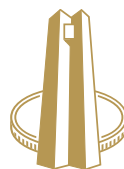


FINANCIAL STABILITY REVIEW

Second edition
2022

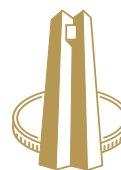


SOUTH AFRICAN RESERVE BANK



FINANCIAL STABILITY REVIEW

Second edition
2022



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Background to the *Financial Stability Review*

The mandate for financial stability

The primary mandate of the South African Reserve Bank (SARB), as stated in the Constitution of the Republic of South Africa Act 108 of 1996 (Constitution), is to achieve and maintain price stability in the interest of balanced and sustainable economic growth in South Africa. The Financial Sector Regulation Act 9 of 2017 (FSR Act) assigns a statutory mandate to the SARB **to protect and enhance financial stability in South Africa**. The SARB's primary and statutory mandates culminate in the SARB's vision of leading in serving the economic well-being of South Africans through maintaining price and financial stability.

Defining 'financial stability'

Section 4 of the FSR Act defines 'financial stability' as meaning that:

- financial institutions and market infrastructures are capable of (i) providing financial products and financial services; and (ii) performing their functions and duties in terms of financial sector laws, without interruption and despite changes in economic circumstances; and
- there is general confidence in the ability of financial institutions and market infrastructures to keep providing the said products and services, and to perform their functions and duties.

Phrased differently, 'financial stability' refers to a financial system that is resilient to systemic risks and shocks and that can efficiently intermediate funds, even in adverse conditions, thereby bolstering confidence in the financial system and financial institutions. Financial stability is not an end in itself, but a precondition for balanced and sustainable economic growth.



Legal basis and purpose of the *Financial Stability Review*

Section 12 of the FSR Act requires the SARB to:

- monitor and review any risks to financial stability, including the nature and extent of those risks, as well as the strengths and weaknesses of the financial system; and
- take steps to mitigate risks to financial stability, including advising the financial sector regulators and any other organs of state of the steps to take to mitigate those risks.

Section 13 of the FSR Act requires the SARB to assess the stability of the South African financial system at least every six months, and to communicate its assessment in the *Financial Stability Review (FSR)*. Among other things, the SARB is required to include the following in the *FSR*:

- its assessment of the stability of the financial system during the six-month review period;
- its identification and assessment of the risks to financial stability in at least the next 12 months;
- an overview of the steps taken by the SARB and the financial sector regulators to identify and manage the risks and vulnerabilities in the financial system; and
- an overview of the recommendations made by the SARB and the Financial Stability Oversight Committee (FSOC) during the period under review, and the progress made in implementing those recommendations.

The SARB assesses financial stability as part of its ongoing operations, and its Financial Stability Committee (FSC) reviews the financial stability conjuncture and outlook at four meetings per year. The *FSR* provides readers with the SARB's assessment of the stability of the South African financial system. The period under review for each edition is the six months following the publication of the previous edition until at least the next 12 months. For this edition, the period under review is from May to November 2022, while the forecast period is until at least November 2023.

The *FSR* is aimed at all South Africans, although it is principally targeted at the Members of Parliament of South Africa, and specifically the Standing Committee on Finance, through which the SARB is accountable to the people of South Africa. The report is also relevant to a broader readership interested in how the SARB implements its financial stability mandate, including but not limited to participants in the financial sector, international central bank peers, rating agencies, international financial institutions, standard-setting bodies and academia. The *FSR* aims to stimulate debate on pertinent issues of relevance to financial stability in South Africa.



Key terms used

Drawing on the definitions used by the Financial Stability Board (2021), the frequently used terms in the *FSR* are defined as follows:

Shock: An event that may cause disruption to, or the partial failure of, the financial system.

Vulnerability: A property of the financial system that (i) reflects the existence or accumulation of imbalances; (ii) may increase the likelihood of a shock; and (iii) when impacted by a shock, may lead to systemic disruption.

Residual vulnerability: The remaining or net vulnerability after considering the identified mitigating factors and actions.

Transmission channels or mechanisms: Also referred to as 'propagation mechanisms', these are the channels through which vulnerabilities may lead to the actual disruption of the financial system, should a shock occur.

Resilience: This refers to the ability of a financial system to deal with shocks and prevent financial instability.

Systemic event: According to the FSR Act, a systemic event means 'an event or circumstance, including one that occurs or arises outside the Republic [of South Africa], that may reasonably be expected to have a substantial adverse effect on the financial system or on economic activity in the Republic, including an event or circumstance that leads to a loss of confidence that operators of, or participants in, payment systems, settlement systems or financial markets, or financial institutions, are able to continue to provide financial products or financial services, or services provided by a market infrastructure'.

Executive summary

The SARB's assessment of the stability of the South African financial system during the period under review is that despite an increase in global systemic risk, the domestic financial system continued to be resilient under highly challenging global and domestic conditions. Prudentially regulated domestic financial institutions remained resilient, partly owing to their ability to maintain adequate capital buffers to absorb the impact of shocks. This resilience is expected to be sustained over the forecast period.

Since the release of the May 2022 edition of the *FSR*, concerns over global stagflation and the consequent tightening of financial conditions have materialised, while fears of a global recession have continued to grow. This, coupled with the impact of the ongoing Russia–Ukraine war and evidence of escalating global conflict and geopolitical polarisation, contributed to even higher levels of uncertainty and volatility than communicated in the May 2022 *FSR*. South Africa remains vulnerable to spillover effects from global events.

Domestically, slow and inequitable domestic economic growth presents an unfavourable operating environment for the financial sector. This was exacerbated by increased load-shedding during the review period, which had the dual impact of negatively influencing investor sentiment towards South Africa and detrimentally affecting business productivity. Insufficient and unreliable electricity supply is likely to threaten the viability of some corporates, especially small and medium-sized enterprises (SMEs), for the foreseeable future, with losses potentially spilling over into the financial sector.

Should South Africa fail to demonstrate sufficient progress in remediating the deficiencies identified in the Financial Action Task Force (FATF) Mutual Evaluation (ME) Report of South Africa, the consequences of the adverse findings could hold far-reaching implications for the domestic financial sector, particularly from a reputational risk perspective.

Despite the better-than-expected fiscal outcomes announced in the October 2022 *Medium Term Budget Policy Statement (MTBPS)*, the financial sector's high level of exposure to government debt continues to pose a risk to domestic financial stability, particularly should there be a shock that leads to further volatility and a sharp repricing in the value of government debt. The increased incidence of state-owned enterprises' (SOEs) debt being taken over by government exacerbates this vulnerability.

During the period under review, the SARB undertook the following initiatives and policy actions to enhance financial stability:

- The SARB continued to collaborate with FSOC members to address some of the key risks to financial stability as identified in this edition of the *FSR*.
- Through cross-sectoral collaboration within the Financial Sector Contingency Forum (FSCF), the SARB continued to identify and consider risks that could result in potential systemic events.



- The SARB's FSC maintained the countercyclical capital buffer (CCyB) at 0% at its October 2022 meeting.
- Work continued on the implementation of the resolution and deposit insurance frameworks enacted by the Financial Sector Laws Amendment Act 23 of 2021.

The structure of this edition of the *FSR* is somewhat different from previous editions. Chapter 1 provides an overview of global developments and the impact on financial stability conditions, and considers the potential implications thereof for financial stability in South Africa. Chapter 2 outlines the current domestic financial stability conjuncture based on developments over the review period, considers the outlook for domestic financial stability, and provides the SARB's assessment of prevailing financial stability conditions. Discussions in Chapter 2 are primarily based on the financial stability heatmap and the SARB's Risk and Vulnerability Matrix (RVM). Chapter 3 focuses on a selection of topical issues and potential emerging risks to domestic financial stability. The topics covered in this edition of the *FSR* include an update on the FATF ME of South Africa, the financial stability implications of crypto assets, an overview of the structures and committees that assist the SARB in executing its financial stability mandate, and an overview of the South African Overnight Index Average (Zaronia).



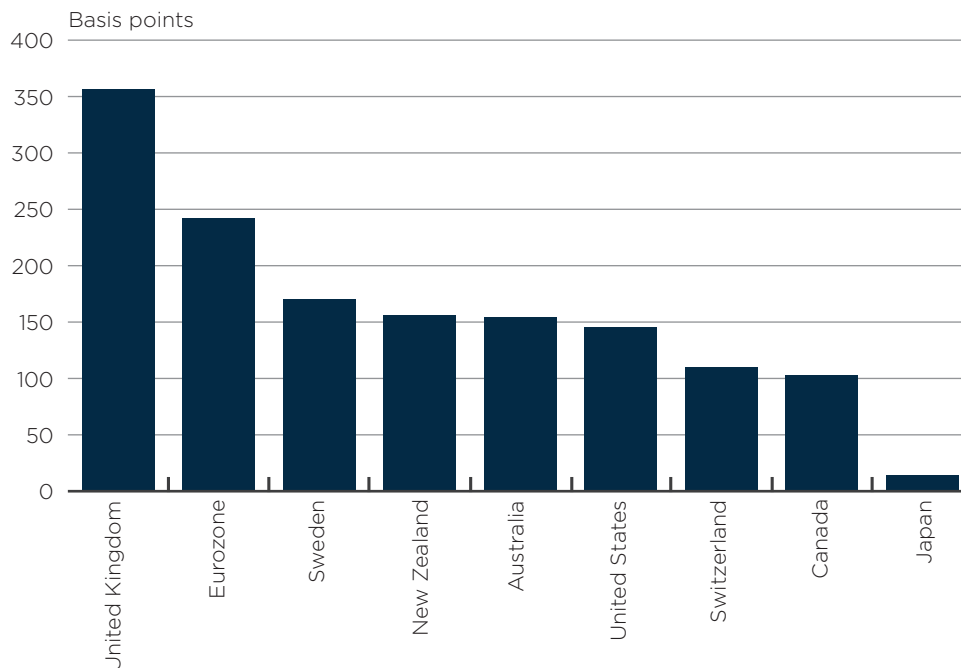
Chapter 1: Overview

Introduction

This chapter identifies and assesses the risks to the global financial system, and considers the potential implications thereof for financial stability in South Africa. It does so through the monitoring of global and domestic indicators of financial stability.

Since the May 2022 edition of the *FSR*, a deteriorating global inflation outlook, increasing fears of a global recession and the intensification of geopolitical tensions have continued to weigh on investor sentiment and contributed to heightened financial market volatility. Financial conditions have continued to tighten significantly following aggressive interest rate hikes by central banks in both advanced and emerging economies. The average policy rate in advanced economies has increased by 200 basis points since the beginning of 2022,¹ while financial markets are pricing in a further average increase of 150 basis points over the next 12 months (Figure 1), with the highest increases expected in the United Kingdom (UK) and the eurozone.

Figure 1: Expected change in policy rates in advanced economies over the next 12 months*



* As at 30 September 2022

Source: Bloomberg

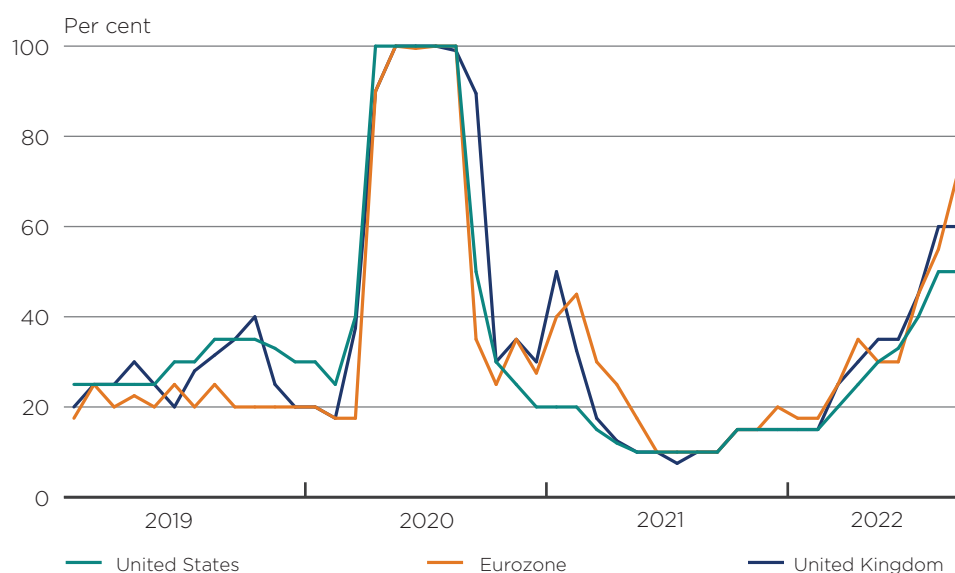
¹ Advanced economies are the United States, eurozone, United Kingdom, Switzerland, Sweden, Australia, New Zealand, Japan and Canada.



