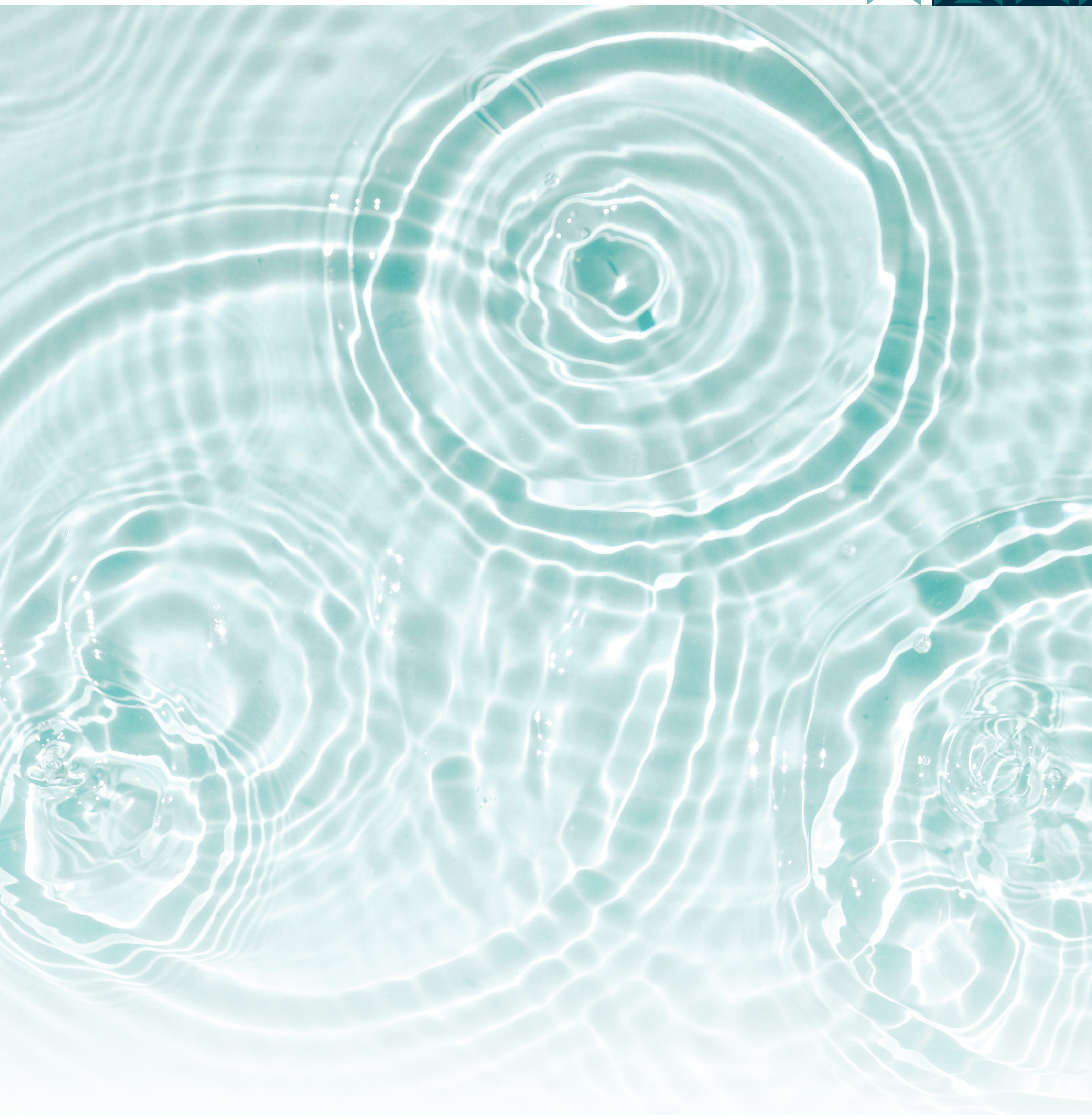
MONETARY POLICY REVIEW

APRIL 2023

SOUTH AFRICAN RESERVE BANK



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Preface

The primary mandate of the South African Reserve Bank (SARB) is to achieve and maintain price stability in the interest of balanced and sustainable economic growth. In addition, the SARB has a complementary mandate to oversee and maintain financial stability.

Price stability helps to protect the purchasing power and living standards of all South Africans. It provides a favourable environment for investment and job creation, and supports international competitiveness. The goal of price stability is quantified through an inflation target, which is set in consultation with government. The target is a range of 3–6%, which has been in place since 2000.

The SARB has full operational independence. Monetary policy decisions are made by the SARB's Monetary Policy Committee (MPC), which is chaired by the Governor and includes the deputy governors and other senior officials of the SARB.

The inflation-targeting framework is flexible, meaning that policymakers will seek to look through temporary shocks, thereby avoiding excessive volatility in interest rates and economic output. The MPC takes a forward-looking approach to account for the time lags between policy adjustments and economic effects. MPC decisions are communicated at a press conference at the end of each meeting, accompanied by a comprehensive statement.

The *Monetary Policy Review (MPR)* is published twice a year and is aimed at broadening the public's understanding of the objectives and conduct of monetary policy. The *MPR* covers domestic and international developments that affect the monetary policy stance.

The *MPR* is presented by senior officials of the SARB at Monetary Policy Forum meetings held at major centres across South Africa, in an effort to develop a better understanding of monetary policy through direct interactions with stakeholders.

Questions about the publication may be directed to Marlene Hugo at Marlene.Hugo@resbank.co.za.

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After shocks

Executive summary and overview of the policy stance

Amid high and persistent domestic inflation risks and rising inflation expectations, the Monetary Policy Committee (MPC) raised the repurchase (repo) rate by a cumulative 150 basis points over the past three MPC meetings, bringing the nominal repo rate to 7.75%. Headline inflation remained elevated at 7.1% in March 2023, and is forecast to average 6.0% this year and 4.9% in 2024, compared with 6.9% in 2022. Global inflation has remained markedly higher than expected and is projected to remain above central bank targets into 2024, despite considerable efforts to normalise monetary policy. After slowing to 2.0% in 2022, domestic growth is forecast to decline steeply to 0.2% in 2023 before rising gradually to 1.1% in 2025, reflecting the country's severely binding electricity supply constraints. Ensuring an adequate supply of energy, reducing debt and aligning administered prices with the inflation target will enhance the transmission of monetary policy and lower inflation pressures.

The aftershocks of the COVID-19 pandemic continue to reverberate through the world economy, evidenced by the world's stagflationary conditions. The pandemic and the policy responses it engendered, together with disruptions to global oil and food supply chains due to Russia's war in Ukraine, gave rise to the worst inflation surge witnessed in more than a generation. The imbalances between demand and supply were first seen in goods markets and then spilled over into services before embedding in global and national labour markets, and are yet to fully resolve.[1] Central banks across the world have responded with tighter policy in an effort to stem the spread of inflation.

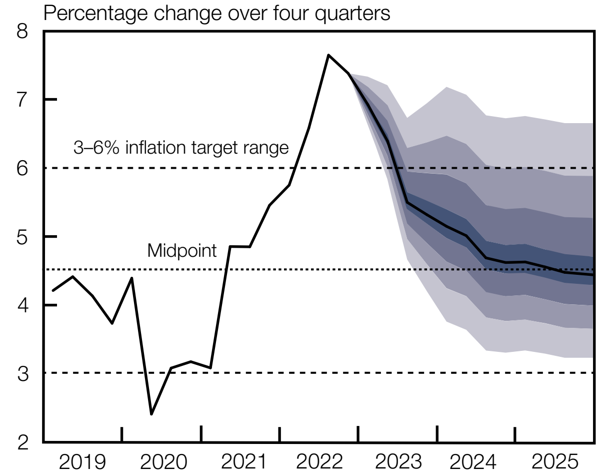
Global inflation peaked around the middle of 2022.[2] The gradual deceleration since then reflects moderating oil and food prices, supply constraints and commodity prices normalising, as well as the demand cooling effects of fiscal and monetary restraint. Inflation, however, remains well above central bank targets and shows signs of persistence in several sectors. The baseline scenario is for global inflation to continue its gradual moderation, from 8.7% in 2022 to 7.0% in 2023 and 4.9% in 2024.[3] Core inflation, which strips out volatile energy and food prices, also remains well above countries' inflation targets and labour markets remain buoyant, particularly in advanced economies.

1 These imbalances reflect in, among other things, labour markets that remain tight and services inflation that is still elevated in some advanced economies.

2 International Monetary Fund (IMF), *World Economic Outlook* (*WEO*), April 2023.

3 IMF, *WEO*, April 2023.

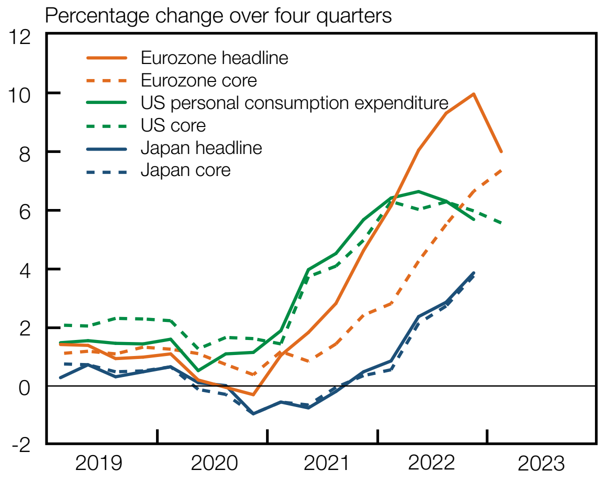
Targeted inflation forecast*



* The bands around the central projection show confidence intervals of 10%, 30%, 50% and 70%.

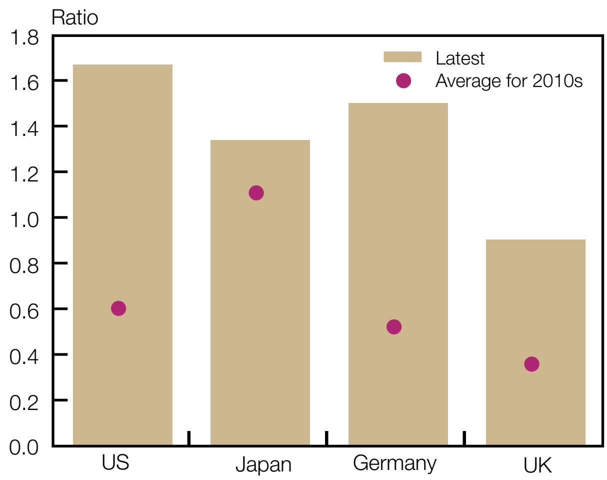
Sources: Stats SA and SARB

G3 inflation



Source: Haver

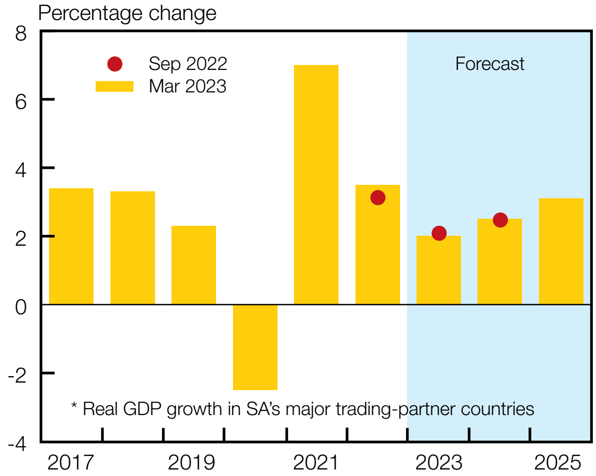
Ratio of unfilled vacancies to unemployment



Sources: Bloomberg and Haver

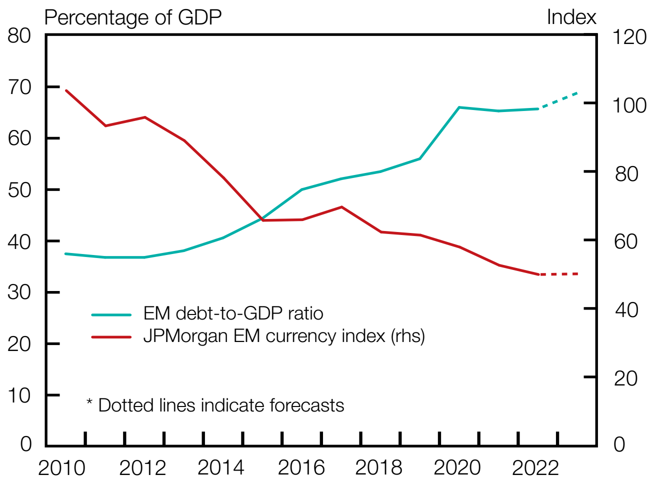
Global growth*

Percentage change



Source: SARB

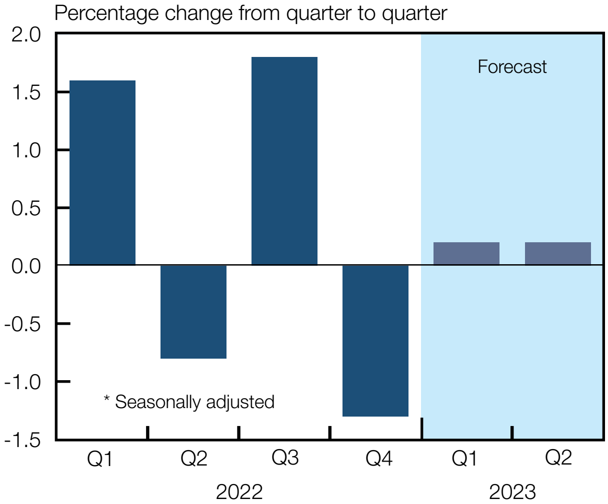
Emerging market currencies/debt level*



Sources: IMF *Fiscal Monitor* and JPMorgan

Real gross domestic product*

Percentage change from quarter to quarter



Sources: Stats SA and SARB

Global output is expected to remain soft through 2023. However, recent data from advanced economies, particularly the United States (US) and eurozone, showed resilience in consumer spending and less binding energy constraints in the eurozone during the past winter. Growth in China is also forecast higher for the current year following the country's relaxation of its zero-COVID policy. The South African Reserve Bank (SARB) now expects trading-partner growth to reach 2.0% in 2023 and to rise to 2.5% in 2024 and further to 3.1% in 2025, ending the forecast period closer to the pre-pandemic growth trend.[4]

In addition to moderating growth, rising interest rates have triggered banking sector stresses in the US and eurozone. This episode has heightened uncertainty around the path for the US Federal Reserve's (Fed) federal funds rate in the near term and added to volatility in financial markets. Nonetheless, credit conditions are expected to tighten further as markets and financial institutions readjust their portfolios.

The various interacting determinants of the current inflation surge suggest that complex cyclical and structural forces are at work presenting difficult challenges to monetary policymaking globally. Policymakers have raised interest rates in anticipation of spillovers and second-round effects to prevent inflation expectations from de-anchoring. The sharp increases in global policy rates, particularly the Fed rate hikes, sharply strengthened the US dollar, depreciated emerging market currencies and, alongside high global inflation, increased imported inflation.[5]

As global financial conditions have tightened, portfolio flows have become more sensitive to risk-adjusted real interest rate differentials, in turn affecting the availability and cost of external funding, particularly for emerging markets and developing economies (EMDEs) with large external financing requirements. Because interest rates are expected to remain elevated for some time, highly indebted EMDEs will require strong fiscal consolidations over the coming years to bring debt levels down to sustainable levels. Reducing fiscal risk can enhance the transmission and effectiveness of monetary policy and facilitate the achievement of lower inflation.

Domestic economic outlook

Parallel to the global economic trend, gross domestic product (GDP) growth slowed sharply in the domestic economy in 2022, registering 2.0%, down from 4.9% in 2021. While the slowdown in part reflects the return to trend growth following

4 The SARB had projected trading-partner growth for 2023 to decline to 1.6% at the January 2023 MPC meeting.

5 Sharply rising global interest rates (Fed hikes) open a potential channel for global monetary policy to influence domestic policy in emerging markets as they widen the real interest rate differential relative to advanced economies. That, in turn, affects the real exchange rate gap. However, for countries like South Africa, the real exchange rate gap is driven mostly by domestic idiosyncrasies; hence, the influence of Fed rate hikes on domestic policy is difficult to quantify, but likely to be small.

the 2021 rebound from the pandemic-induced recession of 2020, various headwinds and shocks have caused output to swing wildly from quarter to quarter.[6] Much slower growth of about 0.2% is projected for the first and second quarters of this year.

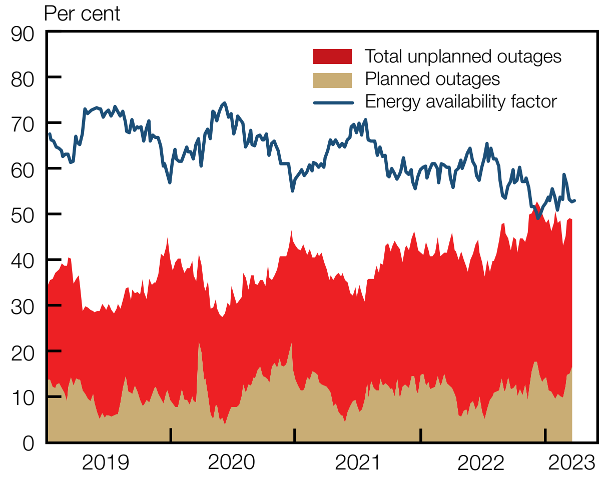
South Africa's recovery from the COVID-19 pandemic saw production bounce back strongly as the pandemic restrictions were eased, supported by robust export performance amid subdued imports. Economic growth has, however, slowed since the beginning of 2022 as load-shedding intensified. Meanwhile, investment and household spending have remained relatively robust, resulting in domestic expenditure exceeding domestic output, and pulling in more imports. Alongside the weakening terms of trade, rising imports have dragged the current account into deficit.

The labour market has continued to show signs of recovery over the past year. The economy has realised employment gains on a quarter-on-quarter basis since the third quarter of 2021. This resulted in unemployment declining to 32.7% in the fourth quarter of 2022 after peaking at 35.3% a year earlier.

The ongoing failure of certain parts of public infrastructure, especially electricity, will continue to constrain growth over the medium term. Although investment should support growth, it is not expected to increase by much year on year given the difficult operating environment. Household spending is also expected to grow modestly as consumers face pressures from higher inflation and rising interest rates. Some reprieve is, however, expected as inflation moderates over the forecast horizon, amid rising nominal wages.[7] Meanwhile, slower global growth, alongside elevated domestic logistical constraints, suggests that exports will remain weak, while government consumption is expected to remain subdued in line with the announced fiscal consolidation framework.

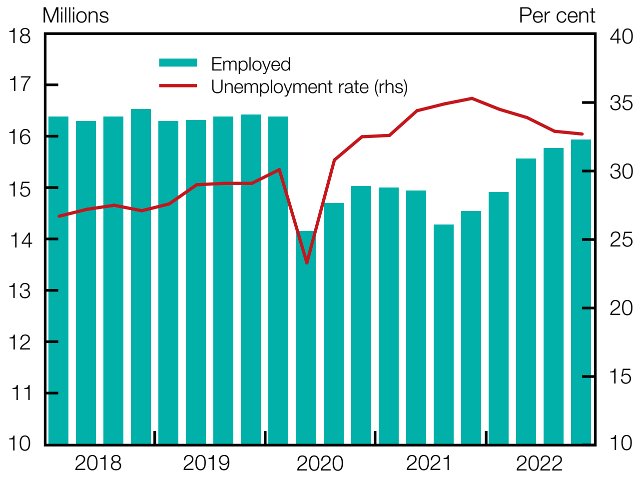
The SARB now projects the economy to grow by about 0.2% in the current year, rising gradually to 1.1% in 2025. Potential growth is estimated to be very low in 2022 and to rise modestly to 1.0% in 2025, reflecting a projected gradual relaxation in the energy constraint over the forecast horizon.

Electricity outages and energy availability factor



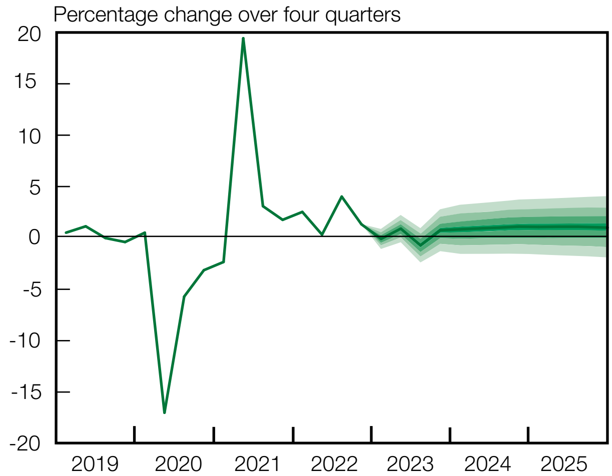
Source: Eskom

Labour market trends



Source: Stats SA

Real GDP growth*



* The bands around the central projection show confidence intervals of 10%, 30%, 50% and 70%.
This chart shows seasonally adjusted data, as used in the QPM.

