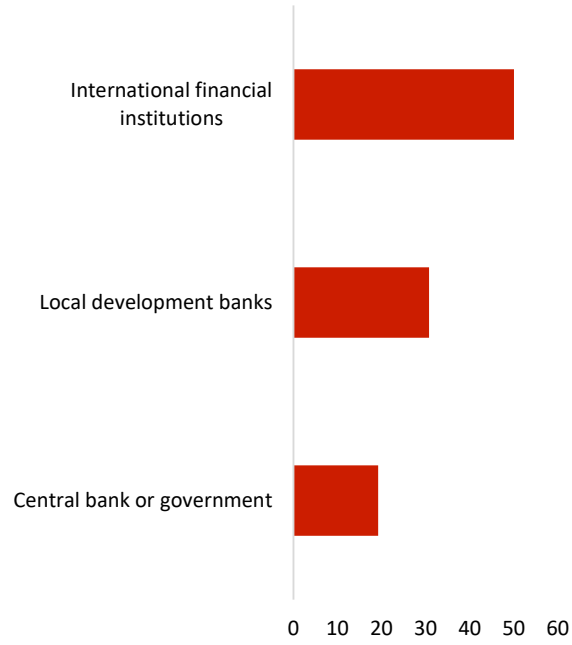


Figure 9. Sources of credit guarantees (% of responding banks)



Source: EIB Banking in Africa survey, 2023.

Banks continue to make frequent use of credit guarantees where possible, given issues surrounding asset quality and credit risk. Almost 80% of banks in the survey report having made use of a credit guarantee over the previous year. However, the sources of these credit guarantees change over time. In the immediate aftermath of the pandemic, the main providers of these guarantees were national central banks or governments, as policymakers sought to support the banking system and local economy through the initial shock. However, now that pandemic-era support measures are winding down, less than one-quarter of banks receiving guarantees list a central bank or government as the source (Figure 9). Instead, the predominant source of guarantees is international financial institutions, which provide guarantees for more than 60% of banks. Local development banks are the next largest provider and are listed by almost 40% of banks. Figure 9 demonstrates that some of the banks that receive guarantees receive them from multiple sources.

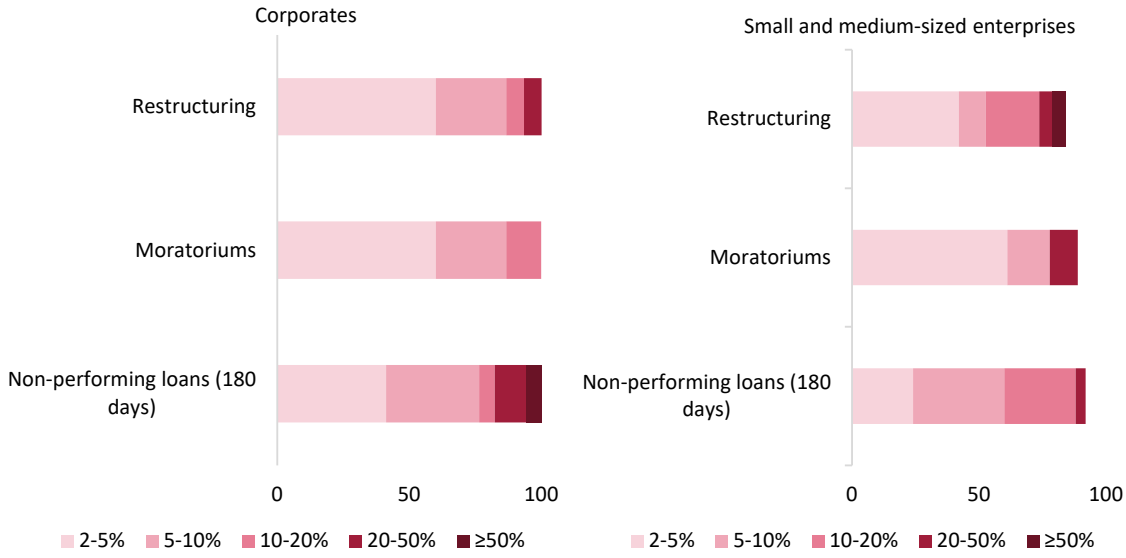
Problem loans remain significant, particularly for loans to small and medium-sized enterprises. For the corporate[6] loan book, the share of banks with a significant share of non-performing loans is 24% (Figure 10), compared to 21% in the 2022 survey, which indicates a broadly stable situation, given the sampling variability.[7] For small and medium-sized enterprises, the share of banks with a significant share of non-performing loans is 32%, compared to 37% in 2022, which exhibits some signs of improvement, although there is still a large gap in asset quality between small and medium-sized enterprises and larger corporates.

However, there are signs that further risks related to asset quality are receding. For the corporate loan book, there has been a steady reduction in the number of restructured loans, declining from 36% in 2021 to 13% by 2023 (Figure 11, left-hand side). There was a slight increase in the share of loans under moratoriums for corporates, going from 19% in 2021 to 21% in 2022, but this dropped to 13% in 2023 (Figure 11, right-hand side). The downward trend in restructurings and moratoriums in 2023 for corporates balances the slight uptick in

[6] Corporate is the non-small and medium-sized enterprise part of the loan book and refers to larger companies.
[7] A "significant" share of non-performing loans is defined here as more than 10% of the loan book.

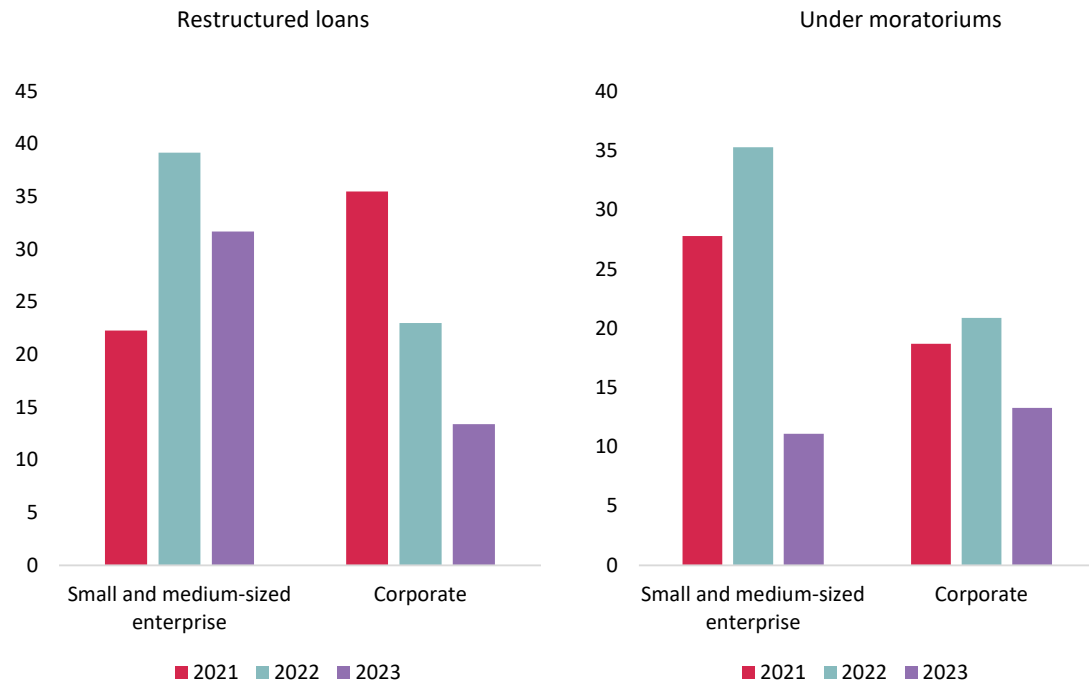
headline non-performing loan numbers and suggests that banks are working through problem loans. For small and medium-sized enterprises, restructured loans increased in 2022 to nearly 40% of loans, but this fell back to 32% in 2023. The share of small and medium business loans under moratoriums dropped more sharply, from 35% of loans in 2022 to 11% in 2023. Again, this is encouraging given that headline non-performing loans for small and medium-sized enterprises fell between 2022 and 2023. Another implication of these survey results is that the headline non-performing loan numbers released by national sources are likely becoming more reliable over time as restructured loans and loan moratoriums become less common. Indeed, this year's survey asked banks if prudential regulations allowing the deferral of classification of non-performing loans post-pandemic remains in place, and less than one-quarter of banks report that this is the case, again suggesting that data on non-performing loans are more fairly reflecting true asset quality over time.

Figure 10. Non-performing loans to corporates and small and medium-sized enterprises (% of responding banks)



Source: EIB Banking in Africa survey, 2023.

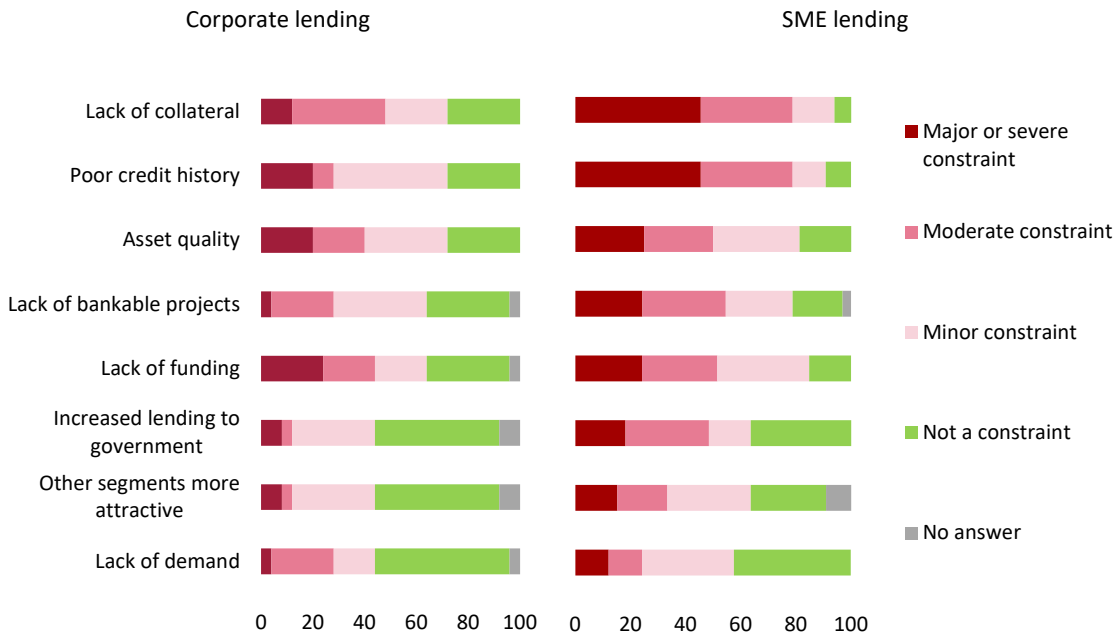
Figure 11. Other problem loan types given to corporates and small and medium-sized enterprises (% of responding banks)



Source: EIB Banking in Africa survey, 2023.

The factors constraining lending to small and medium-sized enterprises continue to be more binding when compared with lending to corporates. In line with previous versions of the survey, the lack of acceptable collateral and a poor credit history continue to be the biggest problems in obtaining credit for small and medium firms. 45% of banks consider these two factors to be major or severe constraints for small and medium businesses (Figure 12). While these are also issues for banks when lending to corporates, they are more likely to be considered a moderate or minor constraint rather than a major or severe constraint. Several other factors are also notable constraints on lending to the small and medium-sized enterprise sector, including problems with asset quality, lack of bankable projects, lack of capital, and competition from increased lending to the government sector. In this sense, firms face a combination of cyclical and structural factors when it comes to accessing credit.

Figure 12. Factors constraining lending to corporates and small and medium-sized enterprises (% of responding banks)

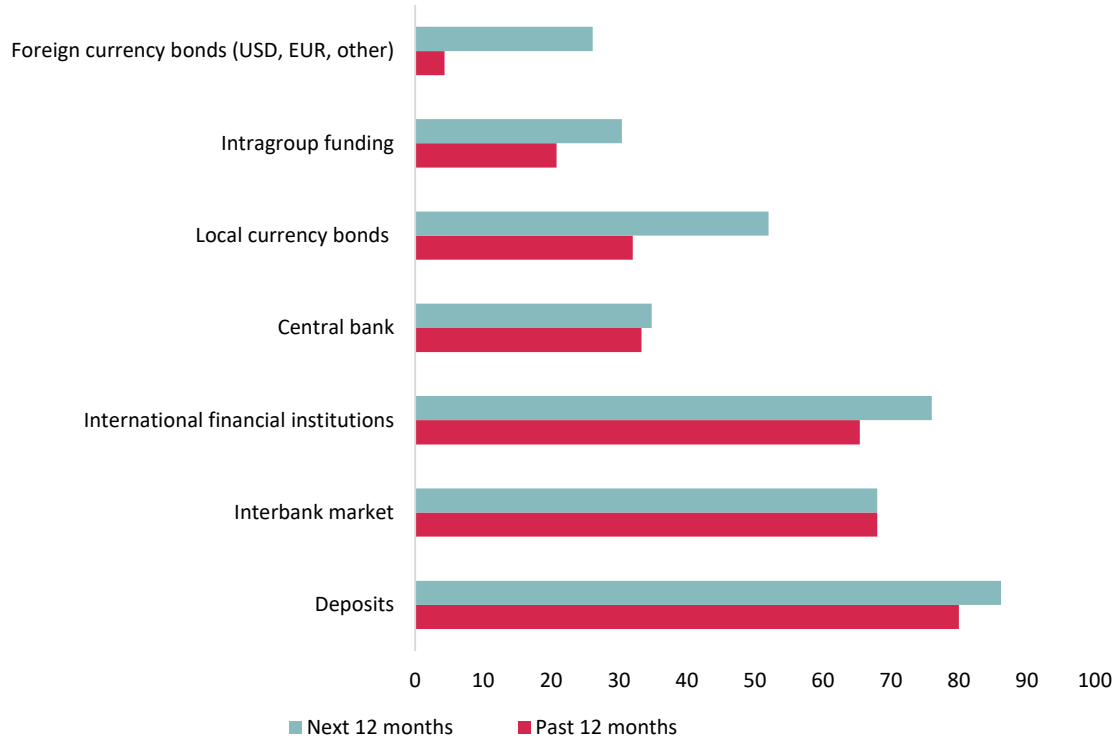


Source: EIB Banking in Africa survey, 2023.

Half of the banks surveyed wish to grow their lending operations at a faster pace in the next 12 months in comparison to the past 12 months, while 40% wish to maintain a similar pace of expansion. Accordingly, while banks plan to apply tighter lending standards, the survey suggests that many banks still have a relatively positive risk outlook and wish to maintain or accelerate the supply of credit. The appetite to grow loan books more quickly likely reflects banks seeking to continue to grow their profits, given volume growth is listed as a key profit driver. In practice, it will probably be challenging for all banks that wish to grow to do so in the current environment.

Funding could be a constraint for banks wishing to expand their operations. Funding in both foreign and local currency is a key issue facing banks, as previously demonstrated. In the past 12 months, deposits have been most frequently used to increase funding by 80% of banks (Figure 13). As other funding options narrow, banks expect to become even more reliant on deposits, with 86% of banks expecting to raise funds in the next year using deposits. Interbank lending is another important funding source and was used by about 70% of banks last year. The same share of banks expects to tap into this source again in 2023. International financial institutions provided funding to 65% of banks in 2022, but reliance on such funding is expected to increase to 76% of banks in 2023. As funding options narrow, banks may see policy-orientated institutions as an increasingly attractive funding option. Banks are planning to increase their bond funding in 2023, albeit from low levels. Only one-third of banks issued local currency bonds in 2022, while less than 5% of banks managed to issue hard currency bonds. In 2023, half of banks would like to issue in local currency, and one-quarter of banks want to issue in hard currency. However, market conditions are likely to influence whether banks can achieve these funding targets.

Figure 13. Funding sources in the last 12 months (May 2022-May 2023) and the next 12 months (June 2023-June 2024) (% of responding banks)

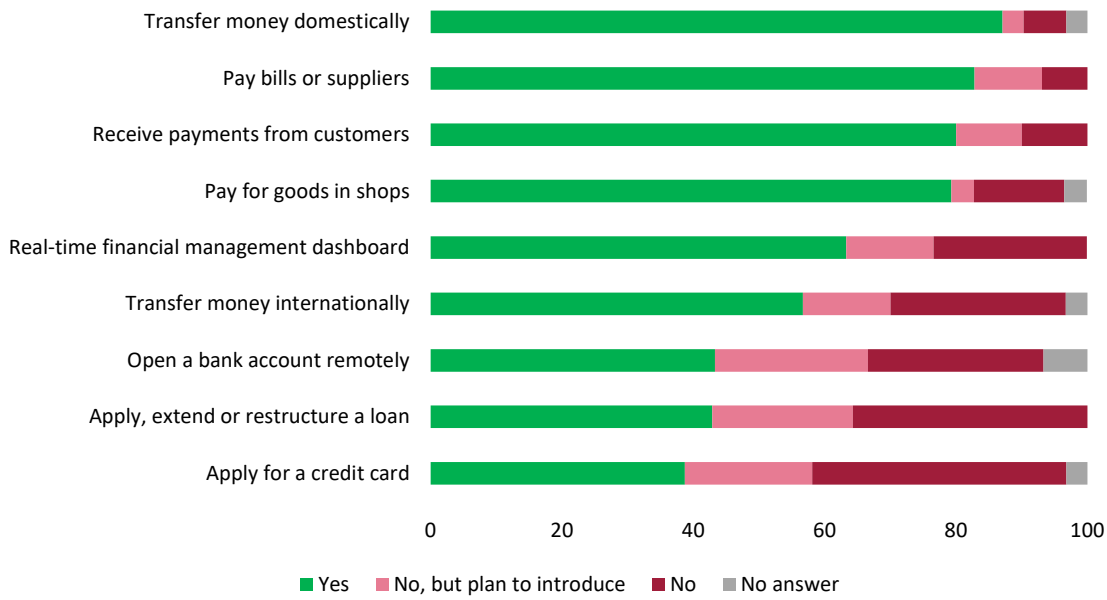


Source: EIB Banking in Africa survey, 2023.

Digitalisation

Digital services are now a core offering by banks, with only a small share of institutions providing no digital services. These digital services are concentrated in key banking functions, including the ability to transfer money domestically (provided by 87% of banks), pay bills or suppliers (83% of banks), receive payments from customers (80% of banks) and pay for goods in a shop (79% of banks). The share of banks offering more complex processes online, such as applying for a loan or credit card or opening an account, is closer to 40% of banks, but a further 20% on average are planning to expand their digital offerings to include these services. The share of banks offering standard online services is similar to the share in 2022, but there has been an increase in the share of banks offering more complex services to customers, such as applying for a loan or a credit card (nearly 40% of banks surveyed this year, vs. nearly 30% last year).

Figure 14. Provision of digital services (% of responding banks)



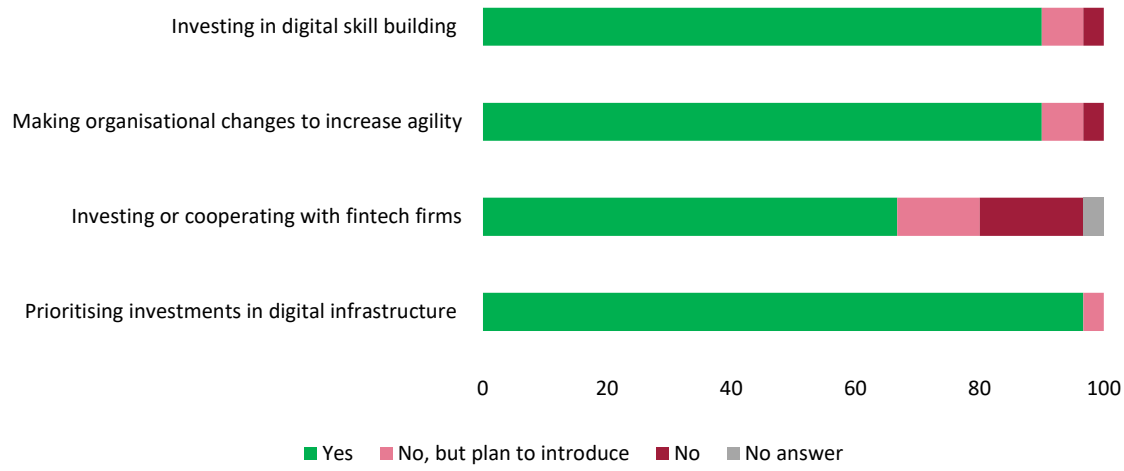
Source: EIB Banking in Africa survey, 2023.

Banks are pursuing several strategies to accelerate their digitalisation process. Investment is a key part of this, with more than 90% of banks seeking to invest both in digital infrastructure and in building their employees' digital skills. However, confirming the fundamental and transformative impact of digitalisation in the sector, 90% of banks are also changing their organisational structure to better align with the delivery of digital services. A fundamental change in the banking landscape has been the emergence of fintech and in many ways, Africa has been at the forefront of this digital financial revolution, as the spread of mobile technology combined with relatively shallow banking markets in many countries has provided fertile grounds for fintech growth. For traditional banks, fintech can represent both a threat and an opportunity, so its impact defies easy classification.

In terms of the key concerns facing the industry, the emergence of and competition from fintech rank highly for many banks in the survey. However, as Figure 15 shows, two-thirds of banks are currently cooperating with, partnering with, or investing in fintech firms. In some cases, fintech firms have the technological expertise that banks need, whereas the banks have a large customer base, making cooperation or partnership an obvious path to further growth for both types of organisations. Given the rapid pace of digital change, fintech regulation has not always reflected the level of risk posed to consumers. For this reason, banks that decide to partner or cooperate with fintech firms face increased regulatory risk. Banks are subject to more stringent regulation than fintech companies and therefore need to be confident that fintech companies have the necessary controls and systems in place before forming any partnerships.[8]

[8] For a more detailed review of the fintech market in Africa and the types of business models used, please see European Investment Bank (EIB) (2022), which includes a systematic review of the landscape.

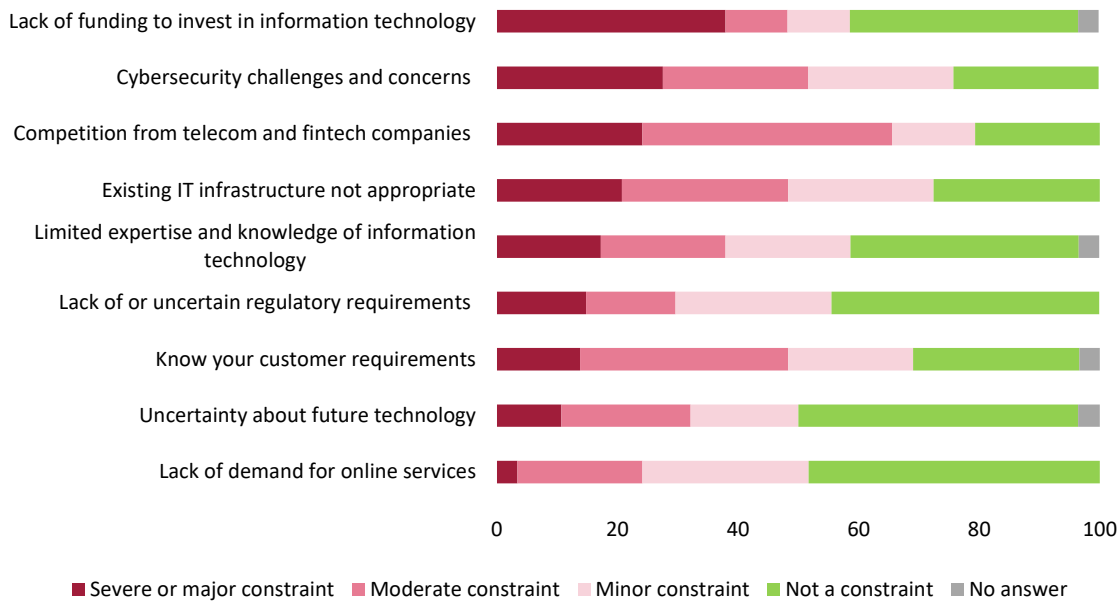
Figure 15. Strategies to accelerate digitalisation (% of responding banks)



Source: EIB Banking in Africa survey, 2023.

Funding and cybersecurity concerns are key constraints to further digitalisation. A lack of funding is cited by 38% of banks as a major or severe constraint to greater digitalisation, while 28% rank cybersecurity as the biggest problem. In the 2022 survey, satisfying know your customer requirements was identified as one of the major constraints, but this has since been downgraded to a moderate constraint instead. Again, the dual nature of competition from fintech firms is evidenced in the banks' responses to this question on digitalisation constraints. While cooperation and investment in fintech is considered a key way to accelerate digitalisation, it is also cited here as one of the key barriers to investment. There is some consistency between the two responses in the sense that banks that invest or partner with fintech firms rely on these firms to supply the technology solution. However, there may equally be banks that do not cooperate with or invest in fintech companies and are hesitant to invest in new technologies for fear that the return on investment would be insufficient given the impact that fintech is having on the consumer finance market.

Figure 16. Barriers to further digitalisation (% of responding banks)



Source: EIB Banking in Africa survey, 2023.

In summary, the results of the 2023 survey reveal continuity with those of the 2022 edition, despite the smaller sample size. There have not yet been any signs of problems or concerns directly linked to banking sector issues in other regions. The latest concern to emerge is the availability and cost of foreign currency funding as global financial conditions have tightened. Banks have reported several factors supporting profits, particularly high interest rates. There are mixed signals in the survey regarding non-performing loans, which are a drag on profitability for many banks and likely a reason why a further tightening in credit standards is expected in the next 12 months. However, the survey finds that non-performing loans appear to be stabilising, while other types of problem loans are falling. Banks also retain an appetite to accelerate lending, although funding could be a constraint. The remaining chapters of the report continue to analyse the results of the survey. The next chapter will delve into the regional aspects of the survey and review key balance sheet metrics for banks. The gender results from the survey can be found in Chapter 5, together with a detailed look at the structural characteristics of male- vs. female-led firms in sub-Saharan Africa. Finally, the climate results can be found in Chapter 6, which also includes a review of climate finance flows in sub-Saharan Africa and an assessment of the amount of climate risk on bank balance sheets.

References

Cali C., Marchitto B. and Resti A. (2013). "What Drives Banking Industry Ratings? An Empirical Analysis". Chapter of "Managing Systemic Exposure", Risk Books, Edited by Galizia F.

European Investment Bank (EIB) (2022). "Finance in Africa: Navigating the financial landscape in turbulent times." Available at: https://www.eib.org/en/publications/online/finance-in-africa-2022.

4

Regional banking performance

This chapter was authored by Alfredo Baldini, senior economist, Colin Bermingham, senior economist, Emmanouil Davradakis, senior economist, Kevin Koerner, senior economist, Moses Nyangu, economist, and Ricardo Santos, economist, all staff of the European Investment Bank. This chapter benefits from the contribution of a box on the financial sector in Ghana by Grakolet Arnold Gourène, Matseliso Teele, Marina Finken and Hugues Kamewe Tsafack, all of Making Finance Work for Africa (MFW4A). The authors would like to thank Barbara Marchitto and Debora Revoltella for their comments on earlier versions.

Key messages

This chapter provides a regional overview of banking sector performance, as key banking sector metrics vary substantially across sub-Saharan Africa. Concentration tends to be high in sub-Saharan African banking systems, and the share of assets held by the three largest banks ranges from 48% in West Africa to 69% in Central Africa. In general, the average concentration for emerging and developing economies is close to 60%. For sub-Saharan Africa as a whole, the share of credit to the private sector is 37% of gross domestic product (GDP), based on data from 2021, but this is down from 51% of GDP in 2001 as credit growth has failed to keep up with nominal GDP growth. In contrast, all other developing regions have seen their credit markets deepen.

West Africa has relatively low credit depth compared to other regions, with private credit equal to just 14% of GDP. This reflects various factors such as low income levels, high levels of informality in the economy and a preference by banks to hold sovereign debt. However, credit growth was brisk in 2022 at 18% of GDP, which is higher than it was in East Africa and Central Africa. Competition is relatively strong in West Africa despite shallow credit depth, and profitability is lower than it is in other regions in sub-Saharan Africa. The banking system for the countries in the West African Economic and Monetary Union had total capital of 2.2% of GDP in 2021. The non-performing loan ratio of West African Economic and Monetary Union banks fell to 10% at the end of June 2022, from 11.4% at the end of 2019. Most of the West African banks in the European Investment Bank (EIB) Banking in Africa survey expect to expand their activities over the next 12 months and expect loan demand in their local currency to increase.

East Africa is more competitive than Southern, Central and West Africa based on a measure of the share of assets held by the three largest banks. This high competitiveness is predominantly driven by Kenya, where the top three banks have a 37% share of bank assets, and to a lesser extent Uganda (48%) and Tanzania (58%). The capital adequacy ratio for the region is close to 19%, and only Djibouti reports an aggregate ratio below 15%. Bank profitability remains strong, with an average return on equity of 24%. Non-performing loan ratios remain low, at 8% or less in all countries except Kenya, which has a reported non-performing loan ratio of 13%. The survey finds that the banks have ambitious expansion plans, and the demand for credit in local currency is expected to be higher in the next 12 months. However, banks in East Africa plan to tighten credit standards more than they do in other regions.

Credit depth is higher in Southern Africa than other parts of sub-Saharan Africa, but this is skewed by large banking sectors in South Africa and Mauritius. Indeed, median credit to the private sector is 21% of GDP and ranges from 8% of GDP in Angola to 93% of GDP in South Africa. Banks typically remain adequately capitalised, liquid and profitable, but with substantial variation at the country level. Capital to risk-weighted assets ratios remained well above the regulatory threshold, with a median value of 22% and only three countries below 20% (Madagascar, Eswatini and Namibia). Non-performing loan ratios have been 6% on average, bolstered by commodity exporters, but asset quality could be challenged by falling commodity prices. The survey reveals that crowding out has emerged as a credit constraint. Two-thirds of banks cite increased lending to government as a major or severe constraint for lending to small and medium-sized enterprises (SMEs).

Central Africa has the lowest number of banks and the highest banking concentration compared to other regions in Africa. Central Africa's three largest economies — Democratic Republic of the Congo, Cameroon and Gabon — contribute 75% of the region's GDP. These countries also account for 87% of the region's total banking assets. Credit to the private sector is low, at only 11% of GDP across the region. Central Africa continues to be the region with the highest level of non-performing loans and the lowest return on equity in sub-Saharan Africa. However, for most countries in the region, profitability increased compared to last year. This reflects the impact of an overall economic recovery from the pandemic and the positive impact on aggregate of high energy and other commodity prices and a high interest rate environment.

Introduction

This chapter provides a regional overview of banking sector performance, as key banking sector metrics vary substantially across sub-Saharan Africa. Key descriptive indicators are provided in Table 1 and are based on data from the International Monetary Fund (IMF), the World Bank and Moody's Analytics BankFocus. As of 2022, there were 610 banks operating in sub-Saharan Africa: 212 in West Africa, 208 in Southern Africa, 142 in East Africa and 48 in Central Africa.[1] Concentration tends to be high in sub-Saharan African banking systems, and the share of assets held by the three largest banks ranges from 48% in West Africa to 69% in Central Africa (the average for emerging and developing economies is generally close to 60%). However, in most regions, banking sector competition is more intense in the larger countries, meaning competition can be much weaker in small countries than the regional average.

Table 1. Key banking sector indicators, African sub-regions

Region	Number of banks	Banking concentration (top three banks)	Credit to the private sector (% of GDP)	Annual credit growth (%)	Loan to deposits	Non-performing loans (% of total loans)	Capital to risk-weighted assets (%)	Return on equity (%)
Southern Africa	208	59.84	62.51	24.98	80.33	5.88	22.10	18.70
West Africa	212	48.25	14.24	17.68	63.87	10.12	14.21	16.80
East Africa	142	46.05	18.48	9.96	82.38	9.56	18.91	23.80
Central Africa	48	69.15	10.84	14.20	71.44	15.22	13.46	18.18
Sub-Saharan Africa	**610**	**55.82**	**37.60**	**16.71**	**74.51**	**10.19**	**17.17**	**19.37**

Source: IMF Financial Soundness Indicators[2]; World Bank DataBank[3]; Moody's Analytics BankFocus data (combines content from Bureau van Dijk and Moody's Investors Service, with expertise from Moody's Analytics).[4]
Note: GDP-weighted averages.

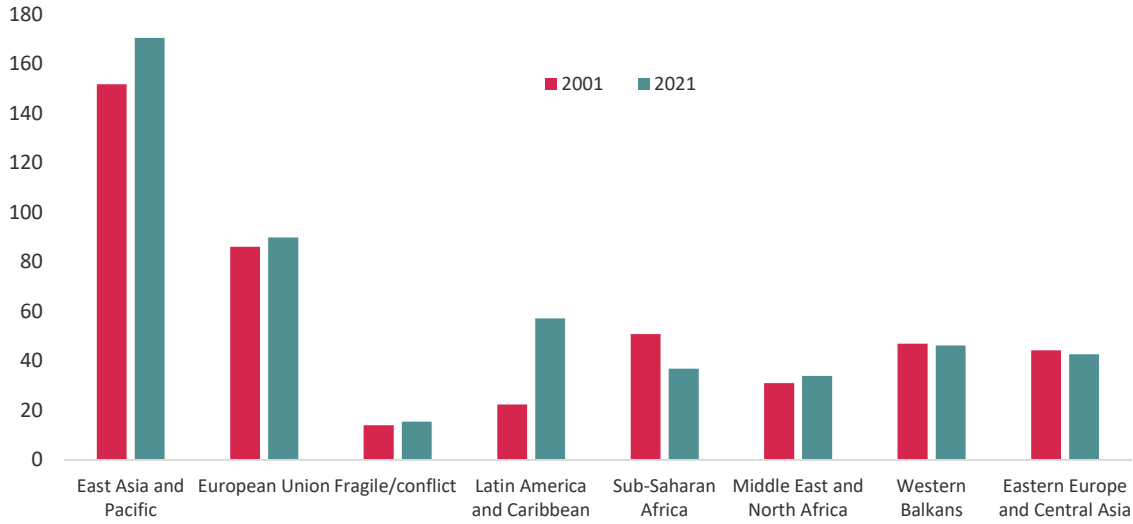
Credit depth remains shallow across the regions, with the notable exception of Southern Africa. The share of credit to the private sector as a percentage of GDP is 11% in Central Africa, 14% in West Africa and 18% in East Africa, but jumps to 63% in Southern Africa because South Africa and Mauritius both have large, well-developed financial sectors. For sub-Saharan Africa as a whole, the share of credit to the private sector as a percentage of GDP is 37%, based on data from 2021 (Figure 1). This share is similar to that of the Middle East and North Africa (34% in 2021) but below that of Latin America and the Caribbean, where credit depth increased significantly, from 22% of GDP in 2001 to 57% in 2021. Sub-Saharan Africa is the only region to have registered a decrease in credit depth, from 51% of GDP in 2001. Credit depth remains a particular challenge in fragile and conflict-affected states.