Globally, total debt levels remain very high relative to historic averages, increasing the vulnerability to rising debt-servicing costs. After peaking at 360% of global gross domestic product (GDP) in 2020, total global debt levels decreased to 351% in 2021 and continued to moderate marginally during the period under review to 350% of global GDP. However, the Institute of International Finance (IIF) expects the total global debt ratio to rise to 352% of GDP by the end of 2022.²

The probability of a global recession occurring within the next 12 months has increased sharply since the previous edition of the *FSR*. The risk is more pronounced in Europe because of the region's energy crisis which was triggered by the Russia–Ukraine war. The average probability of the United States (US) and UK economies falling into recession in the next 12 months increased sharply over the review period (Figure 2), while the outlook for Chinese growth deteriorated significantly due to continued severe lockdown measures to contain the spread of the coronavirus disease 2019 (COVID-19) and the contraction of the property sector. Figure 2 depicts the probability of a recession occurring in select advanced economies in the next 12 months.

Figure 2: Recession probabilities in select advanced economies



Source: Bloomberg

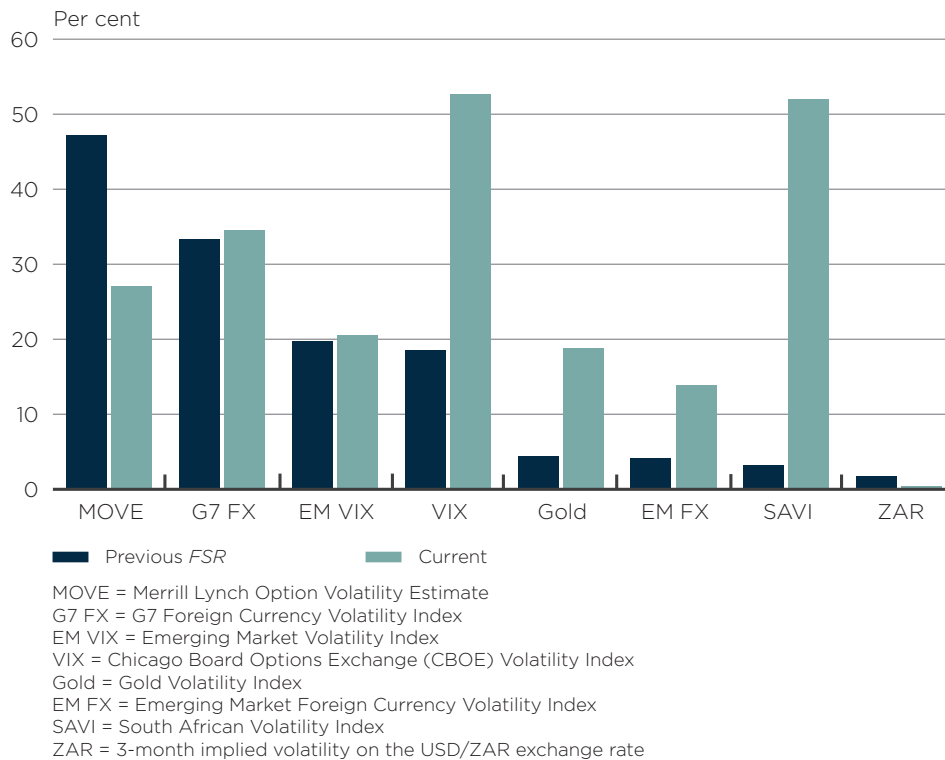
During the period under review, increases in the US Federal Reserve policy rate and heightened growth vulnerabilities, both within and outside of the US, gave rise to an increase in portfolio inflows into the US and a resultant sharp appreciation in the US dollar relative to other currencies. The US dollar has strengthened to levels last observed in 2000, with wide-ranging macroeconomic implications for most other countries.³ As a result, emerging markets are confronted with the dual challenge of addressing domestic inflation while considering the implications and pass-through effects of developments in advanced economies.

² IIF, *Global Debt Monitor: Growing Risks for Emerging Markets*, 14 September 2022. <https://www.iif.com/Key-Topics/Debt/Monitors>

³ The International Monetary Fund (2022) notes that, given the US dollar's dominance in international trade and finance, the estimated average pass-through effect of a 10% US dollar appreciation to other countries' domestic inflation rate is 1%, on average.

The May 2022 edition of the *FSR* highlighted the significant increase in global financial market volatility, which intensified during the period under review. In particular, US Treasury bills, global equities and major foreign currency markets exhibited increased volatility during the review period, while volatility in emerging market currencies remained largely unchanged, albeit at high levels (Figure 3). Rand volatility has remained relatively unchanged since the previous *FSR*, increasing marginally by 0.04%.

Figure 3: Percentage change in volatility indicators



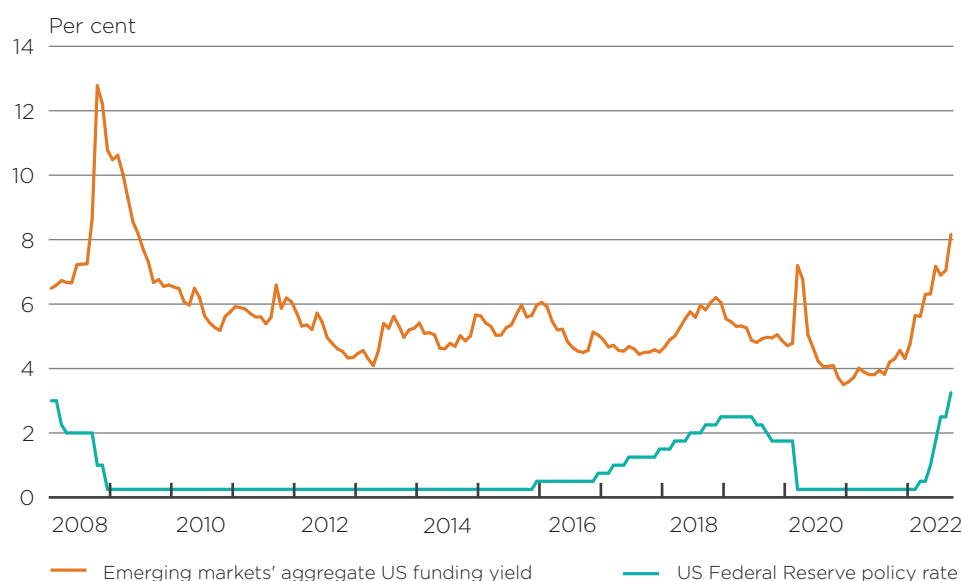
Source: Bloomberg

In its latest *Global Financial Stability Report*,⁴ the International Monetary Fund (IMF) notes that market liquidity has declined globally across all asset classes – including equity markets, sovereign and corporate bond markets, and foreign exchange markets – which contributed to the heightened volatility observed. Since the release of the May 2022 *FSR*, market depth has worsened significantly while liquidity premiums have increased, resulting in lower investor risk appetite. Illiquidity in financial markets can serve as a shock amplifier through forced selling and the rapid deleveraging of leveraged positions, which in turn could threaten broader market functioning and, ultimately, financial stability.

From an emerging market perspective, the main risks facing emerging market borrowers are the strong US dollar, rising global funding costs, deteriorating global growth prospects, and the increased preference for cash and safe-haven investments among global investors. The increase in advanced economy policy rates has lifted emerging markets' US dollar funding costs to levels not seen since the onset of the global financial crisis (Figure 4), with sustained upward pressure on the aggregate emerging market funding cost expected over the short to medium term.

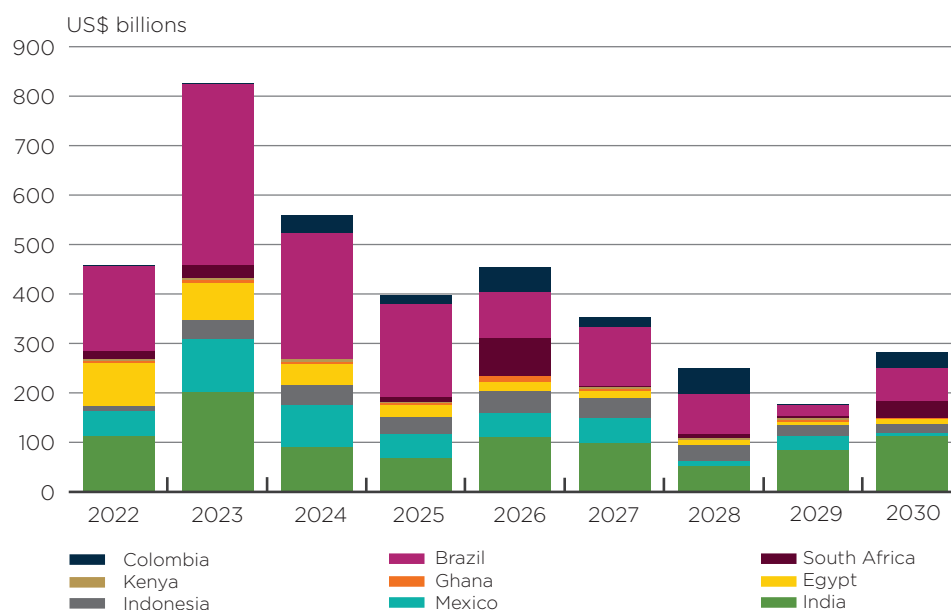
4 See <https://www.imf.org/-/media/Files/Publications/GFSR/2022/October/English/text.ashx>



Figure 4: Emerging markets' US dollar funding cost

Source: Bloomberg

Emerging markets' dollar funding challenges are exacerbated by the fact that the largest proportion of several emerging markets' domestic and foreign currency government debt maturing over the next nine years falls due in 2023 (Figure 5). This implies that these emerging markets will likely refinance these debts at a relatively higher cost, which will result in higher interest repayments and have a negative impact on emerging market governments' discretionary spending. The bulk of South African government debt is maturing in 2026.

Figure 5: Emerging markets' government debt maturity profile

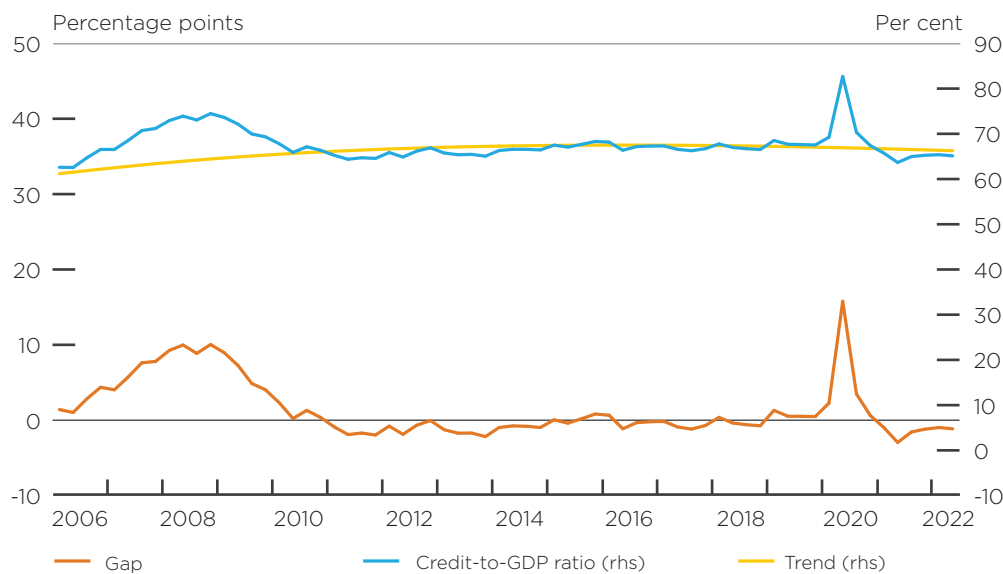
Source: Bloomberg



Indicators of domestic financial stability

In South Africa, the credit-to-GDP gap – defined as the difference between the bank credit-to-GDP ratio and its long-term trend – remained negative and widened from its long-term trend in the second quarter of 2022 (Figure 6). The wider and negative credit-to-GDP gap reflects relatively lower credit growth compared to pre-pandemic levels, although credit extension is starting to grow as both household and corporate credit have rebounded strongly amid normalising economic activity in the wake of the COVID-19 pandemic, rising inflationary pressures and tightening financial conditions.