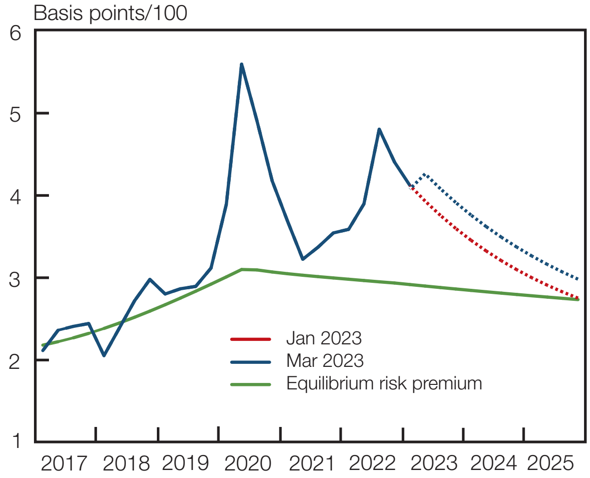
Sources: Stats SA and SARB

6 GDP growth swung from 1.6% in the first quarter of 2022 to -0.8% in the second quarter, and then jumped to 1.8% in the third quarter before slumping to -1.3% in the fourth quarter. The second-quarter decline was largely a result of the floods in KwaZulu-Natal in April 2022, while that in the fourth quarter was mainly due to extreme load-shedding during the quarter.

7 Household spending is projected to grow at 0.6% in 2023 and rise to 0.9% in 2025 – a sharp moderation compared with the 2.6% growth in 2022.

Risk premium

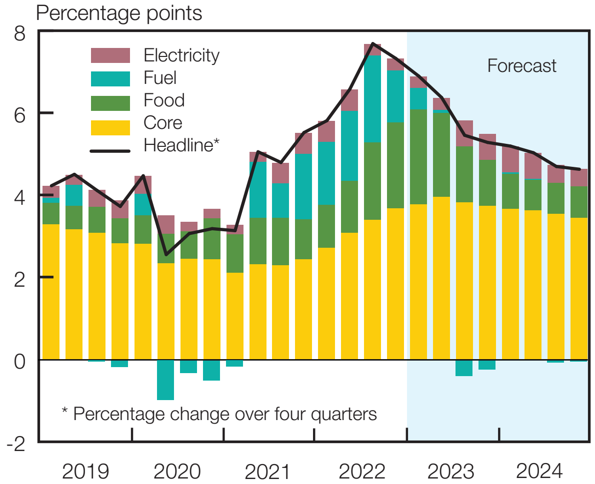
Basis points/100



Source: SARB

Contributions to headline inflation

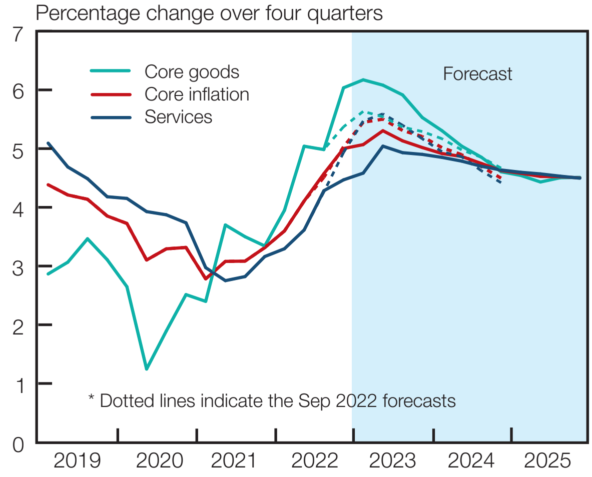
Percentage points



Sources: Stats SA and SARB

Core inflation components*

Percentage change over four quarters



Sources: Stats SA and SARB

In the absence of the above-mentioned adverse shocks, domestic output in 2022 could have edged closer to 3.0%. The SARB's estimates suggest that load-shedding alone shaved off 0.7 percentage points from growth in 2022. As the economy adjusts to the electricity constraint and lower overall growth, the current account and fiscal balances are likely to deteriorate.

Slowing growth and declining revenue windfalls are expected to result in increased public sector dissaving and rising public debt. This, together with the recent above-inflation escalation in the public sector wage bill, could result in a level shift in the equilibrium risk premium. With household saving declining and corporate investment increasing, South Africa's need for foreign savings rises, exerting downward pressure on the rand.

The weaker rand exchange rate and elevated global goods prices explain much of the inflation surge in the domestic economy over the past year. Headline inflation climbed to a 13-year high of 7.8% in July 2022 but moderated to 7.1% in March 2023, reflecting the marked decrease in fuel inflation from the highs observed in 2022. Projections at the March 2023 MPC meeting show headline inflation returning to the target range in the third quarter of this year, but to the midpoint of the target range only in 2025. However, risks are to the upside. Domestic food inflation has yet to peak, despite the strong disinflation in global food prices. This indicates that the combined effect of a weaker rand and idiosyncratic domestic factors, such as foot and mouth disease, have dominated food inflation dynamics. Load-shedding is also expected to add materially to headline inflation (0.5 percentage points in 2023) as the costs associated with back-up energy solutions are passed on to consumers (Box 1), while additional pressures emanate from the sharp increase in electricity prices for the 2023/24 cycle.

Underlying inflation, as measured by core and trimmed mean inflation, has risen strongly over the past year and has, over the past five months, bounced around in the 5–6% range.[8] Core inflation, in particular, is expected to remain sticky over the medium term, peaking at 5.3% in the second quarter of this year, but only settling at the midpoint of the target range in 2025. Pressures on core inflation have emanated largely from core goods prices, reflecting high global goods inflation and a weaker rand. Services inflation has so far remained relatively subdued and averaged 3.9% in 2022. Risks are to the upside, however, given

8 Core inflation has ranged between 4.9% and 5.2% (average 5.0%) between October 2022 and March 2023, while trimmed mean inflation has ranged between 5.9% and 6.0% (average 6.0%) over the same period. Underlying inflation pressures are therefore assessed to fall within these two bounds.

the tightening rental housing market, rising medical insurance inflation, elevated inflation expectations and possible second-round effects.[9]

Overview of the policy stance

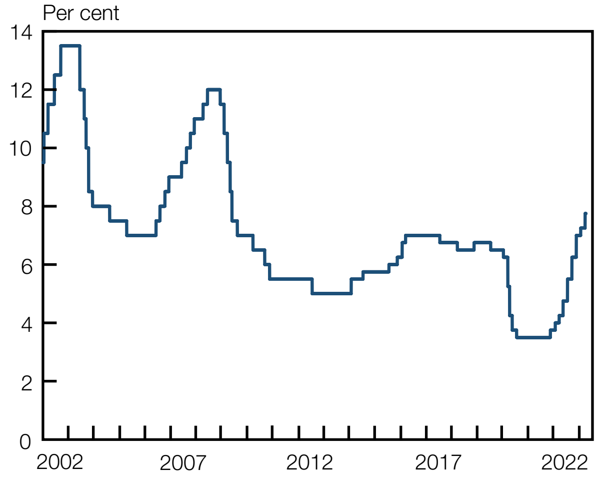
Over the six-month period covered by this *Monetary Policy Review (MPR)* (October 2022 to March 2023), the MPC raised the repo rate by a cumulative 150 basis points. Following three consecutive 75 basis point hikes leading up to, and including, the November 2022 meeting, the MPC hiked the repo rate by 25 basis points at the January 2023 meeting but stepped up the pace to 50 basis points at the March 2023 meeting. This has brought the nominal repo rate to 7.75%, taking the policy stance closer to its neutral level.[10]

The adjustments in the pace of tightening reflect the MPC's data-dependency stance and judgements on the balance of risks. Monetary policy operates with a lag, implying that the full impact of the cumulative rate hikes over the past year is yet to be felt.

The Quarterly Projection Model (QPM) suggests that the nominal repo rate is likely to peak in the second quarter of this year before coming down slightly in the first quarter of 2024. The real repo rate remains below its estimated neutral level of 2.5%, although the MPC has now increased the repo rate above the implied peak rate in the QPM.

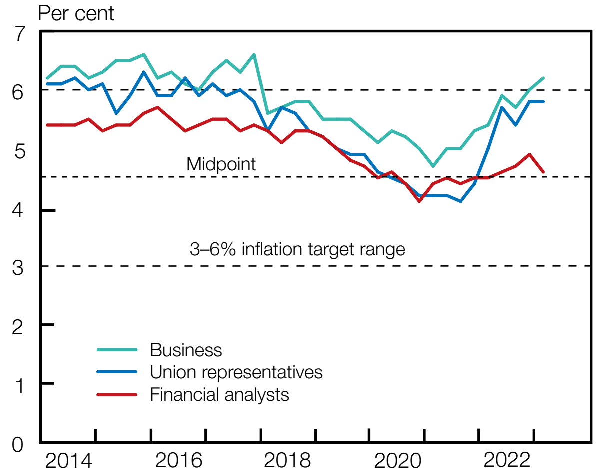
The MPC uses multiple different inputs to inform its policy decisions, one of which is the SARB's QPM. Under normal economic conditions the model adequately captures inflation risks, resulting in the QPM-implied repo rate path being closely aligned with the MPC decisions. Over the past year, however, repo rate decisions by the MPC have diverged from the QPM-implied repo rate path, reflecting the extraordinary uncertainty prevailing during this period.[11]

Repo rate



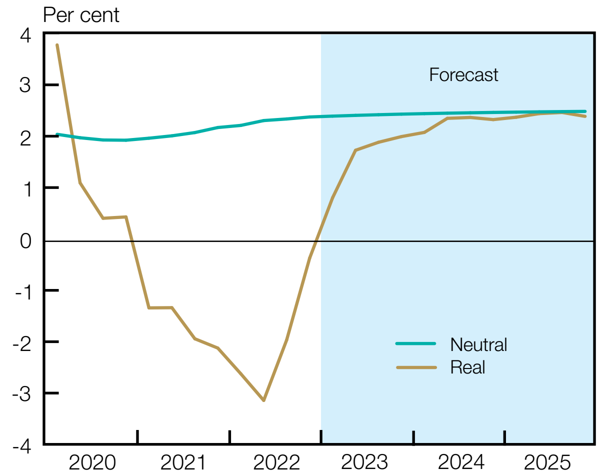
Source: SARB

Two-years-ahead inflation expectations



Sources: BER and SARB

Real and neutral repo rates



Source: SARB

9 T Janse van Rensburg, A Khoza and P Mathuloe, 'Food inflation and wages – more than meets the eye?', *South African Reserve Bank Research Brief No. RB/2022/02*, Pretoria: South African Bank, February 2022.

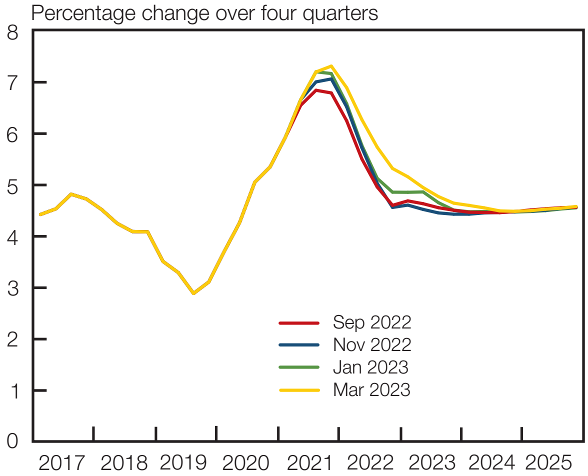
10 The SARB forecasts inflation at 5.5% in the third quarter of 2023, which implies a current real repo rate of 2.25%, against the estimated neutral real rate of 2.5%.

11 The QPM does not make risk adjustments to the inflation forecast, but flags risks, often in the form of alternative scenarios.

The backdrop to the November 2022 MPC meeting was characterised by elevated uncertainty. The ongoing Russian war in Ukraine presented risks of further tightening in energy markets and ultimately a renewed pickup in energy prices, placing additional pressure on already elevated and persistent global inflation. Domestically, load-shedding intensified during the period, while inflation remained elevated on higher food and fuel price increases. This, among other things, raised the likelihood of upward surprises in wage inflation given the strong correlation between food and fuel price increases and wages in South Africa, and also given the low public sector wage assumptions built into the forecasts. At the same time, Eskom had applied for a 32.7% tariff increase, while increased load-shedding required extensive use of diesel-powered open cycle gas turbines (OCGTs), which raised the prospect of higher administered price inflation over the outlook period.

Three- to five-quarters-ahead average inflation

Percentage change over four quarters



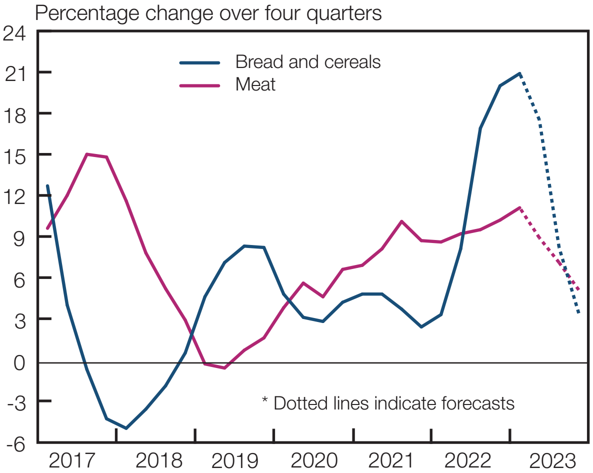
Sources: Stats SA and SARB

Domestic growth was revised slightly lower to 1.8% in 2022 (1.9% in September) and slashed to 1.1% and 1.4% in 2023 and 2024 respectively. Headline inflation was forecast slightly higher relative to September 2022, at 6.7% (6.5%) in 2022 and 5.4% (5.3%) in 2023, but the three- to five-quarters-ahead average inflation was unchanged.[12] The upward adjustment in the near-term inflation profile was mainly due to higher food and core inflation and reflected the weaker rand exchange rate and elevated global goods inflation.[13] With the profile for headline inflation largely unchanged relative to the September 2022 MPC meeting, the QPM indicated no change in the implied repo rate path at the November 2022 meeting. However, the balance of risks to the inflation outlook were assessed by the MPC to be to the upside. Accordingly, the repo rate was raised by 75 basis points at this meeting, with the split decision reflecting the elevated uncertainty.

The January 2023 MPC meeting followed the release of the third-quarter GDP data that showed the economy had rebounded strongly from the second-quarter slump. Consequently, while potential growth was revised higher, the output gap turned marginally positive. Meanwhile, the global economy continued to be shaped by high inflation and low growth, with regions such as the eurozone faced with elevated recession risks. The trajectory for Group of Three (G3) inflation was largely in line with that at the November 2022 meeting with inflation expected to return to the 2.0% target from 2024.

Large-weight food components inflation*

Percentage change over four quarters



Sources: Stats SA and SARB

Inflation risks remained elevated at the time of the January 2023 MPC meeting. Food inflation continued to surprise to the upside, underpinned by meat as well as bread and cereals inflation. Meanwhile, load-shedding was flagged as a serious threat to the projected moderation in headline inflation.

12 The forecast takes into account the policy rate trajectory indicated by the SARB's QPM.

13 Food inflation was expected at 8.8% in 2022 (8.1% in September 2022), 6.2% in 2023 (5.5%) and unchanged at 4.2% in 2024.

The depreciated rand exchange rate and elevated inflation expectations also posed threats to disinflation. The energy regulator also announced a large electricity price increase in January 2023, while the increased use of OCGTs by Eskom meant that risks of further tariff increases remained. Globally, inflation was still high, while the oil market was expected to stay tight due to the ongoing geopolitical tensions and the expected rise in demand from China.

With respect to the QPM, domestic headline inflation was forecast to remain unchanged at 5.4% in 2023, but slightly higher at 4.8% (from 4.5%) in 2024 and at 4.5% in 2025. The largely unchanged trajectory for headline inflation masked the dynamics in its components. Food and electricity inflation were projected to be markedly higher in both 2023 and 2024 relative to November 2022, while core and fuel inflation pulled headline inflation lower. Given a somewhat higher three- to five-quarters-ahead average inflation, the QPM suggested a 25 basis point increase in the repo rate at the January 2023 MPC meeting. The MPC raised the repo rate by 25 basis points at this meeting. As with the November 2022 MPC meeting, however, the decision was also split.

At the time of the March 2023 MPC meeting there was little change with respect to the global macroeconomic projections, with a slight upward adjustment in global growth alongside a modest moderation in inflation.[14] Meanwhile, GDP data released in March showed that the domestic economy had contracted sharply in the fourth quarter of 2022, mainly due to load-shedding. The output gap was revised slightly wider relative to the January meeting at -0.6% (-0.3%) in 2022 and -0.2% (0.1%) in 2023, but was still closed over the medium term. The current account was expected to remain in deficit. The weaker current account balance, together with the elevated risk premium, largely drove the rand's weakness, with the real effective exchange rate remaining undervalued throughout the forecast period.

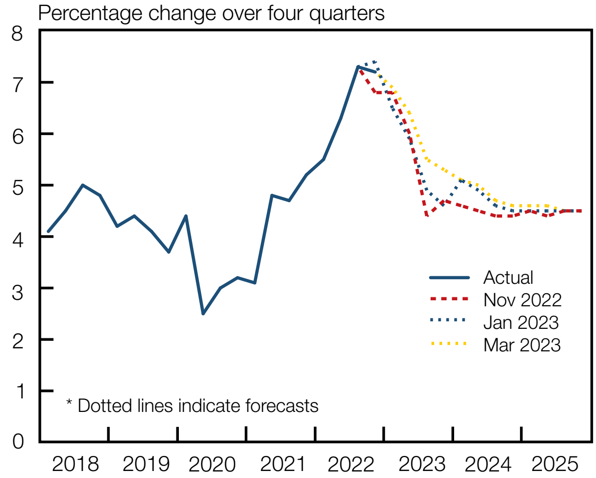
Headline inflation was revised higher, to 6.0% for 2023, on the back of still rising food inflation and higher electricity inflation.[15] Over the outlook period, headline inflation was revised higher to 4.9% (4.8%) in 2024 but was unchanged at 4.5% in 2025. Although the three- to five-quarters-ahead average inflation was higher compared with the previous forecast, the wider output gap partially offset the effects of the higher inflation, and resulted in the QPM-implied repo rate profile remaining unchanged relative to the January 2023 MPC meeting.

14 News of banking stresses in the US and eurozone reverberated across global markets from the middle of March 2023. However, the effects had not reflected in macroeconomic data at the time of the March MPC meeting.

15 Food inflation was revised higher to 9.9% (7.3% in January) in 2023, 4.5% (4.4%) in 2024 and 4.5% in 2025. Core inflation remains largely unchanged relative to the January 2023 MPC forecasts. The higher core goods inflation at the March 2023 MPC meeting is tempered by the slightly downwardly revised services inflation.