The rate of non-performing loans as a percentage of gross loans varies from 6% in Southern Africa to 15% in Central Africa. This variance in asset quality across regions may explain some of the mixed results of the survey. Asset quality is still seen as a major concern and as a drain on profitability for a group of respondents, but there is evidence to show that measures related to asset quality are improving. Capital ratios also vary, with capital to risk-weighted assets ranging from 22% in Southern Africa to 13% in Central Africa. In this sense, both asset quality and capitalisation are weakest in Central Africa. Profitability has generally been solid across the regions, with

[1] As the analysis focuses on bank lending to private sector firms, the following types of institutions were excluded: central banks, development institutions, microfinance institutions, mortgage banks, savings banks, investment banks, private banking/asset management companies, finance companies, non-banking credit institutions, securities firms, clearing institutions and investment and trust corporations.
[2] https://data.imf.org/?sk=51B096FA-2CD2-40C2-8D09-0699CC1764DA&sId=1390030341854.
[3] https://data.worldbank.org/indicator/FS.AST.PRVT.GD.ZS?locations=ZG&name_desc=false.
[4] Available to subscribers at: https://login.bvdinfo.com/R0/BankFocus.

return on equity varying from 17% in West Africa to 24% in East Africa. As seen in the survey, the high interest rate environment and the growth in business volumes have both supported profitability.

Figure 1. Domestic credit to the private sector (% of GDP)



Source: World Bank DataBank.

Based on our survey[5], banks in East Africa are the most keen to grow the loan book, with 80% of respondents expecting lending growth to accelerate in the next 12 months compared to the previous 12 months. This drops to 43% in West Africa and 33% in Southern Africa. Banks across all regions expect to increase overall funding levels, normally with a strong bias in favour of local currency funding. However, all East African banks in the survey want to increase foreign currency funding, compared to 58% in West Africa and just 33% in Southern Africa. Despite the appetite for loan growth expressed by East African banks, they also plan to tighten lending standards more than other regions. For example, the planned net tightening[6] in lending standards is 57% in East Africa, compared to 25% in West Africa.[7] There is no obvious explanation for this planned tightening as banks in East Africa do not have higher levels of non-performing loans compared to other regions and the capital adequacy ratio is also higher than in other regions. Southern Africa has an equal share of banks planning to tighten and loosen standards, equating to a zero net tightening. The remainder of this chapter analyses the performance of each region in turn, reviewing market structure, balance sheet metrics and results from the 2023 EIB Banking in Africa survey. The response rate for the survey was quite low for Central Africa, so the section on Central Africa does not include any regional survey results.

[5] As detailed in Chapter 3, **the European Investment Bank surveyed 33 banks in sub-Saharan Africa in 2023, supported by Making Finance Work for Africa**, an initiative to support the development of African financial sectors. Although the results of the survey are not fully representative, they provide valuable insights into the financial sector in sub-Saharan Africa as perceived by its banks. The number of banks in the 2023 survey dropped from 70 in 2022, meaning that care should be exercised when comparing the 2023 results to those of 2022. This is even more important given that nearly half of the sample in 2023 is comprised of new banks. In this sense, the regional results are based on relatively small numbers of respondents by region. The survey was carried out between February and March 2023.

[6] Net tightening is defined as the share of banks planning to tighten credit standards less the share of banks planning to loosen lending standards.

[7] With the exception of Southern Africa, banks in the other sub-regions reported a net tightening in last year's survey.

Banking in West Africa

Competition in the banking sector in West Africa is more pronounced in the largest countries. The banking sector in West Africa comprises 212 banks, most of them located in the West African Economic and Monetary Union.[8] The largest countries in the region have more competitive banking sectors, with the top three banks holding less than 50% of banking assets. These include Ghana, where 31% of assets are held by the top three banks, Senegal (36%), Côte d'Ivoire (39%) and Nigeria (49%). Smaller, more fragile economies have highly concentrated banking systems with low levels of intermediation. In Togo, Liberia, The Gambia, Guinea-Bissau and Cabo Verde, the top three banks own over 68% of total banking assets, pointing to much weaker competition.

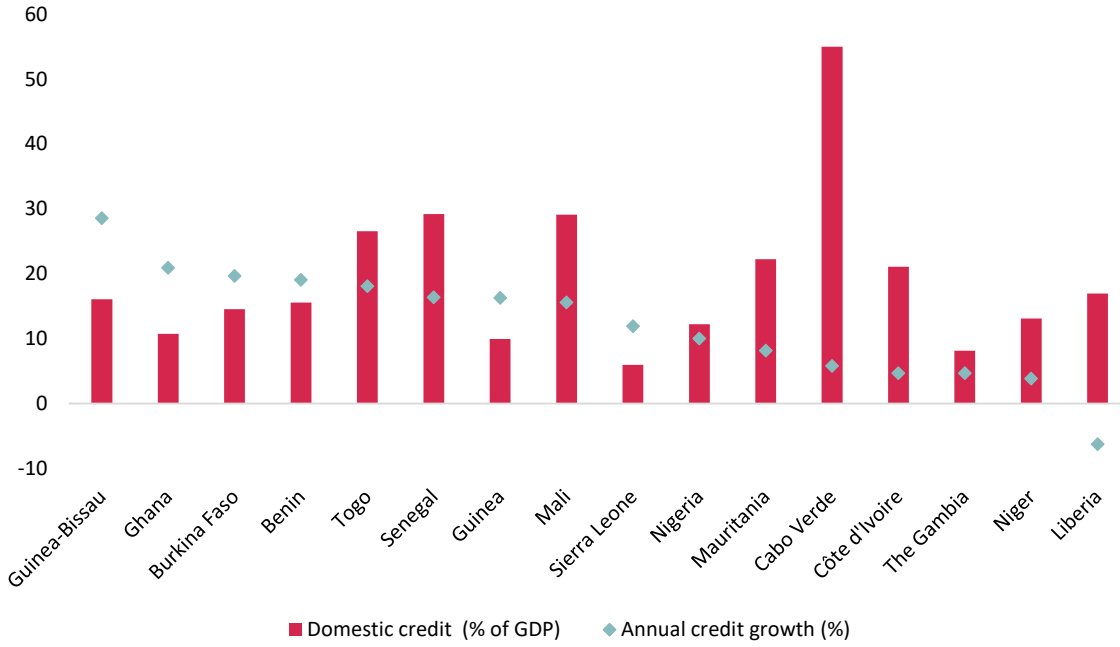
Nigeria's banking sector is dominated by domestic lenders and, following a pause that can be attributed to the pandemic, the central bank has restarted its efforts to move towards Basel III and international accounting rules. The stock of domestic credit was 12% of GDP in Nigeria in 2022, meaning financial inclusion is weak because of a combination of low levels of income, high levels of informality in the economy and banks' preference for sovereign debt over domestic lending. Nonetheless, credit depth is similar to the West African regional average. The non-performing loan ratio in Nigeria has fallen to 4%, which is below the 5% regulatory benchmark. The abolition of the fuel subsidy and higher borrowing costs may soon reverse the downward trend seen in the non-performing loan ratio. Data from S&P Global (2023) put foreign currency lending at 31% of banking sector credit in 2022. Oil and gas companies tend to be the main borrowers of foreign currency. At the time of writing, the Nigerian currency has just been devalued and appears to be exchanging at a similar rate on the official window and the parallel market. While foreign currency borrowing is substantial, borrowers of foreign currency also tend to mainly have foreign currency revenues, creating a natural hedge for banks. Nonetheless, the devaluation means that foreign currency loans are now larger in domestic currency terms, and banks may need to raise capital, which may push some banks below minimum capital requirements, at least temporarily. Before the devaluation, Fitch Ratings (2022) expected Nigerian banks to be generally resilient to any foreign currency devaluation because they have long net foreign currency positions. Capital to risk-weighted assets stood at 14% at the end of 2022.[9]

Banking capital is just above the regulatory minimum in the West African Economic and Monetary Union and credit depth remains shallow. The West African Economic and Monetary Union banking system consisted of 132 banks with a total capital of 2.2% of GDP in 2021. Foreign ownership stood at 56%, while governments' share in bank capital was at 20% of total capital in 2021. Banks in the West African Economic and Monetary Union are well capitalised; the average bank capital adequacy ratio marginally improved to 12.7% in 2021, up from 12.6% in the previous year. However, this is just above the regulatory norm of 11.5%. At the West African Economic and Monetary Union level, 108 credit institutions complied with the solvency standard at the end of December 2021. These supervised institutions account for 89.3% of banking assets and 91.5% of exposures, compared with 107 credit institutions in 2020 that accounted for 87.8% of banking assets and 91.2% of exposures. Nevertheless, there are significant disparities across countries, with some banks in Guinea-Bissau (average capital adequacy ratio of -3.6%) and Togo (average capital adequacy ratio of 7.4%) at well below the minimum requirements. Some of these (mainly government-owned) entities continue to have negative capital and have not become compliant. Private sector credit growth has remained robust, at 14.5% on average in the first eight months of 2022, but credit depth in the region is relatively low (Figure 2).

[8] The West African Economic and Monetary Union includes Benin, Burkina Faso, Guinea-Bissau, Côte d'Ivoire, Mali, Niger, Senegal and Togo, with an average GDP per capita of $1 710 ($4 674 in purchasing power parity) in 2023.

[9] Ghana is another West African country outside of the West African Economic and Monetary Union. Please see Box 1 at the end of this section for a detailed overview of its financial sector developments.

Figure 2. Credit depth and credit growth (2022), West Africa



Source: World Bank DataBank and Moody's Analytics BankFocus.
Note: Domestic credit-to-GDP ratio is for the latest available year, but this varies from 2021 to 2022.

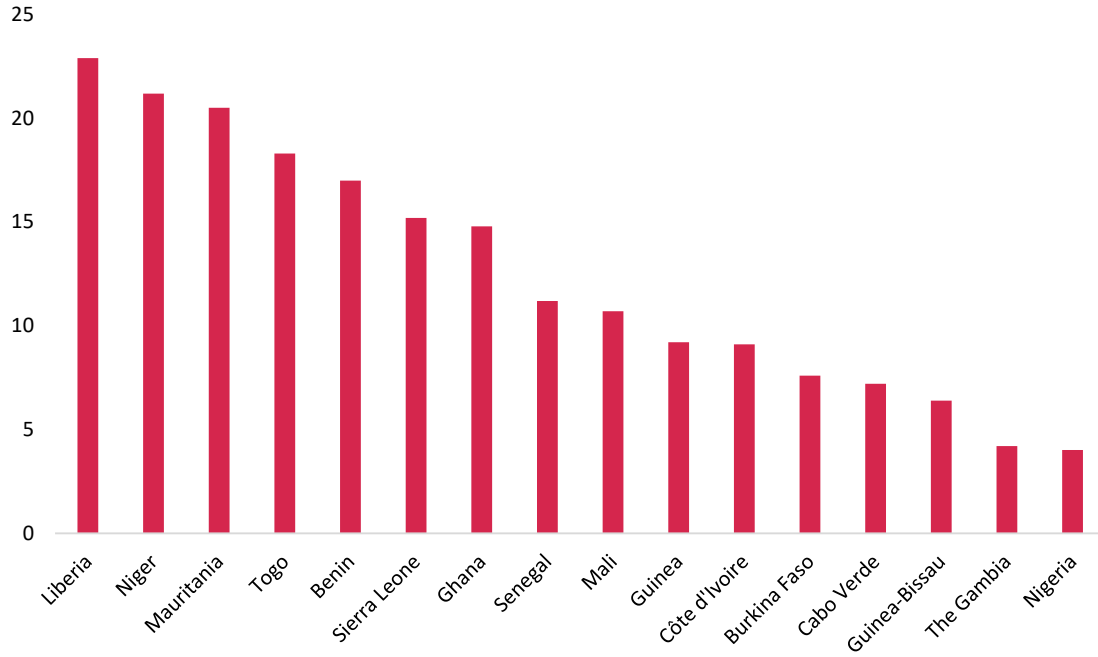
Stress tests show that following a potential shock, the capital needed for recapitalising the West African Economic and Monetary Union banking system to meet the minimum capital requirement is moderate, at around 0.5% to 1.2% of regional GDP.[10] The limited cost of recapitalisation is because of the relatively small size of risk-weighted assets as a percentage of GDP, but also the soundness of the large banks and the limited size of the loan portfolios of the weakest banks. The possible recapitalisation needs are similar across the different countries — between 0.5% and 1% of regional GDP, except for Guinea-Bissau and Togo, for which the costs are closer to 3% of national GDP because of specific vulnerabilities and the relatively larger size of these two countries' banking sectors. The IMF West African Economic and Monetary Union Financial Sector Assessment Program (IMF, 2022a) revealed significant exposure concentrations on the balance sheets of West African Economic and Monetary Union banks that are not adequately captured in banks' capital buffers. In particular, a marked increase in sovereign exposures has exacerbated credit concentration and interest rate risks. Indeed, for two-thirds of banks, the exposure to large risks exceeded the Basel standard of 25% of capital in 2020. Banks' exposure to West African Economic and Monetary Union sovereign risks expanded in the context of the supportive monetary policy during the pandemic. At the aggregate level, banks' claims on central governments increased to 34.1% of total assets in 2022 from 27% at the end of 2019, with the highest increases observed in Burkina Faso, Niger and Senegal. The IMF Financial Sector Assessment Program 2022 report (IMF, 2022a recommended the use of capital surcharge requirements under Basel Pillar 2 to address these risks.

West African Economic and Monetary Union banks' loan quality is improving. For the whole system, the quality of banks' loan portfolios has continued to improve, although non-performing loans remain high, at 10% at the end of June 2022 (down from 11.4% at the end of 2019). At the end of 2021, close to 95% of loans that had benefited from the repayment deferral scheme in 2020 had been repaid or were performing. Preventive restructuring plans, which are bank resolution frameworks, have been produced by all 34 banks of systemic importance (*établissements bancaires d'importance systémique* (EBIS)). Based on approved preventive restructuring plans, the West African Economic and Monetary Union is expected to adopt resolution plans for all such banks in 2023, which is a crucial step in implementing the banking resolution framework. Legislative

[10] According to the IMF's Financial Sector Stability Assessment report (IMF, 2022a) based on the Financial Sector Assessment Program with the West African Economic and Monetary Union completed in April 2022.

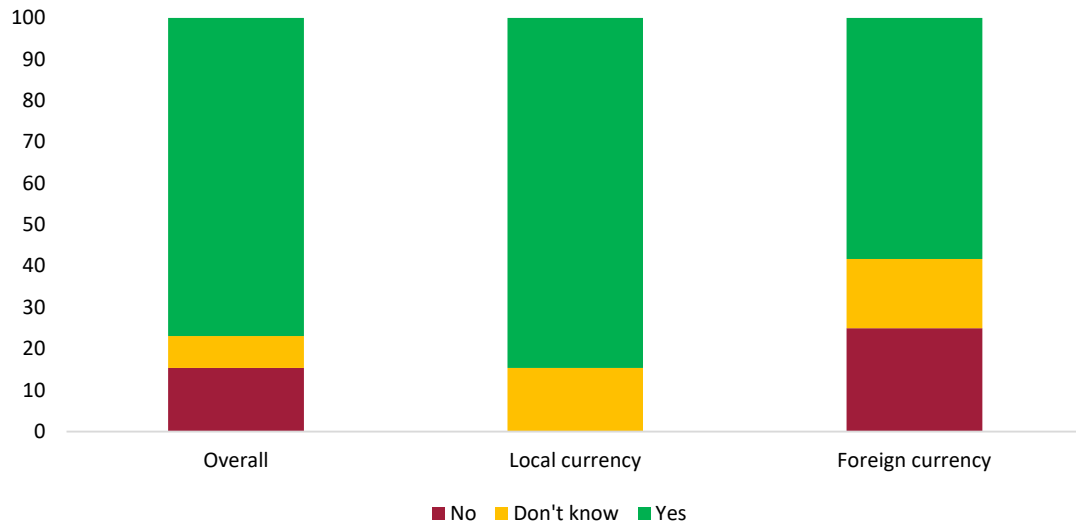
measures required for the full implementation of the resolution framework are considered in a new draft banking law expected to be finalised in 2023. The new banking law has been decided by the council of ministers of the economy of the eight West African Economic and Monetary Union member states and dictates the operational framework of banks and their supervision by the Central Bank of West African States and the Banking Commission of the West African Monetary Union.

Figure 3. Non-performing loans as a percentage of total loans, West Africa



Source: IMF Financial Soundness Indicators.
Note: Data are for the latest available period, which varies by country.

Figure 4. Plans for operations and funding over the next 12 months (% of responding banks), West Africa



Source: EIB Banking in Africa survey, 2023.
Note: Local and foreign currency data are the results for banks answering "yes" to the overall question (first bar of the chart).

Most West African banks expect credit demand in local currency to increase, particularly from small and medium-sized enterprises, but they remain cautious about lending. In the 2022 survey, 50% of banks surveyed in the sub-region expected a further tightening of credit standards over the next 12 months compared to 2022. However, only 33% of the banks surveyed in 2023 reported that they had tightened their credit standards over the past 12 months. Many banks anticipate that credit standards will remain unchanged in the next 12 months (58%). However, one in three banks anticipates a further tightening in lending standards, while just 8% expects a loosening of standards. This implies a net tightening of 25%. Looking at small and medium-sized enterprise lending, 79% of the banks surveyed in 2023 expect an increase in demand for local currency lending, down from 90% last year because of tighter monetary conditions in 2023 than in 2022. Similarly, 17% of banks surveyed in 2023 expect an increase in demand for foreign currency lending to small and medium-sized enterprises, down from 20% in 2022. However, we must remember that the 2023 survey sample is smaller and moderately overlaps with the 2022 sample.

Figure 5. Expected pace of credit demand over the next year (% of responding banks), West Africa

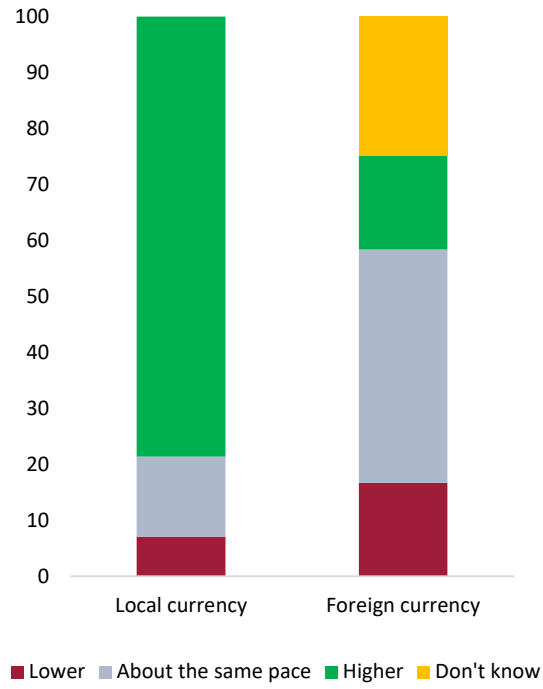
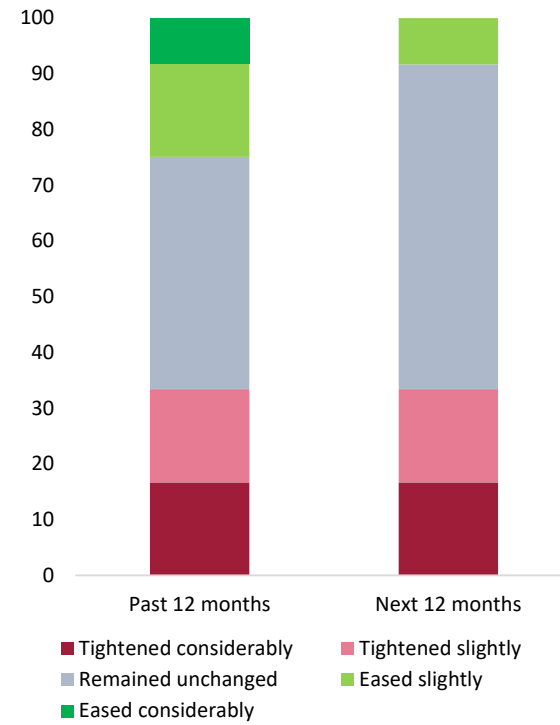


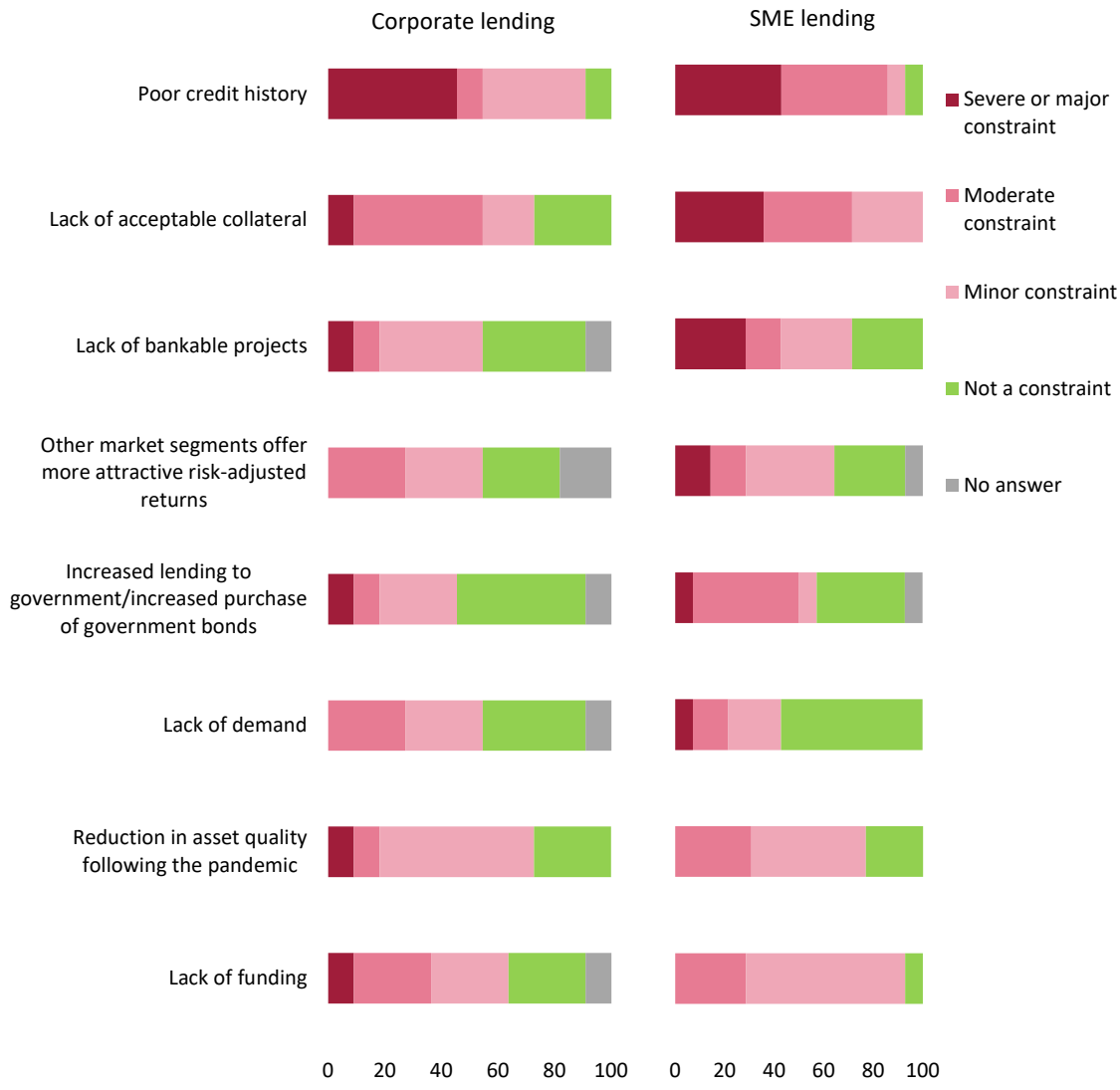
Figure 6. How credit standards have changed/will change (% of responding banks), West Africa



Source: EIB Banking in Africa survey, 2023.

Poor credit history and a lack of acceptable collateral remain key lending constraints (Figure 7). Many of the banks surveyed consider these two factors as major or very severe constraints for corporates. Reduction in asset quality is cited less often than it is in other regions. As in previous editions of the EIB Banking in Africa survey, the lack of bankable projects remains a non-negligible constraint, especially for small and medium-sized enterprises. In addition, compared to previous versions of the survey, the impact of increased lending to the government sector is acting as a further constraint on private sector lending.

Figure 7. Factors constraining credit supply (% of responding banks), West Africa



Source: EIB Banking in Africa survey, 2023.

Box 1. Long-term finance in Ghana: Banking and capital markets

This box looks at the major parts of Ghana's financial system, including the bond market, the equity market and pension funds. It draws upon and updates a recent country diagnostic for Ghana performed by Making Finance Work for Africa (ALTFI/MFW4A (2022).

Despite many constructive reform processes in recent years, Ghana has gone into debt distress and its economy remains vulnerable, with a volatile GDP (5.4% in 2021 and 3.2% in 2022[11]). The country is undergoing debt restructuring and experiencing high inflation. In 2021, the provisional public debt stock reached GHS 351.7 billion ($57.2 billion), with external debt at GHS 170 billion ($27.6 billion) and domestic debt at GHS 181.7 billion ($29.5 billion) (Republic of Ghana, Ministry of Finance, 2021). The debt-to-GDP ratio was 89% in 2022, which was well above that of some other economies in the region (Figure 8).

The already high level of debt worsened with the rise in commodity prices from 2021 to 2022, mainly because of rising food prices, which led to a reduction in international reserves. The average consumer price index inflation was 31.5% in 2022,

[11] https://www.worldbank.org/en/country/ghana/overview.

reaching a peak of 54.1% at the end of the year. Because of the government's heavy use of its overdraft facility with the central bank (7% of GDP in 2022), the Bank of Ghana's monetary policy efforts (which increased the rates from 14.5% to 28% throughout the year) did not yield the desired results. Inflation rose throughout 2022 and remains high in 2023 (Figure 9).

Figure 8. General government debt (% of GDP)

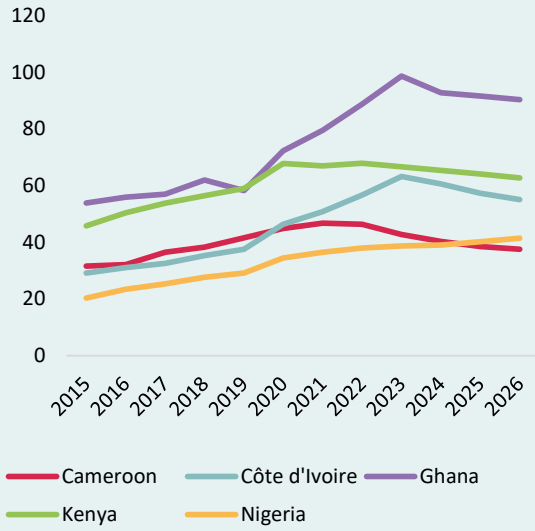


Figure 9. General government debt (% of GDP)

Source: IMF (2022a), Ghana Statistical Service (2023).
Note: Debt estimates start after 2021 for Ghana and Cameroon, while estimates for other countries start after 2022.

Strong fiscal adjustment measures will address these challenges. A debt restructuring programme was launched in late 2022 to settle the issue of unsustainable debt. In May 2023, the IMF Executive Board approved a 36-month extended credit facility agreement worth about $3 billion to strengthen the government's measures and foster sustainable and inclusive growth.

Banking sector overview

The economic backdrop is a financial system dominated mainly by banks (23 banks at the end of 2022). The Ghanaian banking sector is relatively small (with bank assets of about 38% of nominal GDP in 2020) but growing. Steady growth is observed in total deposits, which represent the main source of funding.

Despite deposit growth, the credit supply to the private sector remains low. Bank net lending rates (the proportion of loans after loss provisions to total assets) decreased significantly to just 29% in early 2019 from 43% in 2015, and have remained below 30% ever since. This was mirrored by a drop in the loan-to-deposit ratio. As of 2021, banks' credit to the private sector is 12% of GDP, which is at the low end of the spectrum for countries in the neighbourhood.[12] The low credit supply to the private sector is partly explained by the high non-performing loan ratios, which put pressure on banks' margins and continue to undermine confidence in the financial system and lending to small and medium-sized enterprises. Indeed, despite a small decrease due to regulatory measures implemented by the Bank of Ghana, the non-performing loan ratio remains high, at 15% as of September 2022 (vs. 17% in September 2019).

The industry's capital adequacy ratio declined to 16.6% at the end of 2022 from 19.6% at the end of 2021. The Bank of Ghana attributes the fall in capital adequacy to a combination of mark-to-market losses on investments and an expansion of risk-weighted assets. The prospects for capital adequacy in the sector now depend heavily on the implementation of the domestic debt exchange programme for local currency bonds. Although banks' participation in the exchange was theoretically voluntary, the new bonds received in the debt exchange have a zero-risk weight, which increases to 100% for the old bonds, implying a significant capital charge for banks that are not participating. The Bank of Ghana reports that all 23 universal banks participated and predicts that some banks will face significant losses because of the debt exchange. Capital adequacy metrics may, in turn, deteriorate further. Recognising this, the Bank of Ghana reduced the minimum capital adequacy ratio to 10% from 13% on 31 December 2022.

[12] Côte d'Ivoire (21.8%), Kenya (30.9%) and Nigeria (12.2%).

Figure 10. Banking sector indicators

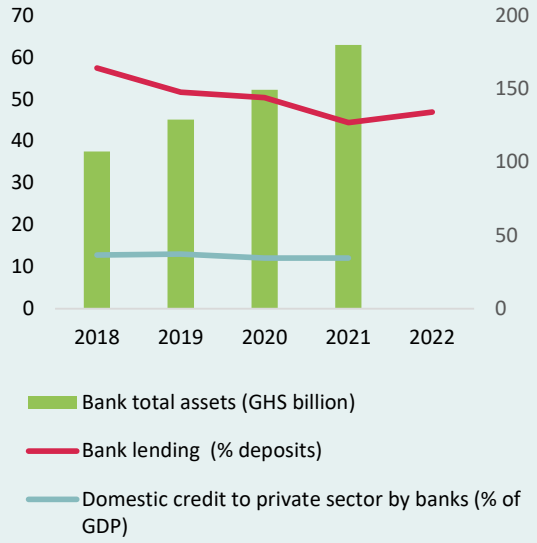
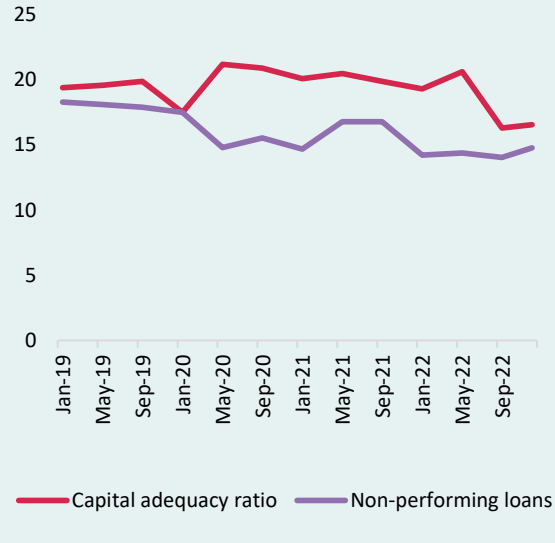


Figure 11. Bank soundness indicators (%)



Source: Bank of Ghana (2023) and World Bank (2022a).

Bond and equity markets

The majority of bond issuance comes from the government. Government issuance and the fiscal deficit were more than twice the size of total asset growth in the banking sector between 2019 and 2021 (Figure 12). High bond issuance has created a buyer's market, affecting the market's ability to invest in other assets, especially private sector assets. Banks and institutional investors prefer to invest in government securities rather than in the private sector. In 2021, 30.4% of government issuance was held by banks, compared to 28.8% in 2020. Government bonds are also attractive for investors since the debt issuance is still concentrated in short-term maturities, as 67% of government securities had a maturity of one year or less when issued in 2022 (Figure 13).

Figure 12. Government financing needs (GHS million)

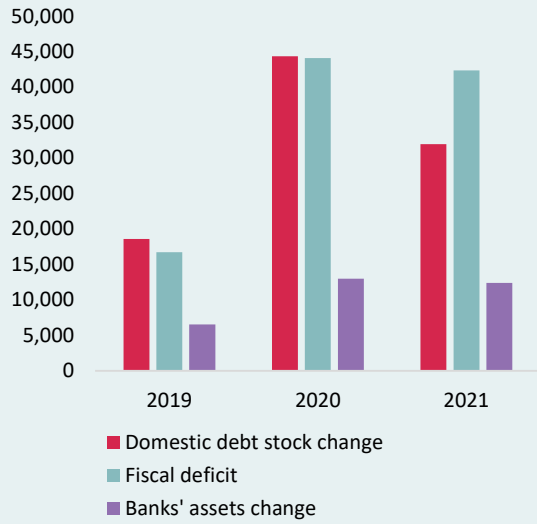


Figure 13. Government gross issuance by maturity (%)

Source: MOF 2021 annual public debt report/MOF issuance calendar (Ghana MOF 2021a and 2021b).

The large volume of government issuance diminishes the size, and therefore liquidity, of other bonds. The frequency of issuance of government bonds typically runs to about three times that of corporate bonds (Figure 14). Moreover, total capitalisation and trading volumes in the equity market favour government bonds over corporate and local bonds (Figure 15).

The number of listed companies on the equity market has declined in recent years and appears to have stabilised at 37. The level of trading, while still low, rose from less than GHS 20 million ($3.51 million) in March 2019 to GHS 168 million ($14.11 million) in March 2023. However, two foreign companies with a secondary listing in Ghana, MTN Ghana and Tullow Oil, accounted for around 58% of the capitalisation in March 2023.