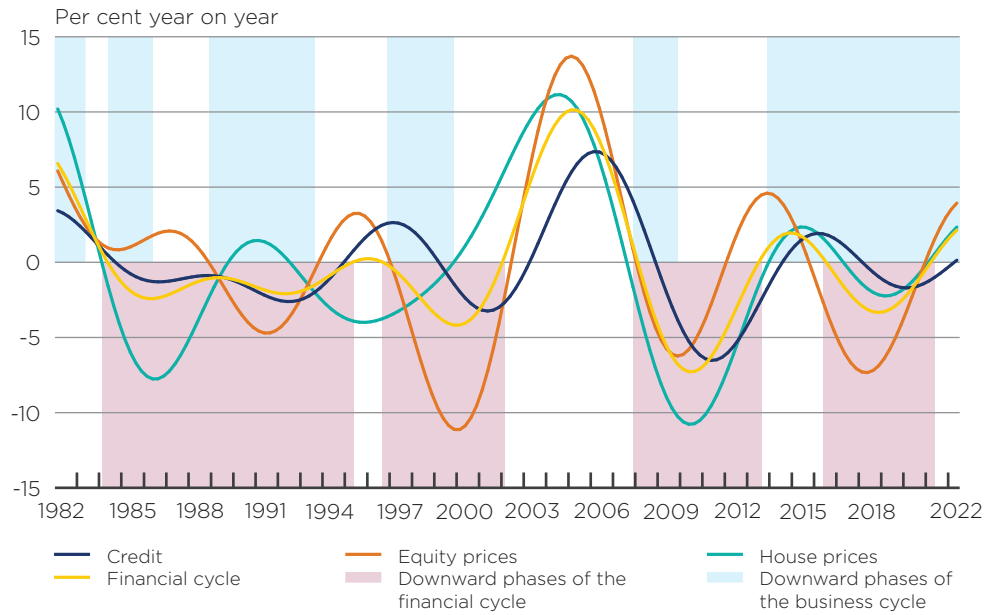
Figure 6: South Africa's credit-to-GDP gap



Source: SARB

The South African financial cycle remained in an upward phase amid rising equity and house prices, and a normalisation in credit extension. As a result, the credit component of the financial cycle moved into an upward phase during the period under review for the first time since the first quarter of 2018 (Figure 7). House price growth was supported by the low interest rate environment, although this impact is expected to taper off as interest rates increase. The SARB has increased the policy rate by a cumulative 350 basis points since November 2021.



Figure 7: The South African financial cycle

Source: SARB

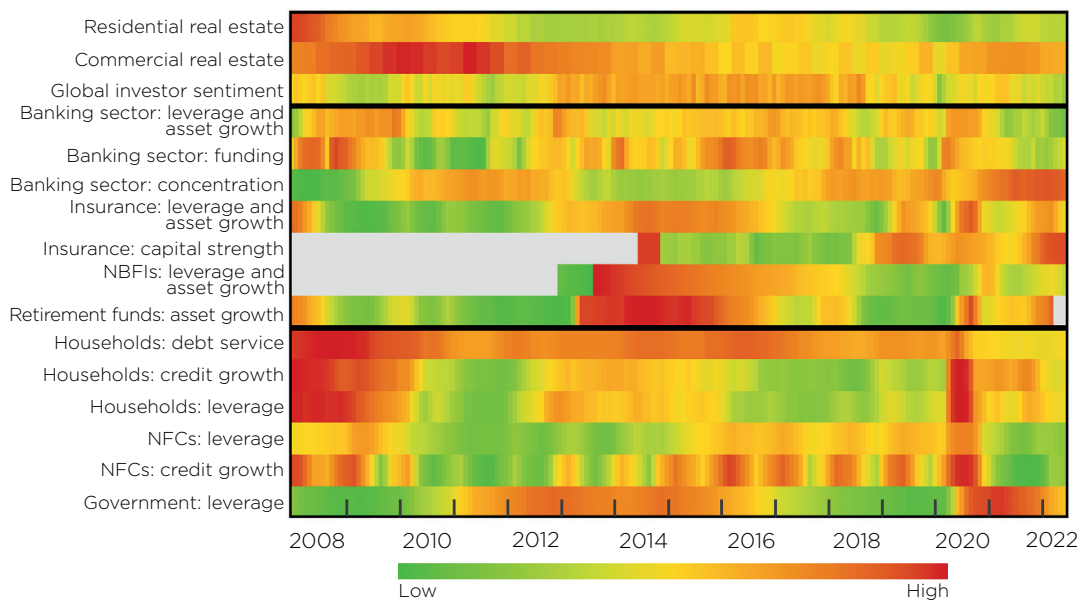
Chapter 2: Domestic financial stability conjuncture, outlook and assessment

Against the broader context provided in Chapter 1, this chapter discusses (i) the current domestic financial stability conjuncture based on developments over the review period; (ii) the outlook for domestic financial stability; and (iii) the SARB's assessment of prevailing financial stability conditions. These three focus areas are discussed primarily based on the financial stability heatmap and the SARB's RVM. The chapter concludes with an overview of the policy actions undertaken by the SARB to enhance domestic financial stability.

Financial stability heatmap

The South African financial stability heatmap (heatmap) provides a consolidated view of a range of financial stability indicators across various components of the financial and non-financial sectors. The heatmap shows a range of indicators of domestic financial stability conditions against their historic averages, and is used as a basis from which to conduct more qualitative and forward-looking assessments.⁵ The heatmap is discussed under the broad categories of financial markets, the banking and insurance sectors, non-bank financial institutions (NBFIs) (i.e. collective investment schemes and retirement funds), non-financial corporates (NFCs), the household sector, commercial and residential real estate, and government finances.

Figure 8: The financial stability heatmap



Source: SARB

⁵ Refer to Annexure A for an overview of how the South African financial stability heatmap is composed, including the indicators underlying the various heatmap elements. In an effort to continually improve the reliability of the indicators used in the heatmap and to keep them relevant, they are reviewed and updated from time to time.

Financial markets

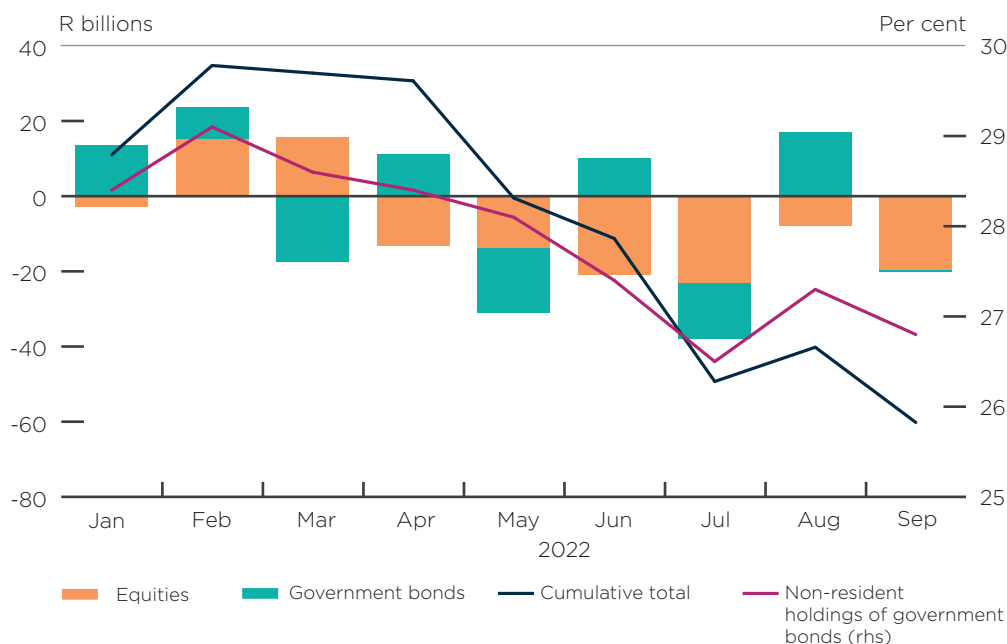
South Africa's financial markets traded largely in tandem with the prevailing global sentiment, with the exchange value of the rand depreciating against the US dollar from R15.20 on 9 June 2022 to R18.45 on 25 October 2022 before recovering somewhat to R16.96 on 24 November 2022. The rand also depreciated by 5% and 2.5% against the euro and British pound respectively. The main drivers of the broader-based depreciation in the exchange value of the rand were negative investor sentiment and capital outflows, in line with global trends but exacerbated by domestic factors such as increased load-shedding and a deterioration in the current account.

During the review period, the South African government bond (SAGB) yield curve remained steep and shifted higher across all maturities. In line with those of other emerging markets, rand- and dollar-denominated South African government debt spreads widened, broadly reflecting the prevailing negative global risk sentiment. Liquidity conditions in the domestic government bond market also deteriorated during the review period, with widening bid-offer spreads across all maturities mainly reflecting global risk aversion and reduced appetite by non-resident investors. Liquidity in the SAGB market is discussed in detail in the May 2022 *FSR*,⁶ which noted that although the SARB had taken various steps to restore and maintain smooth market functioning since the onset of the COVID-19-induced shock, the decline in SAGB market liquidity had prevailed beyond the initial shock. When considered alongside the bank-sovereign nexus, as discussed in detail in the first edition of the 2021 *FSR*, liquidity in the SAGB market will continue to be monitored from a financial stability perspective.

Non-resident investors were net sellers of R8 billion worth of SAGBs, resulting in a continued decline in non-resident holdings of SAGBs during the review period from 28.1% to 26.8% of total SAGBs outstanding – a level last seen in June 2011 (Figure 9). Banks, which accumulated large volumes of bonds during the onset of COVID-19, topped the list of buyers during the review period, acquiring R47.7 billion, or 54%, of the net primary market issuance of SAGBs. The increased take-up by banks of SAGBs contributed to lower liquidity in the secondary market for SAGBs, as several banks follow a buy-and-hold strategy for SAGBs as part of their investment portfolios.

⁶ See <https://www.resbank.co.za/content/dam/sarb/publications/reviews/finstab-review/2022/financial-stability-review/first-edition-2022-financial-stability-review/FSR%20May%202022%201st%20edition.pdf>



Figure 9: South African portfolio flows and non-resident holdings of government bonds

Banking sector

As economic activity normalises in the wake of the COVID-19 pandemic, the banking sector is extending credit to corporates, the sovereign and retail asset classes. The banking sector's equity ratio⁷ has decreased marginally by 47 basis points since the previous *FSR*, mainly due to an increase in total assets, which in turn was largely driven by growth in credit assets. Banks' credit exposures increased notably during the review period and are normalising to pre-COVID-19 levels. Of the almost R1 trillion in credit extended by banks from January to July 2022, almost half (R441 billion) was to corporates, R214 billion to retail portfolios (mostly for residential mortgages), R183 billion to other banks and R151 billion to the sovereign. The phasing out of the COVID-19 restrictions contributed notably to increased economic activity, with resultant increases in the demand for corporate credit and residential mortgages. Overall, despite the broad increase in credit growth, credit risk in the banking sector remains relatively benign, as indicated by the modest level of non-performing loans for the sector.⁸

The banking sector has sufficient cash and liquid assets to finance expected withdrawals of cash. The regulatory liquidity coverage ratio (LCR) for the total banking sector has remained above 140% since 2019, well in excess of the regulatory minimum of 100%. The loan-to-deposit ratio,⁹ another measure of liquidity, declined as the increase in loans was outpaced by an even higher increase in deposits, with the largest increase noted in negotiable certificates of deposit (NCDs). The sector's loan-to-deposit ratio declined by

7 The equity ratio is expressed as total equity as a percentage of total assets. An increase in banking system leverage (as indicated by a decline in this ratio) could increase the vulnerability of the banking system to shocks by reducing buffers and could signal excessive growth in lending.

8 One indicator of non-performing loans is the ratio of impaired advances to gross loans and advances, as depicted in Annexure B. This ratio is currently at 4.5%, down from 4.9% in 2021.

9 This ratio relates total loans granted by banks to total deposits received from customers and is a common indicator of the stability of bank funding. A higher loan-to-deposit ratio implies greater maturity transformation and potential vulnerabilities resulting from liquidity risk in the banking system.



2% from January 2022 to 87% in July 2022, and remains well below its long-term average of 94%, which is well below the 100% level that indicates a heightened risk of maturity mismatch and market illiquidity. On aggregate, liquidity conditions in the banking sector are not considered to be a threat to domestic financial stability at this time.

Concentration within the banking sector and interconnectedness with other sectors are potential vulnerabilities. As reflected by the heatmap, banking sector concentration, as measured by the sector's exposure to households¹⁰ and the sovereign,¹¹ remains high. The concentration measures used in the heatmap mainly reflect an increase in banks' exposure to the sovereign, as the banking sector's holdings of SAGBs and credit exposure to public sector entities and local municipalities continued to grow.