Evolution of inflation forecasts*

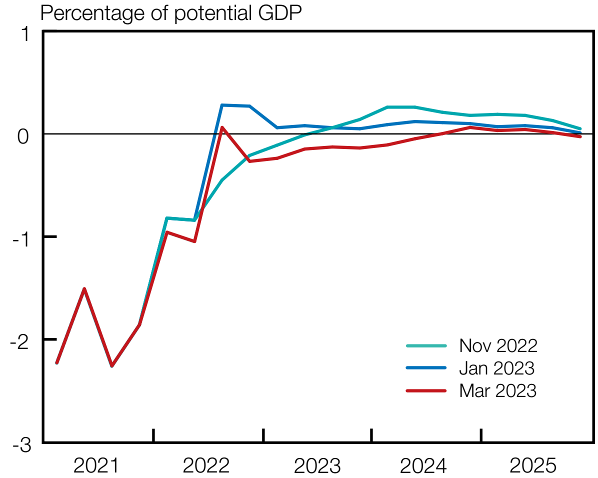
Percentage change over four quarters



Source: SARB

Evolution of output gap estimates

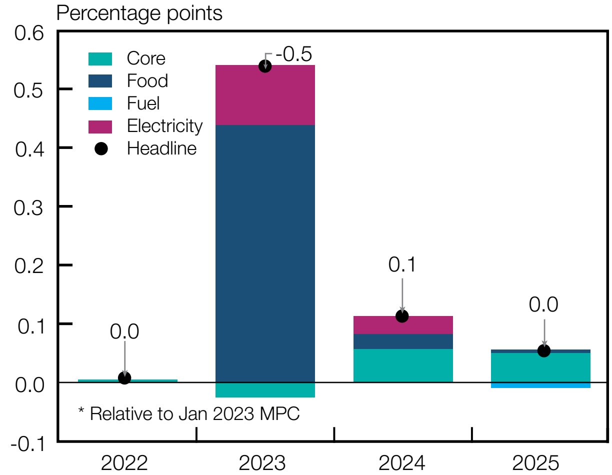
Percentage of potential GDP



Source: SARB

Change in headline inflation*

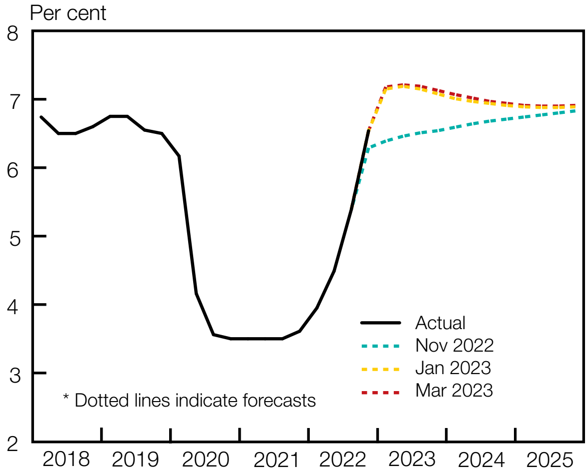
Percentage points



Sources: Stats SA and SARB

The MPC, however, assessed a material deterioration in the inflation outlook amid several inflation shocks, and in the context of a sustained target breach. Food inflation continued to surprise to the upside, while load-shedding added to inflation risks. Similarly, inflation expectations remained wedged closer to the upper limit of the target range, while risks associated with the public sector wage assumptions were heightened. These considerations, together with a projected weaker rand exchange rate, prompted the MPC to raise the repo rate by 50 basis points at the March 2023 meeting, with the decision remaining split reflecting the uncertainty of the outlook.

Evolution of repo rate forecasts*



Source: SARB

Conclusion

The COVID-19 pandemic has largely faded; however, its aftershocks continue to linger and have manifested in the global economy experiencing sharply lower growth amid persistent inflation. In the domestic economy, headline inflation peaked at 7.8% in July 2022. The decline towards the midpoint of the target range, however, remains very slow. Since the October 2022 *MPR,* headline inflation pressures have predominantly come from the domestic environment, particularly from core and food inflation. Over the outlook period, load-shedding poses a major upside risk to inflation as costs of back-up energy solutions are passed on to consumers. Load-shedding may also affect the supply of some goods, especially along the agricultural value chain.

The MPC has raised the repo rate by a cumulative 150 basis points over the review period, and by 425 basis points since normalisation began in November 2021. Real rates, however, have risen only gradually, largely reflecting repeated upside inflation surprises during the period, and remain below the estimated steady-state neutral real repo rate of 2.5%.

Meanwhile, domestic growth has declined steeply, as the economy has been subjected to progressively worsening load-shedding since the third quarter of last year, alongside the underperforming rail and port infrastructures that have cost the country billions of rands in unrealised export revenues. The MPC has repeatedly highlighted the importance of reforming the core infrastructure sectors, together with the further de-risking of the economy by stabilising public debt as well as reducing the impact of administered prices on overall inflation. A more dynamic economy will generate higher growth, enhance the transmission of monetary policy and reduce disinflation costs.

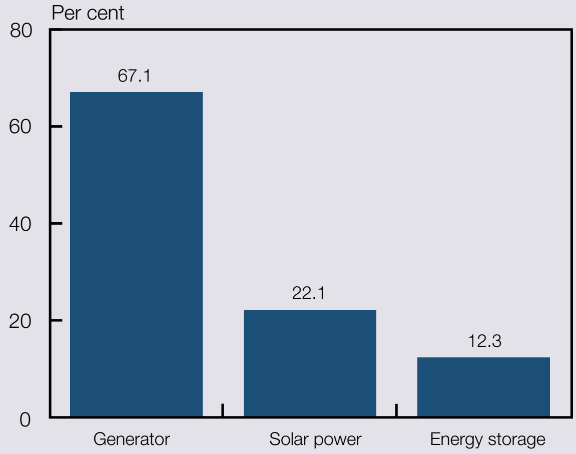
Box 1 Load-shedding adds materially to inflation

Load-shedding that is implemented during business operating hours affects output and productivity. The South African Reserve Bank (SARB) estimates that in 2022 approximately 14% of business hours were lost in the industrial sector, while losses in the commercial and agricultural sectors varied between 11% and 12%.[1] With load-shedding expected to increase from 157 days in 2022 to 250 days in 2023,[2] the loss in business hours is expected to rise. This box explains the methodology underlying the SARB's estimated 0.5 percentage points inflationary impact of load-shedding on inflation in 2023.

Businesses have resorted to costly alternative sources of energy such as solar or back-up power generators to mitigate the production downtime from load-shedding. The latter, in particular, presents significant variable (fuel) costs, and these additional costs are likely to be passed on to consumers, adding to inflationary pressures.[3] The SARB's modelling estimates the impact of load-shedding on headline inflation in two steps: the first step computes the additional electricity costs from generating power off-grid,[4] and the second step assesses the impact of the additional electricity costs on consumer price index (CPI) inflation. With regard to additional load-shedding costs, the SARB has made the following assumptions:

- Load-shedding takes place at various stages (stages 1 to 6) to account for the intensity and variability in productive business hours across the sectors.
- Generators only run during the business hours of the respective sectors.[5]
- In total, 67% of firms use diesel generators during load-shedding.[6]
- The cost of power from running a generator is 133% higher than that of power provided by the municipal grid.[7]
- The share of electricity costs to total costs varies across each sector.[8]

How businesses manage the impact of load-shedding



Source: Sakeliga

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1 Daily load-shedding data is filtered according to the business hours of each sector. It is assumed that, on average, businesses are subjected to at least one instance of load-shedding (with the duration adjusted for different phases) during their business hours. See D Lekgeu and S Sidat, 'Assessing the impact of load-shedding on inflation', *South African Reserve Bank Research Brief No. RB/2023/11*, Pretoria: South African Reserve Bank, April 2023.

2 The source for 2022 is EskomSePush (ESP); 2023 is a SARB assumption.

3 The cost of running generators by households is currently not measured by the consumer price index (CPI).

4 The sectors considered in this analysis are the industrial sector (excluding mining and quarrying and construction) the commerce sector (including finance and retail) and the agricultural sector.

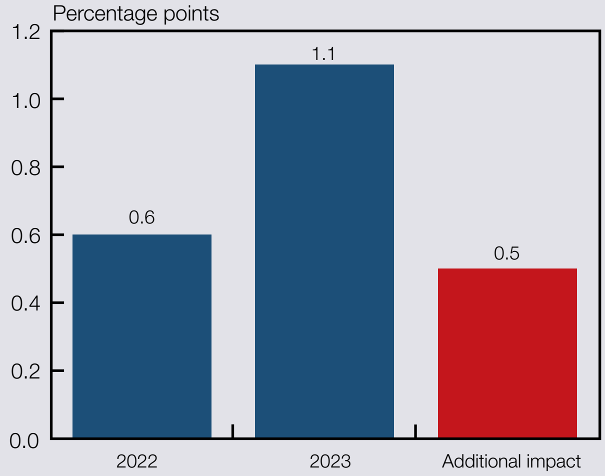
5 It is assumed that the industrial sector operates 9 hours every day on weekdays, while the commerce sector operates for 12 hours every day, except for Sunday when they operate for 9 hours. The agricultural sector is assumed to operate for 9 hours every day, except on Sunday (4.5 hours).

6 Sakeliga, 'Commercial perspectives on Eskom's rolling blackouts: what does loadshedding cost businesses?', August 2022. https://sakeliga.co.za/wp-content/uploads/2022/08/Sakeliga-report-Cost-of-Loadshedding.pdf

7 According to the Council for Scientific and Industrial Research (CSIR), at R15/litre for diesel, the average fuel cost of running a generator is R4.50/kWh. At R20/litre, the cost increases to R6.00/kWh. Given that the diesel price in 2022 averaged at R22.51, the cost of running a generator adds up to R6.75/kWh, while the weighted average price from municipalities is estimated at R2.90/kWh. Parliament of the Republic of South Africa, Portfolio Committee on Mineral Resources and Energy, 15 March 2022 [YouTube video]. https://www.youtube.com/watch?v=J67bX4irflE.

8 The cost-share is assumed to be higher for more energy-intensive sectors such as the industrial sector, but lower for less energy-intensive sector such as the agricultural sector.

Additional CPI impact



Source: SARB

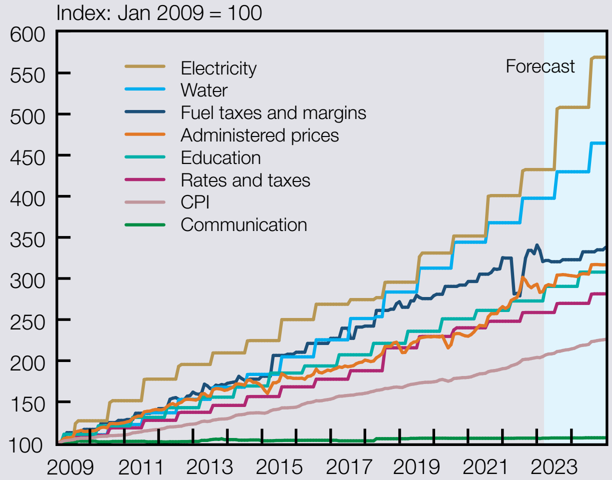
- In total, 90% of the additional generating costs are passed on to final prices.

Based on the above-mentioned assumptions and with producers passing on 90% of the additional energy costs due to load-shedding to final consumer prices, load-shedding raised the CPI by 0.6% in 2022 and is expected to raise it by a further 1.1% in 2023. This further implies an inflation rate impact of 0.5 percentage points (i.e. 1.1% - 0.6%) in 2023 from load-shedding. This implies substantial upside pressure on headline inflation in 2023 and will slow the disinflation process underway. Furthermore, these effects may be exacerbated by larger-than-modelled disruptions and supply shortages, especially in the food value chains.[9]

9 B Ginindza, 'Poultry abattoirs forced to discard uncooled chickens due to load-shedding', 9 December 2022. https://www.iol.co.za/business-report/companies/poultry-abattoirs-forced-to-discard-uncooled-chickens-due-to-load-shedding-9911b024-5e36-4ca6-ae1d-2947c7feb201

Box 2 Administered prices are exerting upward pressure on headline inflation

Administered prices



Sources: Central Energy Fund, Stats SA and SARB

Price regulation is a common method to enhance the performance of natural monopolies by ensuring that a lack of competition does not result in inefficiencies or the abuse of market power.[1] Effective regulation can incentivise a monopolist to operate nearly as efficiently as if the market were perfectly contestable. Over the past decade, administered prices in South Africa have generally risen far in excess of headline inflation.[2] This box summarises recent research by the South African Reserve Bank (SARB) on the determinants of administered price inflation for electricity, fuel, water and property rates in South Africa.[3]

The administered prices for fuel and electricity are subject to complex regulatory regimes which consider several variables that affect the cost of supply. Although South Africa is a price taker in the global oil market, its administered price regime means that a significant portion of the price for domestic fuels is determined by a mix of taxes, levies and margins which account for between 40% and 60% of the retail price of petrol. These components have risen markedly over the past decade, with the retail margin, Road Accident Fund levy and transport costs rising by 40%, 44% and 49% respectively in real terms over the 10 years to November 2022. Similarly, household electricity costs have risen by 60% since 2017, before considering the recently announced 18.7% increase for 2023/24.

1 A natural monopoly industry is characterised by high fixed costs and scale economies, which imply a large efficiency penalty from competition due to the duplication of fixed costs and the inability to exploit scale economies.

2 Between January 2009 and December 2022, the water price rose fourfold and the electricity price by even more, yet the consumer price index (CPI) only doubled. Meanwhile, the taxes and margins component of the fuel price more than trebled from 2009, driven by sharp increases in the fuel levy, Road Accident Fund levy and dealer margin. (See SARB, *Monetary Policy Review,* April 2022).

3 See F Venter, 'Review of administered prices in South Africa: basic education', 2023; Z Ismail and C Wood, 'Review of administered prices: the electricity tariff', 2023; Z Ismail and C Wood, 'Review of administered prices: the petrol price', 2023; K Walsh, 'Review of administered prices in South Africa: municipal rates and taxes', 2023; and K Walsh, 'Review of administered prices in South Africa: water tariffs', 2023. The research was commissioned by the SARB.

The disconnect between the costs of supply and prices is also a feature of pricing for water and property rates. Water tariffs and property rates are set as part of municipal budget processes which focus on overall revenue generation. Apparently, many municipalities do not employ any discernible frameworks to determine the appropriate level of, or increases in, the tariffs. The average increase in the water supply price between July 2017 and July 2022 was 10.3% per annum compared with average consumer price index (CPI) inflation of 4.5% per annum over the same period. Property rate revenues in seven South African metropolitans have grown substantially faster than inflation over the past five years.[4]

Price increases for goods and services can be motivated by increases in costs, excess demand or investment considerations. The above analysis, however, suggests substantial deficiencies in the current regulatory frameworks. Developing frameworks that permit for the articulation of costs of supply, while also incentivising efficient consumption, can help enhance efficiencies in regulated sectors (including municipalities). Regulators should routinely apply the 'competitive supplier' test to assess whether the incurred costs are prudent or not and, where possible, introduce competition in these markets.

Inefficient price setting for regulated prices can be costly to the economy. Higher administered prices drive up headline inflation and complicate the SARB's ability to achieve price stability, and potentially require its Monetary Policy Committee to raise interest rates.[5] Moreover, most network services also serve as inputs into production, hence higher administered prices raise the cost structure of the economy. Low administered price inflation would help to bring headline inflation in line with the inflation target, raising the prospect of permanently lower interest rates.

4 These metropolitans are Tshwane, Johannesburg, Ekurhuleni, Cape Town, eThekwini, Mangaung and Buffalo City. Nelson Mandela Bay was excluded due to a lack of data in some years. The above-inflation growth in property rates revenue was driven by increases in the valuations of properties used to calculate the property rates. These increased by 8% per annum between July 2012 and July 2022. The increase in the cents in the rand rate has been close to CPI, even dropping below CPI in 2021 and 2022. Meanwhile, commercial property rates grew by 8.6% per annum between 2000 and 2019.

5 There is a bidirectional relationship between administered prices and headline inflation. See C Loewald, K Makrelov and E Pirozhkova, 'The short-term costs of reducing trend inflation in South Africa'. *South African Reserve Bank Working Paper Series No. WP/22/08*, Pretoria: South African Reserve Bank, 2022.

Box 3 An updated Quarterly Projection Model

The South African Reserve Bank's (SARB) Quarterly Projection Model (QPM) has been the workhorse forecasting model used in Monetary Policy Committee (MPC) meetings since mid-2017.[1] It has also been valuable in communicating the SARB's macroeconomic and monetary policy projections to the public. Over this roughly six-year period, several features of the QPM in need of enhancement have come to the fore. This box provides an overview of some key model improvements to address these issues.[2] Implementing these changes should improve the forecasting ability of the QPM, while reducing the application of judgement and thus potential sources of bias in forecasting.

1 See B Botha, S de Jager, F Ruch and R Steinbach, 'The Quarterly Projection Model of the SARB'. *South African Reserve Bank Working Paper Series No. WP/17/01*, 2017.

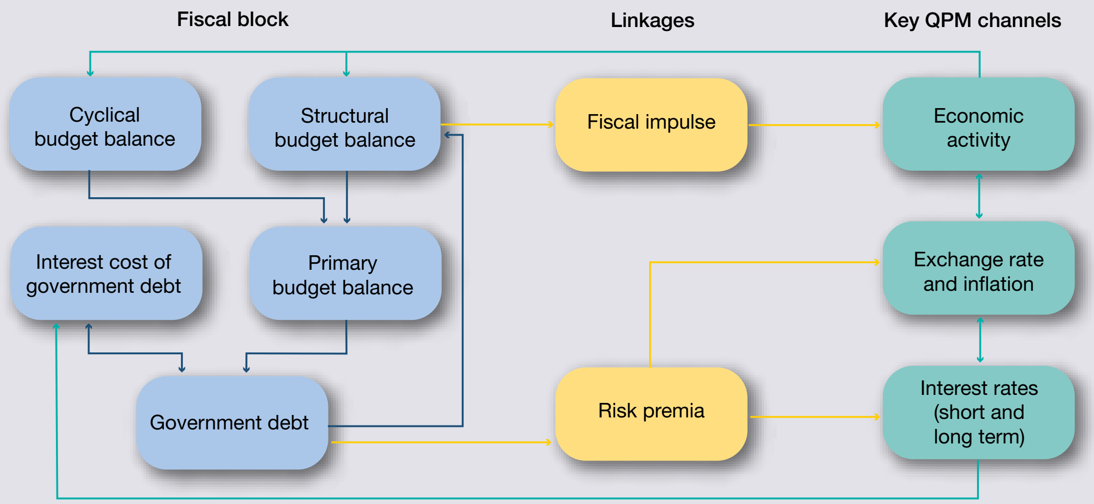
2 For a detailed discussion of the updated QPM, see Pirozhkova et al., 'Fiscal policy and other enhancements to the Quarterly Projection Model', forthcoming.

Fiscal policy

The QPM, in its current form, has no mechanism to account for fiscal policy actions in a systematic manner. As South Africa's fiscal metrics deteriorated in recent years – with rising public debt weighing on country risk, sovereign borrowing costs and the exchange rate – QPM forecasts have relied on off-model analyses and judgement to account for their impact. Similarly, fiscal consolidation efforts have also had material impacts on activity, but again, this is not directly considered in the current QPM. Changes in the country's fiscal position should be accounted for in the model to enhance the coherence of the analytical framework by exploiting known interlinkages – hence the addition of a fiscal block.

The updated model incorporates a fiscal sector consisting of five components. Government debt evolves according to the overall budget balance, which is determined by the primary balance and interest payments on outstanding debt. The primary balance, in

Main components of the fiscal block



turn, is split into a structural and cyclical component. The structural balance captures government's discretionary policy actions to implement countercyclical fiscal policy while being constrained by the need to stabilise public debt, while the cyclical balance reflects the role of automatic fiscal stabilisers over the economic cycle.

The existing QPM channels affect the fiscal block in two ways: changes in economic activity impact the cyclical and structural budget balance, while movements in interest rates affect interest payments on government debt. The fiscal block then feeds back into the QPM via discretionary changes in fiscal policy that affect economic activity. In addition, changes in public debt levels move both country risk and term premia as well as currency levels and inflation.

Inflation dynamics

A few changes have also been made to enhance the QPM price block. In the updated model, a distinction is made between private and public wages, as their dynamics often diverge, with public sector wages generally being more backward-looking and less sensitive to economic conditions than those of the private sector. The distinction between public and private sector wages enables the incorporation of announced public wage agreements in the forecast as an assumption.

The Phillips curves for the various consumer price index (CPI) components are also augmented to include nominal unit labour cost growth along with the current real unit labour cost gap.[3] The combined specifications improve the forecasting ability relative to any one of the two definitions used individually.

Changes in fuel and electricity prices often spill over into core and food price inflation, given the role of fuel and electricity as inputs into the production and distribution of goods and services. The updated model explicitly accounts for such spillovers, as they are not always captured to the extent suggested by the data in the current model.

Evidence increasingly suggests that price setting in the economy has become less sticky. Inflation expectations also appear to be shifting towards the midpoint of the target range, likely reflecting the SARB's explicit efforts to anchor expectations at this level. In the updated model, inflation expectations are somewhat better anchored, and inflation is less sticky than in the current QPM. This is achieved by assigning a higher weight to the inflation target than past inflation outcomes in the model's price-setting process.

3 Empirical evidence suggests that this combination is a better predictor of inflationary pressures than either variable in isolation.