Figure 14. Number of issues per category

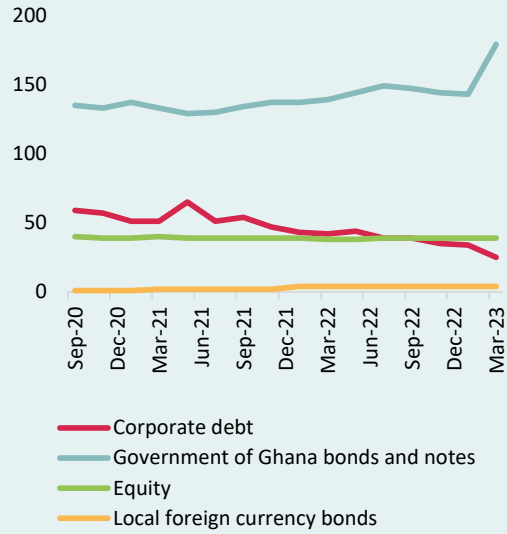
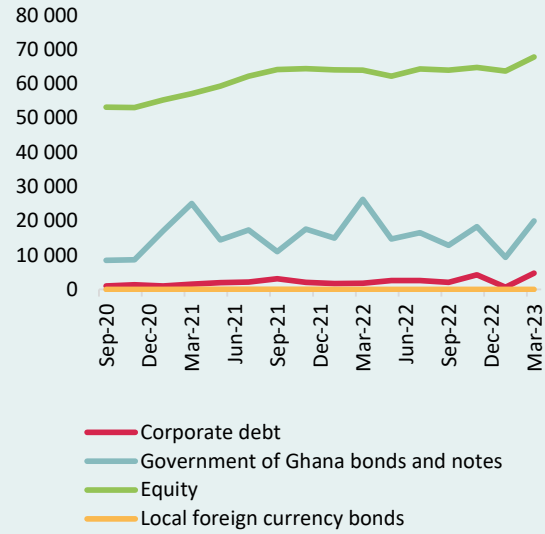


Figure 15. Capitalisation by category (GHS million)



Source: GSE (2023).

Institutional investors

The three-tier pension fund system is a potentially important source of investment capital growth and increased by 18% between 2020 and 2021, reaching GHS 33.5 billion ($5.4 billion) in nominal terms in 2021. Private pension plans, which comprise compulsory second-tier plans and voluntary third-tier plans, together account for 71% of total pension funds under management, while the mandatory first-tier plans managed under the national basic social security scheme made up 29% of total pension fund assets at the end of 2021 (Figure 16). At the end of 2021, about 84% of private pension funds, or more than GHS 23 billion ($3.7 billion), were invested in government bonds and securities, contributing to the crowding out problem associated with government borrowing (Figure 17).

Figure 16. Pension fund evolution

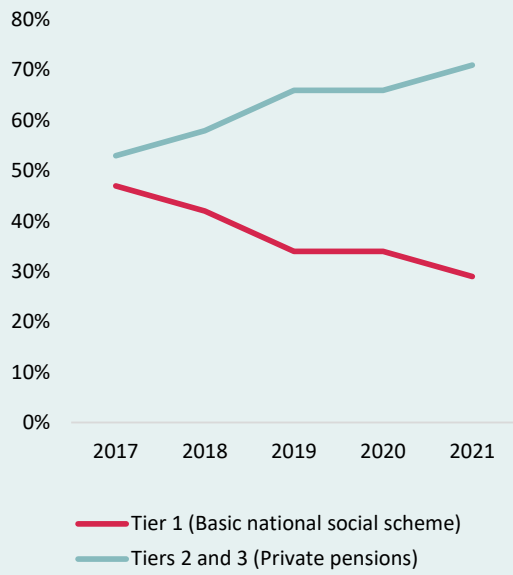
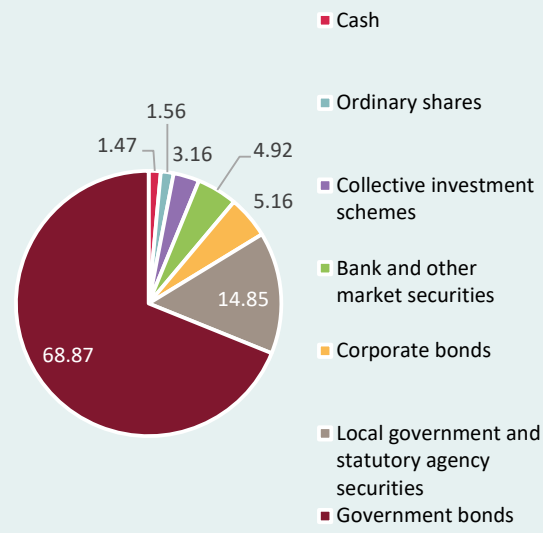


Figure 17. Tier 2 and Tier 3 pension investments



Source: National Pensions Regulatory Authority (2021).

Less than 12% of pension fund investments are channelled to riskier investment categories. The pension fund managers again favour investments in government bonds and bills, bank term deposits and the like, rather than private sector investment offerings. They do not generally have enough information on the risk associated with private sector investments, and the local products, or investable assets on offer, often do not match the long-term liability structures of pension funds (IFC/AfDB/MFW4A, 2022).

Conclusion

While Ghana has made progress in debt restructuring and secured a deal with the IMF, the period ahead will remain challenging for the financial sector. There is a need to deepen and diversify capital markets to match the long-term financing needs of the economy. The high demand for public funding is also crowding out private sector funding, which threatens economic growth. Finally, the strong dependence of banks and pension funds on government securities highlights the risks for macro-financial stability.

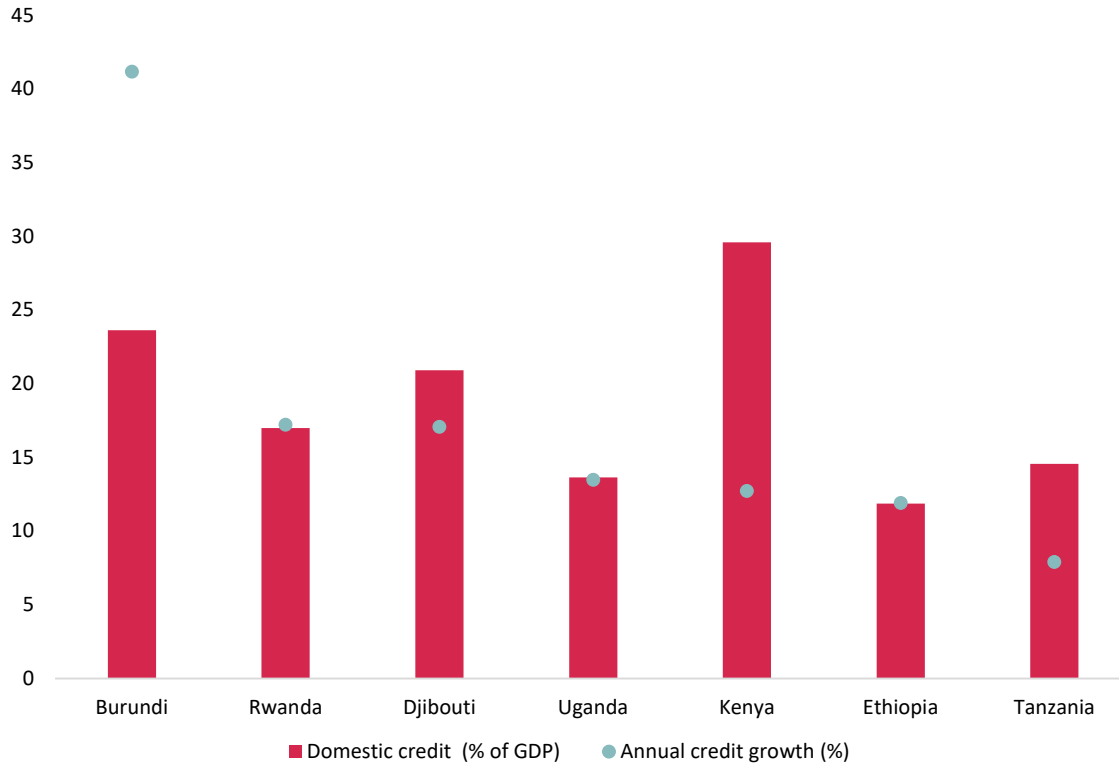
Banking in East Africa

Although banking concentration is elevated across the African sub-regions, East Africa is more competitive than Southern, Central and West Africa. According to the latest Moody's Analytics BankFocus data (Table A2 in the Appendix), East Africa has a total of 142 banks, with the lowest banking sector concentration among sub-Saharan Africa's sub-regions as measured by the weighted average of the share of assets held by the three largest banks. This relatively high level of competitiveness is predominantly driven by Kenya (37% market concentration) and to a lesser extent Uganda (48%) and Tanzania (58%), which have a comparatively low market concentration and more banks. Burundi, Djibouti and Ethiopia remain the most concentrated markets (over 70%), each with a smaller number of banks, denoting weak competition, low financial intermediation and high lending rates.

The level of financial depth and credit growth varies across East Africa (Figure 18). The sub-regional weighted average domestic credit-to-GDP ratio is 23%. Kenya has the most advanced financial market in East Africa, with a credit-to-GDP ratio of 30%, followed by Burundi (24%) and Djibouti (21%). On the other hand, Ethiopia, Uganda and Tanzania have the lowest credit-to-GDP ratios at 12%, 14% and 15%, respectively, despite having more banks than Burundi, Djibouti and Rwanda. Moreover, according to the 2022 Global Financial Inclusion Database (World Bank, 2022b), Kenya continues to lead the way in financial inclusion, with 79% of the adult population having an account with a bank or another type of financial institution or having used a mobile money service, while this share stands at 55% for the whole of sub-Saharan Africa.

A gradual improvement is observed in credit growth across East Africa in 2022 compared to 2021, with the exception of Ethiopia, which experienced a slowdown in credit growth because of the ongoing civil war. Burundi posted the highest annual growth (41%), which was driven by improvements to the business climate, while Tanzania posted the lowest growth (8%). Despite this recent solid credit growth, loan-to-deposit ratios still stand below 100% in all countries (except Rwanda at 102%), with a weighted regional average of 82%, implying that the risks of overheating remain low.

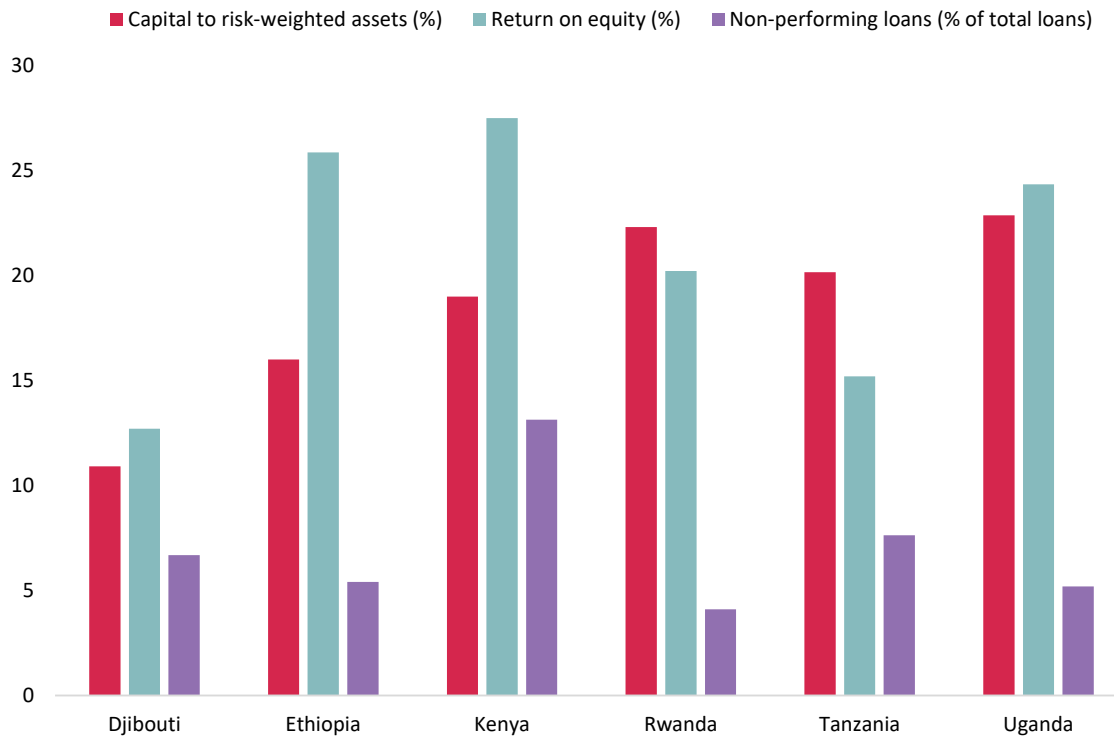
Figure 18. Credit depth and credit growth (2022), East Africa



Source: World Bank DataBank and Moody's Analytics BankFocus.

In 2022, the East African banking sector remained relatively sound and stable despite headwinds from the COVID-19 pandemic, the war in Ukraine and persistent global inflation that has tightened financial conditions. The soundness and stability of the financial sector was maintained through adequate capital and liquidity levels (Figure 19), which remain above the minimum requirements. The weighted average capital adequacy ratio for the region is close to 19%, with only Djibouti reporting an aggregate ratio below 15%, while other countries (Rwanda, Tanzania and Uganda) report total capital accounts for over 20% of risk-weighted assets. Bank profitability remains strong, with an average nominal return on equity of 24% across all countries. Non-performing loan ratios remain low, at 8% or less in all countries except Kenya, which has reported a non-performing loan ratio of 13%. Still, as in other regions, inflation pressures and tighter monetary policy will lead to higher borrowing costs and, eventually, higher non-performing loans. Banks have also intensified their lending to governments and state-owned enterprises, a situation that may lead to liquidity and credit risks within the financial sector. Going forward, supervisory standards and policy measures should be enhanced to mitigate these risks and maintain financial sector stability.

Figure 19. Solvency, profitability and asset quality indicators, East Africa

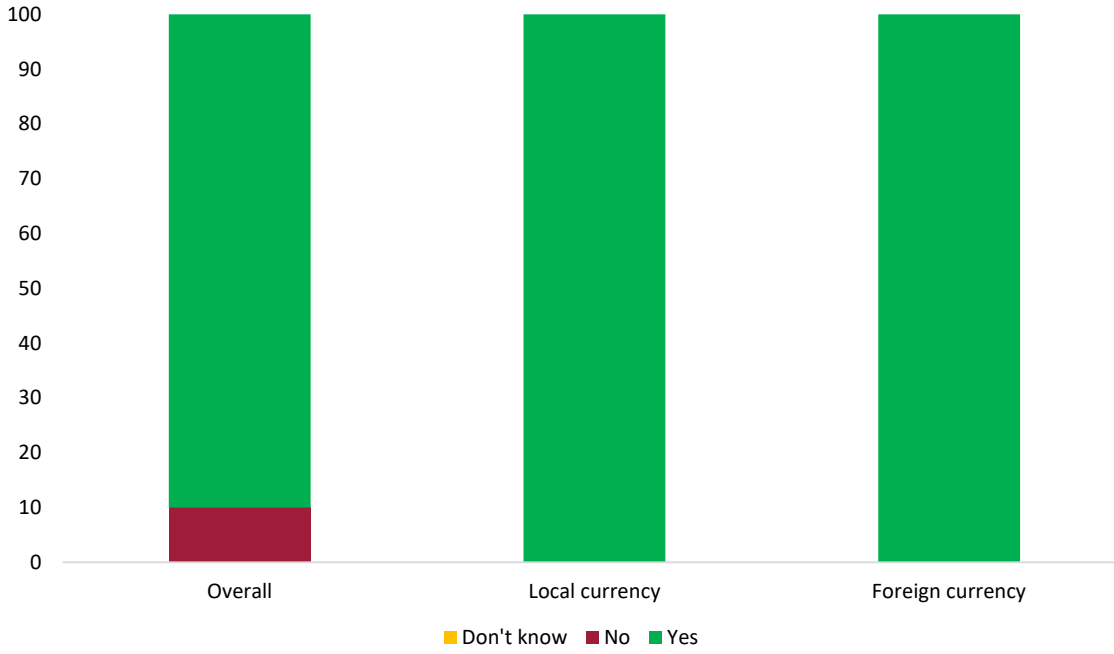


Source: IMF Financial Soundness Indicators, World Bank DataBank and Moody's Analytics BankFocus.

Overall, central banks are engaged in a delicate balancing act between curtailing elevated inflation through higher policy rates and sustaining economic recovery and financial stability. East African countries remain vulnerable as they recover from the pandemic. The war in Ukraine and the tightening of global financial conditions has led to increased food and energy prices, exacerbating inflationary pressures. High reliance on imports, especially oil, has triggered exchange rate pressures and currency depreciations. With the limited fiscal capacity available to East African countries, central banks are faced with a policy trade-off between supporting economic recovery and tightening their monetary policy stance to curb high inflation. However, countries are slowly moving from an accommodative reserve money system to a target interest rate-based monetary policy framework for guiding monetary policy decisions. The switch is meant to address the weakening link between money supply and policy variables (inflation and output) caused by the weakening monetary policy transmission mechanism. Nevertheless, fiscal prudence remains paramount because tightening monetary policy might actually slow down recovery and weaken the financial sector through increased credit risk in banks.

Among the East African banks that responded to the 2023 EIB Banking in Africa survey, 90% expect to increase their overall funding, which is more than in other sub-regions and more than in 2021 (Figure 20). The expansion of funding is expected to increase in both local currency and foreign currency, which is an indication of enhanced financial openness in the East African countries.

Figure 20. Plans for operations and funding over the next 12 months (% of responding banks), East Africa



Source: EIB Banking in Africa survey, 2023.
Note: Local and foreign currency data are the results for banks answering "yes" to the overall question (first bar of the chart).

Demand for credit in local currency is expected to be higher, but banks plan to tighten credit standards (Figures 21 and 22). Banks expect higher demand for loans in local currency while demand for loans in foreign currency will remain about the same or lower. The increasing demand for loans could continue to face competition from high levels of government borrowing. Banks in East Africa also plan to tighten credit standards over the next year to a greater degree than they do in other regions in sub-Saharan Africa. The proportion of banks expecting to tighten their credit standards over the next 12 months (72%) is much higher than the proportion expecting to ease them (14%). There are several possible reasons for this, including lingering economic impacts from the pandemic, the war in Ukraine, asset quality concerns linked to increased borrowing costs in East Africa and a continued preference to lend to governments (IMF 2023c).

Figure 21. Expected growth of credit demand over the next year (% of responding banks), East Africa

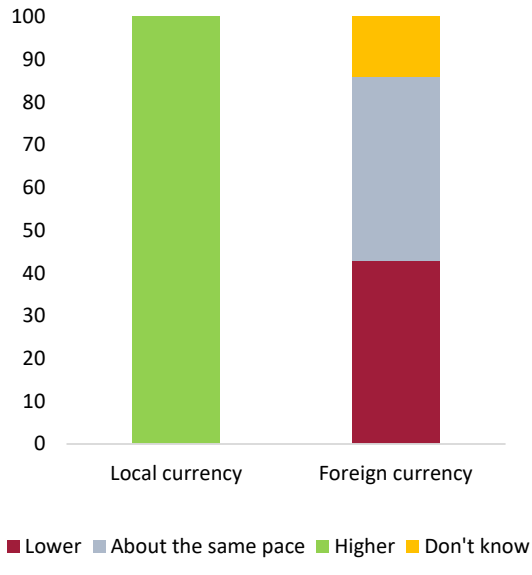
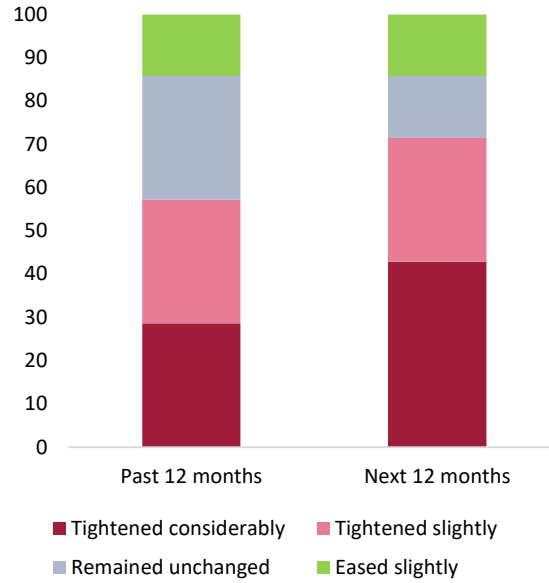


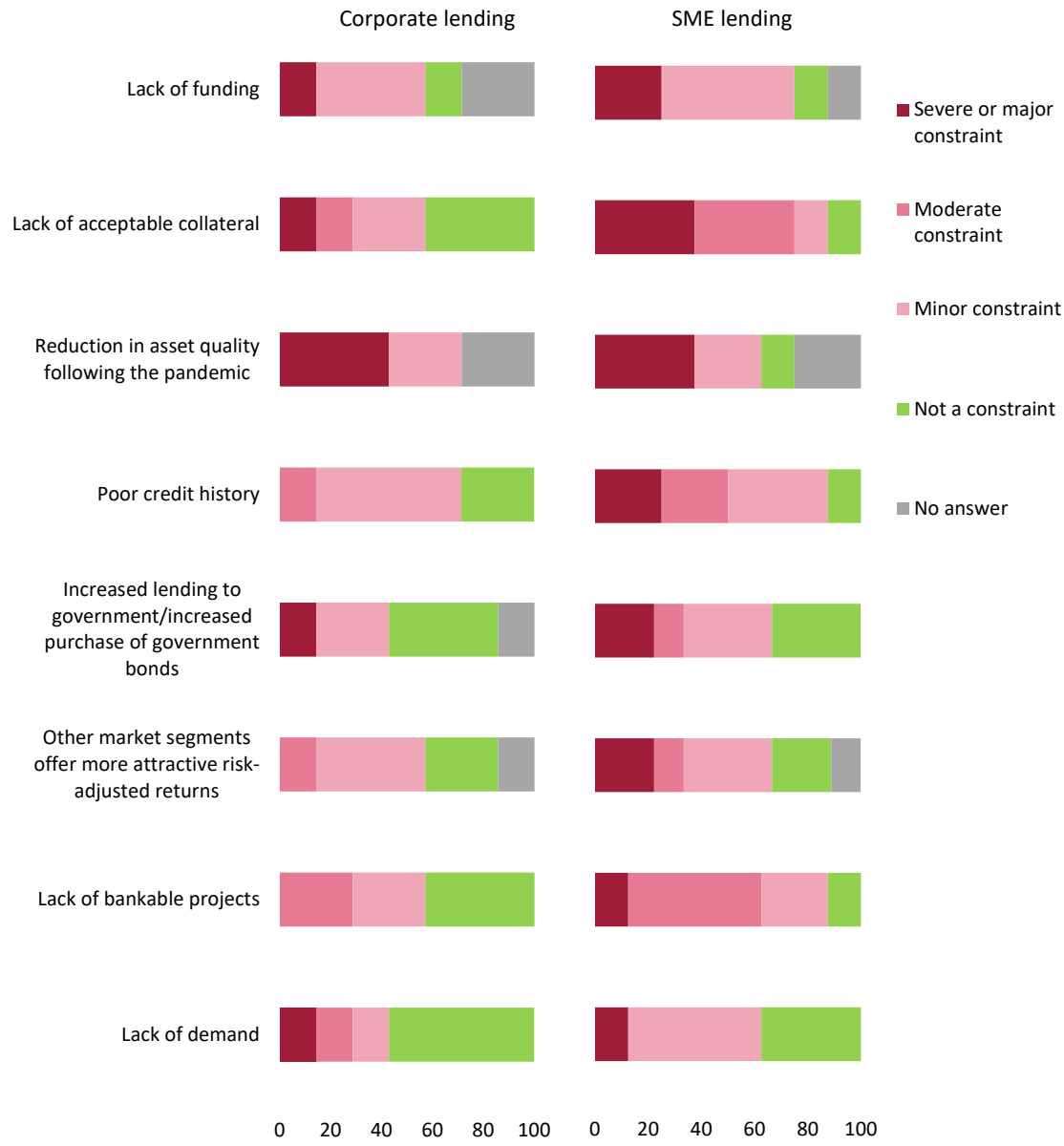
Figure 22. How credit standards have changed/will change (% of responding banks), East Africa



Source: EIB Banking in Africa survey, 2023.

The main factor constraining credit supply to corporates is the reduction in asset quality following the pandemic, while for small and medium-sized enterprises, it is the lack of acceptable collateral and the reduction in asset quality (Figure 23). The constraining factors are both structural and demand-side factors, suggesting that credit supply might improve once the economic impact of the pandemic and the challenges of global financial tightening fade. However, structural policy measures might be needed to fully unlock credit supply to companies — particularly for small and medium businesses. This need will likely be even stronger if the current economic crisis leads to weaker external demand and exacerbates these constraints at the firm level.

Figure 23. Factors constraining credit supply (% of responding banks), East Africa



Source: EIB Banking in Africa survey, 2023.

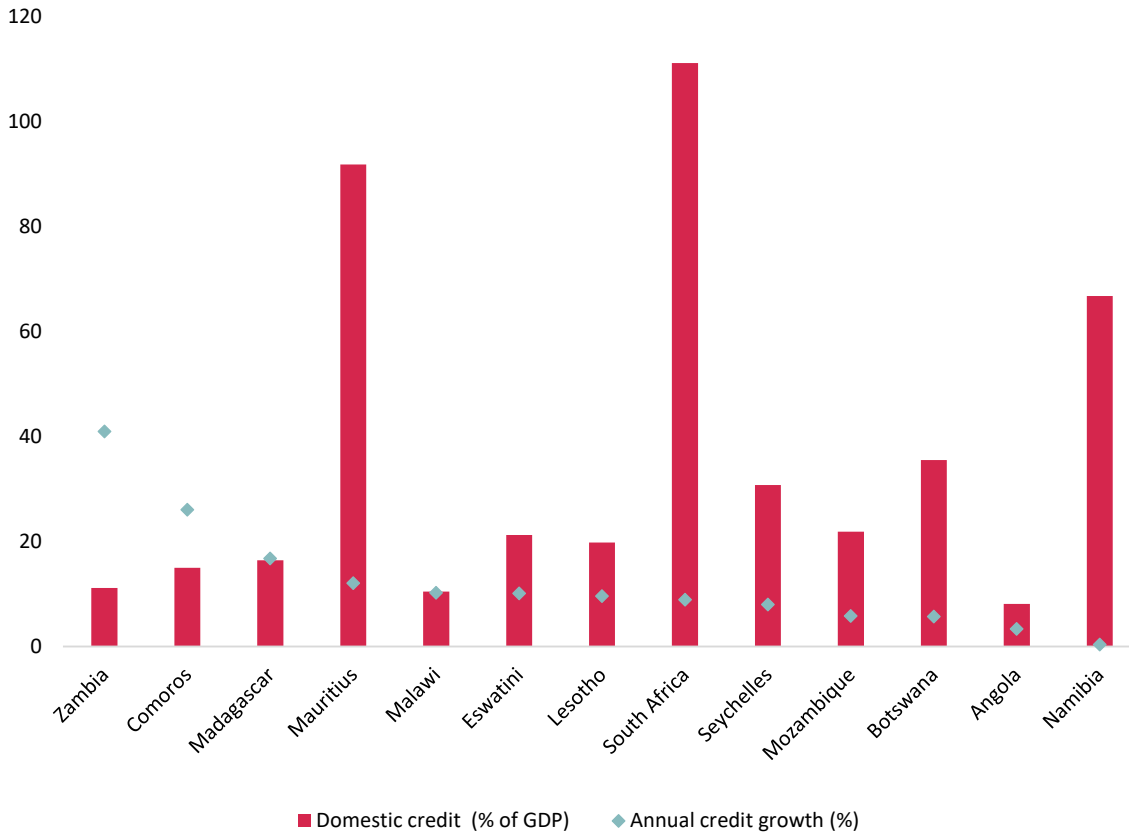
Banking in Southern Africa

Despite the resilience of Southern African banks, global and domestic shocks undermined credit drivers in 2022.[13] Persistent global inflation and tighter monetary policies have led to higher borrowing costs for Southern African countries and have placed greater pressure on exchange rates, exacerbating operating environment risks.

[13] Southern Africa includes 14 countries with very different economic structures: Eight have reached lower- or middle-income status, five are low-income countries and one is a fragile state (Comoros). Five countries are rich in mineral resources and (except for Angola) are all net oil and gas importers.

On the other hand, with no major Southern African economy entering a recession and banks showing a good degree of resilience over the past two years, this sub-region has escaped a worse scenario. The median credit growth across the region in 2022 (Figure 24) was moderate at around 10%, with the average skewed by Zimbabwe. However, while Zambia, Comoros and Madagascar reported brisk credit growth, in Namibia, Angola, Botswana and Mozambique it was sluggish. Credit growth in South Africa reached 9% in 2022, which is high in historical terms and against a background of weakening economic growth. In terms of credit depth (domestic credit as a percentage of GDP, Figure 24), credit markets are often shallow in Southern Africa (with a median of 21% of GDP), although this varies significantly across the region, ranging from 8% of GDP in Angola (the third-largest economy in sub-Saharan Africa), to 111% of GDP in South Africa. In ten out of 13 countries (excluding Zimbabwe, which is plagued by hyperinflation), credit depth was below 40%. Overall, banks remained adequately capitalised, liquid and profitable, but with substantial variation at the country level for both structural and cyclical reasons. Capital to risk-weighted asset ratios remained well above the regulatory threshold, with a median value of 22%. Only three countries had ratios below 20% (Madagascar, Eswatini and Namibia).

Figure 24. Credit depth and credit growth (2022), Southern Africa

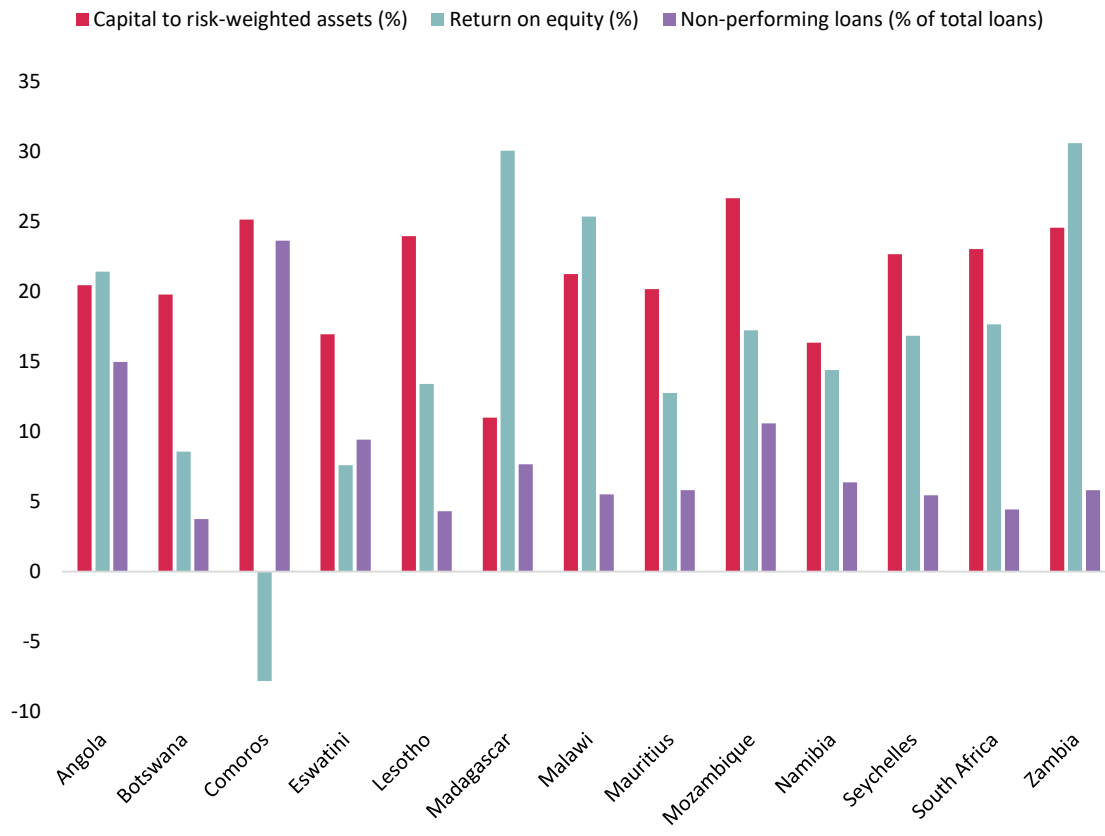


Source: World Bank DataBank and Moody's Analytics BankFocus.
Note: Credit growth for Zimbabwe is 452% (not in the chart).

Asset quality risks have been rising, with households and businesses continuing to be affected by double-digit inflation, rising rates, currency depreciation and US dollar shortages. Nevertheless, impaired loan ratios (non-performing loans) have been 6% on average, and above 10% in only four countries (Angola, Mozambique, Comoros and Malawi). High commodity prices have been supportive for commodity-rich Southern African economies (Angola, South Africa, Mozambique and Zambia) and for banks' operating environments, but a key risk to asset quality anticipated in 2023 is the sharp fall in commodity prices triggered by the global slowdown, especially in China, a major trading partner for the region.

Sovereign debt distress remains the major risk to Southern African banks' financial profiles. In South Africa, sovereign bond holdings make up just over 15% of bank assets, but this increases to 35% of bank assets for smaller banks (South African Reserve Bank, 2023), posing risks to these institutions, which tend to have smaller capital buffers and lower asset quality compared to large banks. External debt restructuring negotiations continue for Malawi, while Zambia has come to a staff-level agreement on a 38-month extended credit facility programme. However, further sovereign downgrades could result in more bank rating downgrades in 2023. In Zambia, sovereign debt concerns could also spill over into the financial sector, which owns a large share of domestic debt and is highly exposed to the public sector. In Malawi, the significant holdings of sovereign paper, some 32% of banks' assets, contribute to the profitability of banks but also crowd out lending to the private sector and pose potential risks given the current sovereign debt distress.

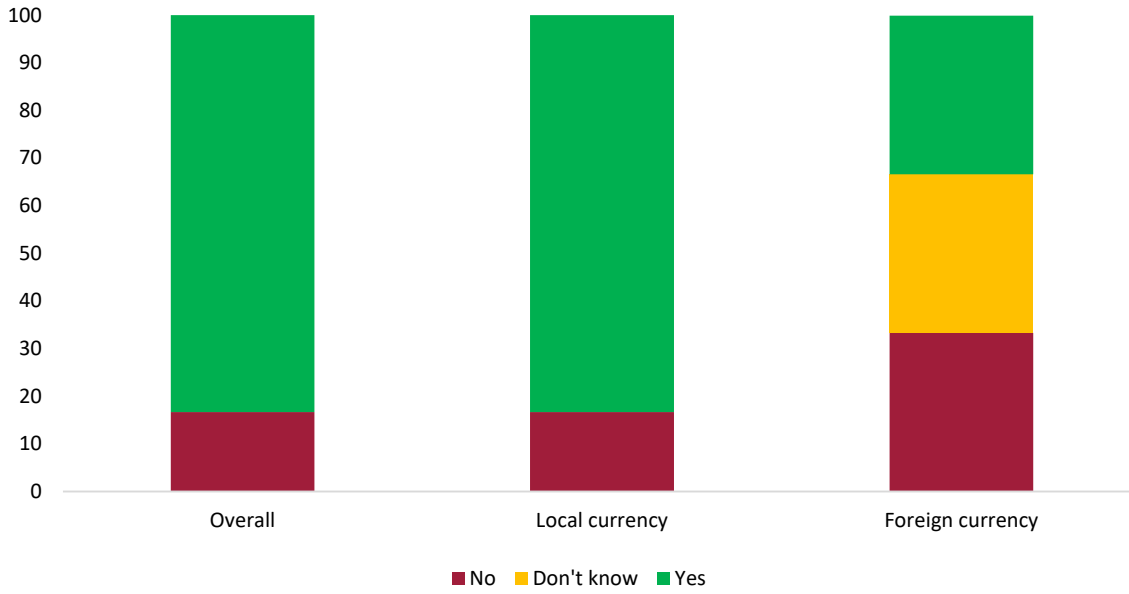
Figure 25. Solvency, profitability and asset quality indicators, Southern Africa



Source: IMF Financial Soundness Indicators, World Bank DataBank and Moody's Analytics BankFocus.
Note: Southern Africa represents the estimates for the region.