Insurance sector

Profitability in the insurance sector came under some pressure during the period under review. In the life segment, profitability was negatively impacted by a reduction in net premiums and lower unrealised gains on investment portfolios. Net claims paid continued to moderate during the period under review, reflecting a reduction in the number of COVID-19-related claims. By contrast, net claims in the non-life segment increased during the review period, predominantly due to an increase in claims related to motor vehicle and property insurance. The increase in claims in the earlier part of 2022 was caused by the floods in KwaZulu-Natal and higher levels of load-shedding and power outages, while the rise in the number of claims for motor vehicle insurance reflects the normalisation of traffic volumes after the COVID-19 lockdowns.

Despite the challenging macroeconomic environment, both the life and non-life insurance segments maintained adequate solvency capital requirement (SCR) ratios of 1.7 and 1.6 respectively during the period under review, well above the minimum requirement of 1. In general, lower growth prospects and rising interest rates are expected to add pressure to premium growth over the medium term. Although the number of claims in the life segment has been decreasing due to rising immunity to, and milder variants of, the COVID-19 virus, volatile financial market performance may negatively impact investment income. The non-life segment remains vulnerable to an increase in claims related to power surges associated with load-shedding, increasing climate-related risks, motor vehicle claims (given the normalisation of economic activity) and higher reinsurance premium rates (largely in response to the July 2021 civil unrest).

Non-bank financial institutions

Collective investment schemes

The value of assets under management of collective investment schemes (CIS) decreased from R3 139 billion to R2 985 billion during the review period. As a subcomponent of the CIS sector, the assets under management of money market funds (MMFs) decreased from R372 billion to R361 billion. MMFs increased their exposure to banks, mainly by taking up NCDs, and decreased their exposure to Treasury bills. Lower MMF exposure to Treasury bills could decrease liquidity risk

¹⁰ Exposure to households is calculated as home loans as a share of gross loans and advances. This indicator shows the level of concentration in banks' exposures to the residential mortgage market. Systemic risk from a number of previous financial crises has arisen from exuberant credit extension and asset growth in the residential housing market.

¹¹ Government and government-guaranteed securities in proportion to gross loans and advances are used as an indicator for measuring exposure to the sovereign.



for MMFs as Treasury bills have a relatively illiquid secondary market compared to NCDs, which are commonly issued by banks.

MMFs and the banking sector are highly interconnected, and liquidity stress in MMFs can spill over to individual banks. Should MMFs experience large and unexpected redemptions during periods of distress, they could be forced to make large withdrawals from their bank deposits, thus shifting liquidity risk to the banking sector.

Retirement funds

Retirement funds continued to exhibit modest growth in the fair value of total assets, which exceeded R6 trillion for the first time in 2022. Although the retirement fund sector continues to recover in the aftermath of the COVID-19 pandemic, growth remains muted due to lower investment returns, for reasons discussed earlier in this edition of the *FSR*.

Non-financial corporates

South African NFCs' debt-to-GDP ratio continued to moderate, decreasing marginally from 33.8% to 33.5% during the review period. While this slight moderation in indebtedness can be seen as an early sign of lower vulnerability in the sector, the lagging effects of COVID-19 and a challenging operating environment are reflected in the increase in liquidated companies and close corporations. Liquidations increased by 11.8% year on year in September 2022, down from the 44.8% year-on-year increase recorded in August 2022. Increased load-shedding negatively impacts business productivity in particular, and is likely to threaten the viability of some corporates, especially SMEs, for the foreseeable future.

Higher interest rates increase NFCs' debt-servicing costs. The NFC sector's total interest coverage ratio (ICR) – a measure of how easily firms can pay interest on their outstanding debt – decreased from 5.1 to 4.8 during the review period, which is largely reflective of higher interest rates. However, the ratio remained well above the IMF benchmark of 2. Going forward, the global growth outlook and higher interest rates may further erode the ICR, with a varied impact across sectors and firm sizes.

Household sector

The increase in unsecured credit to households, albeit from a low base, could be an early sign of distressed borrowing by households to cover living expenses. Credit extended to households by banks increased by 6.8% year on year to June 2022, driven mainly by growth of 10.6% in unsecured credit and 8.6% in instalment sales credit. Higher interest rates increase households' debt-servicing costs and put further strain on households, especially highly indebted ones. Households' debt-servicing costs, expressed as a percentage of household income, increased marginally from 7.3% to 7.5% over the review period. Adding to the pressure on household budgets, the growth in their real disposable income slowed from 3% to 0.5% during the review period, reflecting the effects of higher inflation, in particular from elevated food and fuel prices.



Real estate

Commercial real estate

There are signs of improvement in the commercial property market following the removal of pandemic-related economic restrictions, but the sector remains under pressure. There was a marginal decrease in the number of commercial tenants in good standing during the review period, while more than 10% of commercial tenants did not fully meet their rental payment obligations. Since the first quarter of 2020, there has been an increase of almost 17% in commercial tenants making partial payments or not paying at all. Increases in interest and municipal rates reduce the return on investment in the commercial property sector if owners are unable to pass on these costs to tenants, and the ability of leveraged investors to service their debt may come under pressure.

Residential real estate

Rising interest rates and lower demand for housing resulted in slower growth in house prices over the review period. However, the residential rental market has improved, as reflected by lower vacancy ratios and higher rental yields. The residential vacancy ratio declined from a high of 13% in 2021 to 7.2% at the end of June 2022, as rising interest rates increased the affordability of renting relative to buying. The higher rental occupancy in turn leads to rising rental yields. However, there are signs of consumer strain as the portion of partially paying and non-paying tenants remains high. Residential mortgage defaults also remain elevated, despite a slight decline during the review period.

Government finances

Government revenue increased during the review period, with tax collections exceeding projections across most tax categories. At the end of June 2022, South Africa's national government gross loan debt-to-GDP ratio stood at 70.1% and is expected to stabilise at 71.4% of GDP by the end of the 2022/23 fiscal year, as announced in the October 2022 *MTBPS*.¹² This is lower than the 72.8% projected in the February 2022 *Budget Review*, in part due to higher-than-expected revenue collections. However, as evidenced by the *MTBPS*, the potential need for the government to provide further financial support to SOEs remains a threat to government finances.

Interest spending on national government debt continued to increase, growing by 13.4% year on year to the end of September 2022, notably higher than the annual growth rate of 10.7% communicated in the May 2022 *FSR*. Higher interest payments on government debt come at the expense of growth-supporting spending priorities.

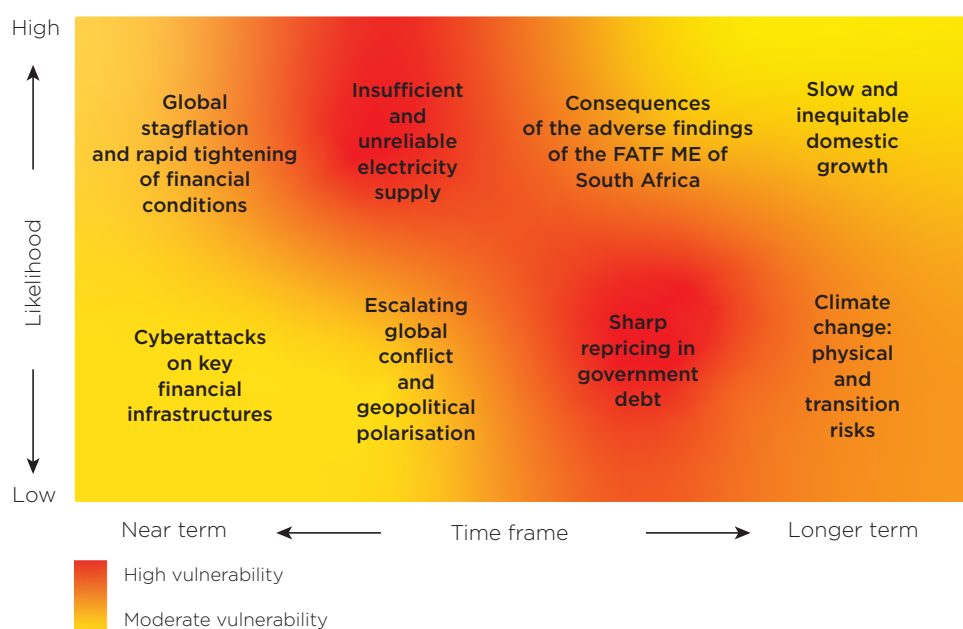
¹² The *MTBPS* is available at <http://www.treasury.gov.za/documents/mtbps/2022/mtbps/FullMTBPS.pdf>.



Outlook for financial stability

The SARB's RVM provides a forward-looking assessment of the key risks to financial stability in South Africa over the short, medium and longer term (Figure 10). The key risks are identified based on the current conjuncture, but also take into account possible future developments and the vulnerability of the financial system to such developments, after considering existing mitigating factors and policy actions. The colours in the RVM represent the residual vulnerability of the financial system to each risk. Risks with a lower residual vulnerability are the ones where the financial system is relatively well placed to absorb a shock without a broader spillover of distress across the system. Risks with a higher residual vulnerability are more likely to lead to financial instability if no or insufficient mitigating actions are taken.

Figure 10: SARB Risk and Vulnerability Matrix



The RVM is supported by Table 1, which (i) identifies the risks to South African financial stability; (ii) highlights the associated domestic vulnerabilities through which the risk could manifest in a shock to the South African financial system; (iii) identifies the mitigating factors and actions that alleviate the expected impact of a shock; and (iv) describes the likely residual impact on financial stability in South Africa (i.e. the potential net impact the risk would have, should it materialise as a shock, after the identified mitigating factors and actions have been accounted for). The RVM and accompanying table represent the SARB's overall assessment of the residual vulnerability of the domestic financial system to the identified risks, after mitigating factors and actions have been accounted for.

Table 1: Financial stability risks, vulnerabilities, mitigating factors/actions and residual vulnerability

Risk	Associated domestic vulnerabilities	Mitigating factors/actions	Residual financial stability vulnerability (high, moderate or limited vulnerability)	Change since previous FSR	Time frame
Slow and inequitable domestic growth	<ul style="list-style-type: none"> Weak economic growth affects the operating environment and long-term prospects of financial institutions through various channels. Unemployment and low income dampen the demand for financial services, credit and access to finance. Inequitable growth raises the risk of populist policies and social instability, which in turn may have a negative impact on investor confidence, funding costs, insurance claims and operational costs. 	<ul style="list-style-type: none"> Extension of COVID-19 social grants Relatively high capital/solvency buffers Comprehensive supervisory oversight of lending standards and provisioning Increasing profitability of the banking sector 	<ul style="list-style-type: none"> Limited progress on implementing structural reforms leaves the economy vulnerable to an extended period of weak, inequitable growth. Muted new business growth may lead to increased risk-taking to increase profits. Insurance and reinsurance may become unaffordable or even uninsurable for risk events that become too frequent. If Sasria reserves become depleted, there is a possibility that unrest-related risks may not be covered by insurance. 	➔	Medium term
Global stagflation and rapid tightening of financial conditions	<ul style="list-style-type: none"> Aggressive policy tightening in advanced economies makes domestic bonds relatively less attractive to foreign investors and could cause further capital outflows and currency depreciation for emerging markets. Tighter financial conditions increase the debt-servicing costs of borrowers and the credit risk of lenders. Lower global growth will affect domestic economic activity and weaken the financial position of financial institution customers. Higher levels of risk-taking to boost profits may result in asset overvaluation and excessive leverage. 	<ul style="list-style-type: none"> Flexible exchange rate and adequate level of foreign exchange (FX) reserves Low FX mismatches on bank and sovereign balance sheets Domestic inflation expectations still anchored Foreign exposure limits on financial institutions encourage the repatriation of FX during periods of balance of payments stress 	<ul style="list-style-type: none"> The high level of interconnectedness in the South African financial system means that a shock in one part of the system could easily spill over to other parts. Tighter financial conditions could interact with low growth to weaken balance sheets. Increased capital outflows could lead to a depreciation in the exchange value of the rand, and declines in commodity prices could affect financial sector liquidity and profitability. The limited regulation of certain investment fund activities potentially makes them vulnerable to risks. 	➔	Short term
Insufficient and unreliable electricity supply	<ul style="list-style-type: none"> Sustained load-shedding negatively impacts domestic economic growth and investor sentiment, exacerbating other pre-existing vulnerabilities. Battery recharge constraints for automated teller machines (ATMs) and cellular network towers during stages of longer load-shedding could affect the effective functioning of key infrastructure necessary for the financial system. Increased insurance claims from households and firms due to power surge damage, fires and crime could in turn lead to higher insurance and excess costs. An extended period of unavailability of electricity (blackout), although unlikely, will make it impossible for the financial system to continue functioning as normal. 	<p>Presidential announcement of actions to address the energy crisis,* specifically plans to:</p> <ul style="list-style-type: none"> improve the performance of Eskom's existing fleet of power stations; accelerate the procurement of new generation capacity; incentivise private investment in alternative energy sources; and fundamentally transform the electricity sector to be both environmentally and financially sustainable. 	<ul style="list-style-type: none"> More severe load-shedding stages may not be fully priced into the market, even as local investors appear more pessimistic about South Africa. Severe load-shedding is not a common event, therefore it is not economically viable to plan for or mitigate against. In an environment of already low and inequitable growth, extended load-shedding puts severe strain on businesses and economic activity, with spillover effects to the financial system. 	New risk	Short to medium term