The monetary policy rule

The current monetary policy rule (the Taylor rule) responds to the average deviation of the inflation forecast from the midpoint of the target range at the three-, four- and five-quarters-ahead horizon. This longer forecast horizon was thought to be an appropriate policy horizon to guide interest rate decisions, given the lags in the transmission of monetary policy to affect economic outcomes. However, when year-on-year base effects from near-term shocks cause inflation to dip below the target in the four- and five-quarters-ahead forecasts, the rule's inflation signal becomes diluted and suggests a lowering of the repurchase (repo) rate, despite expectations for headline inflation to pick up for at least four quarters, and core inflation for even longer. Such a counter-intuitive interest rate response is bound to worsen the inflationary impacts of the initial shock, not dampen them, and renders the longer inflation forecast horizon in the current Taylor rule problematic. The revised rule focuses only on the three-quarters-ahead inflation forecast, which essentially represents the one-year-ahead horizon from the latest quarterly inflation number.

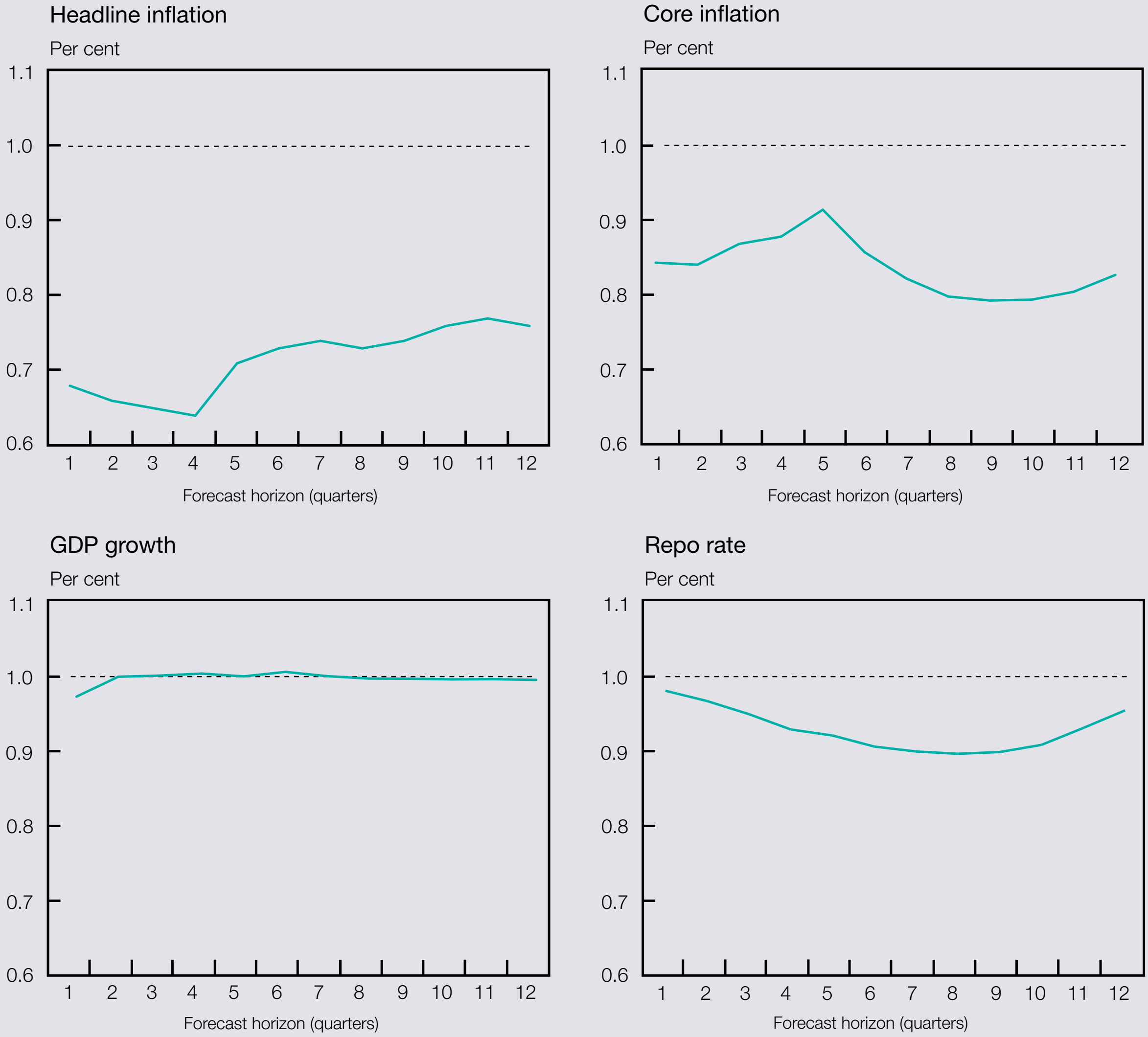
The state of the real economy in the updated rule is reflected by the output gap along with a growth gap — how gross domestic product (GDP) growth deviates from potential growth – as historical policy decisions are better characterised by such a rule. Considering relative growth dynamics in conjunction with the level of activity helps provide additional context on the state of the real economy when assessing the appropriate stance of monetary policy. In the event of actual growth slowing below its potential rate – as it did during the initial quarters of the COVID-19 pandemic – the 'growth gap' rule would suggest an even greater degree of policy accommodation, as this growth dynamic is bound to widen the output gap going forward.

The introduction of the fiscal block along with other structural enhancements appear to deliver superior forecasting performance relative to the current model. Comparing the ratio of the root mean square errors (RMSE) of the updated model's in-sample forecasts to those of the current QPM shows that headline inflation forecasts are better at all horizons, as are those of the repo rate.[4] Core inflation forecasts are superior throughout, barring at the five-quarters-ahead forecast. Finally, growth forecasts are slightly better over the near term – likely due to the model accounting for fiscal policy actions.

4 Values below 1 indicate greater accuracy of the updated QPM compared to the current QPM.

Forecasting performance

Relative forecast errors: updated QPM versus current QPM



Source: SARB

Global economy: riding shock waves

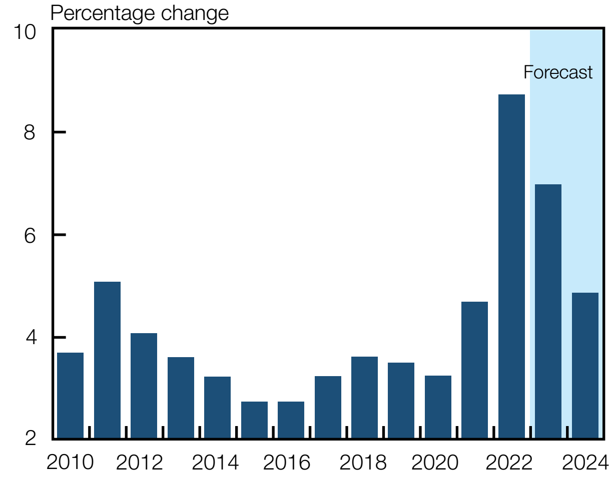
The global economy is experiencing stagflationary conditions, with high and persistent inflation amid slowing growth. Although the global economy weathered the significant shocks of 2022 relatively well, and has so far avoided a recession, the growth outlook remains fragile as the full impact of higher interest rates has yet to be felt. Global inflation is estimated to have peaked in the second half of 2022, and it is expected to decline gradually in 2023 and 2024. However, tight energy markets, still strong demand, and firm labour markets in advanced economies pose risks to the disinflation process. The recent banking stress in the US and eurozone could potentially add further complications. Meanwhile, high borrowing costs amid elevated public debt levels have pushed developing economies with weaker macroeconomic fundamentals into either debt distress, or a high risk of debt distress.

Against the backdrop of higher global interest rates and expectations of further central bank policy tightening, as well as Russia's ongoing war in Ukraine, most economies are expected to grow substantially below their potential this year. The combination of high and more persistent inflation and rising interest rates will depress real purchasing power and slow household demand. Growth in the world's major economies is expected to slow sharply in 2023, with mild recessions projected in some. However, a range of upside economic data surprises in recent months, alongside a firm reopening of the Chinese economy, has boosted sentiment somewhat, prompting upward revisions to the 2023 global growth projections. Consensus forecasts have been revised higher and now project global growth to reach 2.4% this year.

Across the advanced economies, growth is likely to slow to 1.3% in 2023, with mild recessions expected in the US, eurozone and United Kingdom (UK), as the lagged effects of the ongoing rate hikes take a toll on economic activity.[16] Growth in the US economy is expected to moderate to 1.6% this year, from the 2.3% projected at the time of the October 2022 *MPR*. Meanwhile, the eurozone economy has held up relatively well after withstanding the war-induced shocks of 2022 and avoiding a recession at the end of last year.[17] Recent economic indicators, including consumer and business confidence indices, however, still point to a slowdown in eurozone economic activity, while the ongoing monetary policy tightening poses downside risks to the region's growth outlook.

Global inflation

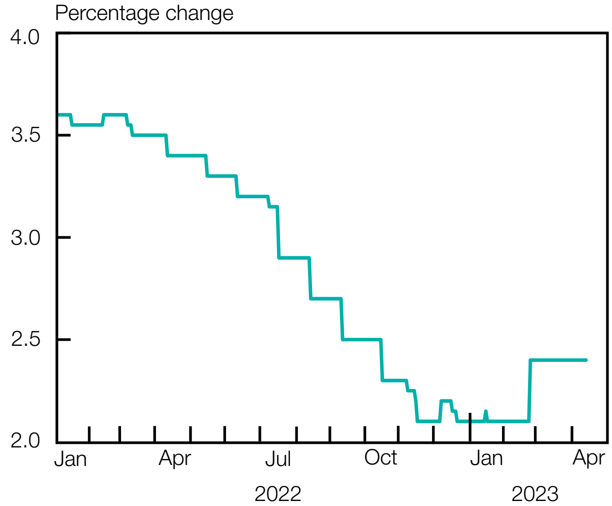
Percentage change



Source: IMF

Evolution of 2023 real global GDP growth forecasts

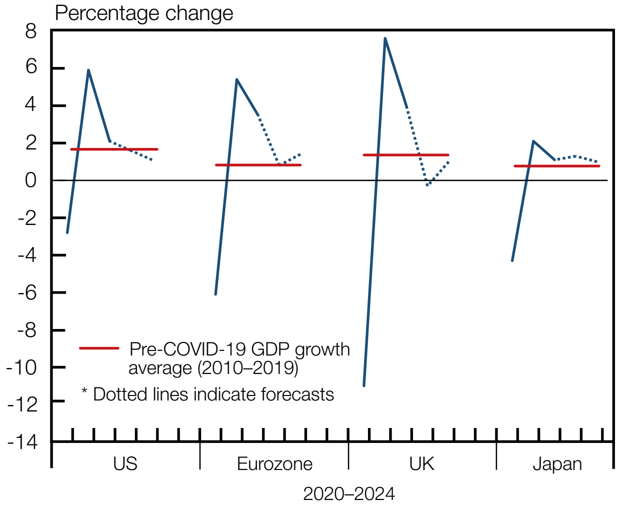
Percentage change



Source: Bloomberg

Real GDP growth projections for selected advanced economies*

Percentage change



Source: IMF

16 IMF, *WEO,* April 2023.

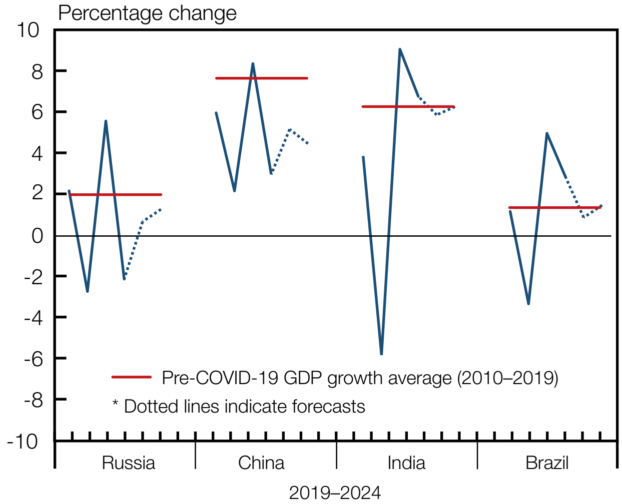
17 European gas storage levels have continued to increase, while large fiscal interventions by eurozone governments have partly shielded the private sector from high energy prices.

The eurozone is expected to slow to 0.8% this year, while the Japanese economy should weaken to 1.3%, alongside other advanced economies. The UK economy is projected to contract by 0.3% in 2023.

Economic growth in emerging market and developing economies is expected to average 3.9% in 2023 – remaining below pre-pandemic levels. Activity levels will be dampened by elevated inflation, high interest rates and weaker export demand. However, a stronger rebound in China should have positive spillover effects to emerging markets, particularly those in Asia, which may benefit from a boost in manufacturing activity as well as tourism. India is forecast to expand by 5.9% in 2023, making it one of the world's fastest-growing economies this year. In Latin America, countries such as Brazil and Mexico have seen their growth outlook for 2023 revised slightly higher amid resilience in domestic demand. Nonetheless, growth for the region is projected to be substantially weaker at about 1.6% this year, down from 4.0% in 2022. Growth across sub-Saharan Africa should remain modest as tightening financial conditions discourage consumption and raise debt-service costs amid elevated public liabilities.

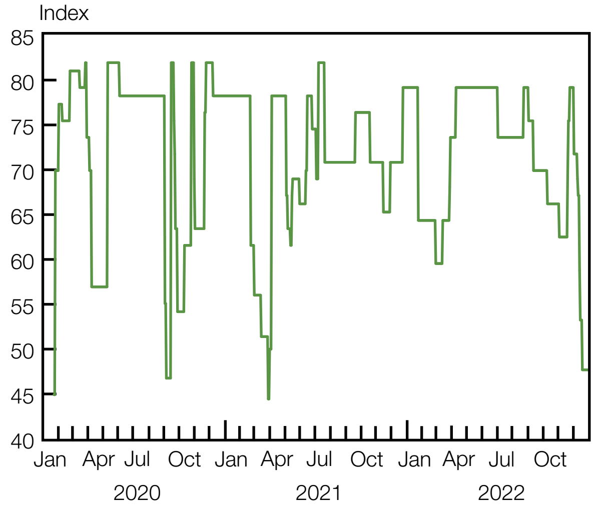
Although China's faster-than-expected reopening from COVID-19 restrictions presents an upside risk to global growth, spillovers to the global economy are likely to be more muted than historical trends would suggest.[18] The global growth outlook is, however, subject to several downside risks, including additional policy tightening and elevated debt levels. Despite the market's recent pullback in interest rate hike expectations for the US Fed, the European Central Bank (ECB) and the Bank of England (BoE) on account of real rates being closer to their neutral levels, and following signs of banking sector stress in the US and eurozone in March 2023, the prospect of additional interest rate increases remains a threat to the world economy. According to the World Bank, a severe monetary tightening episode by advanced economy central banks could result in either a sharp slowdown, where global growth falls to 1.3% this year, or a global recession, where growth plummets to 0.6% in 2023.[19]

Real GDP growth in selected emerging markets*



Source: IMF

China's lockdown stringency index



Source: Our World in Data

18 Unlike in previous episodes when 'commodity absorbing' exports and investment were the key drivers of Chinese growth, growth is now expected to be driven mainly by domestic consumption.

19 World Bank, *Global Economic Prospects*, January 2023.

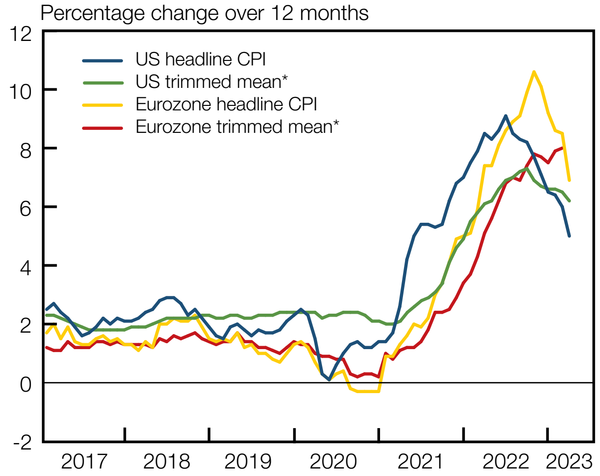
Emerging market government debt

Percentage of GDP

Source: IIF

Headline inflation and trimmed means for the US and eurozone

Percentage change over 12 months

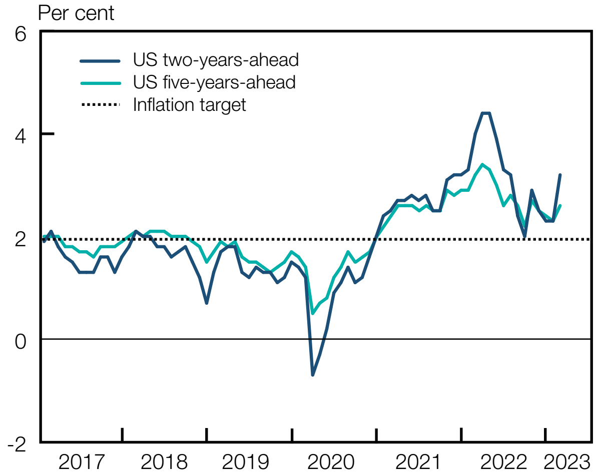


* Trimmed means of 16% and 15% for the US and eurozone respectively

Sources: US Bureau of Labor Statistics, Eurostat and Federal Reserve Bank of Cleveland

Inflation expectations

Per cent



Source: Bloomberg

Tightening financial conditions also pose other challenges and risks to the world economy, including the possibility of more severe recessions in the world's major economies,[20] and debt sustainability, particularly in EMDEs. The International Monetary Fund (IMF) estimates that about 15% of low-income countries are already in debt distress and another 45% are at a high risk of debt distress, making them particularly vulnerable to a further tightening in financial conditions. Countries such as Sri Lanka, Ghana and Zambia have already defaulted on their debt. While public debt has declined in advanced economies over the past year, in EMDEs it edged up to 65% of GDP, from 64% of GDP in 2021.

During US interest rate hiking cycles, emerging market currencies typically depreciate, and the performance of emerging market currencies against the US dollar in 2022 was no exception. The combination of depreciated domestic currencies and higher global food and energy prices saw inflation rise markedly and remain elevated in many emerging market economies. With the Fed hiking rates aggressively over the past year and into the current year, pressures have also emanated from heightened volatility in financial markets, resulting in marked capital outflows from emerging markets with weaker macroeconomic fundamentals.[21]

Inflation risks are firmly to the upside

After rising sharply over the past two years, global inflation peaked in the third quarter of 2022 amid easing supply chain pressures and lower energy prices. Expectations are broadly for the disinflation process to continue in 2023 and for inflation to move closer to central bank targets by 2024. However, resilient consumer demand and still tight labour markets pose significant upside risks to the global inflation outlook. Measures of underlying inflation such as core and trimmed mean inflation have risen steadily and have become increasingly persistent across major advanced economies.

Although medium-term market-based measures of inflation expectations have declined steadily over the past year, they remain above target in the US as well as in the eurozone. Over the longer term, expectations have also stabilised at levels moderately above 2.0%. The persistence of both inflation and inflation expectations, even as real interest rates have risen to their perceived neutral region, lends some credence to the view that the neutral real rates may have shifted higher.

20 In a number of economies, actual and expected credit growth has slowed, and in some, even turned negative. See the Organisation for Economic Co-operation and Development's (OECD) *Economic Outlook*, Interim Report, March 2023, titled 'A fragile recovery'.

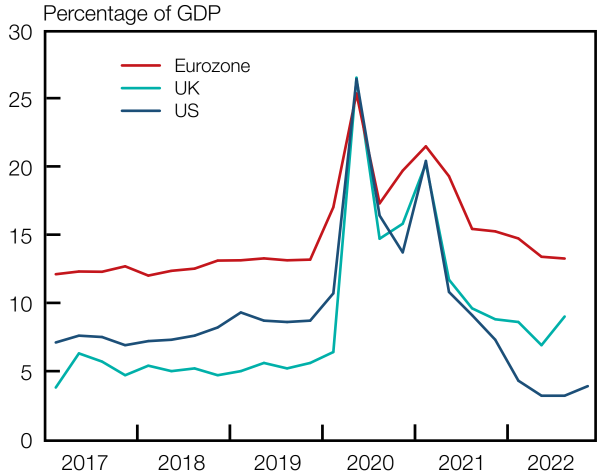
21 The US Federal Open Market Committee's (FOMC) March 2023 median dot plot projects US interest rates to reach 5.25% in 2023.

Amid persisting upside inflationary pressures, major global central banks have projected inflation to only return to target by the end of 2024. The latest median projection by members of the Federal Open Market Committee (FOMC) show core personal consumption expenditure (PCE) inflation – its preferred measure – at 3.6% in 2023, easing gradually to 2.6% in 2024. The ECB has raised its inflation forecasts for 2023 higher and now anticipates inflation to average 5.3% this year, while the BoE expects inflation to average 4.0% in 2023. Projected trends are similar for emerging market economies, barring China, where inflation has remained muted. Brazil's inflation is expected to average around 5.8% – above the upper end of its inflation target range – in 2023, while South Africa's inflation is forecast at 6.0% this year.