Banks in Southern Africa largely expect to increase their funding, primarily in local currency. About 80% of banks plan to increase their funding in the next 12 months (Figure 26), which is broadly in line with the result for sub-Saharan Africa as a whole. This reflects expectations about credit demand. Most banks expect credit demand from small and medium-sized enterprises in local currency to grow at a similar or faster rate in the next 12 months compared to the last 12 months (Figure 27). However, there is much less certainty around demand for loans in foreign currency, with nearly half of banks either unsure of future credit demand or expecting foreign currency demand growth to slow down. Accordingly, while most banks expect to increase funding in local currency, only one-third are firmly expecting to increase foreign currency loans.

Figure 26. Plans for operations and funding over the next 12 months (% of responding banks), Southern Africa



Source: EIB Banking in Africa survey, 2023.
Note: Local and foreign currency data are the results for banks answering "yes" to the overall question (the first bar in the chart).

Banks expect credit standards to remain unchanged in Southern Africa in 2023, for the first time in four years, following three consecutive years of expectations for tighter lending standards. However, tighter expectations are not always reflected in practice. In the 2022 survey, banks expected to tighten lending standards, but the results from the 2023 survey show that there was in fact a net loosening in credit standards by one-third of banks over the past 12 months.[14] However, caution is advised when comparing the survey results from the previous year because the overlap from the sample is not high. Nonetheless, among the banks that participated in the 2023 survey, none reported tightening lending standards over the past 12 months. Indeed, Southern Africa is the only region where no bank tightened lending standards in the last year, which is surprising given the turbulent macroeconomic and financial backdrop. For the next 12 months, the expected net tightening is zero, with an equal share of banks expecting to tighten and loosen standards. This outlook is again favourable compared to other regions, which all expect a tightening in lending standards. Note that the survey mainly captures the views of the smaller countries as there was a low response rate from banks in South Africa.

[14] The net loosening is the share of banks loosening minus the share of banks tightening credit standards. A similar logic applies when there is a net tightening of standards.

Figure 27. Expected pace of credit demand over the next year (% of responding banks), Southern Africa

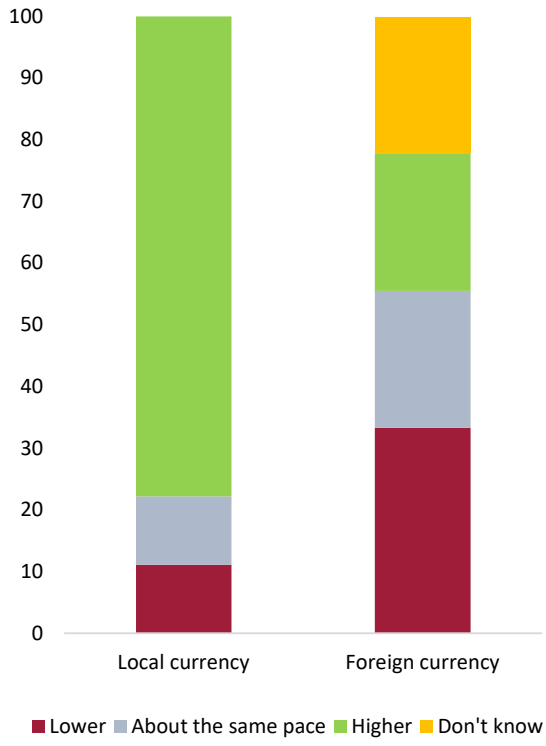
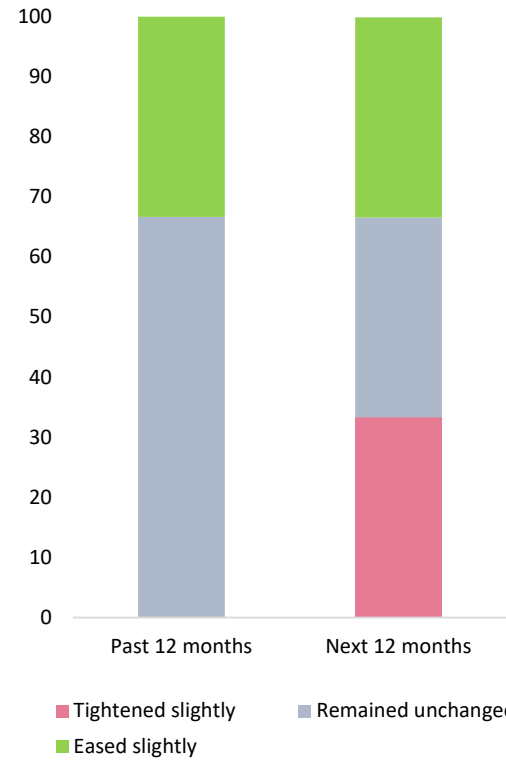


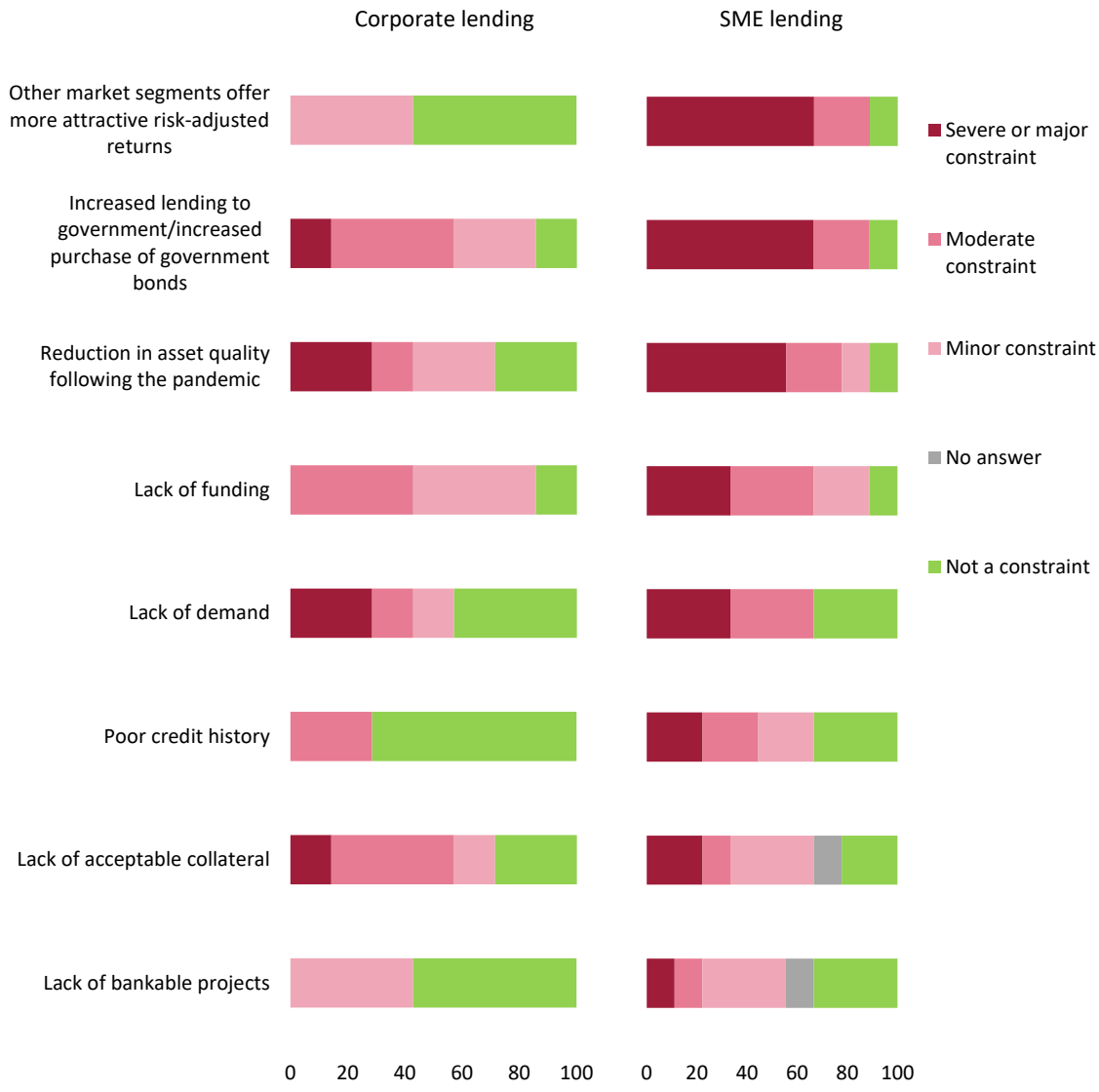
Figure 28. How credit standards have changed/will change (% of responding banks), Southern Africa



Source: EIB Banking in Africa survey, 2023.

Crowding out has emerged as a major constraint to credit supply in Southern Africa. Two-thirds of banks cite increased lending to government as a major or severe constraint on lending to small and medium-sized enterprises, compared to 14% when lending to corporates. However, an additional 40% of banks consider it a moderate constraint when lending to corporates. Also cited as a major or severe constraint to small and medium-sized enterprise lending is the fact that other sectors offer higher risk-adjusted returns, which seems to capture the same issue. Crowding out was more frequently cited than in previous versions of the survey, when a lack of collateral and poor credit history were the two factors most often cited as major or severe constraints to small and medium-sized enterprise lending in both Southern Africa and across sub-Saharan Africa as a whole. These factors are still clearly important for a sizeable share of banks, but in addition to crowding out, they have also been overtaken by concerns about asset quality and a lack of demand. In this sense, the variety of factors listed in the current version of the survey as major or severe constraints to lending to small and medium-sized enterprises in Southern Africa is wider than that of the 2022 results. However, as was the case in previous years, the hurdles facing small and medium-sized enterprises are both more varied and more severe. Thus, while banks do not expect to tighten lending standards, the survey suggests that existing standards are being applied quite rigorously and that banks remain cautious.

Figure 29. Factors constraining credit supply (% of responding banks), Southern Africa



Source: EIB Banking in Africa survey, 2023.

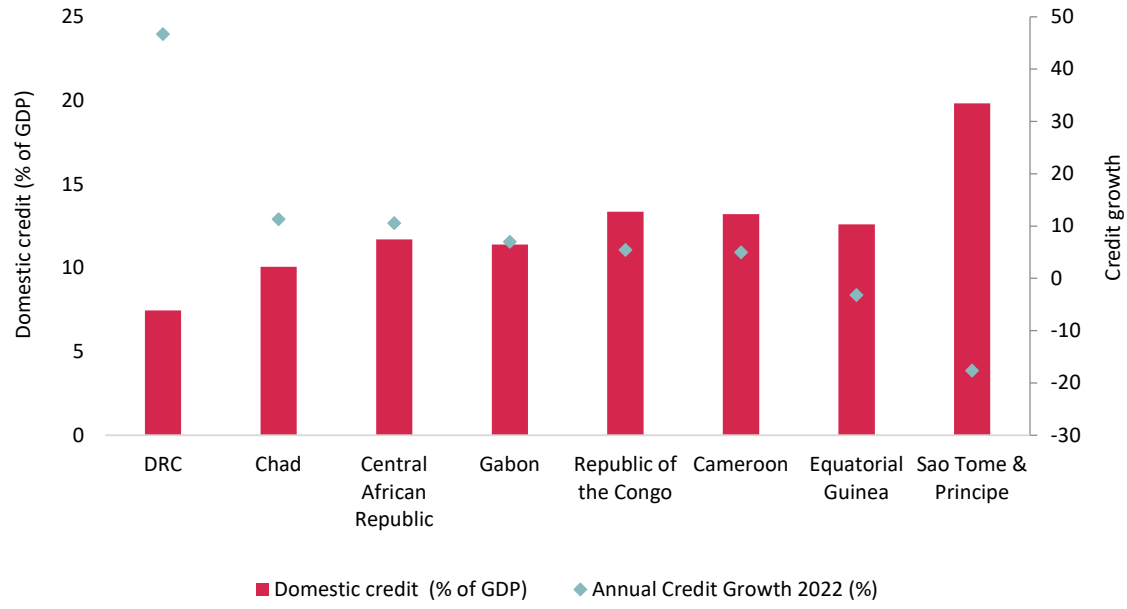
Banking in Central Africa

Central Africa continues to have the smallest number of banks and the highest banking concentration compared to other regions in Africa. Only 48 banks (up from 46 in the 2022 survey) report data publicly (Table A1 in the Appendix). Central Africa's share of sub-Saharan Africa's total GDP is only about 9%, even though the region accounts for 14% of sub-Saharan Africa's total population (IMF, 2023a). Central Africa's three largest economies — the Democratic Republic of the Congo, Cameroon and Gabon — contribute 75% of the region's GDP. These countries also account for 87% of the region's total banking assets, which is an increase of more than 1 percentage point compared to the 2022 survey.[15] High levels of banking concentration hamper competition

[15] Asset data are based on the 48 Central African banks for which total asset data are available in Moody's Analytics BankFocus.

and efficiency in the financial sector. The lowest level of banking concentration (defined as the assets held by the top three banks) in Central Africa is registered in Cameroon (48%), as was the case in the 2022 survey. This is followed by Chad (70%) and the Democratic Republic of the Congo (74%). In the smallest economies in the region (São Tomé and Príncipe, Central African Republic and Equatorial Guinea), not all banks report their assets publicly. In these three countries, the data provided by Moody's Analytics BankFocus therefore show a banking concentration of 100% (Table A1 in the Appendix).

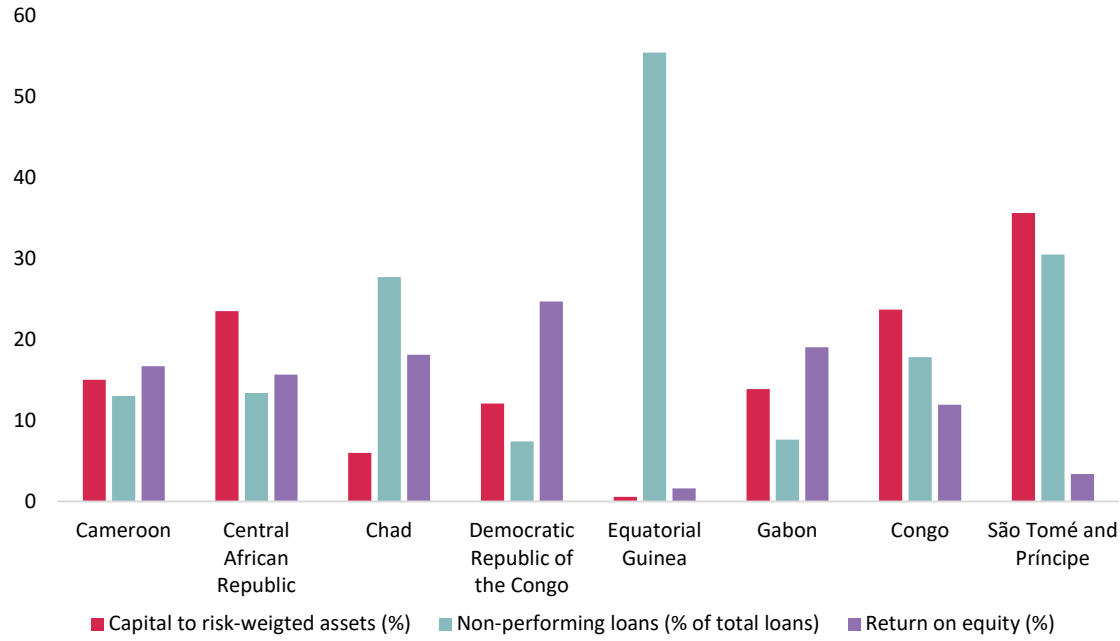
Figure 30. Credit depth and credit growth (2022), Central Africa



Source: World Bank DataBank and Moody's Analytics BankFocus.
Note: Domestic credit-to-GDP ratio is for the latest available year, but this varies from 2021 to 2022.

Credit markets in Central Africa are shallow compared to the rest of sub-Saharan Africa, with substantial variation in market depth within the region (Figure 30). Credit to the private sector is low across the region, at only 11% of GDP compared to an average of 37% for sub-Saharan Africa as a whole. São Tomé and Príncipe has the highest share of credit to GDP (20%), compared to just 7% of GDP in the Democratic Republic of the Congo and 10% in Chad. Annual credit growth in Central Africa was 14% in 2022 but was characterised by strong discrepancies between countries. Credit declined in two countries in 2022 relative to the previous year — São Tomé and Príncipe (–18%) and Equatorial Guinea (–3%). This compares to a credit decline in five countries in the 2022 survey. As in the previous survey, the strongest rate of credit expansion was observed in the Democratic Republic of the Congo, where credit growth accelerated to 30% annually in 2022, from 26% in the previous round. Credit growth turned positive in Cameroon and Congo (both +5% annually), Gabon (+7%) and Chad (+11%). Low credit penetration in the region is caused by a multitude of factors. This includes information asymmetries and poor credit history, regulatory and reporting shortcomings, regional inequalities, a lack of business opportunities and demand, crowding out through the public sector, and the high level of fragility and uncertainty in the region. In the Democratic Republic of the Congo, dollarisation of the banking sector remains very high (above 80% of credits and deposits in the fourth quarter of 2022), effectively resulting in a transfer of currency risk from banks to domestic borrowers (but leaving banks exposed to heightened credit risk in the event of currency depreciation).

Figure 31. Solvency, profitability and asset quality indicators, Central Africa



Source: IMF Financial Soundness Indicators, IMF (2022b), World Bank DataBank and Moody's Analytics BankFocus.

Central Africa continues to be the region with the highest level of non-performing loans and has the second-lowest return on equity in sub-Saharan Africa. The profitability of banks in Central Africa (in the second quarter of 2022)[16], is measured as return on equity and ranges from 2% in Equatorial Guinea and 3% in São Tomé and Príncipe to 25% in the Democratic Republic of the Congo (Figure 31). For most countries in the region, profitability increased compared to the previous survey. This reflects the impact of an overall economic recovery from the pandemic as well as the positive impact on aggregate of high energy (and other commodity) prices and a high interest rate environment. However, with a return on equity of 18% at the regional level, the profitability of the banking sector in Central Africa is below that of most other regions in sub-Saharan Africa. Central Africa continues to perform worse than all the other regions on asset quality, which is reflected in an average non-performing loan ratio of 15%. The non-performing loan ratio ranges from 7% in the Democratic Republic of the Congo (IMF, 2023b) and 8% in Gabon, to 28% in Chad, 31% in São Tomé and Príncipe and an extraordinarily high 55% in Equatorial Guinea, where high levels of public sector arrears have translated into very high non-performing loan ratios (Figure 31). Compared to the previous survey, the non-performing loan ratio decreased only for two countries: Cameroon and the Democratic Republic of the Congo. The reported non-performing loan ratio remained unchanged in the Central African Republic, while it increased at least slightly for the five other countries in the region. The largest increase (4 percentage points) was registered in Equatorial Guinea, which already had the highest non-performing loan ratio across all regions in sub-Saharan Africa.

Capital adequacy also differs substantially across the region. Within the Central African Economic and Monetary Community, the capital adequacy ratio (capital to risk-weighted assets) averaged almost 15% in April 2022 according to the IMF (2023b), representing an increase of 0.6 percentage points compared to the previous year and above the minimum requirement of 10.5%. However, among Central African Economic and Monetary Community members, the capital adequacy ratio ranged from an extremely low 1% in Equatorial Guinea and 6% in Chad to 24% in the Central African Republic and Congo. In Equatorial Guinea, the ratio of capital to risk-weighted assets turned positive but remained very low in 2022, up from a previous -5%, reflecting restructuring and recapitalisation needs in the banking sector. Outside the Central African Economic and Monetary Community, the capital adequacy ratio stood at 12% in the Democratic Republic of the Congo in 2022, unchanged

[16] Except São Tomé and Príncipe (first quarter of 2022) and Congo (fourth quarter of 2021).

compared to one year earlier. In São Tomé and Príncipe, regulatory capital to risk-weighted assets increased in the first quarter of 2022 to a very high 36% compared to 30% one year earlier, according to the IMF (2022b).

The strong concentration of banks' exposure to large companies and the increasing sovereign-bank nexus remain major risks to financial stability in the Central African Economic and Monetary Community. The share of government debt on banks' balance sheets increased slightly to 31% of total assets in the third quarter of 2022, up from close to 30% in mid-2021 according to the IMF (2023b). In addition, high levels of domestic arrears (estimated at around 6% of GDP in 2021)[17] continue to weigh on asset quality and profitability in Central Africa, thereby further weakening its financial stability. In 2021, levels of domestic arrears ranged from 1.5% of GDP in the Central African Republic and 2% in Cameroon and São Tomé and Príncipe, to a very high 12.2% in Equatorial Guinea and 16.3% in Congo.

Global monetary tightening and high levels of inflation have led to an increase in borrowing costs for countries in the region since the 2022 survey. The Banque des États de l'Afrique Centrale (BEAC), the central bank of the six Central African Economic and Monetary Community members, increased its policy rate by a total of 175 basis points in 2022 and 2023 to 5% to counteract inflation and strengthen foreign currency reserves. In addition, in the Democratic Republic of the Congo, the central bank hiked its discount rate by a total of 250 basis points in 2022 and 2023 to 10%, while the central bank of São Tomé and Príncipe increased its reference rate by 100 basis points to 10%.

[17] Based on the Bank of Canada (BoC)–Bank of England (BoE) Sovereign Default Database (Beers, Jones and Walsh, 2021) and the IMF World Economic Outlook database (IMF, 2023a).

References

ALTFI/MFW4A (2022). “Long-term finance in Ghana.” Abidjan, Côte d'Ivoire: MFW4A.

Bank of Ghana (2021a). “Banking sector developments.” Accra, Ghana: Bank of Ghana.

Bank of Ghana (2021b). “Annual report and financial statements.” Accra, Ghana: Bank of Ghana.

Bank of Ghana (2022). “Monetary policy report.” Accra, Ghana: Bank of Ghana.

Bank of Ghana (2023). “Summary of Economic and Financial Data.” Available at: https://www.bog.gov.gh/monetary-policy/summary-of-economic-and-financial-data/.

Beers, D., Jones, E. and Walsh, J.F. (2021). “BoC-BoE Sovereign Default Database.” Available at: https://centerforfinancialstability.org/BoC_BoE_Debt.php.

Fitch Ratings (2022). “Nigerian banks’ capital resilient to naira depreciation.” Client note.

Ghana Statistical Service (2023), CPI database. Available at: https://statsghana.gov.gh/Economics.php?category=NjA3MDAyNjY4LjY1OTU=/webstats/3psp748376.

GSE (2023), Ghana Stock Exchange Market Reports. Available at: https://gse.com.gh/market-reports/.

IFC/AfDB/MFW4A (2022). “Gauging appetite of African institutional investors for new asset classes.” Abidjan, Côte d'Ivoire: MFW4A. Available at: https://www.ifc.org/en/insights-reports/2022/gauging-appetite-african-institutional-investors-new-asset-classes.

IMF (2022). “Article IV consultation Nigeria.” Washington DC: IMF. Available at: https://www.imf.org/en/Publications/CR/Issues/2023/02/16/Nigeria-2022-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-the-529842.

IMF (2022a). “West African Economic and Monetary Union: Financial Sector Assessment.” Available at: https://www.imf.org/en/Publications/CR/Issues/2022/12/12/West-African-Economic-and-Monetary-Union-Financial-Sector-Assessment-Program-Detailed-526867.

IMF (2022b). “Democratic Republic of São Tomé: Fifth Review Under the Extended Credit Facility Arrangement.” Available at: https://www.imf.org/en/Publications/CR/Issues/2022/09/20/Democratic-Republic-of-So-Tom-Fifth-Review-Under-the-Extended-Credit-Facility-Arrangement-523631.

IMF (2023a). “World Economic Outlook database.” Available at: https://www.imf.org/en/Publications/WEO/weo-database/2023/April.

IMF (2023b). “Central African Economic and Monetary Community: Staff report on the common policies of member countries, and common policies in support of member countries reform programs.” Washington DC: IMF. Available at: https://www.imf.org/en/Publications/CR/Issues/2023/01/06/Central-African-Economic-and-Monetary-Community-Staff-Report-on-the-Common-Policies-of-527844.

IMF (2023c). “Regional economic outlook. Sub-Saharan Africa: The big funding squeeze.” Washington DC: IMF. Available at: https://www.imf.org/en/Publications/REO/SSA/Issues/2023/04/14/regional-economic-outlook-for-sub-saharan-africa-april-2023.

Ghana MOF (2021a). “Annual Public Debt Report for the 2021 Financial Year”. Available at: https://mofep.gov.gh/sites/default/files/reports/economic/2021-Annual-Public-Debt-Report.pdf.

Ghana MOF (2021b). Issuance Calendar. Available at: https://mofep.gov.gh/investor-relations/issuance-calendar.

National Pensions Regulatory Authority (2021). "2021 annual report." Accra, Ghana: National Pensions Regulatory Authority. Available at: https://npra.gov.gh/assets/Uploads/Final_NPRA_Report-Web-CAD.pdf.

Republic of Ghana, Ministry of Finance (2021). "The 2021 annual public debt report." Accra, Ghana: Republic of Ghana, Ministry of Finance. Available at: https://mofep.gov.gh/sites/default/files/reports/economic/2021-Annual-Public-Debt-Report.pdf.

South African Reserve Bank (2023). "Financial stability review. First edition." Pretoria, South Africa: South African Reserve Bank. Available at: https://www.resbank.co.za/en/home/publications/publication-detail-pages/reviews/finstab-review/2023/first-edition-2023-financial-stability-review.

World Bank (2022a). "The World Bank in Ghana." Available at: https://www.worldbank.org/en/country/ghana/overview.

World Bank (2022b). "Global Financial Inclusion Database." Available at: https://databank.worldbank.org/reports.aspx?source=1228.

S&P Global (2023). "Banking risk – Nigeria." Banking risk profile. Client note.

Appendix: Tables

Table A1. Key banking sector indicators, Central Africa

Country	Number of banks**	Total assets ($)**	Banking concentration (top three banks)**	Credit to the private sector (% of GDP)+	Annual credit growth (%)+	Loans to deposits +	Financial soundness indicators: Latest available	Non-performing loans (% of total loans)±	Capital to risk-weighted assets (%)±	Return on equity (%)±
Cameroon	12	11 627 678	0.48	13.21	5.00	83.63	Q2 2022	13.03	15.03	16.70
Central African Republic	2	312 624	1.00	11.79	10.53	92.00	Q2 2022	13.38	23.50	15.67
Chad	5	1 313 867	0.70	11.90	11.28	93.97	Q2 2022	27.70	6.00	18.12
Democratic Republic of the Congo	13	12 896 409	0.74	7.22	30.00	34.64	Q4 2022	7.40	12.10	24.70
Equatorial Guinea	2	656 925	1.00	10.41	-3.19	156.53	Q2 2022	55.41	0.57	1.63
Gabon	6	4 559 195	0.85	11.40	7.00	71.51	Q2 2022	7.64	13.87	19.05
Congo	5	1 892 974	0.74	15.42	5.42	83.59	Q4 2022	17.80	23.67	11.93
São Tomé and Príncipe	3	127 287	1.00	19.84	-17.62	74.70	Q1 2022	30.50	35.60	3.40
Central Africa*	**48**	**33 386 959**	**0.69**	**10.84**	**14.20**	**71.44**		**15.22**	**13.46**	**18.18**

*Source: **Moody's Analytics BankFocus, +World Bank DataBank and ±IMF Financial Soundness Indicators.*
**GDP-weighted average.*

Table A2. Key banking sector indicators, East Africa

Country	Number of banks**	Total assets ($)**	Banking concentration (top three banks)**	Credit to the private sector (% of GDP)+	Annual credit growth (%)+	Loans to deposits +	Financial soundness indicators: Latest available	Non-performing loans (% of total loans)±	Capital to risk-weighted assets (%)±	Return on equity (%)±
Burundi	6	1 697 156	0.72	35.12	41.18	61.30	Q2 2018	4.10	24.00	24.00
Djibouti	5	2 056 882	0.82	18.12	17.09	25.82	Q2 2022	6.69	10.91	12.70
Ethiopia	17	42 054 399	0.71	11.87	11.90	57.82	Q3 2022	5.41	16.00	25.86
Kenya	46	57 875 816	0.37	29.59	12.74	86.07	Q3 2022	13.14	19.00	27.50
Rwanda	10	4 328 493	0.62	17.00	17.21	102.00	Q1 2021	4.10	22.31	20.21
Tanzania	24	9 966 222	0.58	14.56	7.91	81.20	Q2 2022	7.63	20.15	15.19
Uganda	34	17 502 148	0.48	13.65	13.49	71.45	Q3 2022	5.19	22.86	24.34
East Africa*	**142**	**135 481 116**	**0.46**	**18.48**	**9.96**	**82.38**		**9.56**	**18.91**	**23.80**

*Source: **Moody's Analytics BankFocus, +World Bank and ±IMF financial soundness indicators.*
**GDP-weighted average.*

Table A3. Key banking sector indicators, West Africa

Country	Number of banks**	Total assets ($)**	Banking concentration (top three banks)**	Credit to the private sector (% of GDP)+	Annual credit growth (%)+	Loans to deposits +	Financial soundness indicators: Latest available	Non-performing loans (% of total loans)±	Capital to risk-weighted assets (%)±	Return on equity (%)±
Benin	9	6 514 962	0.61	15.55	19.06	62.48		17.00		
Burkina Faso	12	12 235 261	0.63	14.56	19.64	72.29		7.60		
Cabo Verde	9	3 249 524	0.68	55.00	5.77	64.45		7.20		
Côte d'Ivoire	22	33 234 647	0.39	21.10	4.68	78.35		9.10		
Ghana	35	30 424 432	0.31	10.75	20.91	18.13	Q4 2022	14.79	16.56	14.07
Guinea	9	2 325 116	0.57	9.22	16.28	42.88	Q2 2022	9.21	16.48	17.71
Guinea-Bissau	1	144 143	1.00	16.10	28.57	50.03		6.40		
Liberia	7	1 054 934	0.74	14.02	-6.29	77.19		22.90		
Mali	11	8 027 945	0.49	29.10	15.55	93.16		10.70		
Mauritania	15	2 621 450	0.56	22.24	8.15	103.23		20.50		
Niger	7	2 909 398	0.60	13.10	3.83	97.19		21.18		
Nigeria	31	142 631 800	0.49	12.22	10.00	56.01		4.01	13.76	17.18
Senegal	23	15 072 960	0.36	29.20	16.34	82.60	Q4 2022	11.20		
Sierra Leone	7	773 558	0.57	0.00	11.92	28.84		15.20		
The Gambia	6	825 515	0.68	8.92	4.68	71.99	Q4 2019	4.20	31.40	15.22
Togo	8	5 045 872	0.93	26.62	18.09	65.39		18.30		
West Africa*	**212**	**267 091 517**	**0.48**	**14.24**	**17.68**	**63.87**		**10.12**	**14.21**	**16.80**

*Source: **Moody's Analytics BankFocus, +World Bank DataBank and ±IMF Financial Soundness Indicators.*
**GDP-weighted average.*

Table A4. Key banking sector indicators, Southern Africa

Country	Number of banks**	Total assets ($)**	Banking concentration (top three banks)**	Credit to the private sector (% of GDP)+	Annual credit growth (%)+	Loans to deposits +	Financial soundness indicators: Latest available	Non-performing loans (% of total loans)±	Capital to risk-weighted assets (%)±	Return on equity (%) ±
Angola	25	33 932 660	0.52	8.14	3.37	37.19	Q2 2022	15.00	20.49	21.44
Botswana	12	11 549 907	0.47	36.76	5.70	77.97	Q4 2022	3.75	19.82	8.57
Comoros	1	46 024	1.00	16.09	26.07	57.73	Q4 2020	23.66	25.17	-7.83
Eswatini	5	1 654 922	0.81	20.80	10.12	71.17	Q2 2020	9.45	16.97	7.62
Lesotho	4	1 274 494	0.90	22.74	9.62	58.22	Q4 2022	4.31	23.99	13.43
Madagascar	8	3 633 828	0.76	17.71	16.76	86.94	Q4 2022	7.68	11.01	30.09
Malawi	10	3 753 655	0.66	8.10	10.22	52.16	Q4 2020	5 52	21.27	25.39
Mauritius	20	46 269 294	0.54	86.10	12.05	61.99	Q3 2022	5 82	20.21	12.78
Mozambique	17	10 899 055	0.70	21.88	5.84	44.19	Q3 2022	10.60	26.70	17.26
Namibia	14	10 556 640	0.78	66.81	0.36	84.11	Q3 2022	6.37	16.36	14.40
Seychelles	5	2 075 888	0.92	30.76	8.01	34.67	Q4 2021	5 45	22.69	16.87
South Africa	47	397 075 392	0.73	93.40	8.92	95.62	Q3 2021	4.45	23.06	17.69
Zambia	24	9 840 905	0.48	11.14	40.96	38.23	Q4 2021	5 82	24.59	30.64
Zimbabwe	16	5 238 428	0.50	6.99	451.87	47.24	2022	0.60*		
Southern Africa*	**208**	**537 801 092**	**0.60**	**62.51**	**24.98**	**80.33**		**5.88**	**22.10**	**18.70**

*Source: **Moody's Analytics BankFocus, +World Bank DataBank and ±IMF Financial Soundness Indicators.*
**GDP-weighted average.*

5

Gender, entrepreneurship and finance in Africa

This chapter was authored by Colin Bermingham, senior economist, Barbara Marchitto, head of country and financial sector division, Rozalia Pal, economist and Serena Sorrentino, trainee at time of writing, all staff of the European Investment Bank.