* President Cyril Ramaphosa's address to the nation on the energy crisis is available at <https://www.gov.za/speeches/president-cyril-ramaphosa-address-nation-energy-crisis-25-jul-2022-0000>



Table 1: Financial stability risks, vulnerabilities, mitigating factors/actions and residual vulnerability

Risk	Associated domestic vulnerabilities	Mitigating factors/actions	Residual financial stability vulnerability (high, moderate or limited vulnerability)	Change since previous FSR	Time frame
Consequences of the adverse findings of the FATF ME of South Africa	<ul style="list-style-type: none"> A potential 'greylisting' of South Africa will result in higher transactional, administrative and funding costs for domestic financial institutions and reduce the availability of foreign funding Restricted cross-border transactional ability will affect trading and hedging activities, with real economic consequences Reputational damage to South Africa's financial system could have negative capital flows and exchange rate implications A potential decline in correspondent banking relationships for South African banks, with regional spillover effects 	<ul style="list-style-type: none"> Coordinated response to address the deficiencies identified through a government-led interdepartmental committee on anti-money laundering and combating the financing of terrorism (AML/CFT), as well as combating proliferation financing to coordinate South Africa's response Good progress in the financial sector in particular to address the FATF ME findings 	<ul style="list-style-type: none"> Some remedial actions to address the adverse findings of the FATF may not be implemented timeously. 	➔	Short to medium term
Cyberattacks on key financial infrastructures	<ul style="list-style-type: none"> Growing dependency on information technology (IT) for transactions and communication Financial services firms are among the most attractive targets Work-from-home arrangements have increased staff interactions with IT systems and interfaces Growing reliance on third-party IT service providers and increased centralisation of IT infrastructure globally Increased risk of disruptive attacks on major global financial market infrastructures that are also used by South African financial institutions, as retaliation for sanctions against Russia 	<ul style="list-style-type: none"> Large IT security spending and focus in the financial sector Enhanced structures to ensure a coordinated approach to prevention, timely detection, response and recovery by the SARB and the financial sector Promulgation of the Cybercrimes Act 19 of 2020 	<ul style="list-style-type: none"> Large tail risks are associated with even a single successful cyberattack Smaller financial institutions and third-party service providers may be most vulnerable given limited skills and resources to address cyber-risk Exposure to global financial market infrastructures at risk of cyberattacks introduces risk into the domestic financial system, with limited mitigation possibilities 	➔	Short to medium term
Escalating global conflict and geopolitical polarisation	<ul style="list-style-type: none"> The ongoing Russia-Ukraine war has contributed to a flight to safety and capital outflows from emerging markets. A possible reversal in globalisation could significantly change both the level and direction of existing trade and financial flows, with uncertain implications for a small, open economy such as South Africa. Supply chain shortages and interruptions fuel global inflation and contribute to tightening global financial conditions. 	<ul style="list-style-type: none"> Anchored domestic inflation expectations Well-regulated financial sector Prudentially regulated financial institutions remain adequately liquid and capitalised 	<ul style="list-style-type: none"> Many events are beyond South Africa's control, and the scope and space for policy responses are limited. 	New risk	Short to medium term

Table 1: Financial stability risks, vulnerabilities, mitigating factors/actions and residual vulnerability

Risk	Associated domestic vulnerabilities	Mitigating factors/actions	Residual financial stability vulnerability (high, moderate or limited vulnerability)	Change since previous FSR	Time frame
Sharp repricing in government debt	<ul style="list-style-type: none"> Despite a notable improvement in the outlook for government finances in recent months, vulnerabilities remain due to the high level of debt and committed spending items. The financial sector, in particular banks, has high exposures to government debt, and sharp spikes in yields may lead to significant losses. Lower liquidity in the SAGB and Treasury bills market affects the ability of financial institutions to raise liquidity by selling securities in times of stress. Crowding out of private investment and savings by high public borrowing affects the growth potential of the economy. The orderly functioning of the government bond market can be disrupted, potentially requiring repeated episodes of support by authorities. 	<ul style="list-style-type: none"> Government debt is largely domestic currency-denominated with long maturities Fiscal consolidation is supported by an economic recovery and higher commodity prices Large, diversified banks are less exposed to government debt and better hedged against adverse events The fiscal outlook is improving with better-than-expected revenue collections and a commitment to fiscal consolidation 	<ul style="list-style-type: none"> Bank exposures to the sovereign remain elevated, in particular among smaller banks, and not all institutions may be sufficiently capitalised to withstand a severe sovereign debt shock event. The risk of dysfunction in the SAGB market is exacerbated by high exposure, concentration and lower liquidity. Failure in fiscal consolidation can lead to unsustainable government debt levels. 	➔	Medium to longer term
Climate change: physical and transition risks	<ul style="list-style-type: none"> A high concentration of carbon-intensive activities in South Africa may lead to large exposures of financial institutions to stranded assets in the future The rising risk of climate-related damage to property and infrastructure has a negative impact on non-life insurers Changing policies, technologies and preferences could increase financing cost and availability A lack of clarity around the financial sector's exposures to unsustainable assets, incomparable taxonomies and inconsistent voluntary reporting limit the ability of regulators to measure and regulate climate-related risks 	<ul style="list-style-type: none"> Voluntary disclosures by some financial institutions give some insight to supervisors The introduction of climate stress testing by the SARB is prompting industry to define and quantify risks The establishment of the Presidential Climate Financial Task Team should lead to policy certainty The annual repricing of non-life insurance premiums reflects higher risk South African carbon tax implemented in June 2019 is estimated to increase to at least US\$30 per tonne by 2030 	<ul style="list-style-type: none"> The South African economy could experience a loss of competitiveness as the world shifts towards carbon neutrality Financial institutions that fund unsustainable assets could face higher funding costs and other barriers The physical impact of climate change appears to be worsening The increasing cost of short-term insurance could lead to a reluctance to provide cover against climate-related risks 	➔	Medium to longer term



Assessment of financial stability conditions

On the basis of the risks, vulnerabilities and mitigating factors and actions identified, the SARB's assessment of the stability of the financial system is as follows:

- Systemic risk increased during the period under review, mainly due to an environment of persistent inflation and global monetary policy tightening, recession fears, geopolitical tensions, volatile financial markets and downward revisions of growth projections, both for major economies and South Africa.
- Despite the increase in systemic risk, the South African financial system continues to be resilient under highly challenging global and domestic conditions. This resilience is expected to be sustained over the forecast period.
- Against a backdrop of continuing slow and inequitable domestic economic growth, factors such as insufficient and unreliable electricity supply, the potential consequences of the adverse findings of the FATF ME of South Africa, the risk of cyberattacks and the effects of climate change put additional pressure on the financial sector.
- Nevertheless, prudentially regulated domestic financial institutions, in aggregate, remain resilient, as measured by their ability to maintain adequate capital and liquidity buffers to absorb the impact of shocks.

Policy actions and initiatives undertaken to enhance domestic financial stability

- **The SARB continued to collaborate with FSOC members to address some of the key risks to financial stability** as identified in this edition of the *FSR*.
- **Through cross-sectoral collaboration within the FSCF**, the SARB continued to identify and consider risks that could result in potential systemic events.
- **The SARB's FSC maintained the CCyB¹³ at 0% at its October 2022 meeting.** In line with ongoing work by the Bank for International Settlements (BIS) on the CCyB,¹⁴ the SARB will assess the most appropriate neutral level for the CCyB for South Africa.
- **Work continued on the implementation of the resolution and deposit insurance frameworks enacted by the Financial Sector Laws Amendment Act 23 of 2021 (FSLAA).** Most notably, the first regulatory standards for resolution have been published for public comment.

¹³ The CCyB is designed to increase the level of capital in the banking sector during upswings in the financial cycle (at times when credit growth and risk-taking are outpacing underlying economic conditions). This helps to ensure that banks build additional buffers during an upswing period to absorb losses during a subsequent downswing period. The CCyB also assists in containing excessive growth in broader credit extension. The CCyB has been maintained at a level of zero since 2019, which limits the ability of the SARB to use it in a countercyclical way.

¹⁴ The issue of positive cycle-neutral CCyB rates is considered in detail in a recent newsletter by the BIS, available at https://www.bis.org/publ/bcbns_nl30.htm



Chapter 3: In focus: briefings on selected topics relevant to financial stability

This chapter is dedicated to short, stand-alone briefings on relevant topics and possible emerging risks to domestic financial stability, with the dual objective of stimulating debate and informing *FSR* readers of the latest developments on a selection of topics.

Update on the FATF ME and remedial actions implemented

Background to the current conjuncture

South Africa has been a member of the FATF since 2003 and is also a member of the Eastern and Southern Africa Anti-Money Laundering Group (ESAAMLG). The IMF led the FATF ME of South Africa in 2019, during which time South Africa was assessed in accordance with the FATF Methodology for assessing technical compliance with the FATF Recommendations and the effectiveness of the domestic anti-money laundering and combating the financing of terrorism (AML/CFT) regime. The ensuing FATF ME Report for South Africa (report) was published on 7 October 2021.¹⁵

Owing to the low ratings achieved in the report, South Africa qualified for a review and was placed under a 12-month observation period which began in October 2021. During this period, all affected stakeholders were required to undertake the requisite remedial actions and demonstrate progress to address the deficiencies identified in the report. Failure to demonstrate sufficient progress will result in South Africa being subject to increased monitoring by the FATF.¹⁶ To address this risk, South Africa has established a Cabinet-approved interdepartmental working group (IDWG) to address the findings of the report. Membership of the IDWG consists of law enforcement agencies, financial sector regulators and supervisors, and government departments and ministries. Each immediate outcome has a dedicated workstream to focus on making progress in addressing the main findings of the report.

The South African authorities continued to work towards completing the post-observation progress report during the period under review. In January 2023, the FATF's designated Joint Group of the International Cooperation Review Group will discuss South Africa's progress in addressing the deficiencies with the South African authorities. The FATF Plenary meeting will decide at its meeting in February 2023 whether South Africa has made satisfactory progress in remediating the identified

¹⁵ The FATF ME of South Africa is available at <https://www.fatf-gafi.org/publications/mutualevaluations/documents/mer-south-africa-2021.html>

¹⁶ While not an official term, the informal term 'greylisting' is frequently used to indicate that a jurisdiction is subject to increased monitoring by the FATF.



deficiencies. If South Africa is deemed not to have made satisfactory progress, it would result in the country receiving an action plan from the FATF and officially being regarded as a jurisdiction under increased monitoring – a so-called ‘greylisting’.

Considerations for domestic financial stability

Should South Africa be greylisted by the FATF, it will likely result in higher transactional, compliance and funding costs for domestic financial and non-financial institutions, and reduce the availability of foreign funding. Such increased costs could contribute to de-risking, where international banks terminate relationships with customers in high-risk jurisdictions as the rising cost of compliance makes such relationships unviable from an economic perspective. In turn, a potential decline in correspondent banking relationships for South African banks could have significant regional spillover effects. From a reputational perspective, the effect of a FATF greylisting could also weigh negatively on investor sentiment, with resultant implications for capital flows and the exchange value of the rand.

A recent paper by the IMF¹⁷ found that a greylisting by the FATF has a significant negative impact on:

- capital flows, declining by an average of 7.6% following a greylisting;
- foreign direct investment inflows, decreasing by an average of 3% of GDP;
- portfolio inflows, declining by an average of 2.9% of GDP; and
- other investment inflows, decreasing by an average 3.6% of GDP.

In view of the risks and vulnerabilities identified in the RVM in Chapter 2, a greylisting by the FATF would likely contribute to slow and inequitable domestic economic growth, mainly as a result of higher costs for domestic financial institutions in the face of reduced and more expensive foreign funding. Coupled with the reputational impact of a greylisting and the concomitant effect on investor sentiment, the South African economy could experience a loss of competitiveness, with potentially far-reaching repercussions from a regional perspective.