Several drivers have contributed to the recent rise and broadening of inflation pressures. The COVID-19 lockdowns of 2020–21, together with the generous fiscal transfers, generated large savings. These savings buffers have underpinned the resilience in spending over the past year and, alongside the pent-up demand associated with the lockdowns, have exacerbated demand-supply imbalances, particularly as supply chains have been slow to fully recover. Labour markets in advanced economies have also remained unusually tight, adding to inflationary pressures.[22] This tightness largely reflects low labour supply growth due to the slow return of workers to the labour force after the COVID-19 pandemic, pandemic-induced early retirements, and more restrictive immigration policies.[23]

A range of factors could keep inflation elevated for longer, although there are downside risks. A re-emergence of supply bottlenecks would delay the rebalancing of demand and supply in the goods markets, while continued US dollar strength could aggravate imported inflation across the world. Similarly, Europe's additional fiscal support measures to cushion households and businesses from high energy prices could further support demand, adding to inflationary pressures. In addition, the recent banking sector stress in the US and eurozone potentially pose a risk of financial dominance. Downside risks to inflation could materialise from a severe slowdown in global demand that would trigger either a sharp slowdown or a recession in the world economy.[24] On balance, risks to the inflation outlook are skewed to the upside, while uncertainty over how quickly these pressures could recede remain elevated.

Saving rates of selected advanced economies



Sources: US Bureau of Economic Analysis, Eurostat and UK Office for National Statistics

22 L M Ball, D Leigh and P Mishra, 'Understanding US inflation during the COVID era', *International Monetary Fund Working Paper Series No. 2022/208*, Washington: International Monetary Fund, October 2022.

23 D Cascaldi-Garcia, M Orak and Z Saijid, 'Drivers of post-pandemic inflation in selected advanced economies and implications for the outlook', *FEDS Notes*, Washington: Board of Governors of the Federal Reserve System, January 2023.

24 The World Bank's latest estimates show that global inflation could fall to either 4.4% or 2.5% in 2023 if the world economy experiences either a sharp slowdown or a recession respectively.

Conclusion

Global growth is projected to slow in 2023 as elevated inflation and high interest rates weigh on economic activity. Economic growth in advanced economies is expected to slow considerably, with the US and the eurozone forecast to slip into mild recessions this year. At the same time, risks to inflation remain elevated. With most countries experiencing stagflationary conditions and real interest rates already in the neutral region, the outlook for monetary policy remains uncertain. Nonetheless, major global central banks have publicly committed to bring inflation back to target within a reasonable time frame, suggesting that rate hikes may continue for a while.

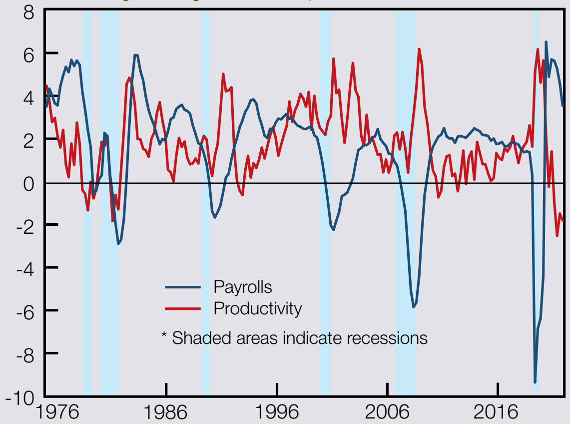
Box 4 Tight labour markets and inflation

Central banks globally have aggressively hiked rates over the past two years to stem the spread of inflation. In response, output growth has slowed in major advanced economies in recent quarters. However, labour markets have remained unusually tight, with unemployment rates near record lows. Although this strength may reflect the typical lags in the response of employment to slowing output, its persistence raises the concern that wage pressures could build sustainably, particularly given constrained labour supply.[1] This box discusses how tight labour markets could complicate central banks' efforts to bring inflation back to target within a reasonable time frame.

Tight labour markets reduce involuntary unemployment and increase the bargaining power of workers. In periods of high inflation, this raises the odds of inflation-offsetting wage increases and, potentially, a wage-price spiral. Nominal wages have risen significantly in most advanced economies over the past year,[2] yet so far real wages have declined as inflation has repeatedly surprised to the upside. However, risks of above-productivity real wage growth remain. For instance, in 2022 already, off-cycle pay increases to offset higher living costs became more frequent in the United States (US), reflecting broader efforts by firms to offer competitive pay in a tight labour market, consistent with the efficiency wage theory.[3] Under the current conditions of tight labour supply, nominal wage growth might remain elevated even if inflation were to decline in line with forecasts. This prospect has raised concerns by the US Federal Reserve (Fed) that

US non-farm payrolls and productivity*

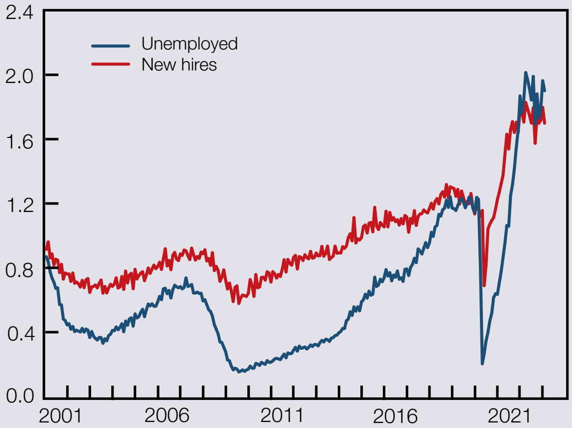
Percentage change over four quarters



Sources: US Bureau of Labor Statistics and NBER

US open positions to unemployed and new hires

Ratio



Sources: JOLTS and US Bureau of Labor Statistics

1 In the United States (US), the recent decline in productivity is deeper than typical recession patterns, yet gross domestic product (GDP) is still growing. Low unemployment rates are also observed in the eurozone, United Kingdom (UK) and Canada, although job creation does not appear unusually strong relative to GDP.

2 Hourly earnings were up 4.2% year on year in the US in March 2023, while eurozone compensation per employee rose 5.1% year on year in the fourth quarter of 2022 and weekly earnings in the UK were up 5.7% year on year in January 2023.

3 See Beige Book – 7 September 2022, US Federal Reserve Board.

wage growth could remain too high to be consistent with its 2.0% inflation target.

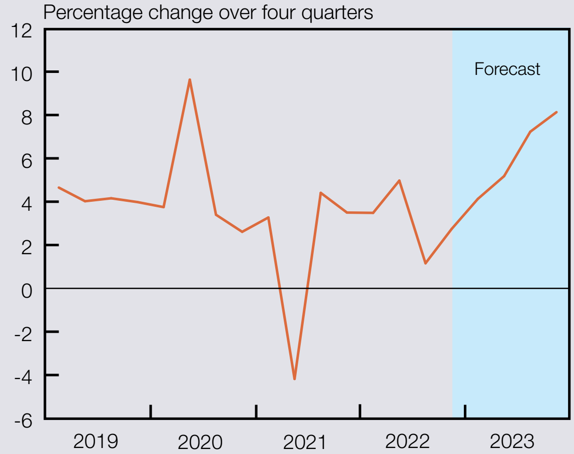
Evidence on whether the current tightness in labour markets is temporary or more enduring is mixed. It may be that employment will react to slowing activity with a longer lag than in previous cycles. Indeed, there are some indications that payroll growth could slow.[4] By contrast, the resilience of job creation could be a sign of 'labour hoarding' – a result of the recruitment difficulties that firms have experienced post-pandemic amid constrained labour supply.[5, 6] Under this scenario, employment may prove more inelastic to gross domestic product (GDP) growth, adding to inflation inertia.[7] Policy rates would need to rise further or remain higher for longer, increasing the risk of a sharper slowdown or even a recession. For emerging markets, this means increased volatility in financial markets and currency depreciations.

In South Africa, the unemployment rate remains exceptionally high, at 32.7% in the fourth quarter of 2022. At face value, this may suggest substantial slack in the labour market. However, the duality of South Africa's labour market is such that the market for high-skilled jobs has always been tight. This, combined with the strong bargaining power of labour unions, means that wage increases have historically tended to be high.

The current cycle, however, could be different. Despite a recovery in nominal wages post-pandemic, real wages have, on average, declined, as has happened globally. South African firms are facing a challenging operating environment, compounded by load-shedding and efforts to mitigate its impacts, and hence would likely be less inclined to accommodate large real wage increases. However, given sharply higher inflation in 2022 as well as elevated inflation expectations and an adaptive wage setting, material risks attach to the real wage growth outlook, with implications for monetary policy.[8]

Unit labour cost

Percentage change over four quarters



Source: SARB

4 Both the hiring rate and businesses' opinion on employment now appear consistent with average payroll gains of circa 100 000 per month, rather than the 300 000 plus seen between January and February 2023.

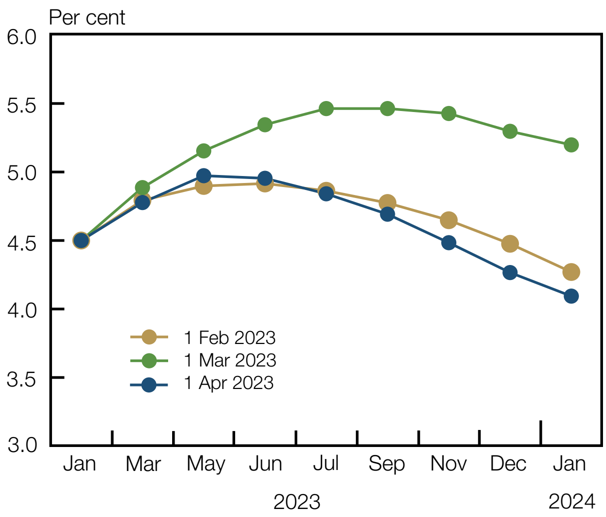
5 See 'A closer look at a hot labor market' by L Bauer, W Edelberg and S Estep, Brookings Institution, 27 October 2022.

6 The latest Fed Beige Book reports that 'many firms hesitated to lay off employees even as demand for their goods and services slowed.' See Beige Book – 18 January 2023, US Federal Reserve Board.

7 This means that fewer jobs would be lost through the downturn, but equally, fewer would be created when the economy eventually recovers.

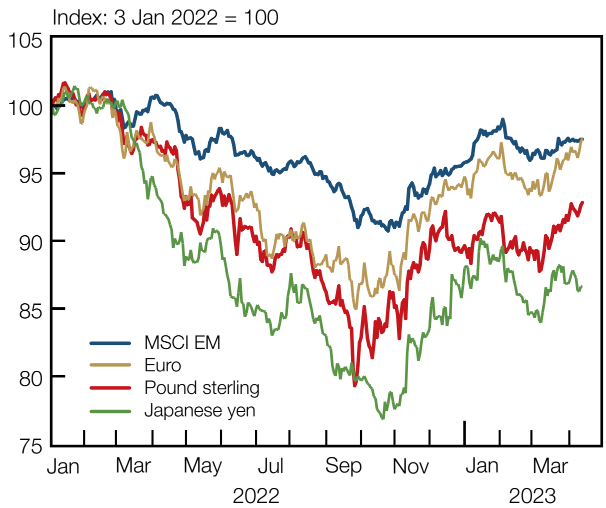
8 Nominal unit labour costs are projected sharply higher in 2023 on account of backward indexation of wages and the steep decline in GDP in 2023.

Market expectations for US policy rates



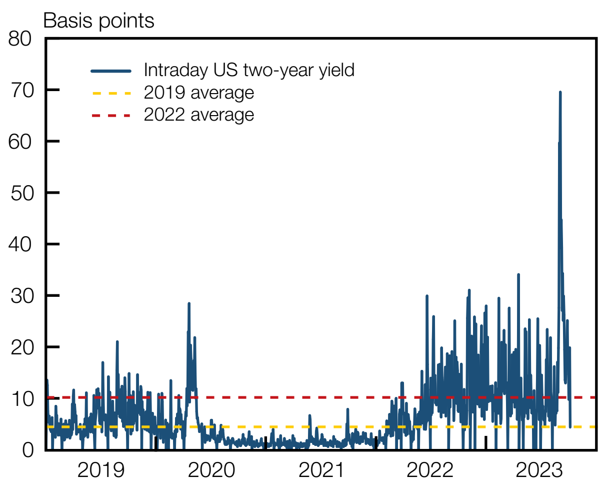
Sources: Bloomberg and SARB

Advanced economy and emerging market exchange rates against the US dollar



Sources: Bloomberg and SARB

US two-year yield intraday trading ranges



Sources: Bloomberg and SARB

Financial markets: the Fed funds rollercoaster

Global financial conditions have shifted abruptly in recent months, with banking stress in Europe and the US during March 2023 prompting markets to reassess expectations for tightening by major central banks. The rand is back at around the levels prevailing six months ago, with the currency depreciating in recent months in response to a difficult domestic news flow as well as higher interest rates abroad. Local asset markets have proved quite resilient despite these challenges, with the bond market adjusting in an orderly way to higher global rates and more local issuance, and South African equities faring better than many global stocks over the past year. The March repo rate decision surprised markets and has shifted market expectations higher, with the peak repo now priced at around 8%.

Global financial market developments

The most important financial markets variable of the past six months has been the federal funds rate. This behaves like a global safe rate and therefore affects financial conditions internationally, with especially marked effects where the outlook for this rate is most uncertain. For the period under review, there have been three distinct phases in the expected path for the federal funds rate.

In late 2022, markets judged that the US Fed was near the end of its hiking cycle and would be able to start cutting rates late in 2023 – a path significantly more dovish than the Fed's own communications. This assessment supported a broad loosening of financial conditions that lasted through the fourth quarter of 2022 and into early 2023. US bond yields eased across the curve and the US dollar – then at a three-decade high – began weakening, providing relief for most other currencies.

From January 2023, however, the US data flow and Fed communications convinced markets that higher US rates would be required to control inflation. By early March, pricing for the terminal federal funds rate had risen to about 5.7%, finally aligning with the median of the Fed's own dot plot for 2023; US two-year yields had climbed past 5%, reaching a 22-year high; and the broad US dollar index had appreciated again, disrupting the pre-existing consensus on US dollar weakness during 2023.

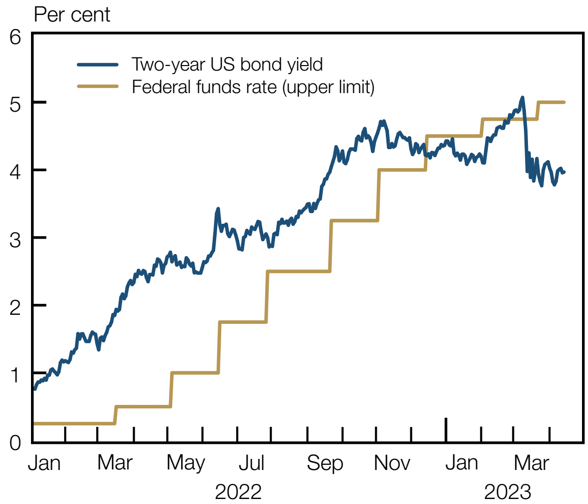
This new position collapsed almost overnight, however, with the failure of Silicon Valley Bank on 10 March 2023. Markets immediately repriced the federal funds path lower, with prospects for near-term hikes sharply discounted and the terminal federal funds rate marked down by around 70 basis points, to a little over 5%, as of mid-March. Bond yields also declined abruptly, with the two-year rate recording one of its steepest drops on record. Banking sector stress then broadened to Europe, with Credit Suisse sold to UBS on 19 March, just four days after taking a special US$54 billion loan from the Swiss National Bank. As of late March, market pricing for the federal funds rate had, once again, shifted well below the dot plot median, with markets anticipating approximately 100 basis points of rate cuts in the second half of 2023.

The conditions which have required Fed tightening, especially higher inflation, have also characterised most other economies. The result, through much of 2022, was an unusually synchronised tightening of global policy, with China's more subdued inflation rates making it the only major economy deviating from this trend. (Even the Bank of Japan relaxed its yield curve control policies in late 2022, allowing longer-term rates to rise, although its short-term rate has remained unchanged at -0.1%.)

In the eurozone and the UK, markets had been expecting substantial further tightening in 2023 to overcome persistent inflation pressures. The ECB proceeded with its expected half a percentage point rate increase in March, to 3%, one day after the Credit Suisse emergency loan. The following week, both the BoE and the Fed raised rates by 25 basis points, and the Swiss National Bank increased rates by 50 basis points. While policymakers noted that bank stress tightened financial conditions, and therefore replicated some of the effects of higher rates, they also emphasised that the tools for dealing with financial and price stability are separate and that monetary tightening can proceed alongside interventions to stabilise banks. The ECB's messaging has been interpreted as the most hawkish, causing the euro to strengthen against the US dollar in March.

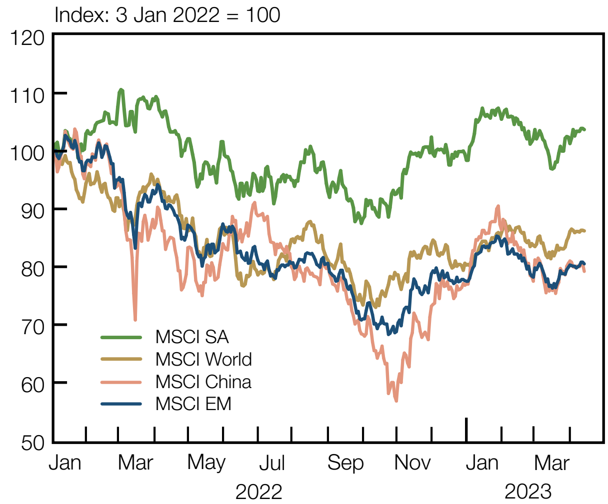
In contrast to these advanced economies, rate increases in emerging markets were generally more pre-emptive, typically starting in 2021. With inflation past its peak in many jurisdictions, markets had, even before the March 2023 global banking disruptions, judged that emerging markets' policy rates were at or near their peaks. While limited rate cuts are now expected where central banks had previously raised rates most aggressively (such as Mexico and Brazil), the general theme in emerging markets is for rates to remain close to current levels for an extended period (through 2024). In South Africa, market pricing (from forward rate agreements) initially downplayed the chances of any rate change at the March 2023 MPC meeting, pricing the prevailing repo rate of 7.25% as the peak rate for the cycle. But this positioning moved in March, with an increase of 25 basis points priced in by the time of the MPC announcement, and

Market expectations for US policy rate



Source: Bloomberg

Equity market performance



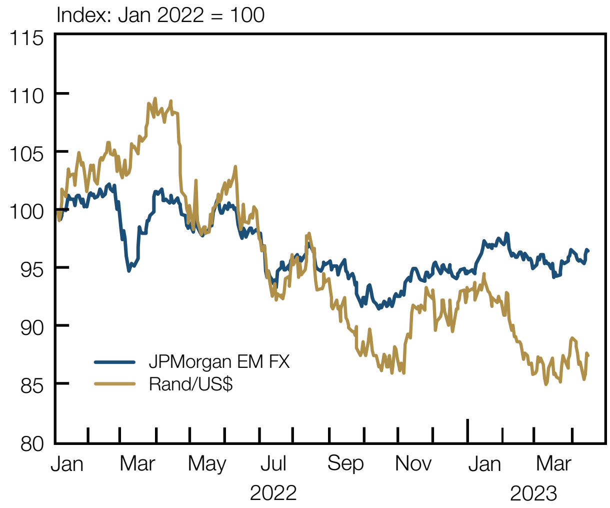
Sources: Bloomberg and SARB

7.5% becoming the expected peak rate. The actual decision – an increase of 50 basis points to 7.75% – surprised markets, and repo expectations promptly shifted higher, with the peak rate moving up to around 8%. Markets currently anticipate rates to stay around this level until 2024.

Domestic financial market developments

For the period under review, South African markets have reacted both to the changes in global conditions, described above, as well as a series of adverse domestic developments. These events have had their strongest effects on the exchange rate of the rand. As a high beta currency, defined as one that is relatively sensitive to broader market movements, it is unsurprising that the rand appreciated in line with the emerging market trend through the closing months of 2022, and then depreciated again until March 2023. The depreciation period was, nonetheless, more extreme than would have been expected given the normal relationships with global conditions, with the rand around 9% weaker through the period November 2022 to February 2023 than would be predicted solely from historical beta values to the US dollar. This divergence was likely due to specific local factors, including the consistently negative local news flow for this period, starting in December 2022 with sudden market fright at the prospect of a resignation by the President, and followed by an intensification of load-shedding as well as South Africa's greylisting by the Financial Action Task Force on 24 February.