Key messages

This chapter sheds light on the structural characteristics of female-led vs. male-led firms in sub-Saharan Africa and their adaptability and resilience after the COVID-19 crisis. Following methodology developed by Pal, Rückert and Wruuck (2022), the analysis uses a sample of World Bank Enterprise Survey data that covers 19 sub-Saharan African countries from June 2016 to October 2022. The data reveal gender gaps in sub-Saharan Africa in both leadership and employment: the share of firms with women in leadership positions, either in firm management or ownership, is 33%, and the share of women in the total workforce is 29%. The data also show that female-led firms in sub-Saharan Africa employ more women. The share of women in the workforce in female-led firms is 41%, compared to 23% in male-led firms, which demonstrates that female leadership is good for female employment.

Overall, female-led businesses were hit slightly harder by the COVID-19 pandemic than male-led businesses. The likelihood of female-led firms experiencing sales losses was 3 percentage points higher than it was for male-led firms. Additionally, female-led companies faced a higher probability (90%) of suffering a drop in liquidity than male-led enterprises (86%).

Businesses led by women were just as resilient as male-led firms after the pandemic, as illustrated by bankruptcy rates and permanent closures. For women-led companies, the probability of going bankrupt was limited to 5% (vs. a 6% probability for male-led businesses), and the probability of shutting down permanently was 3% (vs. a 4% probability for male-led businesses). Female-led firms were also slightly less likely to reduce their number of permanent employees (28% vs. a 30% probability for male-led firms), although the difference is not statistically significant.

Better-managed enterprises are more likely to be led by women. Female-led firms are more likely to invest in innovation (7 percentage points more likely), export goods and services (5 percentage points) and offer training to their employees (8 percentage points).

The 2023 European Investment Bank (EIB) Banking in Africa survey reveals that 65% of banks have a gender strategy in place, with another 19% planning to introduce one. This means that soon only a small minority of banks in the region will be without a gender strategy. For the first time, the survey now asks banks why they have such a strategy, with 79% of respondents saying the most important reason is to achieve desirable social outcomes.

The distribution of loans is still notably skewed in favour of male borrowers. In lending to small and medium-sized enterprises, almost 70% of banks reported that less than 30% of their lending was to female borrowers. The barriers facing female-led companies in obtaining loans are similar to those facing other small and medium-sized enterprises. 50% of banks cite a lack of acceptable collateral as a major constraint, while 40% say poor or incomplete credit history is a major constraint.

Banks continue to observe better asset quality on female lending. Just over half of the banks in the sample report that women have lower non-performing loan rates than men, while another 30% report no difference. This figure has improved compared to the 2022 survey, where it stood at about 40% of banks.

Comparing female-led and male-led firms in sub-Saharan Africa

Female entrepreneurs are significant contributors to the economy and society. This chapter presents insights on female leadership in sub-Saharan African enterprises and on the drivers and challenges that women face in growing their businesses. Drawing on Pal, Rückert and Wruuck's (2022) study conducting a similar analysis for EU countries, this chapter shows that supporting female entrepreneurs helps to mitigate gender employment gaps and generates wider societal benefits.

Incentivising women to access the credit market could lead to less risk in the financial system. The EIB's Finance in Africa survey shows that loans to female-led firms perform better on average. This year, 53% (41% in 2022) of the sub-Saharan African banks surveyed report that women and women-led businesses have a lower non-performing loan rate. This is in line with data from the International Finance Corporation's 2023 annual survey on banking, which show that the portfolio of small and medium-sized enterprise loans held by women are characterised by a lower rate of non-performing loans. The non-performing loan ratio for loans held by women-owned small and medium-sized enterprises is 4.4% on average, compared to 5.1% for loans held by male-owned small and medium-sized enterprises (International Finance Corporation, 2023).

However, several factors hinder women's business performance in Africa, such as legal discrimination, social norms, education and skills gaps, household-related constraints and obstacles in accessing finance, among others (World Bank, 2019). Regarding access to finance, research shows that a lack of collateral is a bigger constraint for women seeking a loan than it is for men (Morsy and Hoda, 2017). Women also tend to exclude themselves from credit markets because of their perceived low creditworthiness. This applies to female entrepreneurs too, even if their perception is not justified by the observed creditworthiness of their firms (Morsy, 2020). In other words, women and female-led firms tend to refrain from applying for loans because they expect their applications to be rejected.

Recent literature shows that another factor hindering the profitability of women's businesses is a lack of exposure to male-dominated sectors (World Bank, 2021). In fact, sectoral segregation is one of the reasons behind the gender earnings gap (Goldstein, Gonzalez Martinez and Papineni, 2019). Women and men tend to concentrate on providing different services, with women more likely to engage in activities that are on average less profitable. A key finding from this line of literature is that women entrepreneurs operating businesses in male-dominated sectors outperform women in female-dominated sectors. Empowering female entrepreneurs to enter traditionally male-dominated industries (for example, construction or automation), would therefore lead to benefits for business profitability and the wider economy.

Sub-Saharan Africa has great untapped potential, with more women participating in the workforce than in developing countries in any other region.[1] However, despite recent progress, much more needs to be done to ensure that equal prospects for women will foster economic growth and development. As shown later in the chapter, significant gender disparities persist in industries such as construction and manufacturing. Furthermore, major investment is needed to unlock women's potential. Although progress has been made in women's financial inclusion, there is still an estimated financing gap of $154–188 billion for women-owned businesses in developing economies (Abebe, Maina, Ondiek and Ogolla, 2017).

Female-led businesses should be supported because they generate positive economic, social and environmental externalities. A recent EIB study on female entrepreneurship in the European Union further highlights the urgency of investing in women's businesses (Pal, Rückert and Wruuck, 2022). The study finds that women-led firms achieve higher environmental, social and governance scores and promote gender-balanced employment more effectively. The analysis also shows that despite the COVID-19 crisis affecting women-led firms more negatively,[2] they were just as resilient as male-led businesses.

[1] World Bank (2019). Based on the World Bank's households surveys, the authors find that women in Africa's labour force participation is around 55% (vs. 61% for men), whereas in the Middle East and North Africa region it is 29% (vs. 62% for men), in South Asia it is 30% (vs. 65% for men) and in Latin America and the Caribbean it is 45% (vs. 70% for men).

[2] Birhanu, Getachew and Lashitew's (2022) study shows that women-owned enterprises were more adversely impacted by the pandemic and concludes that stronger policy support helps mitigate the impact.

This chapter sheds light on the structural characteristics of firms in sub-Saharan Africa and their adaptability and resilience after the COVID-19 crisis, showing that female-led firms — when they manage to emerge — perform better than male-led firms on innovation, social and environmental scores. Following methodology developed by Pal, Rückert and Wruuck (2022), the analysis uses a sample of World Bank Enterprise Survey data that covers 19 sub-Saharan African countries from June 2016 to October 2022.[3] As in Europe, female-led firms in sub-Saharan Africa achieve greater gender equality in the workplace, offer more training to employees, invest more in innovation and have higher management scores. Issues relating to access to finance are nuanced, with established female-led firms having somewhat better access to credit than male-led firms, while female-led startups likely face greater barriers to accessing finance. Despite being more negatively affected by COVID-19, econometric work in this chapter shows that female-led businesses in sub-Saharan Africa were as resilient as male-led firms in terms of firm closures, bankruptcy rates and loss of employees during the pandemic. These results seem to suggest that female-led businesses in sub-Saharan Africa struggle more than male-led businesses to prove their viability and emerge. This means that when they do, they are better managed and perform better than the average male-led firm. However, care should be taken when attributing causation because well-managed firms might choose to promote and employ more women than poorly managed firms.

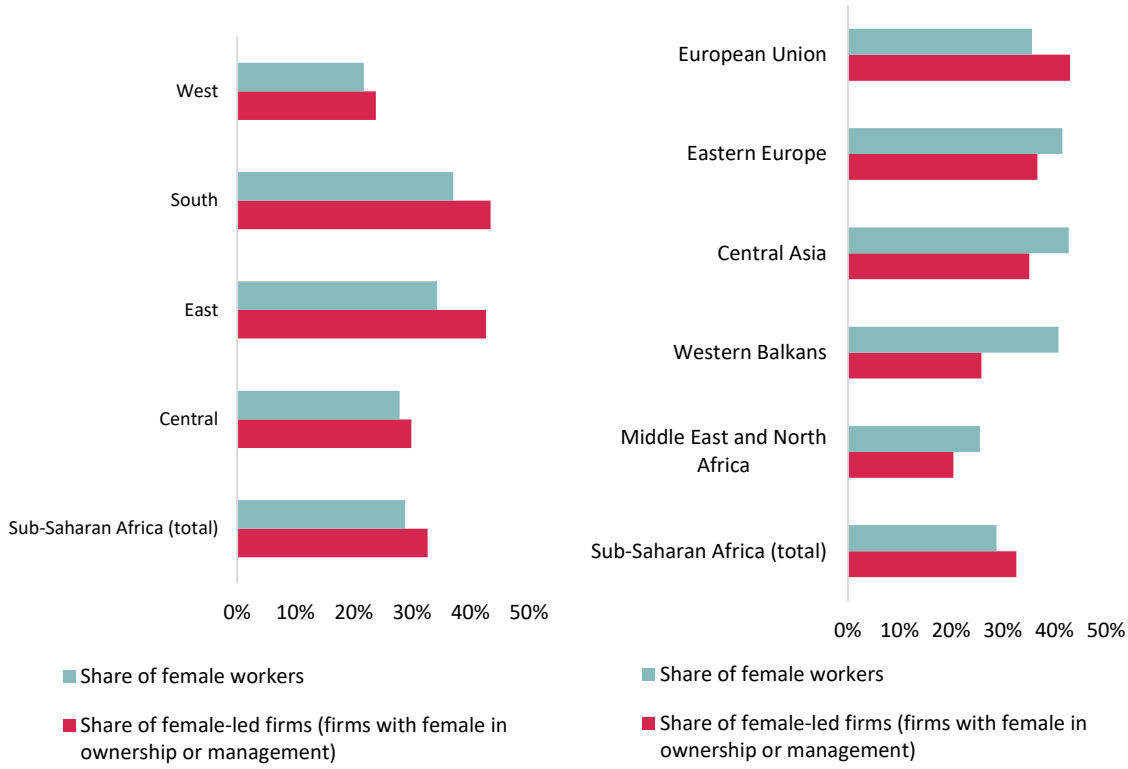
Results from the Enterprise Survey data

Gender gaps are apparent in sub-Saharan Africa in both leadership and employment. The share of firms with women in leadership positions — either in the firm's management or ownership — is 33%, and the share of women in the total workforce is 29%, which shows a significant gender gap. The share of female-led firms in sub-Saharan Africa is lower than in the European Union (33% vs. 43%). On average, European firms employ more women than sub-Saharan African firms (36% vs. 29%). The sub-region with the smallest gender employment gap in sub-Saharan Africa is Southern Africa, where 37% of employees are female on average and 43% of firms are led by women.

Gender gaps in sub-Saharan Africa are also larger when compared to most other regions globally, apart from the Middle East and North Africa. Countries in (non-EU) Eastern Europe, Central Asia, and the Western Balkans all have slightly smaller gender employment gaps than the European Union, whereas sub-Saharan Africa's gap is larger. In contrast, Eastern Europe, Central Asia, and the Western Balkans all have female leadership gaps that are bigger than in the European Union, especially the Western Balkans. The Middle East and North Africa is the worst performer globally in terms of both female employment and leadership gaps. The leadership gap in sub-Saharan Africa trails Eastern Europe and Central Asia by a small margin while outperforming the Western Balkans, and sub-Saharan Africa is also the only region other than the European Union where the leadership gap is smaller than the employment gap.

[3] More details on the data and the regional breakdown can be found in the Appendix.

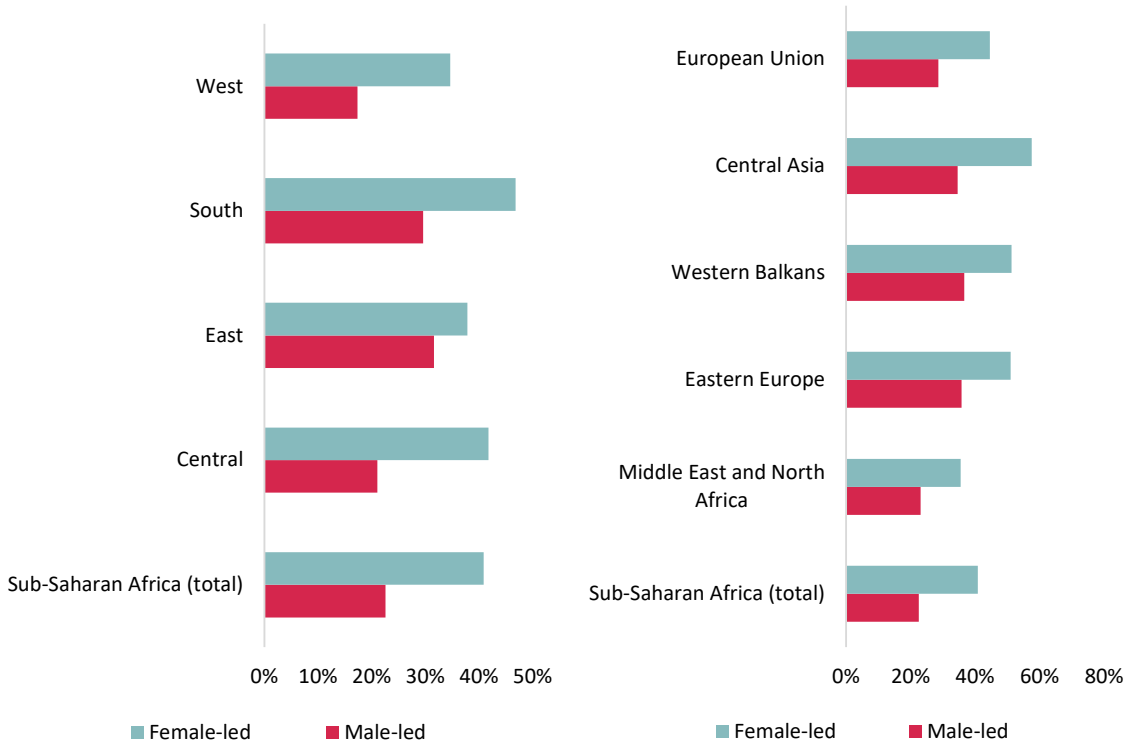
Figure 1. Share of female-led firms and female workers in sub-Saharan Africa by region (left) and in other regions in the world (right)



Women-led enterprises employ more women in sub-Saharan Africa. Our analysis shows that this is true across the region (Figure 2). These results corroborate findings for advanced economies and add new evidence for middle-income and emerging economies. The sample for sub-Saharan Africa shows that the share of female workers is higher in female-led businesses, especially in Southern Africa. The number of women employed varies from sub-region to sub-region, but female leadership appears to be a strong driver of gender balance. The share of female employees is higher in female-led businesses than in male-led ones, with a gap of 18 percentage points (41% vs. 23%). Female-led firms come the closest to gender equality in Southern Africa, with their workforce having an average of 47% women. On the other hand, male-led firms in Central and West Africa show the highest gender employment gap.

The propensity for women-led enterprises to employ more women is also evident in other global regions. The gaps range from 12 percentage points in the Middle East and North Africa to 23 percentage points in Central Asia, compared to 15-16 percentage points in the European Union, Eastern Europe and the Western Balkans. Figure 1 shows that gender employment gaps are larger in the Middle East and North Africa than in other regions, with these gender gaps being the least responsive to whether the firm is female led. The 18 percentage point female employment gap between men and women-led firms in sub-Saharan Africa is comparable to that in the European Union.

Figure 2. Share of female workers by firm ownership and region



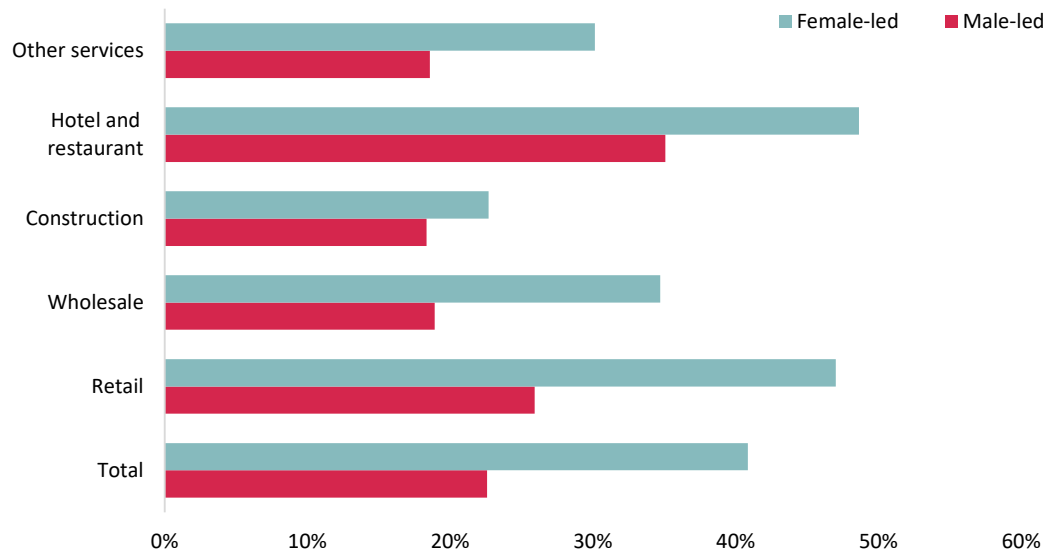
Sources: Enterprise Survey data and authors' calculations.

The number of women employed by firms varies according to their economic sector, but the pattern of female-led firms employing more women is persistent across the board. The hotel and restaurant sector and retail businesses have the highest share of female employees, while the construction industry has the lowest.[4] The labour market implications of this sectoral difference in female employment become particularly evident when the economy is hit by an asymmetric shock like COVID-19, where the most affected sectors were indeed those with higher shares of female workers. The pandemic shock's disproportionate effect on women therefore widened the already significant gender employment gap.

A lack of access to finance remains the biggest obstacle for sub-Saharan African firms, especially female-led startups. A lack of access to finance is somewhat less problematic for female-led firms than it is for their male-led counterparts, with a greater share of male-led firms in the region reporting access to finance difficulties as being the biggest obstacle to business. While previous research (EIB, 2022) shows that female entrepreneurs leading startup and scaleup firms face greater constraints in accessing external financing, Enterprise Survey data reveal that established female-led firms face similar or even smaller financial barriers (Pal, Rückert & Wruuck, 2022). In this sense, finance is more of a problem for women when starting a firm and seems to be slightly less of a problem when managing an established firm.[5] The more favourable firm-level characteristics of female-led firms — such as managerial quality, innovativeness or investment ambitions — may ease barriers to accessing external financing. Nonetheless, a slightly higher share of female-led companies report greater obstacles to business in areas such as electricity access, informality and political instability.

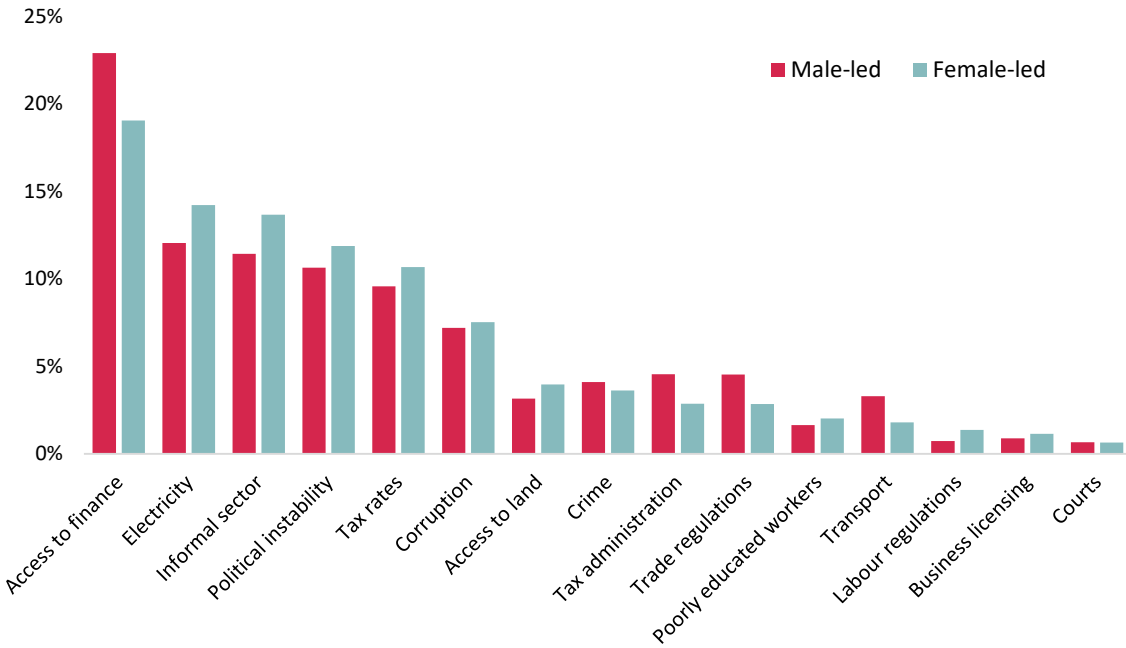
[4] Data on female workers were not available for female-led manufacturing firms, leading to the manufacturing sector being removed from Figure 3. However, for male-led firms, the share of female workers in manufacturing is lower than it is in construction. The data source is the Enterprise Survey, updated to October 2022.
[5] This point is also discussed in relation to the survey results in the final part of the chapter.

Figure 3. Share of female workers, by industrial sector



Sources: Enterprise Survey data and authors' calculations.

Figure 4. Biggest business obstacles for sub-Saharan African companies

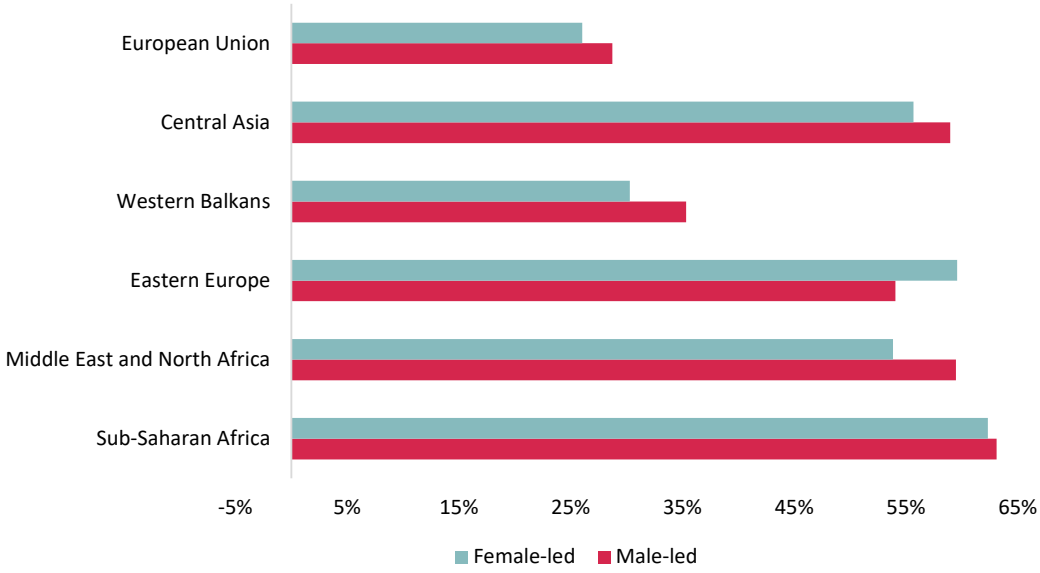


Sources: Enterprise Survey data and authors' calculations.
Note: The bar chart shows the share of sub-Saharan African firms that report the variables of interest as an obstacle. Only one obstacle can be selected by each firm.

Sub-Saharan African enterprises face similar challenges to those in the Middle East and North Africa. A lack of access to finance is the biggest problem in both regions. However, a smaller proportion (4 percentage points) of female-led firms in sub-Saharan Africa report problems with accessing finance than male-led firms. In contrast, female-led firms in the Middle East and North Africa are more likely than male-led firms to cite problems with access to finance, with a gender gap of 5 percentage points. Electricity is more often a barrier for companies in sub-Saharan Africa than it is for those in the Middle East and North Africa (13% vs. 5%), while the informal sector, political instability and corruption are cited by enterprises in both regions as being among the biggest impediments to business (Pal, Rückert and Wruuck, 2022).

Sub-Saharan African firms face similar credit constraints to those in the Middle East and North Africa region. The credit constraint metric supplements the access to finance indicator, measuring the share of companies that wish to obtain credit but are unable to do so. The share of companies needing a loan that are credit constrained is just above 60% in sub-Saharan Africa, which is comparable to the Middle East and North Africa region (EIB and European Bank for Reconstruction and Development (EBRD), 2022; EIB, EBRD and World Bank, 2022).[6] In sub-Saharan African countries, female-led firms are slightly less credit constrained (in line with the results regarding the biggest obstacles presented above), but the gender difference is very small.

Figure 5. Credit-constrained firms as a share of firms needing a loan in sub-Saharan Africa compared to other regions in the world (%)

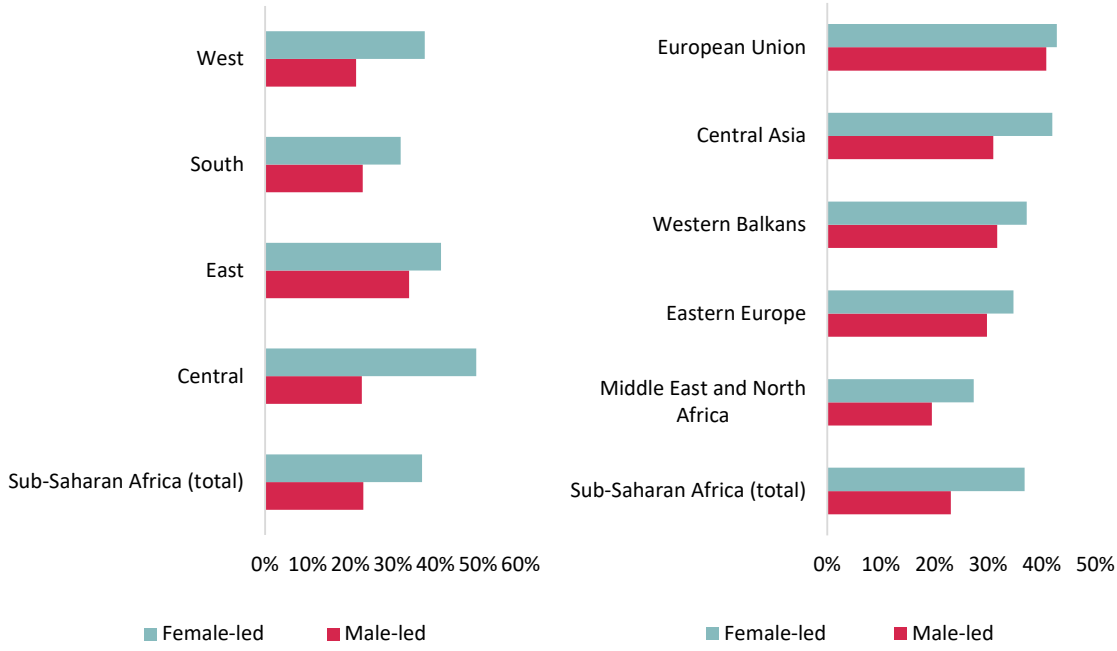


Sources: Enterprise Survey data and authors' calculations.

More female-led firms offer formal training programmes to employees than male-led firms across all regions in sub-Saharan Africa. The gap between female- and male-led businesses offering training to workers is pronounced, especially in West Africa and Central Africa. The share of female-led companies in sub-Saharan Africa offering training is not much lower than in the European Union (37% in sub-Saharan Africa vs. 43% in the European Union). On the other hand, the share of male-led firms in the European Union offering training is much higher than it is in sub-Saharan Africa (41% in the European Union vs. 23% in sub-Saharan Africa). In this sense, the gender training gap is considerably larger in sub-Saharan Africa. Beyond Europe, other regions have more noticeable gaps in the training rates between male- and female-led firms, but the gap of 14 percentage points observed in sub-Saharan Africa is bigger than in other regions. The gap in Central Asia is the next largest, at 11 percentage points, while the Middle East and North Africa has a gap of 8 percentage points.

[6] The share of credit-constrained firms is computed using the same definition of credit constraints as used in Pal, Rückert and Wruuck (2022). The same definition was used to make these results comparable to those for firms in the European Neighbourhood. However, it is possible to use a broader definition of credit constraints and consider a higher share of credit-constrained firms (74.8%, similar to what was reported in the EIB's 2022 Finance in Africa report).

Figure 6. Share of firms offering training in sub-Saharan Africa by region and compared to other regions in the world (%)



Sources: Enterprise Survey data and authors' calculations.

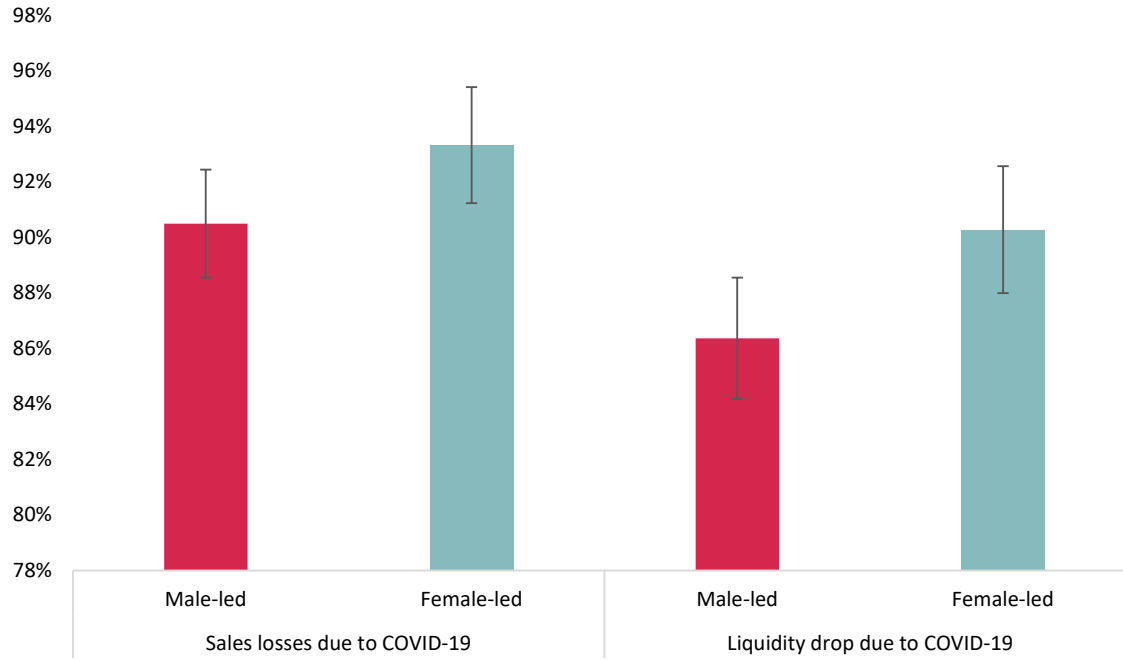
The impact of COVID-19 on firms by gender

The COVID-19 pandemic hit female-led businesses slightly harder overall. The likelihood of female-led firms experiencing sales losses was 3 percentage points higher than for male-led firms.[7] Female-led companies were also more likely (90% probability) to suffer a drop in liquidity than their male-led peers (86%).

Overall, African female- and male-led firms implemented similar business strategies in response to the outbreak of COVID-19. The percentage of firms that started or increased online business activity, delivery of goods and services and remote work was analysed to assess African enterprises' adaptability to the pandemic. Both female- and male-led firms show a 20% probability of starting or increasing online business and a 21% probability of offering the possibility of remote work. Male-led firms seemed to be 2 percentage points more likely to offer delivery services, but this difference is not statistically significant.

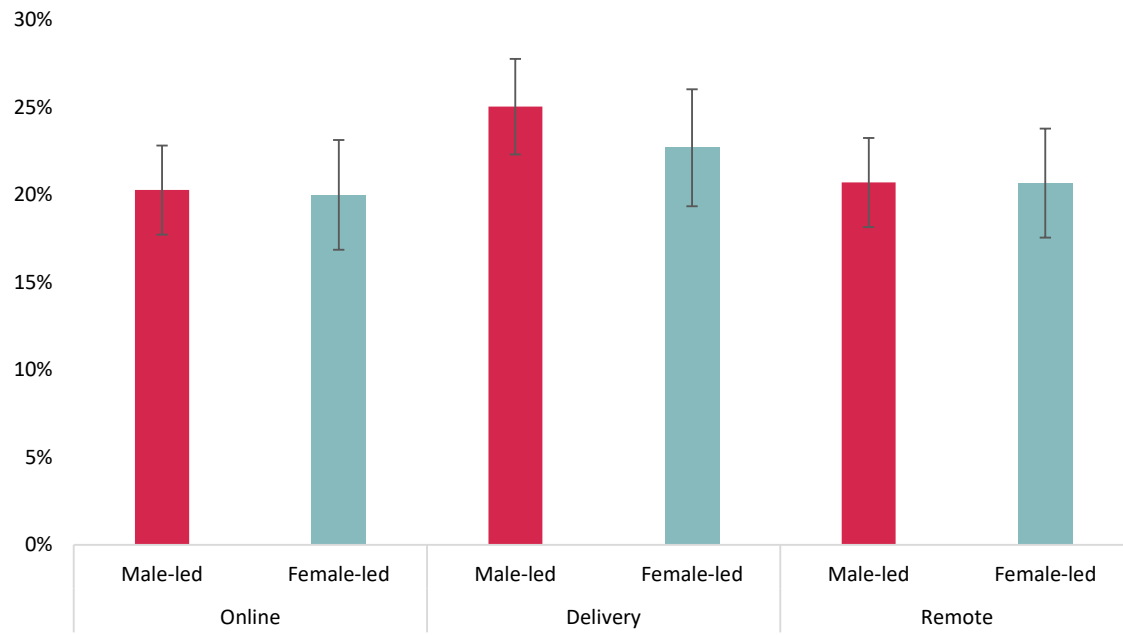
[7] The difference in probabilities between female- and male-led firms is not highly significant.