Reflecting on the promise of crypto: 14 years on

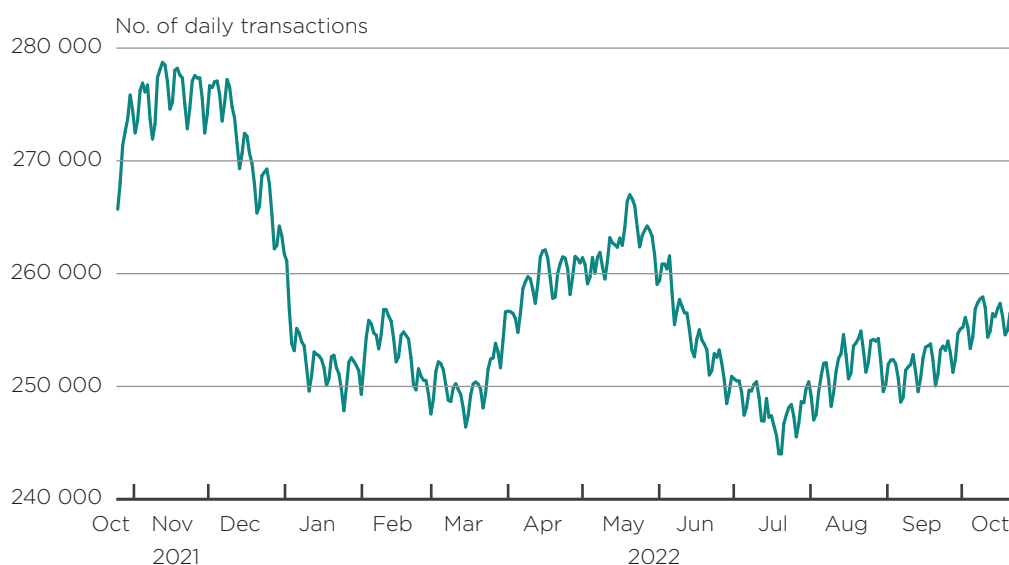
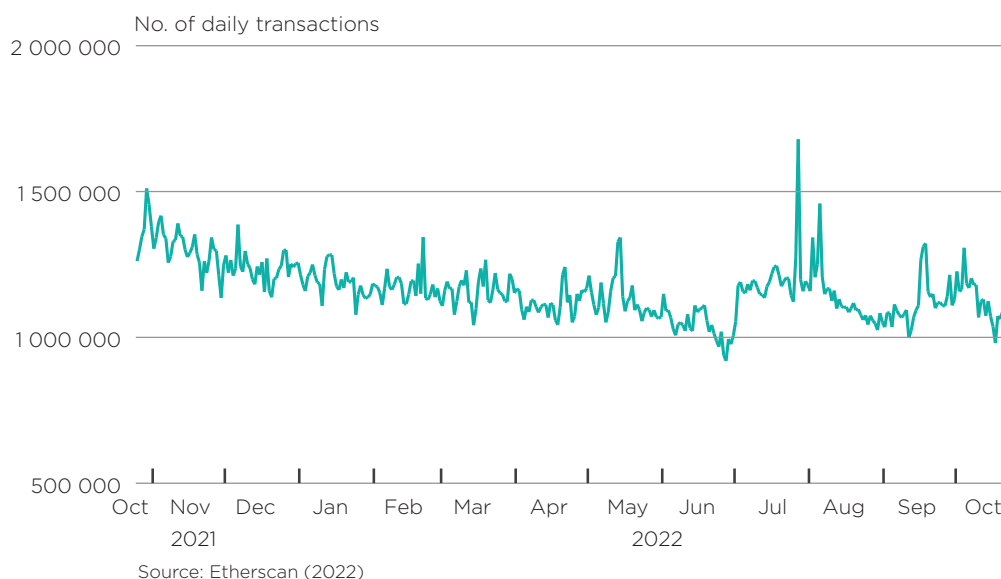
Following the publication of the Bitcoin white paper on 28 October 2008, the first transaction on the Bitcoin network took place on 3 January 2009. Almost 14 years later, crypto assets’ original use case of being a ‘peer-to-peer electronic cash system’ remains muted.¹⁸ As observed from figures 11 and 12, over the past 12 months the number of confirmed daily transactions on the Bitcoin and Ethereum networks varied between 240 000 and 280 000, and 900 000 and 1 700 000 respectively. By contrast, Visa processes an average of 637 million transactions per day.¹⁹

17 M Kida and S Paetzold, ‘The impact of gray-listing on capital flows: an analysis using machine learning’, IMF Working Paper Series No. 2021/153, 27 May 2021. <https://www.imf.org/-/media/Files/Publications/WP/2021/English/wp153-print-pdf.ashx>

18 S Nakamoto, ‘Bitcoin: a peer-to-peer electronic cash system’, 2008, p 1. <https://bitcoin.org/bitcoin.pdf>

19 As per Visa’s *Annual Report* for 2021, available at <https://annualreport.visa.com/home/default.aspx>



Figure 11: Number of confirmed daily transactions on the Bitcoin network**Figure 12: Number of confirmed daily transactions on the Ethereum network**

In view of the above, crypto assets have not yet become a widespread medium of exchange, thus limiting the short-term financial stability threat arising from their use for payment and settlement. While other use cases continue to grow and evolve, they do not pose a risk to financial stability at current levels of market capitalisation and adoption. However, as recently noted by the Financial Stability Board (FSB),²⁰ several structural vulnerabilities in crypto asset markets were exposed during 2022, including but not limited to inappropriate business models, maturity and liquidity mismatches, excessive leverage and significant interconnectedness in the crypto asset ecosystem. Although the turmoil observed in crypto asset markets resulted in limited spillovers to the traditional financial system, interconnections between the

²⁰ See <https://www.fsb.org/2022/10/international-regulation-of-crypto-asset-activities-a-proposed-framework-questions-for-consultation/>

crypto asset and traditional financial system continue to grow, and the SARB continues to closely monitor developments to identify any potential financial stability risks arising from crypto assets.

A snapshot of key domestic crypto assets statistics

According to Chainalysis' Global Crypto Adoption Index, South Africa was ranked 7th globally for crypto asset adoption in 2020, 16th in 2021 and 30th in 2022.²¹ Based on data provided by the four largest domestic crypto asset trading platforms²² for the 12 months ended 31 March 2022, the total number of customers grew by 769 084, from 2 851 172 to 3 620 256, between 1 April 2021 and 31 March 2022.²³

Table 2: Monthly rand value of crypto assets traded

Month	R millions
April 2021	28 500
May 2021	32 936
June 2021	15 529
July 2021	12 217
August 2021	19 213
September 2021	18 401
October 2021	22 014
November 2021	19 262
December 2021	17 076
January 2022	14 997
February 2022	14 428
March 2022	15 475
Total for the 12 months ended 31 March 2022	230 053
Monthly average	19 171

Source: Luno, VALR, AltCoinTrader and Ovex

Based on previous research conducted using 2018 and 2019 data,²⁴ the monthly rand values of crypto assets traded continued to fluctuate over the 12 months ended 31 March 2022, but within a notably smaller range compared to 2018 and 2019. While daily rand trading volumes fluctuated between R100 million and R2 billion in 2018 and 2019, the most recent data indicate that the daily rand value of crypto assets traded oscillated between R500 million and R1.5 billion, although there are outliers during periods of extreme market volatility.

21 <https://blog.chainalysis.com/reports/2022-global-crypto-adoption-index/>, <https://blog.chainalysis.com/reports/2021-global-crypto-adoption-index/> and <https://blog.chainalysis.com/reports/2020-global-cryptocurrency-adoption-index-2020/>

22 These are Luno, VALR, AltCoinTrader and Ovex. The SARB expresses its gratitude to the four crypto asset trading platforms for providing the data on a voluntary basis.

23 The total number reflected likely contains duplicates as some customers have accounts at multiple crypto asset trading platforms.

24 Refer to the SARB's June 2021 edition of the *Financial Stability Focus* for the topical briefing note titled 'The financial stability implications of crypto assets in South Africa', available at <https://www.resbank.co.za/content/dam/sarb/what-we-do/financial-stability/topical-briefings---june-2021/Topical%20Briefings%20-%20June%202021.pdf>



The road to regulation: progress made in bringing crypto assets within the domestic regulatory remit

Although domestic crypto asset trading activity is not currently sizeable enough to be seen as a financial stability vulnerability, there are areas relating to consumer protection, AML/CFT and cross-border financial flows that require an explicit regulatory framework for crypto assets. Such a framework will also enable the monitoring of domestic crypto asset-related developments to identify the potential build-up of risk. To address this regulatory gap, the Intergovernmental Fintech Working Group (IFWG), through the Crypto Assets Regulatory Working Group (CAR WG), published a position paper on crypto assets in June 2021 (position paper).²⁵ The position paper makes 25 recommendations on how to bring crypto assets into the South African regulatory remit in a phased and structured approach, across the following three main areas:

- 1. Anti-money laundering and combating the financing of terrorism:** The FATF has revised Recommendation 15 in respect of new technologies,²⁶ which now explicitly requires jurisdictions to regulate crypto assets and crypto asset service providers (CASPs) for AML/CFT purposes.
- 2. Cross-border financial flows:** The current Exchange Control Regulations, 1961, do not explicitly cater for crypto assets, with the implication that the SARB's Financial Surveillance Department does not have explicit powers to require South African crypto asset trading platforms to report transactions involving crypto assets. Daily crypto asset trading values in South Africa exceeded R2 billion for the first time in January 2021, providing some anecdotal evidence that there may be significant value moving into crypto assets without the Financial Surveillance Department having oversight over such flows, or the requisite powers to direct market behaviour as appropriate for South Africa.
- 3. Consumer protection, and advisory and intermediary services related to crypto assets:** Given the increasing retail interest in crypto assets, growing instances of consumer abuse, fraud and market misconduct have been noted both internationally and in South Africa. Recent schemes highlighted in the media emphasise the need for the South African authorities, predominantly through the Financial Sector Conduct Authority (FSCA), to take action against the growing tendency for market abuse under the guise of crypto assets. On 19 October 2022, the FSCA declared crypto assets to be a financial product in terms of the Financial Advisory and Intermediary Services Act 37 of 2002,²⁷ marking the first step in bringing crypto assets within the South African regulatory remit.

The position paper notes that crypto asset-related activities are likely to increase, and that inaction by the South African financial regulators may potentially accelerate the creation of unregulated parallel systems. This could prevent authorities from having 'line of sight' of crypto asset-related activities and developments. By gradually bringing crypto assets into the South African

25 The IFWG's CAR WG 'Position paper on crypto assets' is available at <https://www.ifwg.co.za/Reports/Position%20Paper%20on%20Crypto%20Assets.pdf>

26 The updated guidance is available at <https://www.fatf-gafi.org/media/fatf/documents/recommendations/Updated-Guidance-VA-VASP.pdf>

27 The declaration is available at <https://www.fscs.co.za/Regulatory%20Frameworks/Temp/Policy%20Document%20supporting%20the%20Declaration%20of%20crypto%20assets%20as%20a%20financial%20product.pdf>



regulatory purview, the most pertinent and immediate risks that have been identified around AML/CFT, cross-border financial flows and consumer protection will be addressed. The South African regulators will continue to monitor developments and develop mitigating measures as new risks emerge.

Overview of South African financial stability coordination structures

Although the FSR Act assigns the main legal responsibility for preserving financial stability to the SARB, it also recognises the fact that it is not a mandate that can be achieved by one authority alone. The broad scope of the financial stability mandate requires a high degree of interagency coordination and cooperation. The FSR Act makes provision for such interaction through the establishment of the FSOC and the FSCF. In addition, the SARB has established an internal, non-statutory committee – the FSC – to facilitate cooperation among its various line functions in the execution of its financial stability mandate. The composition and functions of these three coordination structures are set out in Table 3.

Table 3: South African financial stability structures

Structure	Description and objectives	Membership composition	Functions
FSOC	<ul style="list-style-type: none"> The FSOC is a statutory committee in terms of the FSR Act. It advises the Governor on matters relating to financial stability. The FSOC was established on 1 April 2018. The primary objectives of the committee are to (i) support the SARB when it performs its functions in relation to financial stability; and (ii) facilitate cooperation and collaboration between the SARB and other financial sector regulators. The FSOC meets twice a year, or as required. The Governor may convene a meeting of the FSOC at any time and must convene a meeting if requested to do so by the financial sector regulators. 	<p>The FSOC consists of:</p> <ul style="list-style-type: none"> the Governor as Chairperson; the Deputy Governor responsible for financial stability matters; the Chief Executive Officer (CEO) of the Prudential Authority; the Commissioner of the FSCA; the CEO of the National Credit Regulator (NCR); the Director-General of National Treasury; the Director of the Financial Intelligence Centre (FIC); and up to three additional officials of the SARB appointed by the Governor. 	<ul style="list-style-type: none"> Serves as a forum for SARB representatives and financial sector regulators to be informed, and to exchange views on issues surrounding financial stability Makes recommendations to the Governor on the designation of systemically important financial institutions Advises the Minister of Finance and the SARB on (i) steps to be taken to promote, protect or maintain, or to manage or prevent risks to financial stability; and (ii) matters relating to crisis management and prevention Makes recommendations to other organs of state regarding steps that are appropriate for them to take to assist in promoting, protecting or maintaining, or managing or preventing risks to financial stability. Any other function conferred on it in terms of applicable legislation
FSC	<ul style="list-style-type: none"> The FSC is an internal policy committee of the SARB. It was established in 2000 and restructured and elevated in 2010 in terms of its membership and responsibilities. The purpose of the FSC is to formulate financial stability policy on behalf of the SARB in support of its financial stability mandate. The FSC meets four times a year or as required. 	<p>The FSC consists of:</p> <ul style="list-style-type: none"> the Governor as Chairperson; the SARB deputy governors; and the heads of the SARB's line departments. 	<ul style="list-style-type: none"> Through the FSC, the SARB fulfils its responsibility to monitor and review the strengths and weaknesses of the financial system and any risks to financial stability, and take the necessary steps to mitigate these risks. The FSC monitors global and domestic financial vulnerabilities, considers their possible implications for domestic financial stability, and decides whether any mitigating measures need to be taken.