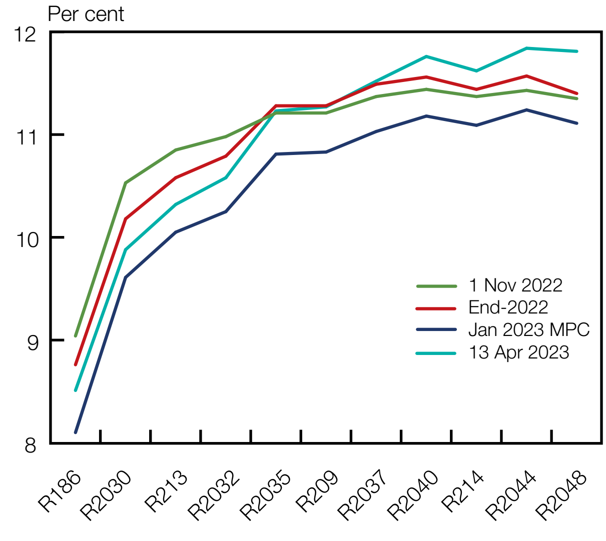
Emerging market and rand exchange rates



Sources: Bloomberg and SARB

After some inflows at the start of the year, non-residents reduced their holdings of South African government bonds, on a net basis, during February and March 2023. While non-residents' share of total bond holdings has declined substantially in recent years, from a high of 42.0% in 2017 to around 26.0% currently, this statistic obscures growth in the stocks of non-resident holdings. Total foreign sector ownership of bonds, for instance, was R705 billion at the end of December 2017 and R851 billion in February 2023.[25] The decline in non-residents' share therefore primarily reflects rapid growth in overall bond issuance, rather than sustained reductions in non-resident holdings.

South African bond market yield curve



Sources: Bloomberg and SARB

Continued growth in the supply of bonds to fund an expanded government borrowing requirement has exerted further upward pressure on yields and contributed to a steepening of the yield curve for the period under review. The price adjustments have largely been orderly, however, with bond market liquidity staying in normal ranges through the first quarter of 2023, despite the global banking disruptions in March.

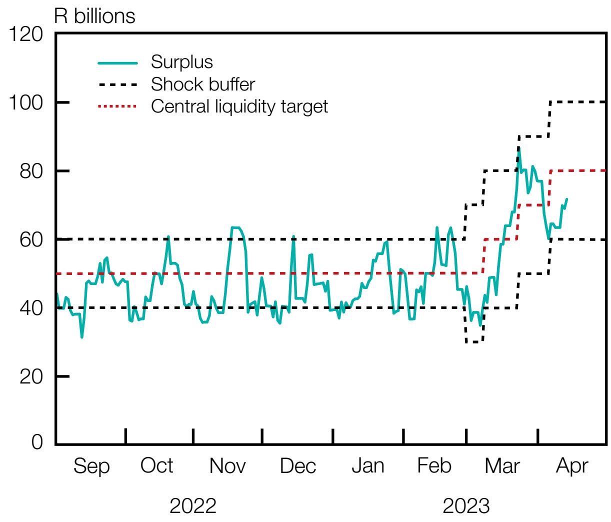
25 These figures incorporate the three kinds of bonds reported in the National Treasury data, namely inflation linkers, floating rate bonds and fixed rate bonds. The floating rate instruments were introduced in 2022 and therefore do not appear in the 2017 data.

South African equities have also held up relatively well in challenging circumstances, with the FTSE/JSE All-Share Index (Alsi) achieving new highs (passing the 80 000 mark) and outperforming both emerging market and developed country indices over the past year. This, in part, reflects benefits of higher commodity prices and a weaker exchange rate. The relative strength of the local index also has to do with weakness elsewhere. Advanced economy stocks have suffered from sharply higher interest rates, with the US S&P 500 declining by about 16.0% from its end-2021 peak. The emerging market aggregate equity performance has also been affected by China's slower growth.

Monetary policy implementation

The transition to the SARB's new surplus-based monetary policy implementation framework (MPIF) was completed in August 2022. Over the subsequent six months, the money market surplus averaged R45.95 billion, in line with the broad objective of keeping liquidity between R40 billion and R60 billion for this period. Demand at weekly repo auctions remained subdued, averaging R2.65 billion, with no auction being fully allotted[26] – confirming that the market was amply supplied with cash. Benchmark rates, including the South African Benchmark Overnight Rate (Sabor) and the Johannesburg Interbank Average Rate (Jibar), continued to adjust upwards in line with the MPC hiking cycle. Forward rates, as implied from short-term foreign exchange swaps, have remained much closer to the repo than they were before the reform, and rates in the repo market, an important source of liquidity for non-banks, have likewise compressed towards the SARB policy rate. Overall, this speaks to effective implementation of monetary policy, with the transmission of MPC decisions into financial markets enhanced by the new MPIF.

Liquidity position and target range



Source: SARB

Starting in February 2023, National Treasury began withdrawing its remaining Sterilisation Deposit Account (NTSDA) balances – a total of R41.2 billion. These funds, originally deposited at the SARB to support the accumulation of foreign exchange reserves, have now been moved to the market, expanding the surplus liquidity position. This drawdown had been anticipated for some time – a portion of these funds had already been withdrawn in 2020 – and was one consideration informing the adoption of the surplus MPIF.[27]

To accommodate the drawdown, the market liquidity position was raised from R50 billion to R80 billion, and banks were at the same time provided with larger quotas where they could earn the repo rate on excess funds, in line with the tiered floor structure of the new MPIF. The expansion of the surplus was undertaken in three steps of R10 billion each, at two-week intervals, starting in early March and ending in early April. The

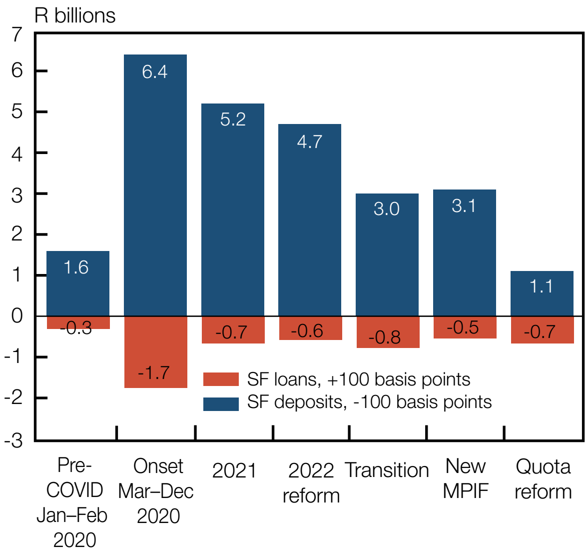
26 The weekly offering has been unchanged at R7 billion.

27 Under the previous system, it had become difficult to create an adequate shortage, and the NTSDA drawdown would have overwhelmed what remained of that shortage.

balance of the NTSDA funds was drained separately, which explains the R11.2 billion gap between the change in the market surplus and the total NTSDA balance. This draining was primarily achieved through a bond maturity in the SARB's monetary policy portfolio, which removed R6 billion from the market at the end of February.

The NTSDA drawdown also provided an opportunity to fine-tune the new framework, based on lessons learnt in the first six months of its operation. Specifically, while overall the reformed MPIF has performed as desired, there is evidence that quotas were too constraining. Accordingly, quota rules have now been revised so that they are larger for all banks, not just in absolute terms but also relative to the liquidity surplus.[28]

Banks' use of standing facilities



Source: SARB

An immediate consequence of this reform has been reduced usage of the penalty rate standing facility, which pays the repo less 100 basis points on above-quota deposits. From September 2022 to February 2023, balances in this facility averaged R3.1 billion; they have subsequently averaged around R1 billion. This leaves the standing facility usage more symmetrical, with long and short positions reflecting idiosyncratic bank frictions rather than systemic pressures in either direction.

The adjustment in quotas will facilitate banks' liquidity management. Larger quotas are also expected to reduce the market power that banks with unused quota space have over banks with excess cash, which has exerted some downward pressure on interbank rates. (These averaged the repo less 6 basis points prior to this fine-tuning exercise). The objective of the quota changes is to minimise incentives for banks to trade reserves at rates away from the repo, in either direction, so as to transmit the policy stance adopted by the MPC as precisely as possible.

28 Whereas before the drawdown liquidity averaged R46 billion against quotas of R67.2 billion, liquidity is now expected to be close to R80 billion against quotas of R140 billion. The ratio of liquidity to quota space has therefore fallen from about 68% to about 57%. The changes to the banks' quotas were detailed in a notice on the SARB website published on 10 February, available at https://www.resbank.co.za/content/dam/sarb/publications/financial-markets/notices/fmd-notices/2023/notice-revisions-to-bank-quotas-february2023.pdf

Box 5 The fiscal case for lower inflation

Fiscal and monetary policy coordination, facilitated by clear targets and guidelines, is critical to ensuring sustainable macroeconomic policy setting. High levels of public debt, caused by 'active' policy can constrain a central bank's capacity to tame inflation, a phenomenon termed 'fiscal dominance'.[1] In such cases, fiscal policy creates conditions in which monetary policy is unable to respond to higher inflation because a rise in interest rates will further weaken the fiscal position.[2] By contrast, 'passive' policy is guided by targets that are understood to be sustainable, or not giving rise to more inflation and higher risk premiums.

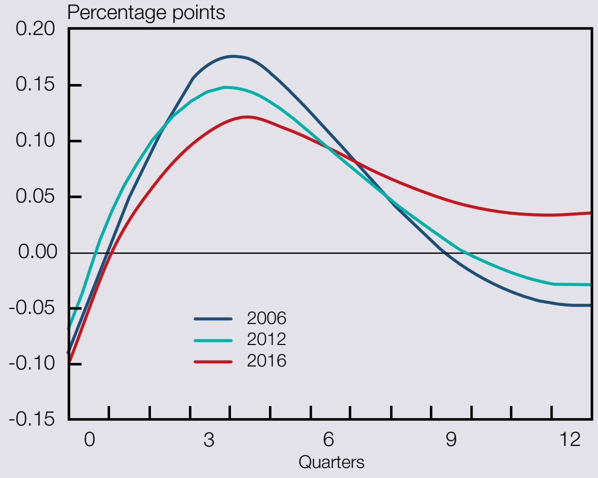
Over the period 2000–2020, three regimes are identified for South Africa: (i) from 2006 fiscal policy moved from an active policy to a passive one, in which debt was reduced; (ii) from 2012 fiscal policy became active again and remained in the active regime until recently; and (iii) in 2016, monetary policy became less active. Thus, the current constellation is one of an active fiscal policy and a less active monetary policy, which suggests a fiscal-dominant regime.[3] Estimates for South Africa show that a shock to fiscal policy raises inflation in all the regimes identified, but this response is more persistent in the latest regime change around 2016.

South Africa's public debt has risen markedly over the past decade, causing long bond yields to rise and remain elevated. A deterioration in fiscal metrics results in a higher risk premium and higher yields on longer-dated bonds to compensate for higher fiscal risk, thereby steepening the yield curve and impacting strongly on long-term investment costs for the economy as a whole. Annual debt-service costs now rise considerably faster than nominal gross domestic product (GDP), resulting in lower real public resources over time and reflected in the higher sovereign risk premium.[4]

When fiscal policy increases the country risk premium, this can, in turn, depreciate the exchange rate and put upward pressure on inflation.[5] These effects are longer-lasting and more severe in the fiscal-dominant regime.

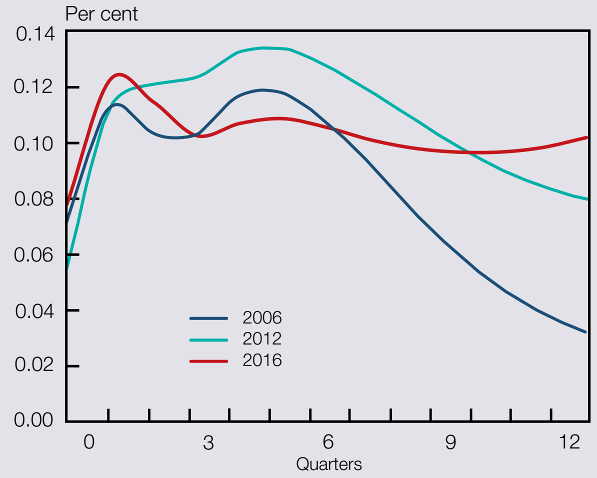
Sustainable public finances alternatively enhance the efficacy of monetary policy and facilitate the achievement of lower inflation. When debt and risk premiums are high, fiscal consolidation lowers borrowing costs for the public and private sectors, supporting investment and freeing up real resources for public spending. These benefits can be significantly reinforced with lower inflation and interest rates, particularly when debt stocks need to be rolled over.

Response of inflation to a fiscal shock



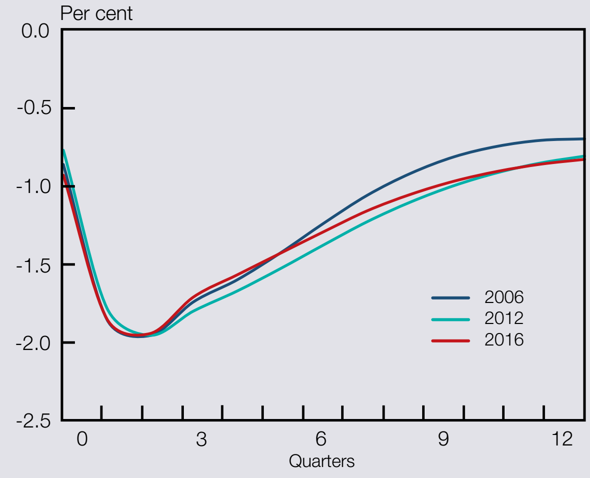
Source: SARB

Response of risk premium to a fiscal shock



Source: SARB

Response of exchange rate to a fiscal shock



Source: SARB

1 E Mengus, G Plantin and J Barthélemy, 'Large public debts need not imply fiscal dominance', VoxEU, 2021.

2 E M Leeper, 'Equilibria under 'active' and 'passive' monetary and fiscal policies', *Journal of Monetary Economics* 27(1), 1991, pp 129–147.

3 According to the Sargent–Wallace framework, a fiscal-dominant regime would exist when there is an active fiscal policy and a passive monetary policy regime. A monetary-dominant regime would exist when there is a passive fiscal policy and an active monetary policy regime. Refer to L Soobyah, M Mamburu and N Viegi, 'Is South Africa falling into a fiscal-dominant regime?', *South African Reserve Bank Working Paper Series No. WP/23/02*, March 2023. https://www.resbank.co.za/content/dam/sarb/publications/working-papers/2023/WP%202302.pdf

4 Public debt rose from 35% of gross domestic product (GDP) in 2012 to 68% of GDP in 2022.

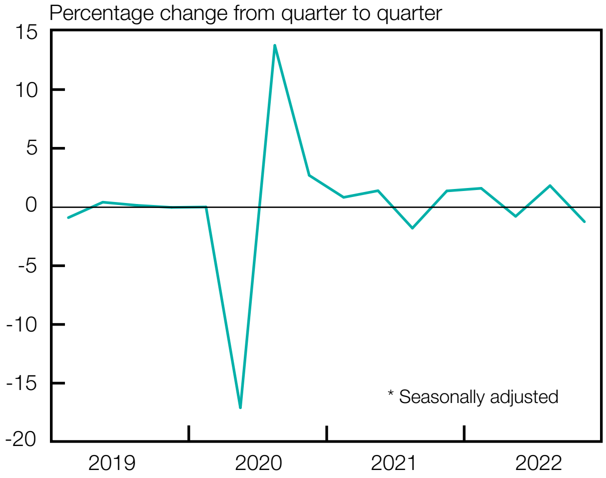
5 Refer to L Soobyah and N Viegi, 'Can National Treasury do contractionary monetary policy?', *South African Reserve Bank Working Paper Series No. WP/22/10*, August 2022. https://www.resbank.co.za/content/dam/sarb/publications/working-papers/2022/WP%202210.pdf

Real economy: structural constraints a hard bind

The domestic economy grew by 2.0% last year – a sharp slowdown from the 4.9% growth recorded in 2021. On a quarter-on-quarter basis, GDP showed substantial volatility in 2022 as the economy was subjected to multiple adverse shocks. After the upside surprise in the third-quarter GDP outcome (revised upwards to 1.8%), GDP declined by 1.3% in the fourth quarter.[29] The contraction in GDP was broad-based, as 7 out of 10 sectors registered negative growth in the quarter. Looking ahead, growth prospects remain dim as South Africa's longstanding structural challenges, particularly inadequate electricity supply and the deterioration in the ports and railway infrastructure, have become more binding. The GDP growth forecast over the medium term has been revised lower since the October 2022 MPR*, and now averages only 0.8% (1.6% in the October 2022* MPR*). Potential growth is revised even lower at -0.2% this year, before rising to 1.0% by 2025. Speedy and judicious implementation of the announced reforms for the energy and logistical sectors could spur private sector investment and lift growth over the medium term.*

Real gross domestic product*

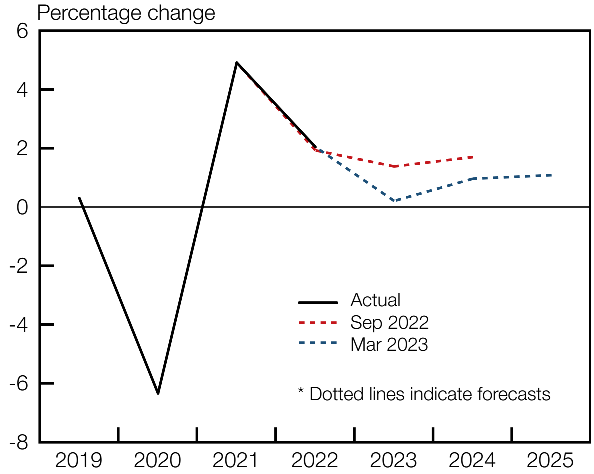
Percentage change from quarter to quarter



Source: Stats SA

Real GDP growth*

Percentage change



Sources: Stats SA and SARB

Recent economic developments

Growth in 2022 was volatile, moving from positive to negative growth between the quarters. Following the steady 1.8% quarter-on-quarter growth rate recorded in the third quarter of 2022 (revised upwards from the initial estimate of 1.6%), the South African economy shrank by 1.3% in the fourth quarter – a contraction much deeper than both the market and the SARB's expectations. The decline was broad-based across the sectors, except for the transport, storage and communication, the construction and the personal services sectors. On balance, this brought the 2022 annual growth rate to 2.0% – a marked slowdown from the 4.9% growth recorded in 2021, but still above the average growth rate for the post-global financial crisis (2010–19) period.

A broad sectoral overview shows that the primary sector grew by 2.0% in the second half of 2022. This, however, masks the volatility observed during the period as both agriculture and mining production expanded in the third quarter before contracting in the fourth quarter.[30] The secondary sector reported almost no growth in the second half of the year (0.1%), weighed down by the electricity and manufacturing

29 GDP grew by 1.6% in the first quarter of 2022, followed by a contraction of 0.8% in the second quarter.

30 After a sharp rebound to 30.5% quarter on quarter in the third quarter of 2022, agriculture production contracted by 3.3% in the final quarter. Similarly, mining production declined by 3.2% in the fourth quarter after growing by 1.6% in the third quarter.

subsectors. Despite the electricity supply constraints, the manufacturing subsector showed some resilience in the third quarter of 2022, rebounding from the supply chain and production disruptions occasioned by the floods in KwaZulu-Natal (KZN) in April 2022. However, manufacturing production slipped back into negative territory in the final quarter.[31] The construction subsector appears to have picked up momentum, as it contributed positively (albeit marginally) to growth in both quarters. Nevertheless, the sector remains 23.0% below pre-pandemic activity levels. In the tertiary sector, while all the subsectors contributed positively to GDP in the third quarter, this momentum was reversed in the fourth quarter, as the trade, finance and general government services subsectors contracted. Despite this negative performance in the final quarter, overall, the tertiary sector still performed the strongest, at 3.4%, in the second half of the year.