Figure 7. Probability of experiencing sales losses and liquidity drop, based on firms' leadership



Sources: Enterprise Survey data and authors' calculations.
*Note: The chart plots the **average predicted value of the outcome of interest based on logit regressions on an indicator for female ownership or top management**, region and sector fixed effects, and controls for firm size and age. The error bands denote a 90% confidence interval.*

Figure 8. Probability of doing online business, delivering goods and services and enabling remote work

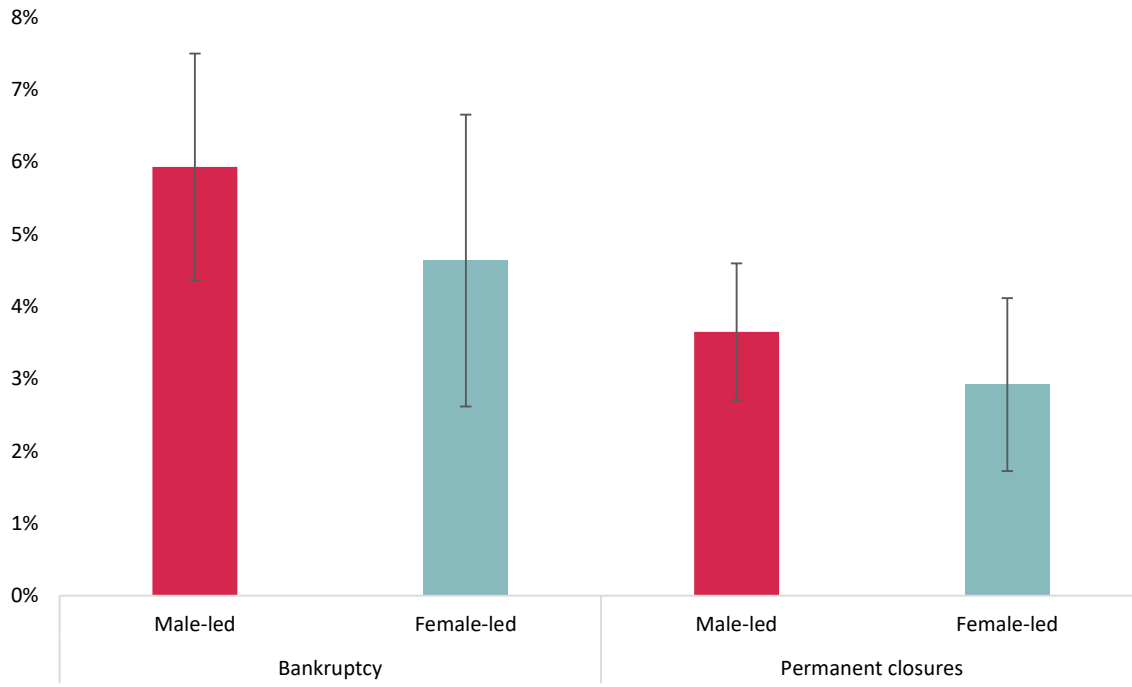


Sources: Enterprise Survey data and authors' calculations.
*Note: The chart plots the **average predicted value of the outcome of interest based on logit regressions on an indicator for female ownership or top management**, region and sector fixed effects, and controls for firm size and age. The error bands denote a 90% confidence interval.*

Sub-Saharan African companies received limited policy support during the pandemic. Our results show that the average probability of receiving or expecting government assistance after COVID-19 for both female and male-led businesses was only around 2%. Fiscal measures were taken by national or local governments. However, these were not necessarily homogeneous across countries and were smaller in size when compared to the measures taken by advanced economies. Chad, for instance, introduced fiscal policies to help small and medium-sized enterprises recover from the shock of COVID-19, particularly through fiscal relief measures and the deferral of payments. Zambia also introduced arrears clearance, tax reductions and other policies in support of companies to provide short-term liquidity to the financial sector. Zimbabwe suspended duties and taxes on goods and services related to COVID-19 and provided liquidity support to agriculture, mining, tourism, small and medium-sized enterprises and the arts (International Monetary Fund (IMF), 2021). However, the measures were minimal when compared to the needs of companies and with respect to advanced economies' COVID-19 crisis relief packages.

Despite being hit somewhat harder, businesses led by women were as resilient as male-led firms, as illustrated in bankruptcy rates and the number of permanent business closures. For women-led companies, the probability of going bankrupt was limited to 5% (vs. 6% for male-led businesses), and the probability of shutting down permanently was limited to 3% (vs. 4% for male-led businesses). The likelihood of female-led firms reducing their number of permanent employees was also slightly lower (28% compared to a 30% probability for male-led firms). These differences, however, are small and not statistically significant.

Figure 9. Probability of going bankrupt and of experiencing permanent closure due to COVID-19, based on firm leadership

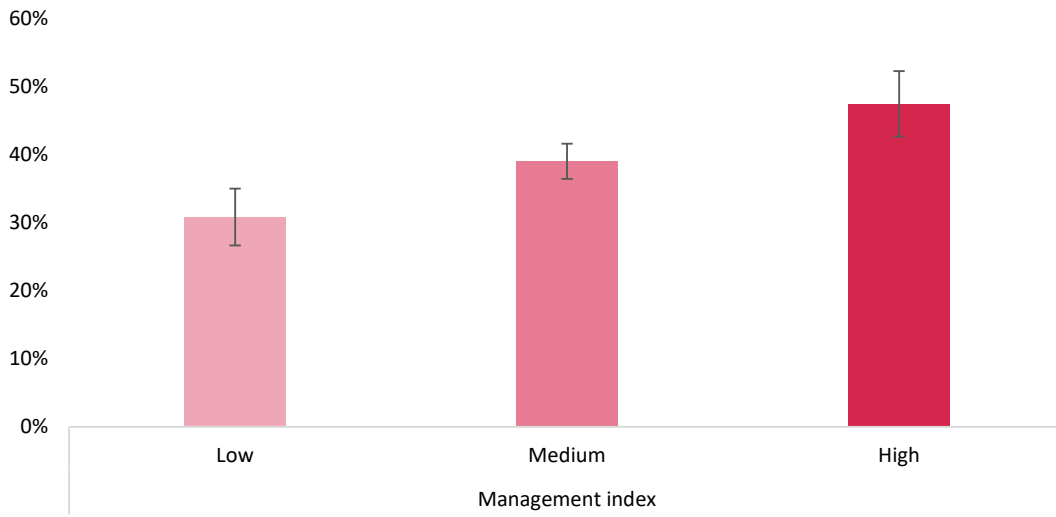


Sources: Enterprise Survey data and authors' calculations.
*Note: The chart plots the **average predicted value of the outcome of interest based on logit regressions on an indicator for female ownership or top management**, region and sector fixed effects, and controls for firm size and age. The error bands denote a 90% confidence interval.*

Better management and firm characteristics might be behind female-led firms' resilience in the face of a somewhat harsher impact from the pandemic. The figures below account for pre-pandemic firms' performance indicators, such as quality of management, innovation, training offered and export activity. These characteristics are used to compute the predicted probability of the firms being led by women.

Better-managed enterprises are more likely to be led by women.[8] After controlling for size, sector, age and regional discrepancies, the results suggest that around 31% of firms with a low management index are female-led. This is slightly below the whole-sample average of female-led firms in sub-Saharan Africa (33%, as presented in Figure 1). However, the probability of companies with a high or medium management index being female led is higher than the share of female-led companies in the sample. For example, the probability of well-managed companies being female led is 8 percentage points higher than it is for firms with a medium management index and 16 percentage points higher when compared to firms with a low management index. The share of female-led firms is likely to increase to 39% among firms with a medium management index, while this share is likely to increase to 47% among firms with a high management index. This result shows that female-led firms are more likely to have established a set of sound management practices, such as setting performance indicators and monitoring them. In turn, establishing practices that help to detect problems and work towards improvements can also support innovation. Research based on a global data set derived from a real-time human resources insights platform that analyses employee feedback shows that employees in female-led firms have higher engagement with the company, are more positive about their firm's strategy and mission and tend to be more satisfied with their jobs (Castrillon, 2019).[9] Although there is a lot of evidence linking female-led firms to good performance, care should be taken when attributing causation as it could simply be that well-managed firms are more likely to promote women to leadership positions.

Figure 10. Probability of a firm being female led, by management quality

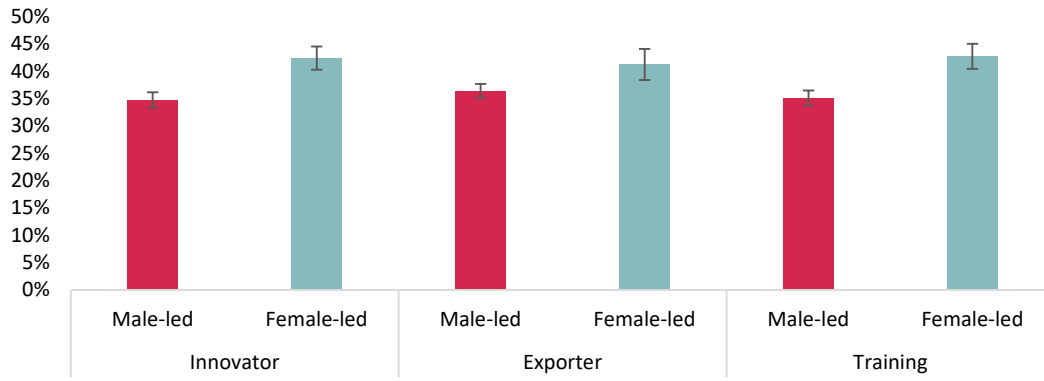


Sources: Enterprise Survey data and authors' calculations.
*Note: The chart plots the **average predicted value of the outcome of interest based on logit regressions on an indicator for female ownership or top management**, controlling for country, firm size and sector. Standard errors are clustered at the country level. The error bands denote a 90% confidence interval.*

[8] The World Bank Enterprise Survey includes a section on management practices in the areas of operations, monitoring, targets and incentives. The operations question focuses on how the firm handles a process-related problem, such as machinery breaking down. The monitoring question covers the collection of information on production indicators. The questions on targets focus on the timescale for production targets, as well as their difficulty and employees' awareness of them. Lastly, the incentives questions cover criteria governing promotion, practices for addressing poor performance by employees and the basis on which the achievement of production targets are rewarded. These questions were answered by all manufacturing firms with at least 20 employees. The scores for individual management practices (for individual questions) were converted into *Z*-scores by normalising each practice so that the mean was 0 and the standard deviation was 1. To avoid putting too much emphasis on targets or incentives, unweighted averages were first calculated using the *Z*-scores of individual areas of the four management practices. An unweighted average was then taken across the *Z*-scores for the four practices.
[9] Higher engagement and identification may also be partly linked to female-led companies pursuing goals beyond profit generation. For startups and scaleups, survey data show greater diversity in founders' ambitions.

Female-led firms are more likely to invest in innovation, export goods and services and offer training to their employees. Innovative firms, exporting firms and those offering training to their employees are all more likely to be led by women (by 7, 5 and 8 percentage points, respectively). These results confirm the benefits of female leadership and gender inclusion in the workforce for business performance. This means that while female-led firms reacted to the pandemic in the same way as male-led firms and received the same amount of policy support, the resilience shown by female-led firms — despite the pandemic having a somewhat larger impact on female-led sectors — might be explained by the strength of their firm characteristics ahead of the pandemic.

Figure 11. Probability of being a female-led firm, by firm characteristics



Sources: Enterprise Survey data and authors' calculations.
Note: The chart plots the average predicted value of female-led firms based on logit regressions on an indicator of interest, controlling for region, sector, firm size and age. Standard errors are clustered at the regional level. The error bands denote a 90% confidence interval. All variables shown are statistically significant. Innovative companies are considered to be those introducing new or significantly improved products and processes, as well as new or significantly improved organisational and marketing methods or investing in research and development. Exporting companies are defined as those with at least 10% of sales being direct or indirect exports. The last variable refers to whether a firm offers training or not.
The error bands denote a 90% confidence interval.

Bank perceptions of gender finance: Survey results

Banks in sub-Saharan Africa demonstrate continued commitment to improving the gender balance in finance. The 2023 EIB Banking in Africa survey reveals that 65% of banks have a gender strategy in place, with another 19% planning to introduce one. This means that soon only a small minority of banks in the region will be without a gender strategy. For the first time, the survey now asks banks why they have such a strategy, with 79% of respondents saying the most important reason is to achieve desirable social outcomes, with a further 17% listing this as the second most important reason. Improving financial performance is another goal, with 21% of banks citing it as the most important reason and a further 44% citing it as the second most important reason. A third motivation is to improve the reputation of the bank, with 39% putting this as the second most important motivation and a further 61% listing it as the third most important. The survey shows that the least important reason is political or regulatory pressure. While it is encouraging that banks are mainly self-motivated to pursue gender policies rather than feeling pressured to do so, the low importance attached to this factor raises questions about the political and regulatory incentives in place to tackle gender barriers in finance in sub-Saharan Africa.

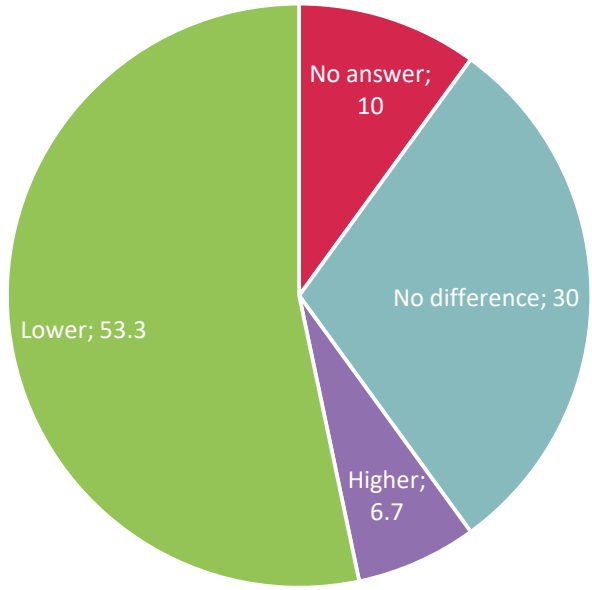
The survey points to nuances in terms of gender disparity in finance, with differences in some, but not all, areas. The Enterprise Survey data reveal that female-led, established firms in the region cite a lack of access to finance as a barrier less frequently than male-led firms, but previous research suggests that women seeking to start a business face greater barriers. The EIB Banking in Africa 2023 survey asks banks whether they perceive female business owners to be more reliant on bank finance for investment than male business owners. Half of responding banks observe no difference, but the other half believe that women are more reliant on bank financing than on other sources, suggesting that differences do exist. Having fewer financing options available constitutes a constraint for women seeking funding.

Rejection rates are similar for loans to women and men, but many banks now offer some preferential terms on loans to women. None of the banks in the survey reported a higher rejection rate for loan applications from women. The responses suggest that even if women might be more dependent on banks for funding, underwriting standards on bank loans to women are applied on an equal footing to those on loans to men. Two-thirds of banks also report no difference in loan size by gender, while 7% extend larger loans to women and 27% extend larger loans to men. On balance, this points to a slight tendency towards giving larger loans to men. This might be related to lower female representation in large firms compared to small and medium-sized enterprises. More encouragingly, half of banks report applying preferential loan terms or conditions for women. Moreover, 63% of banks indicate that they have products tailored specifically to women, with another 10% planning to introduce such products, meaning that three-quarters of banks aim to have targeted products for women. In this sense, many banks are taking steps to engage with female customers.

Banks observe better asset quality on lending to women. When lending to small and medium-sized enterprises, two-thirds of banks record data on the gender of the firm's leadership, such as the owner, management and/or the percentage of women in the labour force. This allows banks to monitor loan properties and performance by gender. Just over half of the banks in the sample report that female borrowers have a lower non-performing loan rate, while another 30% report no difference between male and female borrowers (Figure 12). This is an improvement from 2022, when about 40% of banks reported a lower non-performing loan rate for loans to women. In fact, one notable change from the last round of the EIB Banking in Africa survey is a decline in the share of banks that do not know or did not provide an answer to this question, potentially pointing to an increase in the monitoring and tracking of this type of information.

Differences in the financial performance of female-led firms may be more evident in bank data than firm data. A small number of banks in the survey report non-performing loan rates by gender in addition to whether differences in non-performing loan rates exist. One-third of these banks indicate that more than 10% of the total small and medium-sized enterprise loan book is non-performing, which is in line with the share from the full sample. For loans to women, however, only 19% of these banks report that more than 10% of the loan book is non-performing, again showing a clear difference in asset performance according to this metric. While the data here are based on relatively small samples, differences in asset performance by gender appear even more striking than the financial performance differences emerging from the Enterprise Survey.

Figure 12. Do the non-performing loan rates for women or women-led businesses differ from the average (% of responding banks)?

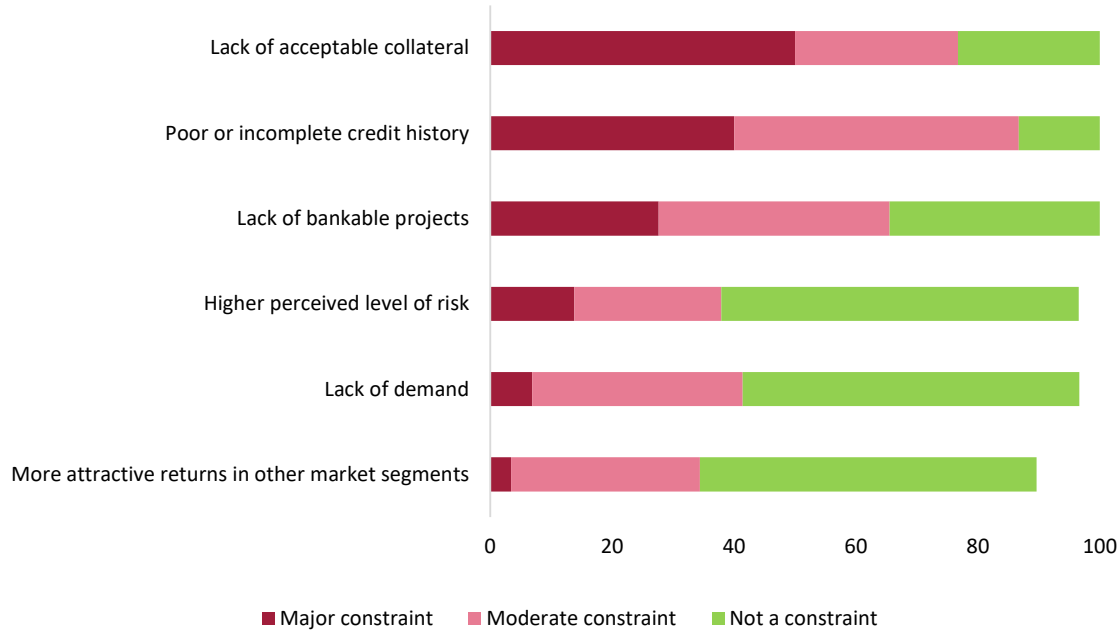


Source: EIB Banking in Africa survey, 2023.

Loan distribution is still notably skewed in favour of male borrowers. In small and medium-sized enterprise lending, almost 70% of banks report that less than 30% of their lending is to female borrowers. This means that while banks are making an effort to improve gender balance, clear gender gaps still exist in financial access. This mirrors the employment gaps that were reported earlier in the chapter using the Enterprise Survey data. The barriers facing female-led companies in obtaining a loan are similar to those facing small and medium-sized enterprises. The two most prominent barriers are also the same for the two groups, with a lack of acceptable collateral cited by 50% of banks as a major constraint on lending to women-led firms, and 40% of banks listing poor or incomplete credit history (Figure 13). A lack of bankable projects is the third largest constraint on lending to women-led companies, with two-thirds of banks thinking it is either a moderate or major constraint. About 40% of banks list the final three factors as moderate or major constraints but lean more strongly towards moderate rather than major. A lack of demand is cited by 41% of banks as a moderate or major constraint for lending to women, compared to 24% of banks lending to small and medium-sized enterprises more generally. The greater constraint posed by a lack of demand from female borrowers may reflect the self-selection bias sometimes referenced in the literature on female lending.

The banking system's digital transformation was accelerated by the pandemic, but a gender-based digital divide still exists. While 63% of banks observe no difference in the use of digital platforms by gender, 30% see a higher uptake among men but only 3% see a higher uptake among women. It is widely recognised that increasing the use of digital channels is an important means of increasing financial inclusion. The World Bank (2022) finds mobile money has become an important enabler of financial inclusion in sub-Saharan Africa, particularly for women. Accordingly, greater use of digital channels would lead to economic, financial and social benefits in the region.

Figure 13. The extent to which specific factors have constrained lending to women-led companies (% of responding banks)



Source: EIB Banking in Africa survey, 2023.

References

Abebe, J.O., Maina, L., Ondiek, J. and Ogolla, C. (2017). "Driving gender-responsive financial inclusion models in Africa." Nairobi: UN Women.

Birhanu, A. G., Getachew, Y.S. and Lashitew, A. A. (2022). "Gender differences in enterprise performance during the COVID-19 crisis: Do public policy responses matter?" *Entrepreneurship Theory and Practice,* 46(5), 1374–1401.

Castrillon, C. (2019). "Why women-led companies are better for employees." *Forbes.* Available at: https://www.forbes.com/sites/carolinecastrillon/2019/03/24/why-women-led-companies-are-better-for-employees/?sh=21393eb43264.

European Investment Bank (EIB), European Bank for Reconstruction and Development (EBRD), and International Bank for Reconstruction and Development/World Bank (2022). "Access to finance in the Middle East and North Africa." Luxembourg, EIB. Available at: https://www.eib.org/en/publications/mena-enterprise-survey-report-working-papers-volume1.

European Investment Bank (EIB) (2022). "Finance in Africa. Navigating the financial landscape in turbulent times." Luxembourg, EIB.

European Investment Bank (EIB) and European Bank for Reconstruction and Development (EBRD) (2022). "Business resilience in the pandemic and beyond. Adaptation, innovation, financing and climate action from Eastern Europe to Central Asia." Luxembourg, EIB. Available at: https://www.eib.org/attachments/publications/business_resilience_in_the_pandemic_and_beyond_en.pdf.

Goldstein, M., Gonzalez Martinez, P. and Papineni, S. (2019). "Tackling the global profitarchy. Gender and the choice of business sector." Washington, DC: World Bank Group.

IMF (2021). "IMF policy support." 2 July. Available at: https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19.

International Finance Corporation (2023). "Banking on women." Washington, D.C. World Bank Group.

Morsy, H. (2020). "Access to finance: Why aren't women leaning in? Women are self-selecting out of the African credit market." *Finance and Development,* 57(1), 52–53.

Morsy, H. and Hoda, Y. (2017). "Access to finance – mind the gender gap." London, European Bank for Reconstruction and Development.

Pal, R., Rückert, D. and Wruuck, P. (2022). "Support for female entrepreneurs: Survey evidence for why it makes sense." Luxembourg, EIB.

World Bank (2019). "Profiting from parity. Unlocking the potential of women's businesses in Africa." Washington, D.C: World Bank Group.

World Bank (2021). "Breaking barriers. Female entrepreneurs who cross over to male-dominated sectors." Washington, DC: World Bank Group.

World Bank (2022), "The Global Findex Database 2021: Financial Inclusion, Digital Payments and Resilience in the Age of Covid-19." Washington, DC: World Bank Group.

Appendix

Annex 1. Regional breakdown, number of observations and data sources

Country	Region	Number of observations	Enterprise Survey sample	COVID-19 Survey sample
Benin	West	150	2016	N/A
Cameroon	Central	361	2016	N/A
Chad	Central	153	2018	2020
Côte d'Ivoire	West	361	2016	N/A
Eswatini	South	150	2016	N/A
Guinea	West	150	2016	2020
Kenya	East	1 001	2018	N/A
Lesotho	South	150	2016	N/A
Liberia	West	151	2017	N/A
Mali	West	185	2016	N/A
Mozambique	South	601	2018	2020 Round 1
Niger	West	151	2017	2020
Rwanda	East	360	2019	N/A
Sierra Leone	West	152	2017	N/A
Somalia	East	572	N/A	2020 Round 1
South Africa	South	1 097	2020	N/A
The Gambia	West	151	2018	N/A
Togo	West	150	2016	2020
Zambia	South	601	2019	2020 Round 1
Zimbabwe	South	600	2016	2020 Round 1
Total		**7 247**	**19 countries**	**8 countries**

Sources: Enterprise Survey and COVID-19 Survey from the World Bank.
Notes: The years refer to the latest available data for each country. Regarding the sample from the COVID-19 Survey, multiple rounds are available for countries if the survey was conducted more than once in the same year. If more rounds are available, the analysis only makes use of Round 1.

Annex 2. Temporal impact of COVID-19

VARIABLES	(1) Sales loss	(2) Liquidity drop
Female-led	0.390*	0.397**
	(0.212)	(0.171)
Retail	-0.233	-0.190
	(0.256)	(0.218)
Wholesale	0.827*	-0.298
	(0.490)	(0.295)
Construction	-0.107	-0.565*
	(0.433)	(0.322)
Hotel and restaurant	0.565	0.511
	(0.451)	(0.373)
Other services	-0.166	0.316
	(0.272)	(0.254)
South African region	0.177	-0.587
	(0.363)	(0.411)
West African region	0.866*	0.427
	(0.480)	(0.504)
Medium (20-99)	0.0973	-0.325*
	(0.241)	(0.192)
Large (100 and over)	-0.667**	-1.046***
	(0.260)	(0.213)
Age	0.005	-0.002
	(0.005)	(0.004)
Constant	1.988***	2.674***
	(0.363)	(0.414)
Observations	1 427	1 553

Notes: Standard errors in parentheses. Manufacturing is the reference sector while the reference region is Central Africa. The reference category for size dummies (medium and large) is the sample of small firms with less than 20 employees. The variable age is a continuous variable based on the year of formal registration.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Annex 3. COVID-19 adaptability

VARIABLES	(1) Delivery	(2) Remote working	(3) Online sales
Female-led	-0.134	-0.00212	-0.0177
	(0.128)	(0.134)	(0.135)
Retail	-0.183	0.0501	0.451**
	(0.173)	(0.189)	(0.181)
Wholesale	0.286	0.325	-0.286
	(0.213)	(0.245)	(0.248)
Construction	-0.289	0.336	-0.0745
	(0.283)	(0.282)	(0.319)
Hotel and restaurant	-0.519**	-0.228	0.0249
	(0.253)	(0.272)	(0.260)
Other services	-0.293	0.381**	0.427**
	(0.179)	(0.181)	(0.183)
South African region	2.357***	3.135***	1.219***
	(0.594)	(1.011)	(0.433)
West African region	2.337***	2.558**	0.765
	(0.611)	(1.028)	(0.472)
Medium (20-99)	0.300**	0.622***	-0.614***
	(0.140)	(0.149)	(0.149)
Large (100 and over)	0.581***	1.020***	0.894***
	(0.177)	(0.182)	(0.185)
Age	-0.004	0.005	0.002
	(0.003)	(0.003)	(0.003)
Constant	-3.378***	-4.931***	-3.065***
	(0.594)	(1.013)	(0.438)
Observations	1 558	1 556	1 557

Notes: Standard errors in parentheses. Manufacturing is the reference sector while the reference region is Central Africa. The reference category for size dummies (medium and large) is the sample of small firms with less than 20 employees. The variable age is a continuous variable based on the year of formal registration.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Annex 4. Permanent impact of COVID-19

VARIABLES	(1) Bankrupt	(2) Permanent closure
Female-led	-0.264	-0.232
	(0.283)	(0.260)
Retail	0.360	0.0571
	(0.346)	(0.326)
Wholesale	0.188	-0.0626
	(0.401)	(0.432)
Construction	-0.144	0.170
	(0.571)	(0.504)
Hotel and restaurant	-0.250	0.416
	(0.560)	(0.385)
Other services	0.00533	-0.0620
	(0.366)	(0.355)
South African region	-0.989**	-0.0954
	(0.390)	(0.447)
West African region	-0.114	-0.162
	(0.427)	(0.507)
Medium (20-99)	0.0472	-0.603**
	(0.303)	(0.294)
Large (100 and over)	0.692**	-0.704*
	(0.346)	(0.418)
Age	-0.013	-0.009
	(0.009)	(0.008)
2020.year	-	-
Constant	-2.022***	-2.831***
	(0.392)	(0.456)
Observations	1 326	2 321

Notes: Standard errors in parentheses. Manufacturing is the reference sector while the reference region is Central Africa. The reference category for size dummies (medium and large) is the sample of small firms with less than 20 employees. The variable age is a continuous variable based on the year of formal registration.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Annex 5. Management quality index

VARIABLES	(1) Female-led
Management index	0.374***
	(0.0866)
South African region	0.511***
	(0.139)
West African region	0.990***
	(0.336)
Medium (20-99)	0.0303
	(0.136)
Large (100 and over)	-0.373**
	(0.164)
Age	0.010***
	(0.003)
year 2019	-0.0742
	(0.151)
year 2020	0.060
	(0.176)
	-
Constant	0.575***
	(0.145)
Observations	1 362

Notes: Standard errors in parentheses. The management quality variables available only for the subsample of manufacturing firms. The reference region is Central Africa. The reference category for size dummies (medium and large) is the sample of small firms with less than 20 employees. The variable age is a continuous variable based on the year of formal registration.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Annex 6. Firm characteristics: Innovativeness, external trade and training

VARIABLES	(1) Female-led		(1) Female-led		(1) Female-led
Innovator	0.342***	Exporter	0.00215***	Training	0.338***
	(0.0595)		(0.000710)		(0.0610)
Retail	0.237***		0.252***		0.223***
	(0.0724)		(0.0729)		(0.0721)
Wholesale	0.132		0.150		0.124
	(0.108)		(0.108)		(0.108)
Construction	-0.0608		-0.0409		-0.0985
	(0.118)		(0.118)		(0.117)
Hotel and restaurant	0.720***		0.724***		0.685***
	(0.088)		(0.089)		(0.089)
Other services	-0.086		-0.070		-0.123
	(0.088)		(0.089)		(0.088)
East African region	1.009***		0.947***		0.942***
	(0.133)		(0.132)		(0.131)
South African region	0.695***		0.645***		0.663***
	(0.117)		(0.116)		(0.116)
West African region	-0.348***		-0.372***		-0.347***
	(0.126)		(0.126)		(0.125)
Medium (20-99)	0.147**		0.158***		0.117*
	(0.061)		(0.061)		(0.061)
Large (100 and over)	0.152*		0.126		0.0968
	(0.081)		(0.084)		(0.083)
Age	0.002		0.002		0.002
	(0.002)		(0.002)		(0.002)
Year 2017	-0.095		-0.083		-0.085
	(0.134)		(0.135)		(0.134)
Year 2018	-0.574***		-0.518***		-0.507***
	(0.088)		(0.088)		(0.087)
Year 2019	-0.585***		-0.593***		-0.577***
	(0.099)		(0.099)		(0.099)
Year 2020	-0.359***		-0.449***		-0.374***
	(0.092)		(0.092)		(0.092)
Constant	-1.046***		-0.939***		-0.983***
	(0.120)		(0.118)		(0.118)
Observations	6 408		6 362		6 439

Notes: Standard errors in parentheses. Manufacturing is the reference sector while the reference region is Central Africa. The reference category for size dummies (medium and large) is the sample of small firms with less than 20 employees. The variable age is a continuous variable based on the year of formal registration. The reference year is 2016. Innovators are considered to be those companies that introducing new or significantly improved products and processes, as well as new or significantly improved organisational and marketing methods or investing in research and development. Exporters are defined as those companies with at least 10% of sales being direct or indirect exports. The training variable refers to whether a firm offers training or not.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

6

Climate investment and climate risk in Africa

This chapter was authored by Colin Bermingham, senior economist at the European Investment Bank. The box on climate data was written by Bertrand Magné, senior economist at the European Investment Bank, and the box on sustainable investment was written by Arthur Minsat, head of Unit for Africa, Europe and Middle East, and Elisa Saint Martin, policy analyst, both of the Organisation for Economic Co-operation and Development (OECD) Development Centre. The authors would like to thank Barbara Marchitto, Debora Revoltella and Ricardo Santos for their comments on earlier versions.

The views expressed here are those of the authors and do not necessarily reflect those of the European Investment Bank. Any errors are the responsibility of the authors.

Key messages

In recent years, the flow of capital towards climate projects globally has increased considerably. Africa's climate financing has also grown, but represents only around 5% of global climate finance, and is concentrated in the largest African economies. Africa is highly reliant on funding from overseas, which accounts for nearly 90% of its climate finance. This situation is dictated in part by the dominant role played by multilateral development banks, which financed 45% of climate investment in 2020. Financial institutions[1] account for about one-third of private sector climate finance in Africa, but the private finance sector plays a relatively small role, contributing only 4% to total climate funding. In financing climate projects, the two main instruments used by local financial institutions are balance sheet debt financing and market-rate project debt, and all climate finance was directed at mitigation in 2019/2020. This reflects a broader trend of private sector finance being channelled to mitigation.

As climate risks grow, it is important to understand the scale of the risks facing the financial sector. This chapter reviews the climate risk on bank balance sheets. The analysis looks at the exposures of domestic banks in 21 African countries to sovereign debt, household debt and debt from various industrial sectors. In addition, the climate riskiness of each type of borrower is assessed using European Investment Bank (EIB) climate country risk scores to rate sovereign and household debt, and EIB sectoral climate risk classifications for different industry sectors. Physical risk is a bigger issue for banks on the continent than transition risk: 13 of the 21 countries analysed have high country physical risk scores, and transition risk is contained by currently low levels of carbon emissions. Physical risk exposures for banks were found to be highest in West Africa and lowest in Southern Africa. However, in most of the countries where banks have relatively high exposure to high-risk borrowers, banking sectors tend to be shallow, meaning that overall exposure as a percentage of gross domestic product (GDP) is low compared to regions with more developed banking sectors.

The banks in the EIB survey show a continued commitment to dealing with the impact of climate change. For example, the survey finds that 59% of banks already have a climate change strategy, and 22% plan to introduce one, meaning that four out of five banks could soon have a formal strategy in place. In addition, 65% of banks consider climate risk when assessing a new client or project, and another 23% plan to do so, showing that climate risk is an important element of the underwriting process. Banks appear to be stepping up their efforts to provide green products, but green lending can be constrained by factors on both the demand side (firms) and the supply side (banks). Supply-side barriers include a lack of long-term capital to match the longer investment horizon of green investments, the higher perceived riskiness of green projects, and a lack of in-house technical skills in banks to start and monitor green loans. Demand-side barriers generally relate to a lack of technical expertise to appraise projects and develop bankable proposals or a lack of knowledge of the available finance products.

[1] In this chapter, "financial institutions" refers to domestic entities such as local banks, financial intermediaries, investment banks and asset managers. This contrasts with international financial institutions and multilateral development banks.