* These are the Financial Stability Department, Financial Markets Department, Financial Surveillance Department, National Payment System Department, Economic Statistics Department, Economic Research Department and the four departments comprising the Prudential Authority.



Table 3: South African financial stability structures

Structure	Description and objectives	Membership composition	Functions
FSCF	<ul style="list-style-type: none"> The FSCF was created following the events that occurred in New York on 9 September 2001 (i.e. '9/11'). The FSCF was formed to ensure broad participation and engagement of stakeholder groups in defining and coordinating approaches to crisis management. Its primary objective is to assist the FSOC with the identification of risks that could result in potential systemic events; and the coordination of appropriate plans, mechanisms and structures to mitigate those risks. It fulfils its objective by facilitating cross-sectoral cooperation in the identification of potential threats to the stability of the South African financial sector. 	<ul style="list-style-type: none"> The FSCF is chaired by the SARB Deputy Governor responsible for financial stability. The FSCF is comprised of representatives of the SARB, financial sector regulators, financial sector industry associations and organs of state. There are currently 17 active FSCF members. <p>The FSCF has two subcommittees:</p> <ul style="list-style-type: none"> the Operational Risk Subcommittee (ORS), which develops contingency measures for events that could severely disrupt operational continuity in the financial sector; and the Financial Sector Cyber Resilience Subcommittee (CRS), which focuses on industry-wide efforts to increase the resilience of the financial sector to cyberattacks. 	<ul style="list-style-type: none"> Through the establishment of a coordinated network of contingency planning contacts throughout the financial services industry, the FSCF functions as a conduit for dealing with tactical situations that have the potential to affect multiple organisations across the ecosystem at any given time. The FSCF does not play an active role in managing systemic events, but rather supports the development and testing of contingency plans and works as an established network for coordinating interventions and communicating effectively during a systemic event.

The objectives and functions of the FSOC, FSC and FSCF are therefore well defined, and their membership spans across the various financial sector regulators to promote interagency collaboration and coordination. However, although there is overlapping membership across the three structures, work is continuing to better leverage efforts and share information more effectively between the FSOC, FSC and FSCF. Closer coordination between the three structures would therefore aid cooperation should a systemic event occur, particularly in cases where authorities may want to use policy instruments that span across the mandates of different regulatory agencies.

Zaronia

Overview and background: what is Zaronia?

The South African Rand Overnight Index Average (Zaronia) is the reformed version of the South African Benchmark Overnight Rate (Sabor), which aims to measure the interest rate at which rand-denominated overnight wholesale funds in South Africa are obtained by commercial banks.²⁸ In a significant step towards strengthening the stability of the domestic financial system, the SARB officially began publishing Zaronia in November 2022. Market participants are expected to observe the rate and evaluate the impact of adopting it as a replacement rate for the Johannesburg Interbank Average Rate (Jibar). Certain design elements of Jibar render it susceptible to market manipulation, which poses financial stability risks akin to the London Interbank Offered Rate (Libor).²⁹ To this end, the SARB communicated its intention to

²⁸ Zaronia is different from the South African Interbank Overnight Rate (Zaribor) in that Zaronia includes all transactions concluded with all wholesale counterparty types, except for central banks, whereas Zaribor filters for interbank transactions only.

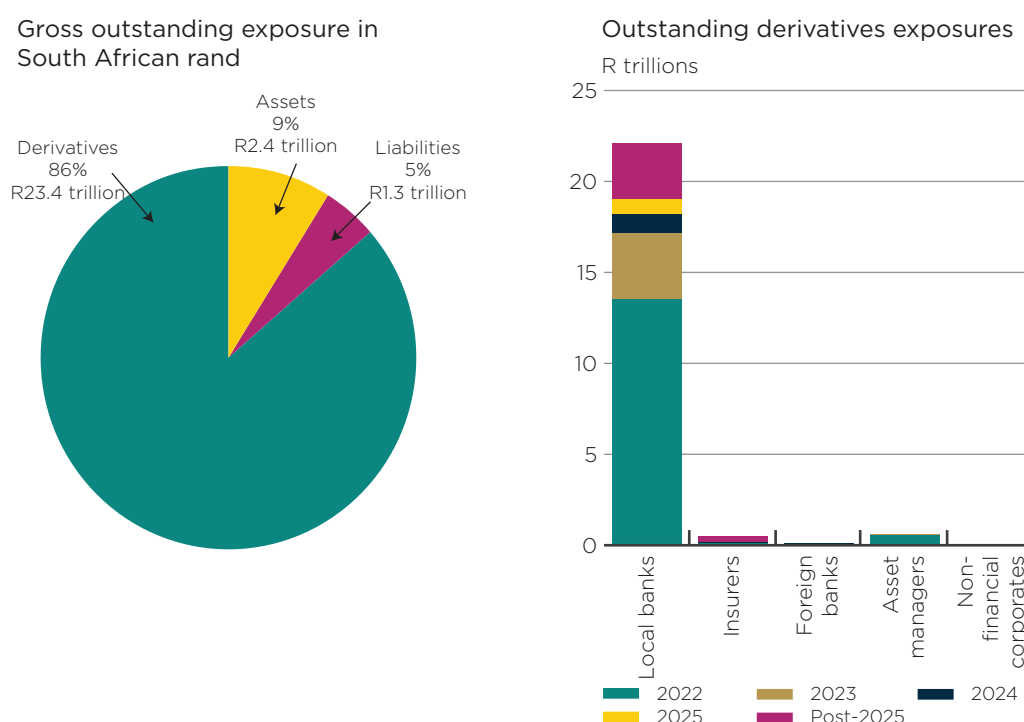
²⁹ For a more detailed overview of the ongoing international work relating to the transition away from Libor, refer to <https://www.fsb.org/work-of-the-fsb/market-and-institutional-resilience/libor-and-other-benchmarks/>



discontinue the Jibar in 2020, while the Market Practitioners Group (MPG)³⁰ endorsed Zaronia as the preferred successor rate that should replace it.

The shift away from Jibar to Zaronia is a significant change for domestic financial markets as Jibar underpins a large number of financial contracts. The most recent survey of Jibar-related exposures suggests that there were approximately 1.7 million financial contracts underlying a total of R27.1 trillion worth of outstanding exposures as at 31 December 2021. Unsurprisingly, derivatives contracts constituted the largest portion of the outstanding exposures. While the survey focused largely on financial institutions, particularly commercial banks, the impact of the transition from Jibar to Zaronia will not be limited to financial institutions – it will impact all companies.

Figure 13: Jibar-related exposure of the derivatives market



The publication of Zaronia marks a significant milestone in the ongoing efforts by the SARB and market participants to design and operationalise robust and reliable benchmarks that could be used for different purposes in financial markets. In June 2020, the SARB proposed five benchmarks, which were described in a technical specification paper titled 'Draft statement of methodology and policies governing SARB-administered interest rate benchmarks'.³¹ Following a public comment period, the SARB back-tested the benchmarks using a sample of five-year historical transactions data and found that only Zaronia and its interbank-focused subset, the South

³⁰ The MPG is a joint public and private sector body, comprising representatives from the SARB, the FSCA, and senior professionals from a variety of institutions from different market interest groups active in the domestic money market. The primary purpose of the MPG is to facilitate final decisions on the choice of interest rate benchmarks to be used as reference interest rates for financial and derivative contracts, and to direct market participants through an orderly transition towards the use of those benchmark rates. For more information, refer to [https://www.resbank.co.za/en/home/what-we-do/financial-markets/financial-markets-market-practitioners-group#:~:text=The%20Market%20Practitioners%20Group%20\(MPG,in%20the%20domestic%20money%20market](https://www.resbank.co.za/en/home/what-we-do/financial-markets/financial-markets-market-practitioners-group#:~:text=The%20Market%20Practitioners%20Group%20(MPG,in%20the%20domestic%20money%20market)

³¹ The technical specification paper is available at <https://www.resbank.co.za/en/home/publications/publication-detail-pages/markets-consultation-paper/2020/10021>



African Interbank Overnight Rate (Zaribor), were viable for use as reference rates. These benchmarks largely satisfied the design and data sufficiency requirements contained in the International Organization of Securities Commissions (IOSCO) paper titled 'Principles for financial benchmarks'.³² The results of the back-testing exercise and public consultation were summarised and published in the feedback report,³³ which indicated that the SARB would implement a robust production process for determining and publishing these benchmarks.

Zaronia observation period

Following the successful deployment of the data collection and benchmark determination technology in August 2022, the SARB started collecting eligible transactions data to calculate and publish Zaronia in beta mode on the SARB website³⁴ to monitor the full benchmark determination process and allow all reporting institutions to be onboarded, which process is referred to as the 'observation period'. Figure 14 displays the calculated benchmark rates and the volume of transactions that underpin them. The recent performance of Zaronia is largely satisfactory: the rate follows the SARB's policy rate (i.e. the repurchase or 'repo' rate) closely, as would be expected of a short-term rate. Furthermore, Zaronia seems to be largely responsive to policy rate changes as observed from Figure 14(a), where the rate increased sharply after the SARB's Monetary Policy Committee decision to increase the policy rate by 75 basis points on 22 September 2022.

Some market participants were concerned that pre-Zaronia rates, published after the benchmark back-testing exercise, were volatile, which suggested that the benchmark may be less predictable and unsuitable as a reference rate. The SARB mainly attributed the volatility to the overnight deposit market being largely obscured over the sample period. Volatility is expected to decline once the benchmark is published and used by market participants. The publication of Zaronia constitutes a common point of reference that should shape the pricing behaviour of banks. Figure 14(a) shows that Zaronia has been broadly stable since its publication on 1 August 2022.