At the start of the second half of 2022 there was optimism for a reasonable rebound in GDP growth, underpinned by the resumption of normal economic activity following the KZN floods, the complete unwinding of all remaining COVID-19 restrictions, and the end of a prolonged strike in the gold-mining sector. The optimism did not last, however, as domestic economic activity was undermined by a multitude of adverse factors, the most significant being the higher incidence and intensity of load-shedding, worsening logistical bottlenecks and much higher inflation. On the combined effect of ageing electricity infrastructure and maintenance challenges, electricity supply constraints have continued to worsen in recent months.[32] The upside surprise in the third-quarter GDP outcome suggests that the economy is gradually becoming more resilient to the scourge of load-shedding. However, the SARB's view is that the adverse economic impact of load-shedding remains marked, particularly at the higher stages of load-shedding, as was seen in the fourth quarter of 2022.

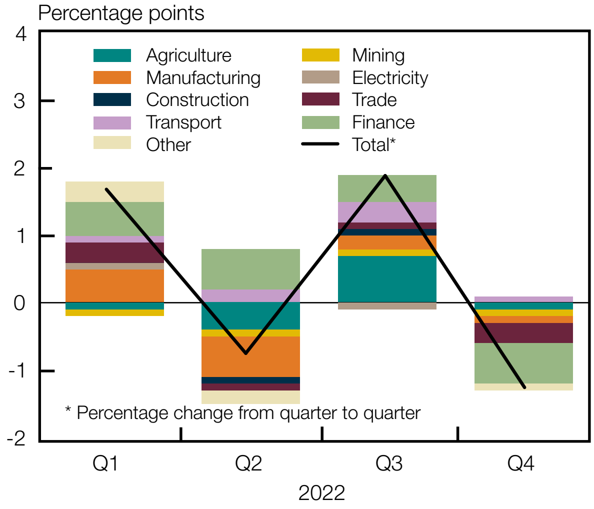
Another important factor that has increasingly become a binding constraint to growth is logistical bottlenecks. Over the past 10 years, inefficiencies in the country's transport and export logistics, specifically at ports and on rail networks, has led to the inability to keep up with the growing volume of freight transported, resulting in more freight being transported on roads. In 2022, coal exports through the Richards Bay Coal Terminal (one of the key coal export terminals in the world) plunged to about 50 million tonnes – the worst performance since 1993.[33] This came at a time when both the demand for and price of coal were high, and thus robbed the economy of billions in export receipts.

31 Manufacturing grew by 1.6% in the third quarter of 2022 but then declined by 0.9% in the fourth quarter.

32 As much as 11 700 gigawatt hours (GWh) of power could have been shed by the fourth quarter of 2022, much higher than an estimate of around 2 500 GWh shed in 2021.

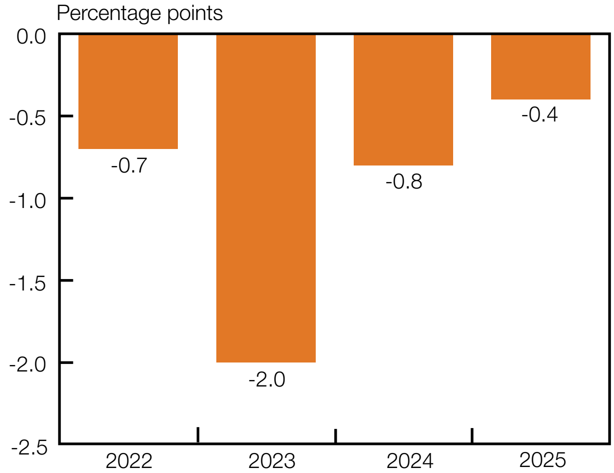
33 D Erasmus, 'Transnet dysfunction hits Richards Bay coal exports back into 1993', *Business Day*, 26 January 2023.

Contributions to GDP (production side)



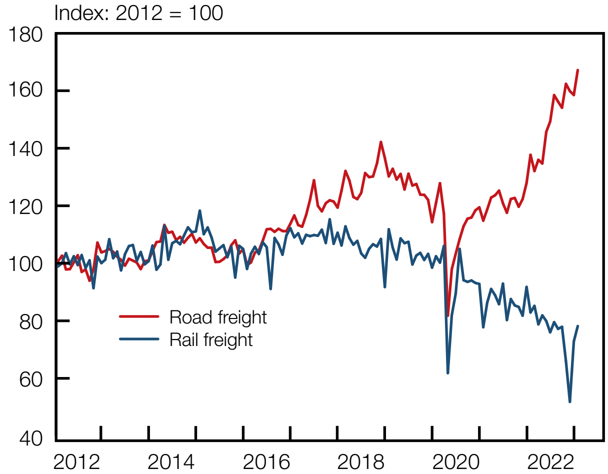
Source: Stats SA

Estimated direct impact of load-shedding on GDP



Source: SARB

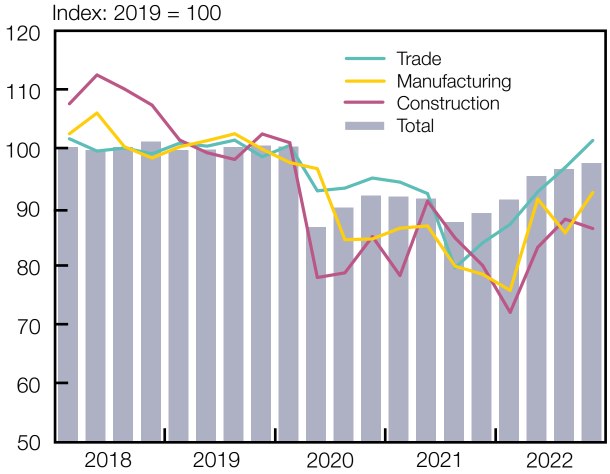
Volume of land freight transportation



Sources: Stats SA and SARB

Employment

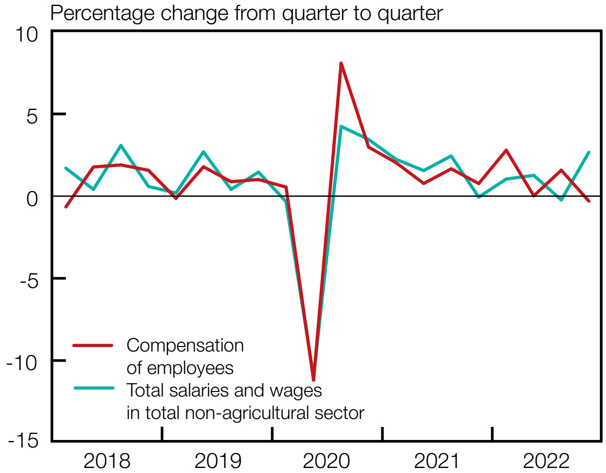
Index: 2019 = 100



Source: Stats SA

Wage trends

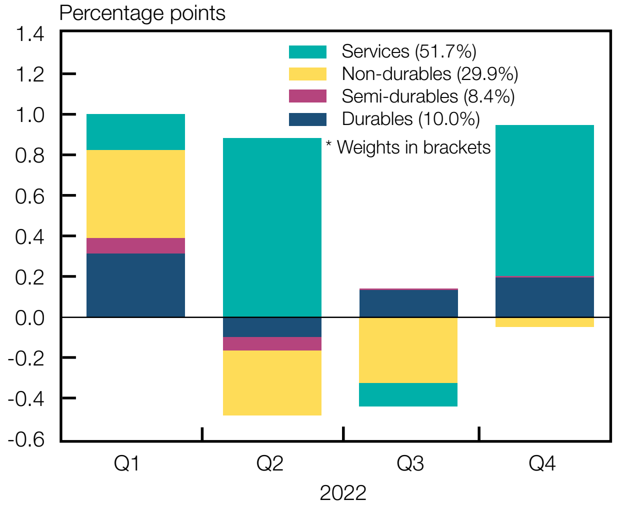
Percentage change from quarter to quarter



Sources: Stats SA and SARB

Contributions to personal consumption expenditure*

Percentage points



Source: Stats SA

Despite the underlying macroeconomic weakness across industries, labour market outcomes have proven resilient over the past few quarters. The number of employed people continued to grow in the second half of 2022, predominantly driven by the trade, construction and manufacturing sectors. On a year-on-year basis, the number of employed people increased by around 1.4 million in the fourth quarter of 2022. Encouragingly, the number of unemployed people also showed year-on-year declines over the same period, which helped to bring the unemployment rate down to 32.7% in the fourth quarter of 2022 – 2.6 percentage points lower than what was recorded in the fourth quarter of 2021.[34] Looking ahead, there is no expectation of significant gains in employment over the near term in the absence of a marked improvement in firms' operating environment.

Alongside the labour market recovery, nominal wages continued to rise in 2022, with the average level of wage settlements at 6.0% – higher than the average of 4.4% recorded in 2021.[35] Looking ahead, wage settlements are expected to average between 5.8% and 6.7% in 2023 – largely above the SARB's inflation projection of 6.0% – which implies that workers should realise some real wage gains this year. Meanwhile, real total earnings in the formal sector declined to R811.1 billion in the fourth quarter of 2022, from R831.8 billion a year earlier, with the biggest declines coming from the construction, community services and finance sectors.

Despite the elevated inflation and rising interest rates, household consumption continued to drive the modest growth recorded over the past year. After contracting by 0.3% quarter on quarter in the third quarter of 2022, household consumption grew by 0.9% in the fourth quarter, resulting in growth of 2.6% for the year as a whole. Spending in the services subcategory showed solid recovery in the fourth quarter, after a decline in the prior quarter. Of more concern, however, is that expenditure in non-durable goods declined over the last three quarters of 2022, underpinned by reduced spending in the food, beverages and tobacco subsector. This outlines the adverse effects of high prevailing food price inflation, especially for low-income consumers whose average consumption basket is dominated by food. By contrast, and despite consumer sentiment that has been relatively weak for high- and middle-income earners, the steady growth in spending on durables, particularly transport equipment, suggests that real income pressures on these groups seem to have been contained thus far. However, the recent Bureau for Economic Research (BER) Consumer Confidence Survey indicates that consumers' outlook on their financial positions deteriorated in the first quarter of this year, with consumers rating the present time as inappropriate to buy durable goods. This suggests that the outlook for household demand remains highly uncertain over the near term.

34 *Quarterly Labour Force Survey*, various editions.

35 *Andrew Levy Wage Settlement Survey*, December 2022.

The past year marked a solid recovery in total fixed investment to 4.7% in 2022, up from 0.2% in the previous year. This positive outcome was driven by the private sector and mostly came through in the first half of 2022. This sector's performance slowed in the latter half of the year, contracting by 0.6% in the third quarter, before rebounding to 1.5% in the final quarter. Meanwhile, capital expenditure by general government is the only subcategory that posted growth across both the third and fourth quarters of 2022 – a notable change in direction after several quarter-on-quarter declines over the past two years.[36] By contrast, fixed investment by public corporations declined in the fourth quarter after the marginal increase posted in the third quarter.

Growth outlook

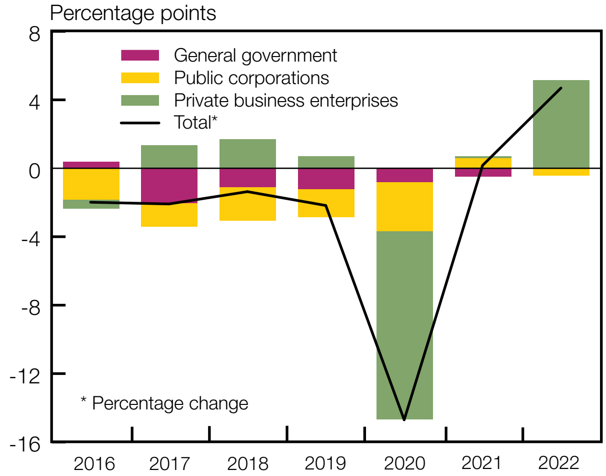
Looking ahead, the outlook for growth is marred by uncertainty. The SARB now forecasts 2023 GDP growth at 0.2% – broadly unchanged from the 0.3% projection at the January MPC meeting but notably lower than the 1.4% that was expected at the time of the October 2022 *MPR*. This downward revision reflects the effects on economic activity of the continued deterioration in electricity supply over recent months and the assumption that not much of an improvement can be expected over the near term. Load-shedding is now expected to detract as much as 2.0 percentage points from growth in 2023 – double the impact estimated at the time of the October 2022 *MPR*.

Over the medium term, the expectation is that the negative impact of load-shedding will be partially offset as more businesses invest in backup energy solutions and/or as Eskom's maintenance improves the energy availability factor. However, the SARB's view is that this benefit is most likely to materialise in the latter years of the forecast horizon, when growth is projected to improve to 1.0% and 1.1% in 2024 and 2025 respectively. Although improving, the pace of growth remains tepid and still below the pre-COVID-19 historical average (2010–19) of 1.7%. The medium-term outlook hinges on the government's ability to implement the much-needed structural reforms to unlock the economy's growth potential that, currently, is estimated at a mere 0.8% in 2024 and 1.0% in 2025.

Despite pressures on household balance sheets, household spending is still expected to contribute positively to growth over the medium term. This aligns with the view that inflation will continue to moderate, returning to the target band by the latter half of this year and, in turn, improving consumers' real disposable incomes. Household consumption is projected to rise by 0.6%, 0.5% and 0.9% in 2023, 2024 and 2025 respectively.

Contributions to gross fixed capital formation

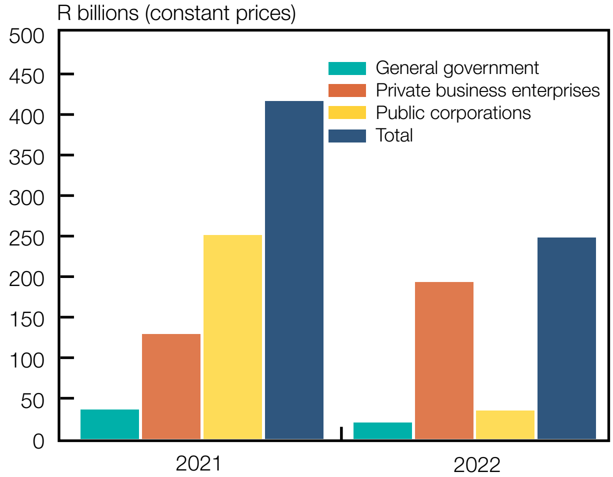
Percentage points



Source: Stats SA

Listed capital expenditure projects

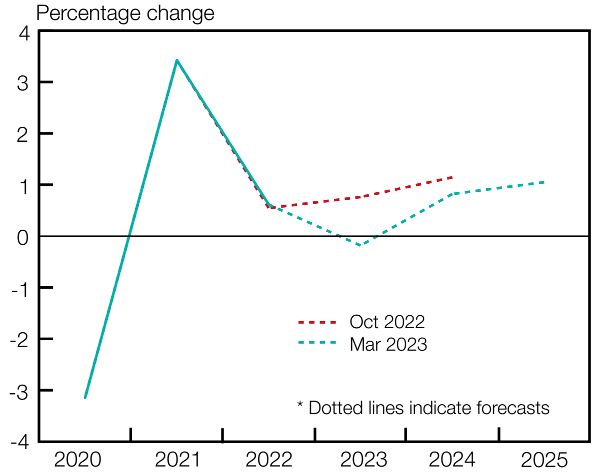
R billions (constant prices)



Source: Nedbank

Evolution of potential GDP growth*

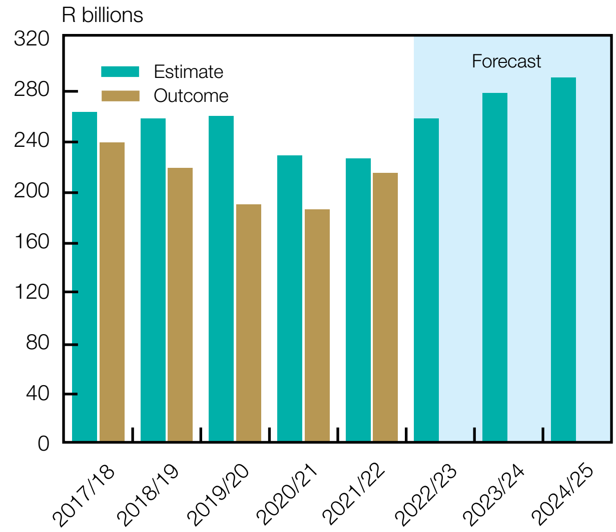
Percentage change



Source: SARB

36 Public sector outlays increased by 3.5% and 2.5% quarter on quarter in the third and fourth quarters of 2022 respectively.

Public sector investment



Source: National Treasury

Alongside household consumption, private investment is again expected to support growth over the medium term, having increased by 7.3% in 2022. Total investment growth, however, is projected to be somewhat flat at around 2.5% per year over the medium term. The subdued trajectory for fixed investment reflects low business confidence, intensified load-shedding and an uncertain political outlook. Impetus to investment, however, could emanate from the 2023 Budget in which National Treasury forecasts a steady growth in the public capital expenditure budgets over the Medium-Term Expenditure Framework (MTEF).[37] The implementation of these capital projects could spur further recovery in the construction sector which has, in recent times, benefitted from energy-related projects. The government, however, has had a history of underspending in capital budgets, with capital expenditure approximately R184 billion below the estimates over the past five fiscal years.[38]

The green energy capital expenditure momentum that was ushered in by the recently announced energy sector reforms is expected to pick up pace over the medium term, supported by the R5 billion worth of renewable energy tax incentives for private corporates provided for in the 2023 Budget. According to the Energy Action Plan progress update given by the National Energy Crisis Committee in January 2023, a pipeline of approximately 100 private sector energy projects is expected to add 9 000 megawatts of power to the grid over the next few years. Additionally, more projects under the Renewable Independent Power Producer Programme (REIPPP) Bid Window 5 are expected to reach financial close and for construction to begin over the medium term. While the above should support investment in self-generation, and thus total investment over the medium term, it is likely that firms may trade this against investment in machinery and equipment. Moreover, likely delays in the procurement and construction of these projects present a downside risk to the outlook for investment.

Amid slower global demand and ongoing domestic logistical bottlenecks, export growth is projected to be weaker over the forecast horizon. Terms of trade have now declined below their pre-pandemic level and are expected to deteriorate further, reflecting the continued correction in South Africa's commodity export prices, while import prices have remained elevated.[39]

37 Public sector investment is projected at 4.6% in 2023 and to decline to 1.5% over the medium term.

38 2023 *Budget Review*.

39 The terms of trade index declined from 122.9 in 2021 to 111.6 in 2022.

Macro balances

The current account and its drivers

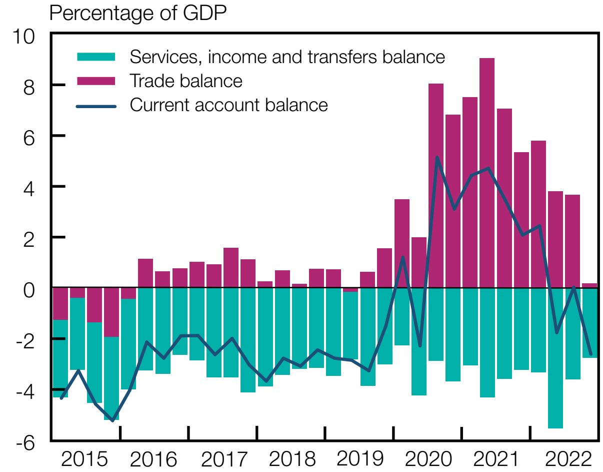
South Africa's current account balance has exhibited marked volatility over the past year, although the trend has been downward since it peaked at a surplus of 5.2% of GDP in the third quarter of 2020. The current account slumped into an unexpected deficit in the second quarter of 2022 but recovered somewhat in the third quarter, before falling back into a deficit in the fourth quarter.[40] For the full year it averaged -0.5% of GDP. The global shocks over the past three years that underpinned South Africa's current account strength have largely dissipated, while domestic idiosyncrasies have come to the fore, constricting exports. The current account balance is now forecast to remain in deficit over the medium term. The return to a sustained deficit has happened earlier than the SARB had forecast just a few quarters ago.

The trade balance, which peaked at a surplus of 9.1% of GDP in the second quarter of 2021, has declined sharply, and reached a 14-quarter low of 0.2% of GDP in the fourth quarter of 2022. On a monthly basis, for the first time since April 2020, the trade balance recorded deficits in December 2022 and January 2023. This deterioration reflected the widening deficit in manufacturing since October 2022 as well as the shrinking surplus in mining. The trade balance, however, improved significantly in February due to a sharp drop (32.7%) in mineral imports which boosted the mining surplus, alongside an improvement in the manufacturing deficit. The trend in manufacturing is mostly explained by the movements in net imports of machinery and equipment and of motor vehicles. Overall, these trends largely explain the deterioration in the terms of trade, which are currently at levels last seen in 2018.