Climate finance in Africa

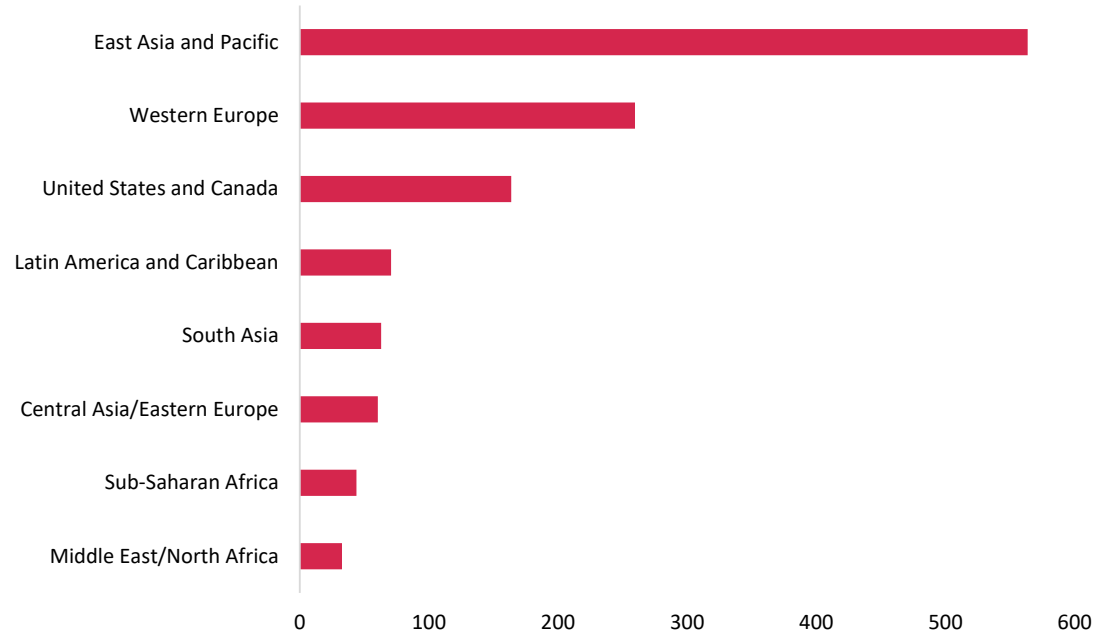
Climate financial flows in Africa

In recent years, capital flow towards climate projects globally has increased considerably. The Climate Policy Initiative (CPI, 2022, October) reports that between 2011 and 2020, climate finance doubled to reach $653 billion globally on average in 2019/2020 based on an annual growth rate of about 7% over the decade. Although data for 2021 were still pending at the time of writing, initial estimates from the Climate Policy Initiative indicate that total climate flows are about $850-940 billion, representing a sharp increase in growth despite the impact of the coronavirus pandemic.

On a global level, climate finance is dominated by mitigation financing, which accounts for about 90% of investment. Of this mitigation finance, about 70% has gone towards renewable energy generation, although low-carbon transport is a significant growth area. While there was a relatively even split between public and private sources of funding globally in 2019/2020, the growth rate of public funding has increased significantly over the past ten years because the starting point for public funding a decade ago was notably lower than it was for private sector funding.

African countries account for a relatively small share of global climate finance (Figure 1). Global climate flows are dominated by East Asia and the Pacific because of China's presence in the region, followed by Western Europe and North America. In the Middle East and North Africa, climate finance totalled $32.6 billion over 2019/2020 (2% of the global total) while sub-Saharan Africa saw $43.8 billion in climate investment (3% of the global total). Even within Africa, climate finance flows more freely to the largest economies; nearly a third of all climate finance in Africa goes to five large markets: Morocco (7% of African climate finance in 2019/2022), Nigeria (7%), Kenya (7%), Ethiopia (6%) and South Africa (5%).

Figure 1. Total climate flows during 2019 and 2020 by region ($ billion)

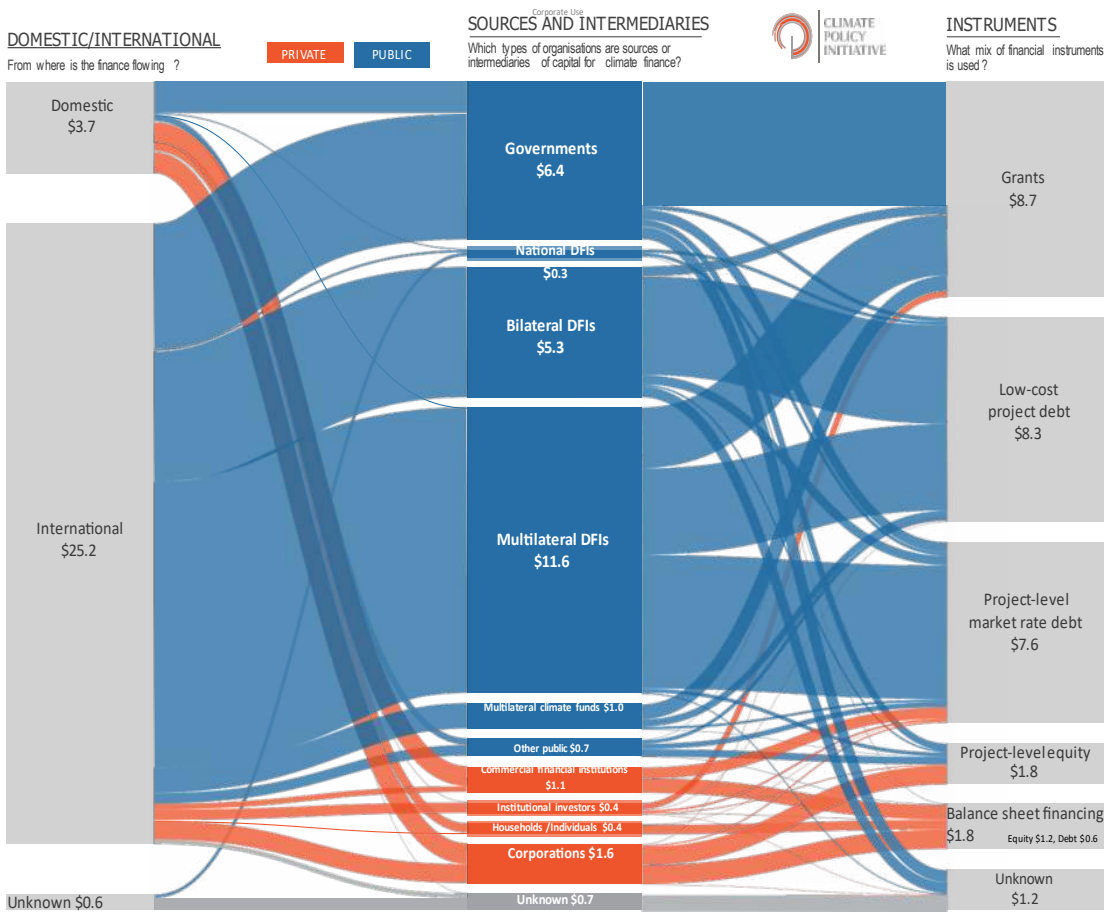


Sources: Climate Policy Initiative, Global Landscape Database 2022. Available at: https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-a-decade-of-data/ and the author's calculations.

Climate financial flows in Africa have markedly different characteristics when compared to other regions. First, Africa is heavily reliant on funding from overseas, which accounts for nearly 90% of investments there (Figure 2).

This is partly shaped by the major role played by multilateral development banks, which financed 45% of climate investment in 2020. However, overseas governments and bilateral development finance institutions (DFIs) are also significant sources of funding. The dichotomy between local and overseas funding is, therefore, also reflected in a similar gulf between the private and public funding of climate investment in Africa, with just 14% coming from private sources in 2020. In other developing regions, private finance accounts for 35-50% of climate finance. Boosting the flow of private sector credit is a policy imperative to help African nations combat climate change.

Figure 2. Climate finance flows in Africa (2019/2020, $ billion)



Source: Climate Policy Initiative (2022).
Note: Multilateral DFIs is another term for multilateral development banks.

Project debt is the main financial instrument for climate finance in Africa (Figure 2) because development finance institutions tend to operate on a project level; thus, funding is often provided by either market-rate or low-cost project debt. At an aggregate level, funding volumes for these instruments are broadly similar. However, multilateral development banks funnel the largest share of their financing through market-rate debt, followed by low-cost debt and grants. In contrast, bilateral development finance institutions mainly rely on low-cost debt.

Climate investment in Africa is relatively evenly split between mitigation and adaptation, compared to globally, where mitigation is far more dominant. On average, 49% of investment in 2019/2020 was for mitigation, 39% was for adaptation, and the remainder was dual purpose. Adaptation finance came almost entirely from public sources: Just over half came from multilateral development banks, and another quarter from governments (of which 90% was from overseas). The strong role played by public institutions is also reflected in the types of financial instruments used to finance adaptation projects in Africa, notably grants and low-cost project debt (Figure 2). These instruments are rarely deployed by the private sector.

Box 1. Climate Policy Initiative climate data background

Since its inception more than a decade ago, the Climate Policy Initiative has established itself as an authoritative source of knowledge on global climate finance. The initiative has a global presence and collaborates with a wide range of organisations, including the European Investment Bank. The initiative's flagship *Global Landscape of Climate Finance*[2] report periodically monitors global primary investment by public and private actors in activities that reduce emissions and improve adaptation and resilience to climate change. This comprehensive assessment of global climate finance flows notably serves as the basis for the *Biennial Assessment and Overview of Climate Finance Flows*[3], a key reference for climate negotiators, published by the Standing Committee on Finance under the UN Framework Convention on Climate Change.

Following a similar methodology to the one applied for the global assessment, the Climate Policy Initiative's recent analysis of climate finance needs for the African continent (CPI, 2022, September) fills an important knowledge gap. The systematic consolidation of data in a robust framework was adapted to the African financial landscape and the specific development needs and opportunities for people in Africa, although the initiative acknowledges the challenges inherent to data collection on the continent. Details are often lacking on quantitative information by thematic area, sector and subsector, and by provider of climate finance. The financial needs and flows directed to climate adaptation are particularly difficult to track, despite the continent's acute exposure and vulnerability to climate change impacts.

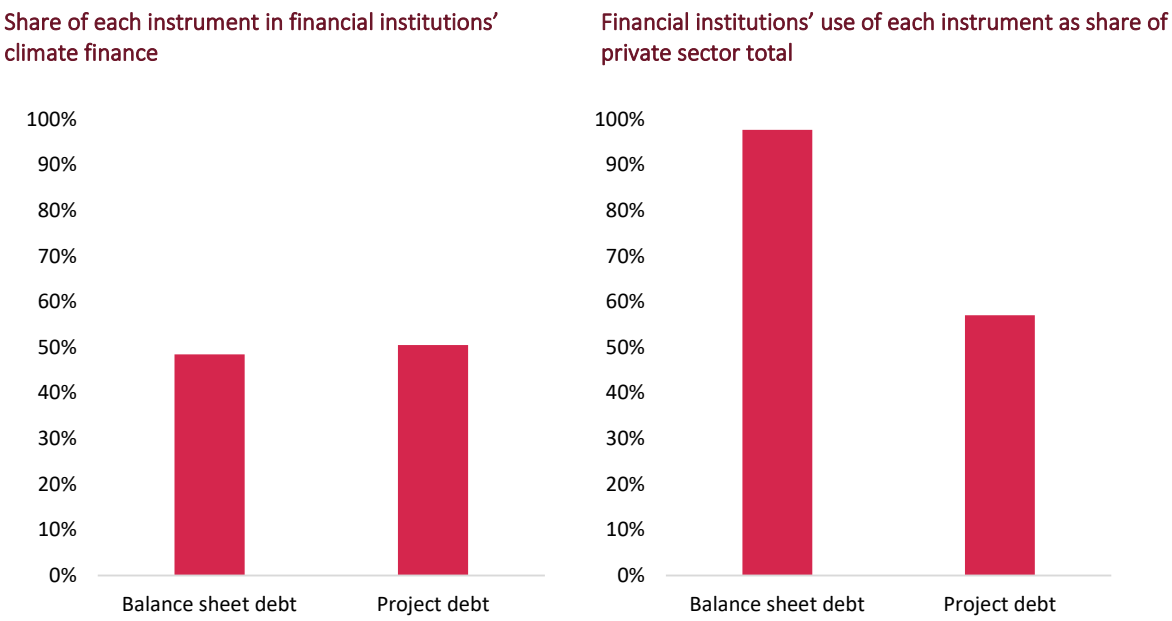
The climate finance flows in *Landscape of Climate Finance in Africa* (CPI, 2022, September) track climate commitments, which comprise concrete obligations on investment programmes, closure of finance contracts or similar actions backed by credible funding. For financial institutions[4], the climate finance data normally relate to real financing flows, usually at the project level. Efforts are made to avoid double counting. Climate finance is generally only attributed to a domestic financial institution if the institution contributes additional own funds to a project. For example, multilateral development banks might use intermediated lending products through local financial institutions to finance climate investment in Africa. This type of finance is attributed to the multilateral development bank unless the local institution also commits some own funds. The issuance of green bonds by banks in Africa is captured in the data, but only when allocated to a green project, and not necessarily at the point of issuance. Thus, there needs to be transparency about the use of proceeds for this type of bond issuance to be included. More generally, there are gaps in reporting from domestic financial institutions on the scale of their own climate investment and loan books, meaning that climate finance flows from domestic financial institutions are likely to be higher than those captured in the data.

Financial institutions account for about a third of private sector climate finance in Africa but, because of the relatively small role played by private finance, the private sector only contributes 4% to total climate funding. Between 2019 and 2020, African climate finance grew by 5.6%, thanks to growth of more than 8% in public sector funding. In contrast, private sector funding decreased by almost 9%, driven by a fall of almost 30% in corporate climate investment. The pandemic thus appears to have had a large impact on firms' climate investment volumes. The financial sector, however, has grown more active on climate. Although corporate climate investment fell between 2019 and 2020, financial institutions almost doubled their climate financing in that period, despite the difficult operating environment.

Balance sheet debt financing and market-rate project debt are the two main instruments used by financial institutions. As shown on the left side of Figure 3, these two instruments account for roughly equal shares of financial institutions' climate finance, and other instruments are hardly ever used. Among private sector establishments, financial institutions account for nearly all private sector balance sheet debt financing (right side of the chart). They are also responsible for about half of private market-rate project debt. However, as explained above, total project debt is dominated by public rather than private institutions.

[2] For the latest edition, please see Climate Policy Initiative (2022, October). Available at: https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-a-decade-of-data/.
[3] More information in the Fourth (2020) UNFCCC Standing Committee on Finance. Available at: https://unfccc.int/topics/climate-finance/workstreams/transparency-of-support-ex-post/biennial-assessment-and-overview-of-climate-finance-flows-background/fourth-2020-biennial-assessment-and-overview-of-climate-finance-flows.
[4] "Financial institutions" refers to domestic financial intermediaries in the Climate Policy Initiative's data set.

Figure 3. Financial instruments used by financial institutions (2019/2020 average)



Source: Climate Policy Initiative (2022 September).

All private financial institution climate finance in Africa was directed at mitigation in 2019/2020. This reflects a broader trend globally of private sector finance being channelled to mitigation. About three-quarters of the private sector climate finance goes towards energy projects, which typically have a more predictable risk-return profile. Public money still dominates climate finance, with international public institutions playing an outsize role in Africa. Contribution from the private sector needs to grow, and the commercial banking system has an important role to play here: It is a conduit for private sector flows through which domestic institutions can increase their climate finance activities and expertise.

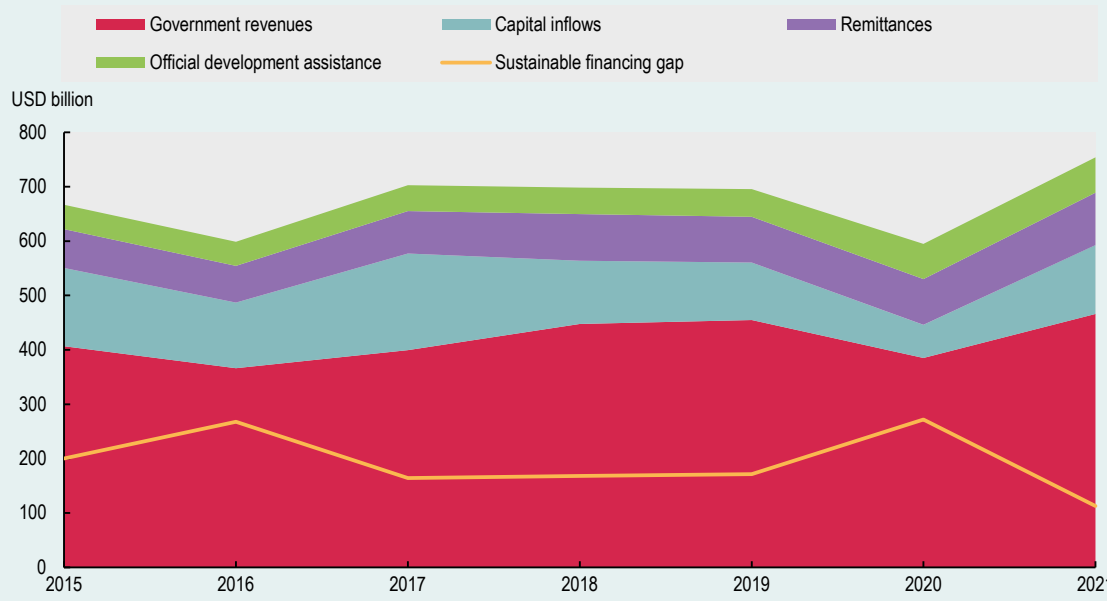
Box 2. Accelerating investment in Africa's low-carbon economy

This contribution draws on findings in the African Union Commission (AUC) and OECD flagship report *Africa's Development Dynamics 2023: Investing in sustainable development.*

Africa's sustainable financing gap has increased because of concurrent global crises, but it can be filled. The continent needs about $1.6 trillion[5] to achieve the UN Sustainable Development Goals by 2030, according to new estimates published in the report *Africa's Development Dynamics 2023*. Africa's annual sustainable financing gap averaged $194 billion per year over the 2015-2021 period, representing about 7% of its GDP (Figure 4). Despite the gap's magnitude, there is enough international capital available to fill it: Africa's sustainable financing gap is equivalent to 10.5% of the African-held stock of assets under management, which is less than 0.2% of the global assets under management (AUC/OECD, 2023). Yet, global or even African-held stocks of assets under management invest too little on the continent. How can African economies mobilise more private and public investment?

[5] This figure represents the gap between the financing needed annually to achieve the UN Sustainable Development Goals by 2030 and the availability of financial resources. The baseline is a $200 billion sustainable financing gap per year for Africa until 2030, where financing conditions remain constant (UNCTAD, 2014, 2016, 2020). As per the methodology used in the OECD's *Global Outlook on Financing for Sustainable Development 2023*, the baseline is adjusted according to changes in Africa's main foreign and domestic finance sources compared to 2015, the year in which the baseline was projected (OECD, 2022). More information on the methodology used can be found in the methodological annex of the *Africa's Development Dynamics 2023* report.

Figure 4. Africa's available financing and sustainable financing gap, 2015-2021

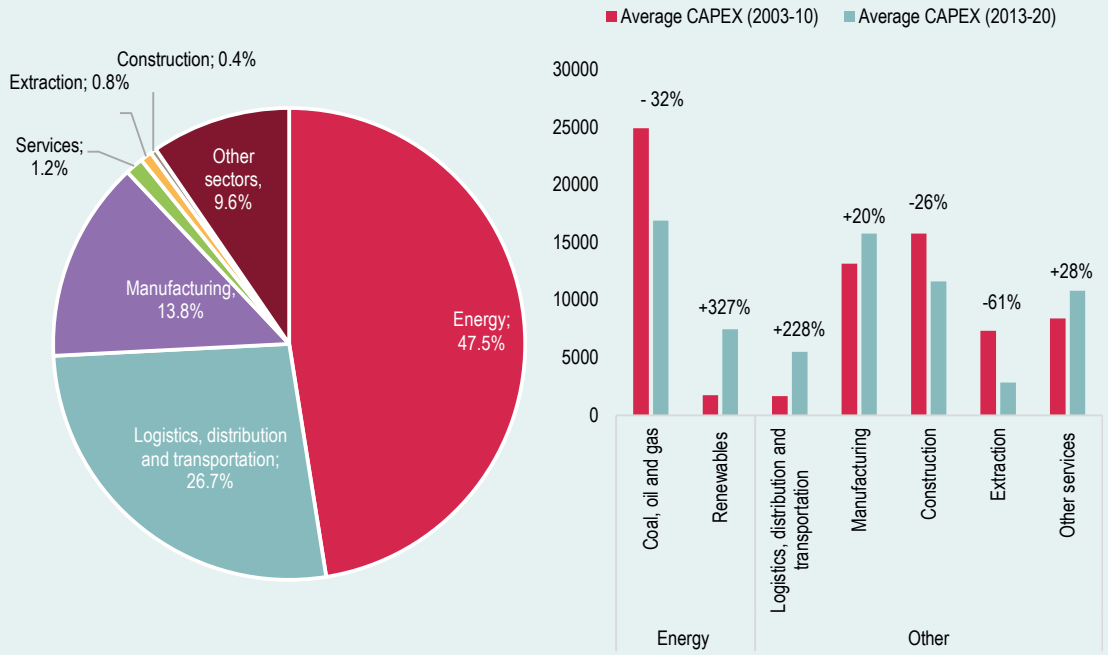


Source: Authors' calculations based on the methodology of OECD (2022), Global Outlook on Financing for Sustainable Development 2023: No Sustainability Without Equity. Available at: https://doi.org/10.1787/fcbe6ce9-en.

Increasing amounts of foreign direct investment into sustainable sectors is an opportunity for Africa's low-carbon development. In recent years, global greenfield foreign direct investments (that is, announced foreign direct investment projects that create new production facilities instead of acquiring existing ones) have focused less on Africa's extractive sectors and more on manufacturing and services (Figure 5). At the continental level, analysis of the Orbis database shows that the majority (69%) of Africa-based listed companies are active in growing service-oriented sectors such as financial services (29%), retail (8%), real estate (6%), and information and communications technology (6%). In addition, investments in Africa's energy sector — the largest source of CO_2 emissions on the continent — have been increasingly shifting away from fossil fuels towards renewables (Figure 5). Regional investments in infrastructure through the second priority action plan of the Programme for Infrastructure Development in Africa could also accelerate a shift towards less polluting transportation modes, or renewable energy for goods production (Roy, forthcoming).

Figure 5. Air pollution and greenfield foreign direct investment to Africa, 2003-2020

CO_2 emissions from fuel combustion, by sector, 2003-2020 Greenfield foreign direct investment to Africa (% change in average capital expenditure between 2003-2010 and 2013-2030



Source: Authors' calculations based on fDi Intelligence (2022) and IEA (2022).
Note: CAPEX = Capital expenditures. "Energy" covers extraction, production and supply activities in coal, oil and gas, and renewable energy; "Manufacturing" includes all other manufacturing sectors and agriculture and fishing.

External financial flows have an essential role to play, but they remain insufficient on their own for bridging Africa's sustainable financing gap (Table 1). Despite considerable progress in sustainable sectors like renewable energy, the continent has struggled to attract aggregate greenfield foreign direct investment in recent years. In the last decade, global greenfield foreign direct investment has been decreasing at an average rate of 3% per year, with Africa's global share dwindling from 12% of the total in 2017 to less than 6% in 2021. Greenfield foreign direct investment made up only 2.6% of Africa's GDP in 2021. Nevertheless, it remains vital for technology transfer, integrating value chains and increasing productivity (AUC/OECD, 2022). Similarly, official development assistance and philanthropy inflows — which focus mainly on social sectors such as education, health or humanitarian efforts — accounted for only 2.5% and 0.1% of GDP in 2021, respectively. Private funding mobilised through official development assistance increased fivefold since 2012, but about 70% went to middle-income countries. Finally, remittances remain the largest source of external financial flows to Africa, reaching 3.8% of GDP in 2021. However, only about 30% of that is allocated to economic activities, mostly in informal sectors, limiting its potential use for productive transformation.

Effectively allocating existing African resources to sustainability outcomes is the best way to mobilise more sustainable investment. Domestic government revenues amounted to $466 billion in 2021, or 17% of Africa's GDP. Assets held by African institutional investors reached an estimated $1.8 trillion in 2020, equivalent to 73% of GDP. However, major African pension funds — located in Ghana, Kenya, Namibia, Nigeria and South Africa — allocate less than 3% of assets to sectors such as infrastructure and green and sustainable assets. Instead, African institutional investors invest mostly in short-term government securities (AfDB/IFC/MFW4A, 2022). According to a 2018 study of African pension funds, only 11% reported interest in infrastructure projects under development (greenfield projects).

Stemming illicit financial flows will increase resources. Every year, Africa loses up to $89 billion through illicit financial flows, an amount largely surpassing official development assistance, which amounted to $65 billion in 2021 (UNCTAD, 2020). According to the *Report of the High-Level Panel on Illicit Financial Flows from Africa* (UNECA, 2015), Africa's capital stock would increase by more than 60% if illicit financial flows remained on the continent, while GDP per capita would be up to 15% higher. Improving tax transparency and accountability will help tackle part of this challenge: Already since 2009, improved exchange of information with international tax administrations has enabled African countries to uncover $1.3 billion in additional revenues through offshore investigations (AUC/ATAF/OECD, 2022).

Increasing the availability of information and setting up sustainability frameworks can improve the allocation of investments. Lack of sustainable investment frameworks, along with data and management capacity constraints, make accurate sustainability assessments difficult. Currently, less than half of the largest African pension funds disclose information on sustainability strategies and their implementation (Stewart, 2022). African policymakers can facilitate sustainability assessments through disclosure requirements for investors, while providing smaller firms with the capacity to collect sustainable investment data through training, incentives and accessible databases. In Egypt for instance, the Financial Regulation Authority requires quarterly environmental, social and governance compliance reports from all companies listed on the Egyptian Stock Exchange with issued capital above EGP 100 million (Atef, 2022). Multilateral partners can help in setting up common sustainability frameworks and improving measurements. In 2022, the United Nations Conference of Trade and Development – International Standards of Accounting and Reporting (UNCTAD-ISAR) launched the African Regional Partnership for Sustainability and SDG Reporting to promote collaboration across the region. As of March 2023, the partnership had 53 members, including national corporate social responsibility networks and/or ministries from 27 African countries (UNCTAD-ISAR, 2022).

Table 1. Africa's main sources of financing and how they can promote sustainable development

	Sources	Amounts	Strengths	Weaknesses
External	**Foreign direct investment**	$83 billion 2.6% of Africa's GDP (2021)	Productivity spillovers for local suppliers; training for the local workforce	Limited alignment with sustainable development; spillovers reliant on effective linkages; vulnerable to shocks
	Remittances	$96 billion 3.8% of Africa's GDP (2021)	Connections with local economies and the informal sector	Limited coordination of funds; limited focus on productive transformation
	Official development assistance	$65 billion 2.5% of Africa's GDP (2021)	Resilience to global shocks	Remaining below pledges; limited mobilisation of private investments in low-income countries
	Global impact investors	$24.3 billion 1.0% of Africa's GDP (2019) (assets under management allocated to Africa)	Focus on transformative sectors (such as energy, finance, and small and medium-sized enterprises)	Focus on large and more advanced economies
	Private philanthropy	$2.1 billion 0.1% of Africa's GDP (2018-19)	Focus on social sectors (such as health and education)	Relatively small amounts; not targeting the poorest countries
Domestic	**Government revenues**	$466 billion 16.7% of Africa's GDP (2021)	Largest source of financing in most countries; resilient to international monetary conditions	Country-specific challenges; decreases in revenue on a real per-capita basis; limited data on allocation towards sustainable development
	Multinational enterprises based in Africa	$2.7 billion 0.1% of Africa's GDP (2021) (foreign direct investment outflows)	Regional footprint; resilient to global shocks	Limited amounts of financing; risk of reinforcing regional inequalities
	Domestic institutional investors	$1.8 trillion 73.3% of Africa's GDP (2020) (assets under management held in Africa)	Vast financial resources; embedded in local financial markets	Risk aversion; limited investments in sustainable assets

Source: Authors' compilation based on UNCTAD (2022a), UNCTADstat (database), for foreign direct investment and for multinational enterprises based in Africa; IMF (2022b) for portfolio investment; IMF (2022c), IMF Data Access to Macro Economic & Financial Data (database), KNOMAD/World Bank (2022), KNOMAD Remittances (database), for remittances; OECD (2022a), Aid (ODA) disbursements to countries and regions (database), for official development assistance; GIIN (2020), Annual Impact Investor Survey, for global impact investors; OECD (2021b), OECD Private Philanthropy for Development: Data for Action (database), for private philanthropy; IMF (2022a), World Economic Outlook (database), for government revenues; UNCTAD (2022b), and Juvonen et al. (2019), for domestic institutional investors.
Note: "Amounts" refers to financial flows during the reference period, except for "global impact investors" and "domestic institutional investors" which refer to end-of-period stocks (assets under management). Financial sources may overlap and cannot be aggregated. Global impact investors and private philanthropy are considered external sources of finance, as they mostly originate outside Africa.

Local and regional development banks can assist national governments in setting up supportive green finance frameworks. African countries can leverage their network of about 102 regional and national development finance institutions to strategically allocate finance to viable projects aligned with development priorities. Following the COVID-19 pandemic, many

local development finance institutions revised their mandates to include green development objectives and set up new initiatives to accelerate climate mitigation and adaptation (Attridge, Chen and Getzel, 2022). As most African development finance institutions lack sufficient capitalisation — around 2-3% of their countries' GDP — the international community could bolster these efforts by channelling more resources to well-managed development finance institutions and increasing the allocation of climate adaptation finance. It stood at only $11.4 billion in 2019-2020, well below the $52.7 billion needed annually by 2030 (CGA, 2022).

Climate risk on bank balance sheets

Methodology

As climate risks grow, it is important to understand the scale of the risks facing the financial sector, the extent to which the sector is ready to withstand these risks and the extent to which it is positioned to remain a stable and consistent source of funding for private sector development. One way to do this is to examine the exposure of banks to the sectors of the economy most threatened by climate change. Moody's (2021) conducted this type of analysis for banks in 14 African countries. A similar approach is adopted here, but the analysis is widened to 21 countries across Africa. As the data available for 2022 is still incomplete, the analysis is based on sectoral lending data for 2021.

Moody's assesses each sector's exposure to environmental risks through a qualitative assessment of the overall credit relevance of environmental risks. In practice, the approach taken by Moody's considers five issues: physical climate risk, carbon transition, water management, waste and pollution, and natural capital. The first two factors (physical and transition) are the typical components of total climate risk, while the other three are environmental factors, although these are also affected by climate change. Moody's has climate risk classifications for 89 different industries based on a global calibration of the severity of their environment-related challenges. Based on this approach, Moody's groups industries into four risk categories: Very high, High, Moderate and Low. It then reviews the loan exposures of the banks that it rates in Africa based on each bank's financial reports and investor presentations. This is a bottom-up approach. In practice, data are assigned to almost 20 different industrial sectors because banks do not provide information on credit exposures in sufficient detail to allow them to be assigned to 89 sectors. Thus, there is an aggregation of sectors in practice.

This analysis is similar to Moody's, but with a different methodological approach, as it considers only climate risks (physical and transition), equivalent to the first two elements in Moody's analysis. Broader environmental factors are excluded. Another important aspect of our methodology is that physical risk and transition risk remain independent and are not aggregated in a combined climate risk score, since these are two different types of climate risk. However, physical and transition risk are combined independently across sectors to get an aggregate score for each risk type for the banking sector in each economy. Whereas Moody's looks at lending to different industrial sectors, we additionally consider the climate risks that banks face when lending to households and the sovereign sector, as these are important sectoral components of banks' assets.

A combined risk score for banks' physical or transition risk must therefore contain three components:

1. **Exposure to risks from the sovereign sector**. The EIB's *Finance in Africa* report (2022) provides a detailed overview of EIB climate risk scores at the country level, separated by climate and transition risk, including an explanation of the methodology used. For each country, there is already a physical risk score and a transition risk score. A review of the scores shows that African countries face elevated physical risk compared to other regions, with exposure to agricultural losses a key component of this, particularly in sub-Saharan Africa. In contrast, transition risk tends to be lower when compared to other regions because of the lower carbon intensity in production. These EIB country risk scores are used to measure the physical and transition risk from bank exposures to sovereign lending.
2. **Exposure to risks from the household sector**. Country climate risk scores are also used to assess exposure to the household sector, as this sector is very broad and likely reflects risks as at the country level. Some countries in sub-Saharan Africa are characterised by high physical risk scores, often due to risk exposures in the agriculture sector. In this analysis, household debt in these countries will also be

assigned a high physical risk score. Table 1 shows that there are 26 countries in sub-Saharan Africa where more than 40% of the population works in agriculture. This makes household incomes in these countries vulnerable to the impact of climate change on agriculture. In terms of transition risk, however, most African countries have low risk scores, meaning that households will also have low transition risk scores.

3. **Exposure to risks from the industrial sector**. We calculate industry risk scores for physical and transition risk based on detailed scores at the subsector level. These subsector scores have been aggregated to align with the broader industry sectors for which bank exposure data are available. While most industry sectors match the corresponding sectors on bank balance sheets in an obvious manner, in some cases, judgement was exercised in matching them. Moreover, sectors such as manufacturing or mining can be characterised by different physical or transition risk from country to country, depending on the country's particular industry structure. In this sense, our analysis involves a certain level of approximation. However, over time, the methodology can be refined further. Most sectors would be classified as medium risk in terms of both physical and transition risk. For physical risk, agriculture and mining are the riskier activities, while services are lower risk. For transition risk, mining is higher risk while services are lower risk. In addition, some manufacturing activities have relatively high transition risk.

Table 2. Share of employment in agriculture as percentage of total employment (2019)

Country	Share	Country	Share	Country	Share
Burundi	86	Zimbabwe	66	Sierra Leone	54
Somalia	80	Tanzania	65	Kenya	54
Malawi	76	Democratic Republic of the Congo	64	Angola	51
Chad	75	Eritrea	63	Zambia	50
Niger	73	Mali	62	Lesotho	44
Uganda	72	Rwanda	62	Cameroon	43
Mozambique	70	Guinea	61	Liberia	43
Central African Republic	70	Guinea-Bissau	60	Côte d'Ivoire	40
Ethiopia	67	South Sudan	60		

Source: World Bank: https://databank.worldbank.org/source/world-development-indicators.

We also make an adjustment to the industry risk scores based on the country scores. This is because climate risk at the sectoral level — be it physical or transition-related risk — is assumed to be amplified or attenuated based on the physical or transition-related risk at the country level. For example, if the country is classified as having high physical risk, all industry physical risk scores are notched up, whereas if the country has low physical risk, all industry physical risk scores are notched down.[6] The same applies to the industry transition risk. Table 3 shows how the adjustment works in practice. The country climate risk scores range from 1.00 to 5.00, mostly in increments of 0.50. An industry score can be notched up by a maximum of 1.00 if a country has the highest possible risk score, or notched down by a maximum of 1.00 if a country has the lowest possible risk score. With 21 countries, this results in 42 industrial adjustments (one each for physical and transition), and only five of these are ±0.75. The average adjustment is 0.21 for physical risk and -0.31 for transition risk.