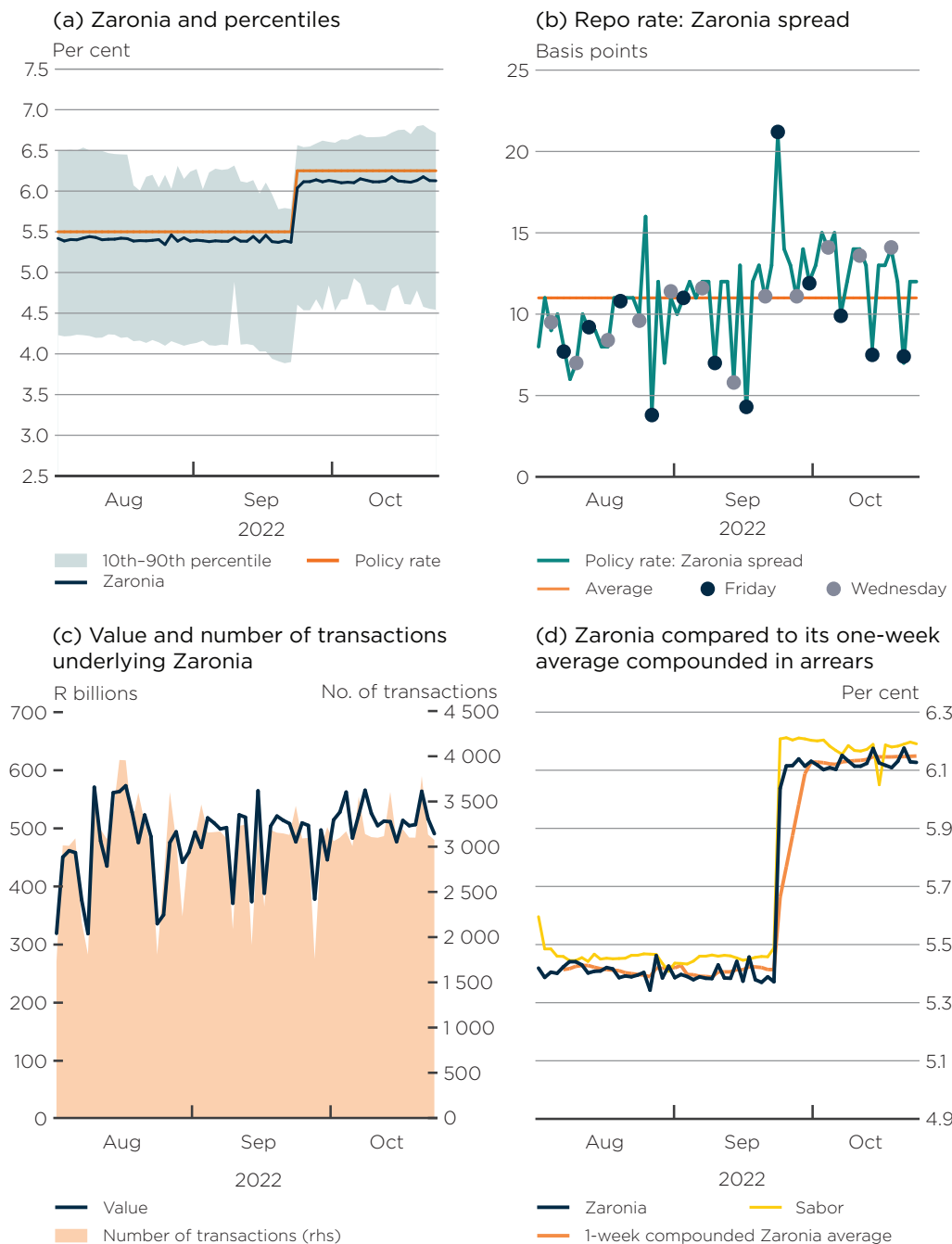
In line with global overnight rates, such as the Sterling Overnight Index Average (Sonia) and the euro short-term rate (€STR), Zaronia tended to be lower than the SARB's policy rate. The spread between the repo rate and Zaronia averaged 11 basis points (see Figure 14(b)), which is a considerable decline from the 36 basis point average observed during the back-testing exercise. Furthermore, the variability of the spread tended to be contained within one standard deviation from its mean, meaning that it oscillated within a range of 8 to 14 basis points, except on those days where weekly seasonality drove the Zaronia rate higher.

32 The IOSCO paper is available at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD415.pdf>

33 The feedback report is available at <https://www.resbank.co.za/en/home/publications/publication-detail-pages/media-releases/2021/Feedback-on-the-statement-of-methodology-and-policies-governing-the-SARB-administered-benchmarks>

34 See <https://www.resbank.co.za/en/home/what-we-do/financial-markets/south-african-overnight-index-average>



Figure 14: Results from the Zaronia observation period

The decline in the volatility of recently calculated Zaronia rates also suggests that data quality plays a major role in ensuring the stability of the rate. Since the back-testing exercise, the SARB has implemented three layers of data quality checks, which include automated structural and content validations that ensure that submitted transactions files comply with the SARB's requirements. File submissions that fail any of the validation rules are rejected in their entirety, while successful submissions are subjected to plausibility checks that are designed to detect outliers and possible duplicates, which are subsequently queried. Reporting institutions have also invested significant capital and human resources to develop the capabilities to extract, transmit and validate their daily transactions data.



What happens next?

The SARB will continue to publish the Zaronia for market observation, a period in which the use of Zaronia in financial contracts is strongly discouraged. The exact duration of the observation period will depend on the finalisation of the MPG's transition plan, the readiness of market infrastructures to facilitate trading and settlements in new products that reference Zaronia, and the SARB's decision regarding the cessation date for the Jibar.

The MPG expects the derivatives market to lead the adoption of Zaronia as the rate can be readily used in the pricing and valuation of securities that require a risk-neutral or near risk-free rate. This may necessitate a review of the role of the JSE's Initial Interest on Margin, which is commonly referred to as the South African Futures Exchange (SAFEX) Overnight Rate and is widely used in the derivatives market. The MPG will consult widely on the design of products and market conventions for Zaronia in the first half of 2023.

A sustainable, forward-looking Zaronia term rate is unlikely to be fully developed by the time the Jibar cessation and subsequent transition commences. The term rate would need to be derived from the overnight index swap market, which is likely to require some time to develop before there is sufficient market liquidity to support the determination of a daily term rate. Consequently, the cash market may be required to use Zaronia averages that are compounded in arrears rather than wait for the development of Jibar-equivalent term rates. The SARB aims to calculate the compounded Zaronia averages during the observation period.

The MPG will soon publish its transition plan, which will enable market participants to consider and prepare for the Jibar transition. Preparations will likely require significant effort from most firms which may need to employ multidisciplinary teams to map out the firms' current Jibar exposures and negotiate changes to contracts, systems and processes. The MPG will provide guidance on the salient aspects of the transition, including fallback language that may be used in certain legal contracts.



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Abbreviations

AML	anti-money laundering
BIS	Bank for International Settlements
CAR WG	Crypto Assets Regulatory Working Group
CCyB	countercyclical capital buffer
CEO	Chief Executive Officer
CFT	combating the financing of terrorism
CIS	collective investment scheme
COVID-19	coronavirus disease 2019
FATF	Financial Action Task Force
FSC	Financial Stability Committee
FSCA	Financial Sector Conduct Authority
FSCF	Financial Sector Contingency Forum
FSOC	Financial Stability Oversight Committee
<i>FSR</i>	<i>Financial Stability Review</i>
FSR Act	Financial Sector Regulation Act 9 of 2017
FX	foreign exchange
GDP	gross domestic product
ICR	interest coverage ratio
IDWG	interdepartmental working group
IFWG	Intergovernmental Fintech Working Group
IIF	Institute of International Finance
IMF	International Monetary Fund
IOSCO	International Organization of Securities Commissions
IT	information technology
Jibar	Johannesburg Interbank Average Rate
JSE	JSE Limited
Libor	London Interbank Offered Rate
ME	Mutual Evaluation
MMF	money market fund
MPG	Market Practitioners Group
<i>MTBPS</i>	<i>Medium Term Budget Policy Statement</i>
NBFI	non-bank financial institution
NCD	negotiable certificate of deposit
NFC	non-financial corporate
repo (rate)	repurchase (rate)
RVM	Risk and Vulnerability Matrix
Sabor	South African Benchmark Overnight Rate
SAGB	South African government bond
SARB	South African Reserve Bank
SME	small- and medium-sized enterprise
SOE	state-owned enterprise
UK	United Kingdom
US	United States
USD	United States dollar
ZAR	South African rand
Zaribor	South African Interbank Overnight Rate
Zaronia	South African Rand Overnight Index Average



Annexure A: South African financial stability heatmap elements and indicators

The financial stability heatmap is composed by (i) identifying various financial stability elements; and (ii) assigning a weighted colour rating to the identified elements by using predefined indicators. The elements comprising the financial stability heatmap and the corresponding financial stability indicators underlying the colours on the heatmap are presented in Table A.1 below.

Table A.1: South African financial stability heatmap elements and indicators

Heatmap element	Indicator(s)
Residential real estate market	<ul style="list-style-type: none"> BIS House Price Index Mortgage loans as a share of total loans
Commercial real estate market	<ul style="list-style-type: none"> Commercial real estate loans divided by gross loans and advances
Global investor sentiment	<ul style="list-style-type: none"> Chicago Board Options Exchange (CBOE) Volatility Index (VIX)
Banking sector	<ul style="list-style-type: none"> Averages for the sector-wide value of assets to equity Impaired advances to gross loans and advances Liquidity coverage ratio (LCR) Assets-to-GDP gap Credit-to-GDP gap Home loans as a share of gross loans and advances Government and government-guaranteed securities as a share of gross loans and advances
Insurance sector	<ul style="list-style-type: none"> Assets-to-GDP gap Combined ratio, that is, underwriting profit calculated as net claims and expenses incurred, divided by net premiums written (non-life) Growth in gross written premiums (life and non-life) Individual lapse ratio (life) Solvency capital requirement (SCR) (life and non-life)
Household sector	<ul style="list-style-type: none"> Debt-service-cost-to-disposable-income ratio Debt-to-disposable-income ratio Debt-to-GDP ratio
Corporate sector	<ul style="list-style-type: none"> Debt-to-GDP ratio Debt-to-net-operating-profit ratio Interest coverage ratio
Government sector	<ul style="list-style-type: none"> Gross government debt-to-GDP ratio



Annexure B: Banking and insurance sector indicators

Table B.1: Banking sector indicators*

	2018	2019	2020	2021	2022***
Market share in terms of assets (five largest banks)	90.24	90.37	89.99	89.84	89.60
Gini concentration index	83.40	83.21	83.11	82.68	82.53
Herfindahl-Hirschman Index (H-index)	0.18	0.18	0.18	0.18	0.18
Total assets (R billions)	5 311.4	5 769.3	6 457.3	6 562.3	6 892.5
- Year-on-year percentage change	6.09	8.63	11.93	1.74	5.96
Total loans and advances (R billions)	3 944.7	4 249.5	4 542.5	4 643.1	4 899.5
- Year-on-year percentage change	4.05	7.75	6.90	2.24	6.65
Total capital adequacy ratio	16.39	16.53	16.21	17.49	17.82
Tier 1 capital adequacy ratio	13.32	13.45	13.14	14.47	15.09
Common equity tier 1 capital adequacy ratio	12.79	12.69	12.33	13.30	13.75
Impaired advances (R billions)**	137.10	161.70	211.90	229.20	220.20
Impaired advances to gross loans and advances	3.47	3.81	4.66	4.94	4.49
Specific credit impairments (R billions)	60.80	73.60	92.20	105.50	107.60
Specific credit impairments to impaired advances	44.27	45.51	43.56	46.07	48.90
Specific credit impairments to gross loans and advances	1.54	1.73	2.03	2.27	2.20
Return on assets (smoothed)	1.31	1.24	0.79	0.81	1.11
Return on equity (smoothed)	15.84	15.31	10.22	10.62	14.04
Interest margin to gross income (smoothed)	56.74	56.80	58.17	58.65	58.57
Operating expenses to gross income (smoothed)	57.19	58.22	58.26	58.73	58.39
Liquid assets to total assets (liquid assets ratio)	10.23	11.05	12.18	13.33	13.75
Liquid assets to short-term liabilities	20.49	22.43	24.05	24.10	24.60
Liquidity coverage ratio	125.13	146.92	142.21	144.11	144.06

* Updated as at 5 October 2022. All figures are in percentages unless indicated otherwise.

** Impaired advances are advances in respect of which a bank has raised a specific impairment, and include any advance or restructured credit exposure subject to amended terms, conditions and/or concessions that are not formalised in writing.

*** 2022 includes data up to August 2022.

Source: Prudential Authority



Table B.2: Insurance sector indicators

	2017	2018	2019	2020	2021	2022
Market share in terms of assets (five largest life insurers)	73	73	74	73	72	72
Market share in terms of gross written premiums (five largest non-life insurers)	47	46	48	47	47	50

Balance sheet

Total assets: life insurers (R millions)	2 928 973	3 011 459	3 143 872	3 254 815	3 724 257	3 520 916
Total assets: non-life insurers (R millions)	160 976	196 726	206 831	239 132	260 616	264 541
Total liabilities: life insurers (R millions)	2 769 335	2 638 347	2 760 773	2 909 562	3 359 563	3 184 984
Total liabilities: non-life insurers (R millions)	98 152	114 828	117 377	141 422	178 516	174 747

Profitability

Gross written premiums: life insurers (R millions)	485 507	529 741	551 175	564 327	620 821	287 908
Net claims paid: life insurers (R millions)			489 618	520 919	578 716	253 915
Net profit before tax and dividends: life insurers (R millions)		45 067	45 373	11 766	48 731	4 131
Individual lapse ratio: life insurers	63.0	61.0	91.1	66.0	77.0	69.8
Gross written premiums: non-life insurers (R millions)	136 774	144 265	159 548	158 632	169 846	88 730
Net claims paid: non-life insurers (R millions)			58 520	59 934	96 385	37 859
Combined ratio: non-life insurers (%)	77.0	97.0	97.0	113.0	119.0	109.7
Operating profit ratio: non-life insurers (%)	22.0	15.0	23.0	16.0	-14.4	-18.7

Solvency and capital*

Solvency capital requirement cover ratio (median): life insurers		1.9	2.0	1.9	1.7	1.7
Minimum capital requirement cover ratio (median): life insurers		4.3	4.2	4.3	4.2	4.2
Solvency capital requirement cover ratio (median): non-life insurers		1.8	1.8	1.9	1.8	1.6
Minimum capital requirement cover ratio (median): non-life insurers		3.9	4.0	4.4	3.8	3.5

* These returns are only available from 2018 due to changes in reporting requirements.

Source: Prudential Authority