[6] The upward adjustment does not mean that all industries in a country with high physical risk will also be classified as high physical risk. In practice, the industry and country scores are on a ten half-point scale between 1 and 5, so the adjustment can push an industry score up or down a maximum of two half points on the scale. The scale is then converted to high, medium or low risk. Scores lower than 2 are low risk, 3 is medium risk and 4 or higher is high risk. The scores used for the scale are rounded to the nearest integer. For example, in practice, 3.5–5 is high risk.

Table 3. Climate country score and industry score adjustments

Country score	Adjustment	Country score	Adjustment
1.00	-1.00	3.25	0.00
1.25	-0.75	3.75	0.25
1.75	-0.50	4.25	0.50
2.25	-0.25	4.75	0.75
2.75	0.00	5.00	1.00

Source: European Investment Bank.

The sovereign, household and industry sector risk scores are weighted by the share of bank exposure to each sector. While exposure to risk from the sovereign sector is primarily through sovereign bonds, the exposure from the household and industrial sectors is through the loan books. The banking climate risk score is calculated for physical and transition risk (separately) as follows:

$$BCR_i = S_i w_s + S_i w_H + IND_i w_{IND},$$

where S_i is the EIB climate risk score for country *i*, IND_i is the EIB industry climate risk score for industry *i*, w_s is the weight of the banking sector exposure to the sovereign sector, w_H is the weight of the banking sector exposure to the household sector and w_{IND} is the weight of the banking sector exposure to the industrial sector. The three weights (industry, household and sovereign) are calculated by adding up the total loans or bonds extended by the banking system to each sector in local currency terms. The weights are the relative shares of the three exposures. This way, the weights add up to 100. Note that the weights are not the share of total assets, as the total assets of the banking sector are larger than the assets considered here.

Banking sector climate risks by country

Sectoral loan exposures vary widely by country. The credit data used here for the household and industrial sectors come from central bank sources and apply to the whole banking sector, making this a top-down approach rather than a bottom-up approach. This affords greater coverage of credit exposures, but data are reported for a smaller number of industries. Table 4 shows the share of different sectors in the exposure of banks. On average, across the countries in our sample, 52% of banks' exposure is to the industrial sector, 16% to the household sector and 32% to the sovereign sector. As the household and sovereign sector scores are given based on country climate risk scores, country risk is an important element of the overall risk. Because 13 of the 21 countries have high country physical risk scores, the household and sovereign sector exposures tend to amplify physical climate risk on bank balance sheets. Egypt, Ghana and Kenya have the largest sovereign exposures among countries with high physical risk (65% for Egypt, 54% for Ghana and 45% for Kenya). As for Tanzania, it has the largest household sector exposure among countries with high country physical risk (28%), but it has a low sovereign exposure. Some high-physical risk countries, such as Côte d'Ivoire and Togo, benefit from relatively low combined exposure to the sovereign and household sectors, and low exposure to high-risk industries. In contrast, as most countries have low transition risk scores, exposures to these sectors tend to limit transition risk scores.

Table 4. Share of bank balance sheet exposure by sector (% of total exposure, 2021)

Country	Coporate sector							Household	Sovereign
	Agriculture	Mining	Manufacturing and industry	Wholesale or retail trade	Services	Other	Real estate and construction		
Angola	3%	2%	5%	13%	3%	3%	6%	9%	56%
Benin	2%	1%	7%	10%	18%	4%	21%	8%	30%
Botswana	2%	2%	1%	6%	8%	4%	7%	56%	14%
Burkina Faso	1%	4%	9%	13%	15%	8%	13%	13%	23%
Côte d'Ivoire	3%	0%	11%	23%	18%	6%	4%	2%	33%
Egypt	1%	0%	10%	4%	9%	0%	0%	11%	65%
Ghana	1%	0%	4%	13%	14%	3%	3%	8%	54%
Kenya	2%	0%	10%	12%	4%	2%	13%	11%	45%
Mali	2%	2%	8%	29%	11%	8%	6%	1%	33%
Mauritius	2%	0%	4%	6%	20%	0%	8%	25%	35%
Morocco	3%	1%	8%	0%	5%	16%	8%	31%	27%
Niger	1%	1%	5%	20%	19%	7%	10%	12%	24%
Nigeria	5%	21%	17%	6%	25%	0%	0%	7%	18%
Senegal	2%	1%	9%	13%	20%	7%	3%	11%	34%
South Africa	1%	3%	4%	4%	32%	4%	5%	29%	17%
Tanzania	4%	1%	5%	9%	27%	3%	4%	28%	17%
Togo	0%	0%	4%	21%	14%	11%	13%	10%	28%
Tunisia	2%	0%	24%	14%	4%	17%	5%	20%	15%
Uganda	8%	0%	9%	11%	6%	0%	14%	12%	39%
Zambia	5%	2%	5%	4%	6%	13%	1%	7%	58%
Zimbabwe	25%	5%	10%	0%	25%	0%	1%	20%	16%

Source: NCB Angola (2023); NCB Botswana (2023); NCB Nigeria (2023); NCB Uganda (2023); IMF (2023); S&P Global (2023).
Note: The mining sector refers to all extractive industries, including oil, gas, coal and other minerals. The "Other" sector on bank balance sheets is not clearly defined. Accordingly, when assigning physical or climate risk to this sector, we used the remaining sectors in the NACE industrial classification, which included Energy, Water Supply and Transport.

The combined physical climate risk of the banking sector is highest in Ghana, Mali, Niger and Egypt and lowest in Botswana, Mauritius, South Africa and Zambia (Figure 6). This combined score is calculated using the formula above with the weights from Table 4, effectively providing a single physical risk score for each country in Figure 6. Thus, the low-physical risk countries are clustered in Southern Africa, while high-physical risk countries are clustered in West Africa. This partly reflects the country physical risk scores at the regional level, which are particularly high in West Africa but relatively low in Southern Africa. The countries with the highest concentration of industry physical risk on bank balance sheets are Zimbabwe, Nigeria and Mali. Zimbabwe has the largest combined exposure to agriculture (25%) and mining (5%), which are the higher physical risk industry sectors. Nigeria has the highest exposure to mining (21%) due to lending by domestic banks to the fossil fuel industry. Outside these two countries, there is low exposure to high physical risk industries. For Mali, industry's considerable contribution to risk is driven by two factors. First, exposure to industry in general (not necessarily higher physical risk industries) is 66% of the banking sector's total exposure, making Mali's exposure to industry one of the highest in the sample. Second, Mali has one of the highest scores for country physical risk, so the upward adjustment of physical risk for industry is also one of the highest in the sample. This creates a large industry impact, even though Mali is not particularly exposed to higher physical risk industries.

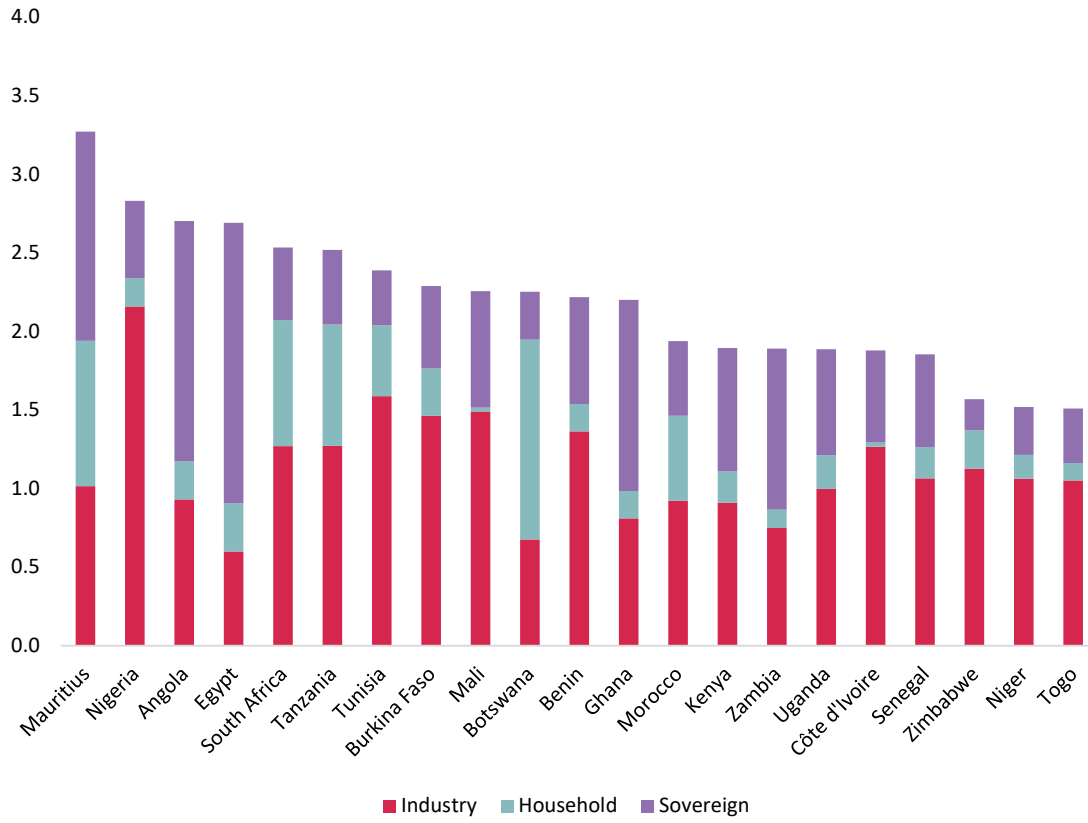
Figure 6. Banking sector exposure to physical risk by country

Sources: National central banks, EIB country and industry risk scores, and the author's calculations.

The banking sectors' transition risk is lower than the physical risk, with only Mauritius having a combined score of more than three (Figure 7), as compared to 13 countries with a combined score of more than three for physical risk.[7] Mauritius, Nigeria and Angola are the countries with the highest combined transition scores. The high sovereign risk scores in these countries result in significant contributions to transition risk across industry, household and sovereign sectors, with the industry risk score increased by the adjustment. In the case of Nigeria, the risk is primarily through industrial exposures, given the prominence of the oil industry, and through sovereign exposures to a much more limited extent. Angola is an oil-producing country, but its industry risk score is relatively low because most of the bank financing of the oil industry is done offshore, meaning that the domestic banking exposure to transition risk is mainly through the sovereign sector. The countries with the lowest transition risk are Togo, Niger, Zimbabwe and Senegal, generally owing to their very low sovereign risk components. As with physical risk, the household sector tends to be the smallest contributor to transition risk.

[7] The transition risk chart ranks the same exposures as before, but this time according to transition risk rather than physical risk.

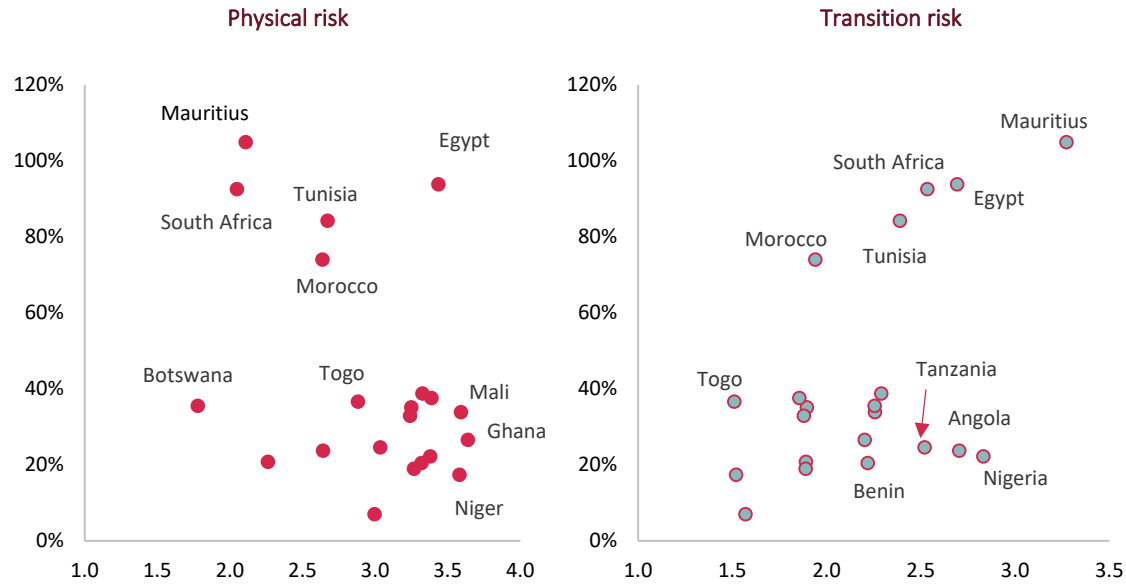
Figure 7. Banking sector exposure to transition risk by country



Sources: National central banks, EIB country and industry risk scores, and the author's calculations.

The scale of the exposures also needs to be considered. The analysis thus far has weighted climate risk based on the relative size of the exposures without referencing their overall size. However, a banking sector with elevated climate risks equal to 5% of GDP is not in the same position as a banking sector with elevated climate risks equal to 50% of GDP. Figure 8 plots the physical and transition climate risk scores from the charts above against the size of the exposures relative to GDP. Niger, Mali, Egypt and Ghana have the highest physical risk scores, but (apart from Egypt) these countries are characterised by shallow credit markets. Accordingly, the size of the exposure in Egypt is markedly different when compared to the other three countries. Generally, the countries with the largest exposures are the ones with more developed financial sectors, such as Mauritius, South Africa, Tunisia and Morocco, but they tend to have low physical risk scores — except for Egypt. In terms of transition risk, among the riskier countries, Nigeria and Angola have much smaller exposures than Egypt and Mauritius. However, this should be qualified by the relatively low level of transition risk generally.

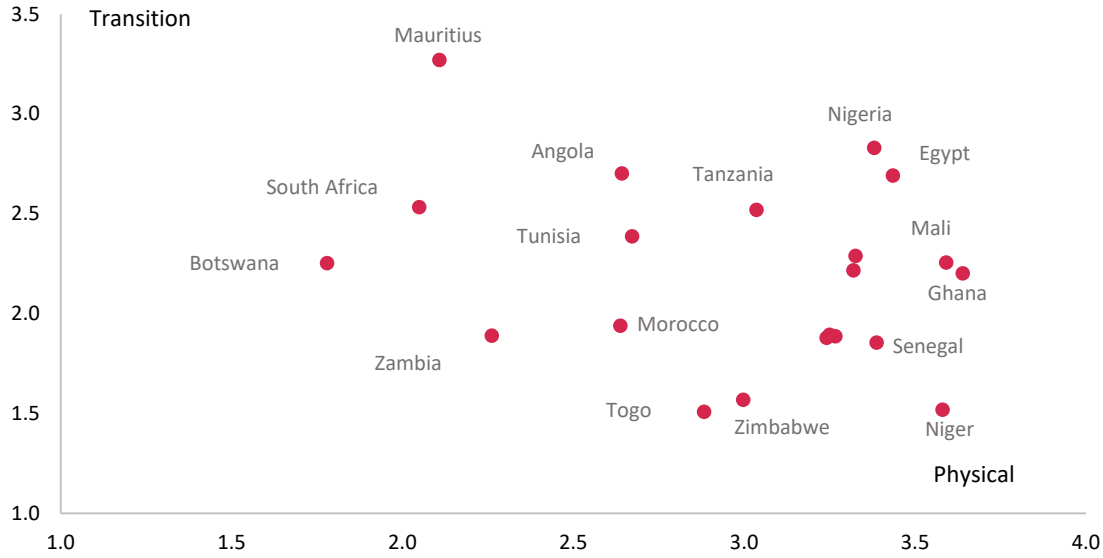
Figure 8. Risk scores by country vs. total banking sector exposure as % of GDP



Sources: National central banks, EIB country and industry risk scores, and the author's calculations.
Note: Unlabelled dots represent less prominent countries among the 21 analysed, and are included in the charts to show the whole distribution of the countries.

The concurrence of physical and transition risk on bank balance sheets is a final point to consider. A banking system with exposures to both physical and transition risk faces greater challenges than a banking system with exposure to just one or the other. Figure 9 shows the country scores that were previously presented individually in Figures 6 and 7 as a scatter plot instead. The banking systems to the right of the chart have higher combined physical risk scores, while those near the top of the chart have higher combined transition risk scores. This means that countries at the top right have high scores on both physical and transition risk while those at the bottom left have low scores on both. The countries at the top right include Nigeria, Egypt and, to a lesser extent, Tanzania, Mali and Ghana. The countries at the bottom left are Botswana and Zambia. There is more bunching to the right side of the chart, representing the higher frequency of physical risk compared to transition risk. The analysis in this section explains the scale of climate risk on bank balance sheets and underscores banks' motivations to manage climate risk more actively. While the methodology relies on some judgement and approximation, it should help to provide an understanding of the relative climate risks facing banks across countries.

Figure 9. Physical and transition risk scores for African banking systems



Sources: National central banks, EIB country and industry risk scores, and the author's calculations.

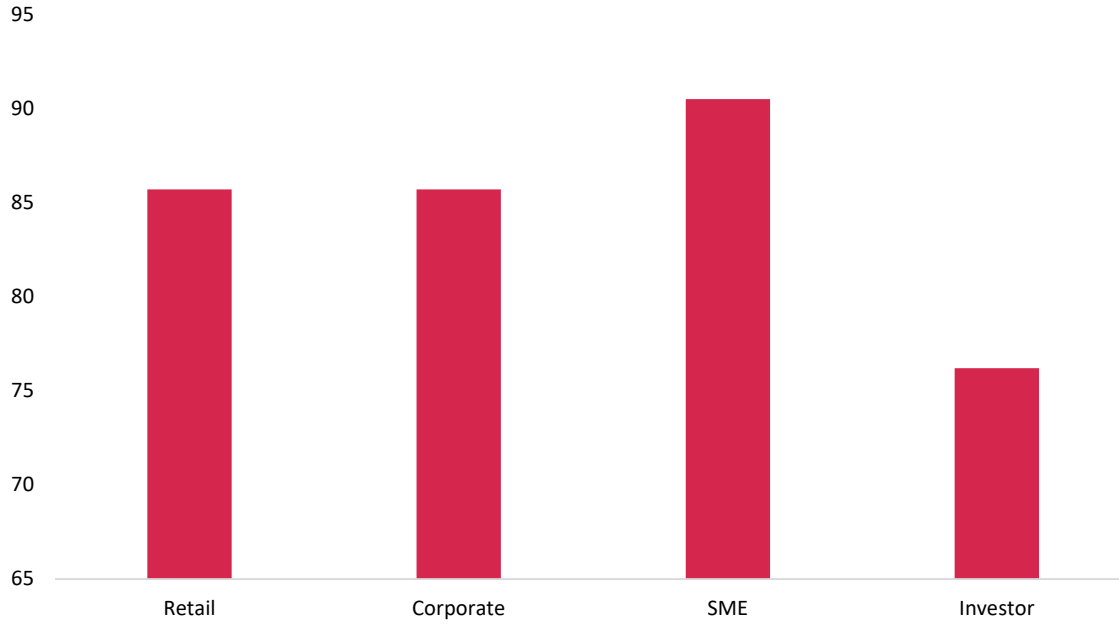
Banks' approach to climate finance

The banks in the EIB survey show a continued commitment to addressing the impact of climate change. For example, the survey finds that 59% of banks have a climate change strategy, and a further 22% of banks plan to introduce one, meaning that four out of five banks could soon have a formal strategy in place, which echoes the 2022 findings. There are several possible motivations for banks to have a climate change strategy, including reducing the financial risks stemming from climate change, seizing opportunities related to climate change, protecting against reputational risk and responding to customer preferences. For 44% of the banks in our survey, all these factors form part of their climate goals. However, 44% cite seizing the opportunities connected with climate change as the main motivation behind their climate strategy, and the remaining 13% cite the need to reduce financial risk as their motivation. In this sense, when forced to choose, it seems that banks place a greater emphasis on the opportunities associated with climate change than the potential costs.

Climate is an important part of the risk appraisal process for both new loans and existing portfolios. The reason for this is clear, given the prevalence of climate risks on bank balance sheets demonstrated in the last section. 65% of banks consider this when assessing a new client or project, and another 23% plan to do so. Accordingly, very few banks have no plans to incorporate climate into their underwriting. Nonetheless, climate is not yet an important driver of the pricing of loans, with just 15% of banks stating that climate risk affects the interest charged on loans. However, 33% of banks do plan to incorporate climate risk into their pricing of interest rates. The survey also finds that 44% of banks already conduct risk assessments of their existing loan portfolios, and 33% plan to do this. This may also be linked to ongoing concerns regarding asset quality, as shown in Chapter 3.

Banks appear to be stepping up their efforts to offer green finance products, which is in line with the finding that climate strategies are more focused on expanding green product ranges than mitigating risk. Approximately one-third of banks report offering green lending products, up from one-fifth last year. However, with a smaller sample in this year's survey, some caution is warranted when interpreting the changes. This year's survey asks new questions to better understand the opportunities and challenges associated with green finance. Banks are eyeing opportunities across a range of sectors, particularly in terms of lending. More than 85% of banks see the retail market (such as green loans and mortgages), the small and medium-sized enterprise (SME) market and the corporate market as offering important opportunities to expand green financing. Three-quarters of banks also see green investment, for example in green bonds, as an emerging opportunity, but it seems that banks focus somewhat more on lending than investment.

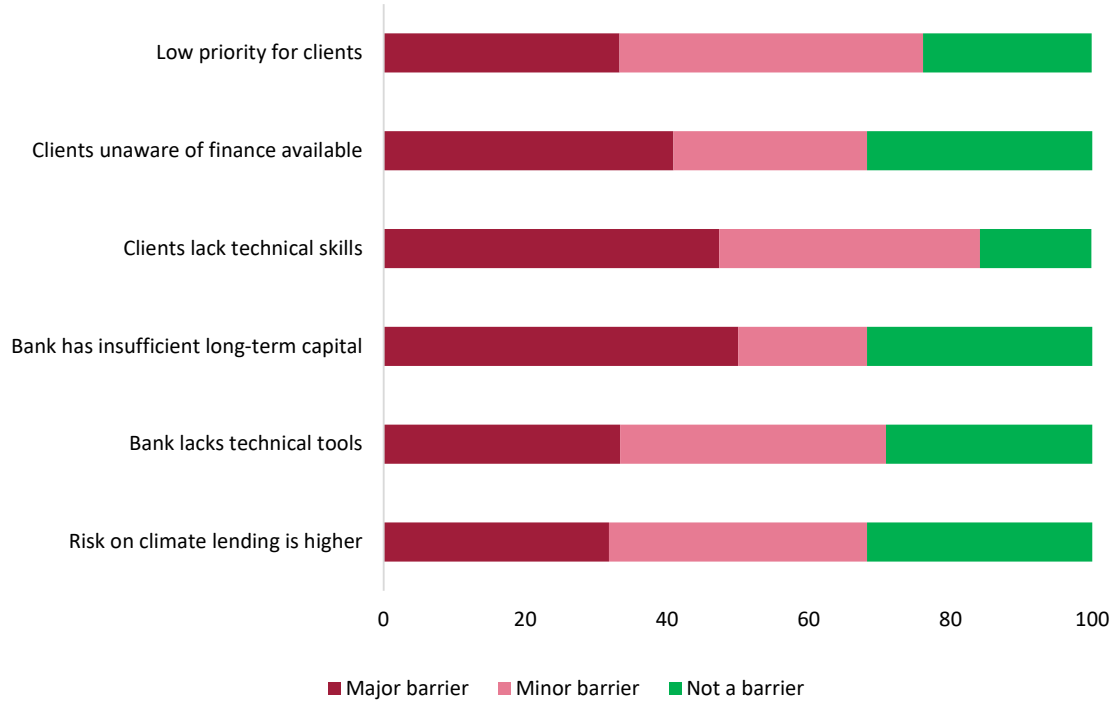
Figure 10. Share of banks seeing green financing as an opportunity by sector (% of responding banks)



Source: EIB Banking in Africa survey, 2023.

Green lending can be constrained by factors on both the demand side (firms) and the supply side (banks). In this year's survey, greater efforts were made to understand the barriers holding back green financing. Some barriers occur on the bank side, such as a lack of long-term capital to match the investment horizon of green investments, the higher perceived riskiness of green projects and a lack of in-house technical skills in banks to originate and monitor green loans. However, there are also several barriers on the firm side, as discussed in detail in AfDB (2021). One issue is that loan demand is constrained because many firms lack the appropriate tools to analyse the risks and rewards of investing in green projects. A second issue is that even the firms that want to undertake green investment may not be aware of the climate finance products available. Finally, firms wishing to obtain green loans often lack the technical skills to create a viable green investment proposal. In this sense, firms confront various layers of obstacles to green investment.

Figure 11. Factors constraining green lending (% of responding banks)



Source: EIB Banking in Africa survey, 2023.

The survey finds that all six factors are major constraints to climate lending for at least one-third of banks, highlighting the multifaceted nature of the problem of expanding green lending. Banks' insufficient long-term capital and firms' lack of technical skills to create bankable green project proposals are cited as major barriers by half of the banks surveyed. Clients' lack of awareness of the finance opportunities available is cited as a major barrier by 41% of banks, while the remaining factors are considered major obstacles by about one-third of banks.

A multipronged approach is needed to grow climate lending, given the various barriers to overcome. The low priority attached by some clients to climate change highlights the need for greater public awareness in some countries. Technical skills are in short supply on both the bank and the firm side, which is another area that needs to be addressed to increase green lending. Banks are already taking some steps in this direction, with 31% of banks offering technical assistance to clients to help them assess and mitigate climate change. The survey also asks banks how international financial institutions can best support their efforts to grow green finance. The two most important interventions sought by banks are skill development and technical assistance, and more attractive pricing for green finance. The demand for technical support from international financial institutions clearly echoes the technical barriers identified in the survey. Additionally, more attractive pricing of green financing could help to support banks dealing with the lack of long-term capital and the perceived riskiness of climate finance. Banks' third most popular demand is for more risk-sharing products from international financial institutions, which is also likely linked to bank perceptions of the riskiness of green projects. As explained at the beginning of the chapter, multilateral development banks and international financial institutions are currently the pre-eminent providers of climate finance in sub-Saharan Africa, so their policies and actions have a significant bearing on the climate financing environment.

References

AfDB (2021). “Mainstreaming Climate Change and Green Growth into the Project Cycle for Lines of Credit – Volume 1.”

AfDB (2022). “African Development Bank launches model for deploying green financing across the continent.” African Development Bank, Abidjan. Available at: www.afdb.org/en/news-and-events/africandevelopment-bank-launches-model-deploying-green-financing-across-continent-56903.

AfDB/IFC/MFW4A (2022). “Gauging Appetite of African Institutional Investors for New Asset Classes.” African Development Bank, International Finance Corporation and Making Finance Work for Africa. Available at: www.mfw4a.org/sites/default/files/resources/gauging_appetite_of_african_institutional_investors_for_new_asset_classes_-_published.pdf.

Atef, N. A. (2022). “Scaling up sustainable finance and investment in the Middle East and North Africa.” in Scaling Up Sustainable Finance and Investment in the Global South, Centre for Economic Policy Research (CEPR) Press, London. Available at:
https://cepr.org/system/files/publication-files/175477-scaling_up_sustainable_finance_and_investment_in_the_global_south.pdf.

Attridge, S., Chen, Y. and Getzel, B. (2022). “Weathering the storm: African public development banks’ response to Covid-19 and their recovery role.” *ODI Working Paper*, Overseas Development Institute, London. Available at: https://cdn.odi.org/media/documents/ODI_Working_paper_Weathering_the_storm_African_public_development_banks_response.pdf.

AUC/OECD (2022). “Africa’s Development Dynamics 2022: Regional Value Chains for a Sustainable Recovery.” AUC, Addis Ababa/OECD Publishing, Paris. Available at: https://doi.org/10.1787/2e3b97fd-en.

AUC/OECD (2023). “Africa’s Development Dynamics 2023: Investing in Sustainable Development.” AUC, Addis Ababa/OECD Publishing, Paris.

AUC/ATAF/OECD (2022). “Tax Transparency in Africa 2022: Africa Initiative Progress Report.” Available at: https://www.oecd.org/tax/transparency/documents/tax-transparency-in-africa-2022.pdf.

CGA, (2022). “State and Trends in Adaptation in Africa 2022.” Global Center on Adaptation, Rotterdam, Netherlands. Available at: https://gca.org/reports/sta22/.

CPI (2022, September). “Landscape of Climate Finance in Africa.”

CPI (2022, October). “Global Landscape of Climate Finance: A decade of data.”

Danso, H. and Samuels, B. (2018). “Benchmark for Investing in African Infrastructure Project Development (“I4PD Benchmark”).” in *Special Report Institutional Investment and Commercial Project Development in Africa*. Available at: www.africainvestor.com/wp-content/uploads/2022/02/I4PD-Benchmark-Report-2018-Update-D15-2.pdf.

European Investment Bank (2021). “Assessing climate change risk at the country level: The EIB scoring model.” Luxembourg.

European Investment Bank (2022). “Finance in Africa – Navigating the financial landscape in turbulent times.” Luxembourg.

fDi Intelligence (2022). *fDi Markets* (database). Available at: www.fdiintelligence.com/fdimarkets.

GIIN (2020). "Annual Impact Investor Survey." Global impact Investing Network. Available at: https://thegiin.org/assets/GIIN%20Annual%20Impact%20Investor%20Survey%202020.pdf.

KNOMAD/World Bank (2022). KNOMAD Remittances (database), Global Knowledge Partnership on Migration and Development. Available at: www.knomad.org/data/remittances.

IEA (2022). Data and Statistics (database), International Energy Agency, Paris. Available at: www.iea.org/data-and-statistics/data-tools/greenhouse-gasemissions-from-energy-data-explorer.

IMF (2022a). World Economic Outlook (database), International Monetary Fund. Available at: www.imf.org/en/Publications/WEO/weo-database/2022/October.

IMF (2022b). Balance of Payments and International Investment Position Statistics (BOP/IIP) (database), International Monetary Fund. Available at: https://data.imf.org/?sk=7a51304b-6426-40c0-83dd-ca473ca1fd52.

IMF (2022c). Macro Economic & Financial Data (database), International Monetary Fund. Available at: https://data.imf.org/?sk=1CE8A55F-CFA7-4BC0-BCE2-256EE65AC0E4.

IMF (2023). International Financial Statistics (database), International Monetary Fund. Available at: https://data.imf.org/?sk=4c514d48-b6ba-49ed-8ab9-52b0c1a0179b&sId=1409151240976.

Juvonen et al. (2019). "Unleashing the potential of institutional investors in Africa." AfDB Working Papers, No. 325.

Moody's (2021). "Banks begin to take stock of intensifying environmental threats (Banks – Africa)."

NCB Angola (2023). Estatisticas monetarias e Financerias, Credito por Sectores de Actividade (database), National Central Bank of Angola. Available at: https://www.bna.ao/#/pt/estatisticas/estatisticas-monetarias-financeiras/nova-serie.

NCB Botswana (2023). Economic and Financial Data, Historical Data, Monetary Statistics, Banking System (database), National Central bank of Botswana. Available at: https://www.bankofbotswana.bw/content/banking-system.

NCB Nigeria (2023). Statistics, Money and Credit Statistics (database), National Central Bank of Nigeria. Available at: https://www.cbn.gov.ng/rates/mnycredit.asp.

NCB Uganda (2023). Statistics, Credit by Sector (database), National Central bank of Uganda. Available at: www.bou.or.ug/bouwebsite/Statistics/.

OECD (2022). "Global Outlook on Financing for Sustainable Development 2023: No Sustainability Without Equity." OECD Publishing, Paris. Available at: https://doi.org/10.1787/fcbe6ce9-en.

OECD (2022a). Aid (ODA) disbursement to countries and regions (database). Available at: https://stats-1.oecd.org/Index.aspx?DataSetCode=TABLE2A.

OECD (2021b). OECD Private Philanthropy for Development: Data for Action (database). Available at: https://oecd-main.shinyapps.io/philanthropy4development/.

Roy, R. (forthcoming). "Africa's developmental path as a solution to the problem of air pollution in Africa." Background paper for *Africa's Development Dynamics 2023.*

S&P Global (2023). IHS Connect (database), Standard and Poor's Global. Available at: www.marketplace.spglobal.com/en/datasets/economic-data-(13).

Stewart, F. (18 January 2022). "The elephant in the room: Bringing sustainable investment to Africa." World Bank Private Sector Development Blog. Available at: https://blogs.worldbank.org/psd/elephant-roombringing-sustainable-investment-africa.

UNCTAD (2014). “World Investment Report 2014: Investing in the SDGs.” United Nations Publishing, New York. Available at: https://unctad.org/system/files/official-document/wir2020_en.pdf.

UNCTAD (2016). “Economic Development in Africa Report 2016: Debt Dynamics and Development Finance in Africa.” United Nations Conference on Trade and Development, United Nations Publishing, New York. Available at: https://unctad.org/system/files/official-document/aldcafrica2016_en.pdf.

UNCTAD (2020). “Economic Development in Africa Report 2020: Press Conference.” Press Release, United Nations Conference on Trade and Development. Available at: https://unctad.org/osgstatement/economic-development-africa-report-2020-press-conference.

UNCTAD (2022a). UNCTADstat (database), United Nations Conference on Trade and Development. Available at: https://unctadstat.unctad.org/EN/.

UNCTAD (2022b), and Juvonen et al. (2019). “Unleashing the potential of institutional investors in Africa.”, AfDB Working Papers, No. 325, for domestic institutional investors.

UNCTAD-ISAR (2022). “African Regional Partnership for Sustainability and SDG Reporting (ARP).” United Nations Conference on Trade and Development and International Standards of Accounting and Reporting. Available at: https://isar.unctad.org/african-regional-partnership-for-sustainability-and-sdg-reporting-arp/.

UNECA (2015). “Illicit financial flows: report of the High-Level Panel on illicit financial flows from Africa.” Addis Ababa. Available at: https://repository.uneca.org/handle/10855/22695.

World Bank (2021). “Green Public Procurement: An Overview of Green Reforms in Country Procurement Systems.” World Bank Group, Washington D.C. Available at: https://openknowledge.worldbank.org/handle/10986/36508.

FINANCE IN AFRICA

Uncertain times, resilient banks: African finance at a crossroads

Economics Department
economics@eib.org
www.eib.org/economics

European Investment Bank
98 -100, boulevard Konrad Adenauer
L-2950 Luxembourg
+352 4379-22000
www.eib.org – info@eib.org

eBook ISBN 978-92-861-5604-5
pdf ISBN 978-92-861-5598-7

2023-0088