The services, income and transfer account (SIT) remains in deficit, as payments continue to outweigh receipts. However, as a percentage of GDP, the deficit in the SIT account recorded an 11-quarter low in the fourth quarter of 2022 at 2.8%. This can mostly be attributed to falling income payments amid rising income receipts from the volatile dividend component. Direct investment dividend payments normalised in the second half of 2022, following exceptionally high payments in the third quarter of 2021 and the second quarter of 2022. Meanwhile, travel receipts improved further in line with the liberalisation of travel following the lifting of all COVID-19-related restrictions.

Current account

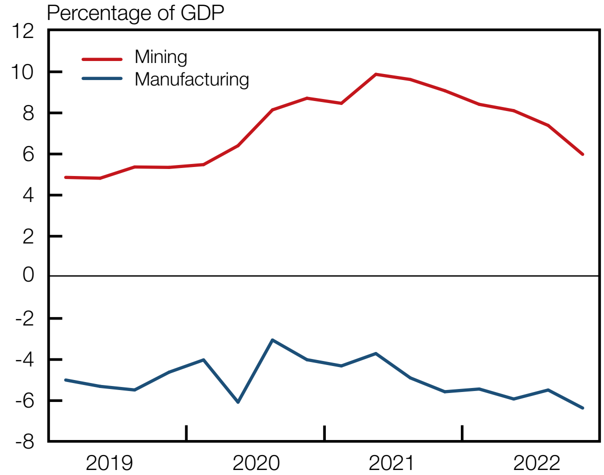
Percentage of GDP



Source: SARB

Mining and manufacturing trade balances

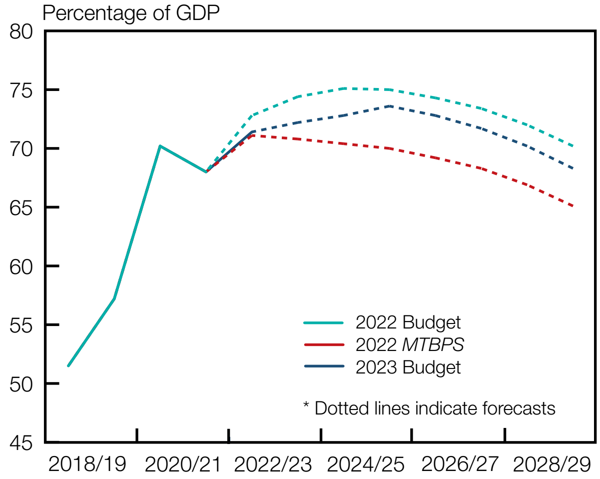
Percentage of GDP



Source: SARB

40 The current account recorded a surplus of 0.05% of GDP in the third quarter followed by a deficit of 2.6% of GDP in the fourth quarter.

Public debt*



Source: National Treasury

Fiscal balances

Government debt projections have been revised higher, with debt now expected to stabilise at 73.6% of GDP in the 2025/26 fiscal year – 2.2 percentage points higher and two years later compared with the 2022 *Medium Term Budget Policy Statement (MTBPS)* projections. The deterioration comes on the back of government's takeover of R254 billion of Eskom's debt.[41] Debt-service costs continue to rise over the medium term and are projected to consume 19.8% of the main budget revenue in 2025/26.

Despite underlying macroeconomic weakness, National Treasury projects the tax-to-GDP ratio to increase from 25.4% to 25.7% over the medium term. Projected revenue collections for the 2022/23 fiscal year have been revised upwards from the 2022 *MTBPS*, mainly on the back of higher corporate income tax collections that continue to benefit from elevated (albeit falling) commodity prices amid a weaker rand, as well as unexpected strength in manufacturing and finance sector collections in the second half of 2022.

Overall, the deterioration in public debt in the 2023 Budget, on the heels of an assessed improvement in the 2022 *MTBPS,* underscores the risk being placed by state-owned companies on the fiscus. This, together with the persisting structural factors that continue to constrain growth and the wage bill, presents substantial fiscal risks over the medium term.

Conclusion

The domestic economy has shown solid recovery from the pandemic and related shocks over the past two years – growing by 4.9% and 2.0% in 2021 and 2022 respectively. Growth in 2022 could have been higher had it not been for the extensive load-shedding and transport logistical bottlenecks. These constraints have continued to worsen and pose a serious threat to the growth outlook over the short to medium term. Slower global growth is expected to weaken demand for commodities and further constrain domestic growth, as well as adversely impact the current account and fiscal revenues. Growth is now projected at 0.2% in 2022 – significantly lower than the 1.4% projected in the October 2022 *MPR* – and to rise only marginally over the medium term. Judicious implementation of the reforms announced for the energy and logistics sectors should enhance the efficacy of basic economic infrastructure, which should spur investment and lift potential growth.

41 Approximately R168 billion is a capital injection and R86 billion is interest payments. Compared to the R66 billion Medium-Term Expenditure Framework (MTEF) provisions made in the 2022 *MTBPS*, this now equates to R118 billion worth of additional borrowing in the MTEF.

Box 6 Unpacking the SARB's 2022 GDP forecast errors

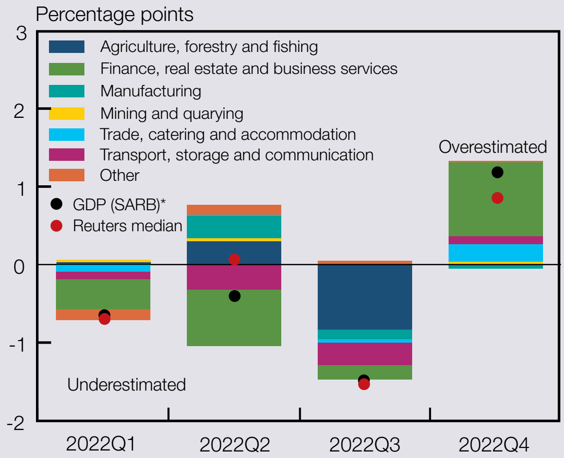
In 2022 the South African economy was hit by a range of domestic shocks, beginning with floods in KwaZulu-Natal (KZN) in the second quarter, followed by an increase in the intensity of load-shedding from the third quarter onwards. This was coupled with a marked deterioration in Transnet's services in the fourth quarter. Such large shocks increase the volatility of output and make forecasting of near-term gross domestic product (GDP) more challenging.[1] This box unpacks and explains the South African Reserve Bank's (SARB) GDP forecast errors during 2022.

There was a notable gap between the SARB's (and market consensus forecasts) quarterly near-term GDP forecasts and the official releases in all the four quarters of 2022. Near-term forecast[2] errors were mainly driven by large forecast errors in finance and agriculture, with these two explaining more than 50% of the forecast error in each quarter.

The biggest forecast error was in the third quarter of 2022, where GDP surprised significantly to the upside. The SARB had expected the intensified load-shedding experienced during the quarter to derail growth. Agricultural activity, however, rebounded strongly (30.5% quarter on quarter) partly due to harvests being delayed from the second to the third quarter and explains about 60% of the third-quarter forecast error. Meanwhile, some energy-intensive sectors managed to post robust growth in the third quarter despite an increase in the intensity of load-shedding in the quarter, suggesting that firms have largely adapted to operating under modest levels of load-shedding.[3] The better performance of these sectors in part reflected the resumption of production at several manufacturing plants and the reactivation of supply chains disrupted by the April KZN floods.

The quarter with the smallest forecast error was the second quarter of 2022, implying that the impact of the KZN floods on GDP was well captured in the forecast. On average, the Reuters median quarterly 2022 GDP forecasts outperformed the SARB's, with a mean absolute percentage error (MAPE) of 0.81, relative to the SARB's MAPE of 0.94. Although quarterly near-term GDP forecast errors were large in 2022, the forecasts at each Monetary Policy Committee (MPC) meeting for annual GDP growth for 2022 oscillated around 2.0% – the official annual growth outturn.

Contributions to 2022 GDP error (forecast minus actual)



* Percentage change from quarter to quarter

Sources: Reuters, Stats SA and SARB

1 The standard deviation for the four quarters of GDP growth (quarter-on-quarter percentage change) in 2022 was around 1.4%, the second highest standard deviation since 2000.

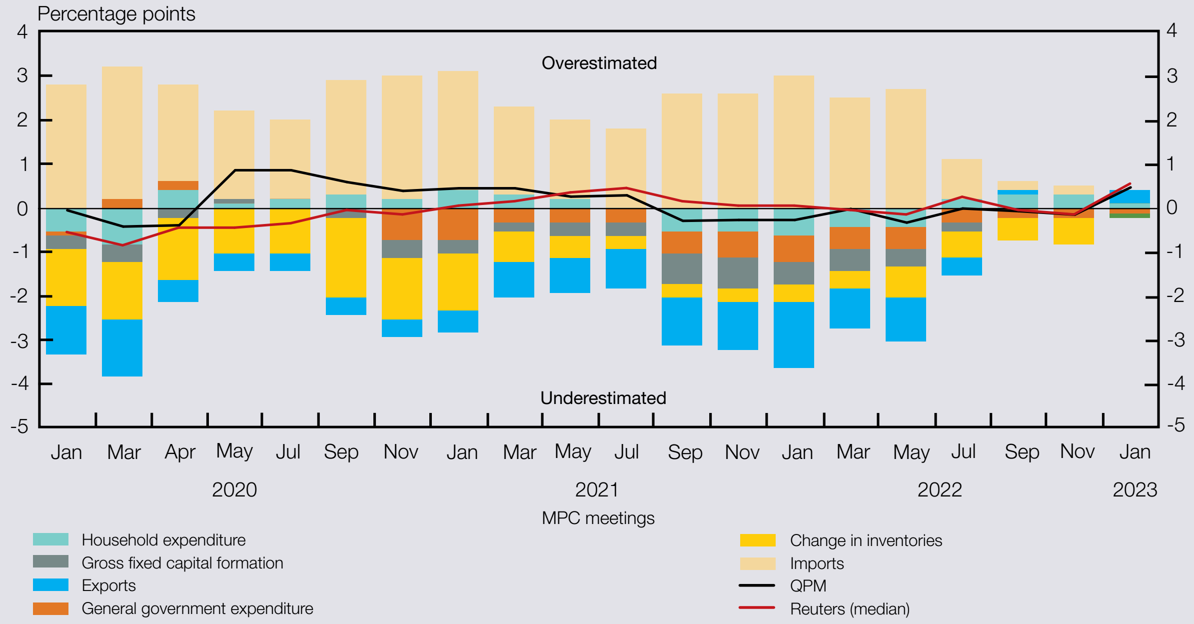
2 Near-term forecasts are from the SARB's supply-side model, which incorporates high-frequency data. This forecast is used to inform the starting point for the Quarterly Projection Model (QPM).

3 The bulk of load-shedding (about 70%) during the third quarter of 2022 fell into stages 1 and 2, with stage 2 by far the most prevalent.

From the demand side, the SARB had persistently understated exports, imports, investment and inventories in all forecast rounds since the January 2020 MPC meeting. Investment spending was anticipated to continue to recover at a slow pace, given slowing growth, low business confidence and heightened uncertainty. However, total investment spending surprised to the upside, mainly due to robust growth in spending on machinery and equipment. This category alone contributed 4.0 percentage points to the 4.7% growth in total investment in 2022. This may be linked to an increase in activity in renewable energy projects. These projects, and investment more broadly, exhibit high import content. Thus, the surprise in investment may help to explain the significant upward surprise in the SARB's imports forecast.[4] Meanwhile, exports also surprised to the upside, in line with the upward surprise in South Africa's trading partners' growth and the marked increase in the eurozone's demand for coal.

4 Because imports were underestimated, their contribution to the GDP forecast errors was overestimated.

Contributions to 2022 GDP error (forecast minus actual)



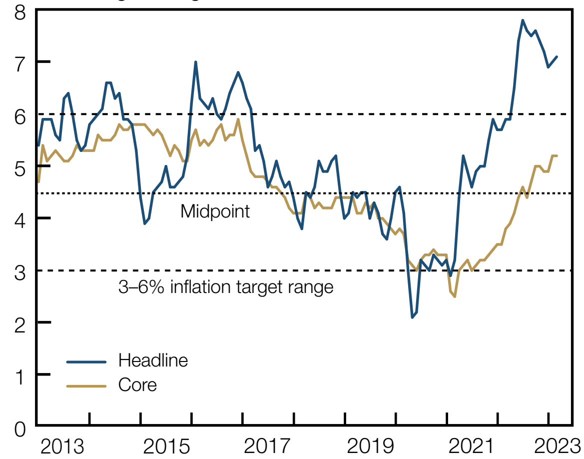
Sources: Stats SA and SARB

Price developments: signs of stickiness

Headline inflation jumped markedly higher in 2022 and averaged 6.9%, from 4.5% in the previous year. Fuel and food price inflation pulled headline inflation higher for the better part of the year. However, going into 2023, moderating fuel inflation helped to ease pressures somewhat, resulting in headline inflation softening to 7.1% in March 2023 from its peak of 7.8% in July 2022. Meanwhile, core price pressures have continued to build, spurred initially by sharp increases in core goods prices, and have now broadened to services. This profile for core inflation, alongside elevated food price inflation, implies that a deceleration in headline inflation will remain sluggish in the near term. Projections are for headline inflation to average 6.0% in 2023 and to return to the midpoint of the target range by 2025. Risks, however, are tilted to the upside.

Headline and core inflation

Percentage change over 12 months

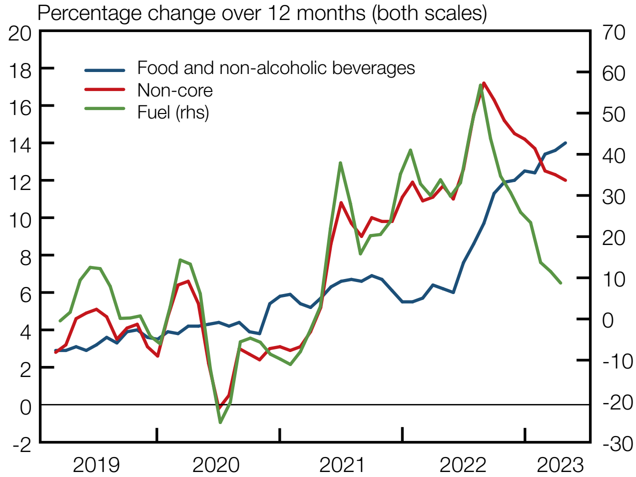


Sources: Stats SA and SARB

Headline inflation surged to 6.9% in 2022, up from 4.5% in 2021 and 3.3% the year before. Headline inflation appears to have peaked in July 2022 when it recorded 7.8% – a 13-year high. During 2022, domestic inflation was mostly driven by the acute increases in food and fuel prices, reflecting the disruptions to global markets for food and oil occasioned by the war in Ukraine. Core inflation also accelerated strongly during this period, exerting upward pressure on headline inflation. Within the core basket, core goods inflation has risen faster than services inflation. The sharp increase in core goods inflation reflected rand weakness and higher global goods inflation, while services inflation was subdued by the less-than-expected increases in housing and medical insurance inflation.

Non-core inflation

Percentage change over 12 months (both scales)

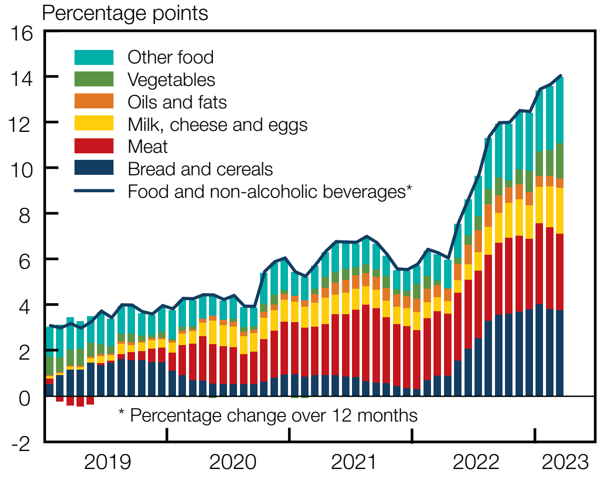


Source: Stats SA

Although inflation pressures from fuel prices have eased considerably since the October 2022 *MPR*, in line with the moderation in Brent crude oil prices, food price pressures have intensified. This reflects both domestic drivers as well as the impacts of a weaker rand exchange rate on both import and export prices. Nonetheless, headline inflation has moderated somewhat, reaching 6.9% in January 2023 before edging up slightly to 7.1% in March 2023, and is expected to return to the target range in the third quarter of this year. However, risks to inflation remain tilted to the upside, underpinned by pressures on food and core inflation.

Contributions to food inflation

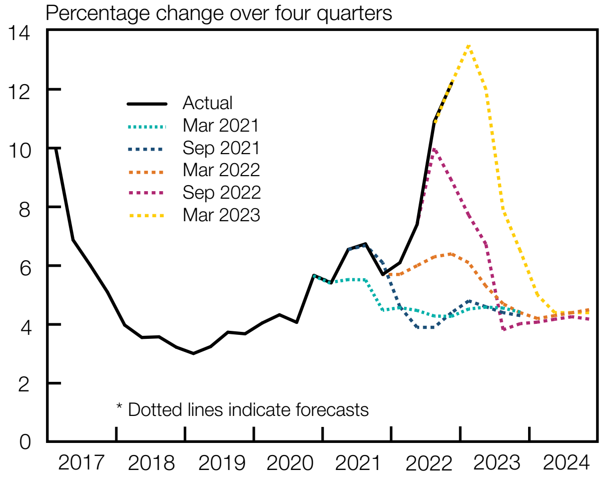
Percentage points



Sources: Stats SA and SARB

Food and NAB inflation*

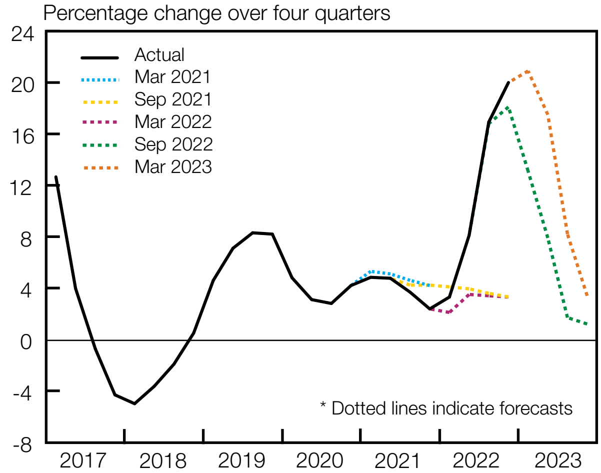
Percentage change over four quarters



Sources: Stats SA and SARB

Bread and cereals inflation*

Percentage change over four quarters



Sources: Stats SA and SARB

Food and non-alcoholic beverages inflation

Food and non-alcoholic beverages (NAB) inflation registered 9.2% in 2022, up from 6.1% in 2021. Food and NAB remained a major driver of domestic inflation throughout the past year and accounted for nearly a quarter of headline inflation in 2022. Inflation for this category is expected to remain elevated in the near term, but to return to the midpoint of the target range from 2024.

Having risen from 6.0% in April 2022 to 12.4% in December, food and NAB inflation climbed further, reaching 14.0% in March 2023. While the increases early on largely reflected sharply higher global food inflation, pressures at the global level have eased considerably. The persistence of food and NAB inflation into 2023 reflects the delayed pass-through of declining global food prices due to a weaker rand exchange rate as well as domestic drivers that have become more pronounced.[42]

Food price pressures have become more broad-based, with 90% of the food and NAB basket rising above 6.0% since November 2022. However, the bulk of the upward pressure emanates from two components, namely bread and cereals inflation and meat inflation. Inflation for bread and cereals accelerated sharply in the second half of 2022 and reached 20.5% in February 2023, before easing slightly to 20.3% in March, reflecting the delayed pass-through of moderating global agricultural commodity prices and the impact of a weaker rand exchange rate which pushed up the import and export parity prices. Bread and cereals inflation is expected to moderate in the months ahead due to base effects as well as the depletion of higher cost stocks and their replacement with stocks sourced at somewhat softer commodity prices. Risks to the near- and medium-term outlook include load-shedding along with the increased likelihood of a switch from wetter La Niña weather conditions to hotter and drier El Niño conditions later in 2023 – both of which could see a drop in domestic agricultural production.

Meanwhile, meat inflation rose for much of 2022 and continued its upward trend into 2023, recording 11.4% in February 2023, before moderating somewhat to 10.6% in March. The higher meat inflation is due to a combination of domestic and global supply-side factors. Lower slaughter activity in the beef market in 2022 due to the ongoing foot and mouth disease and high feed costs have combined to raise meat prices.[43] At the same

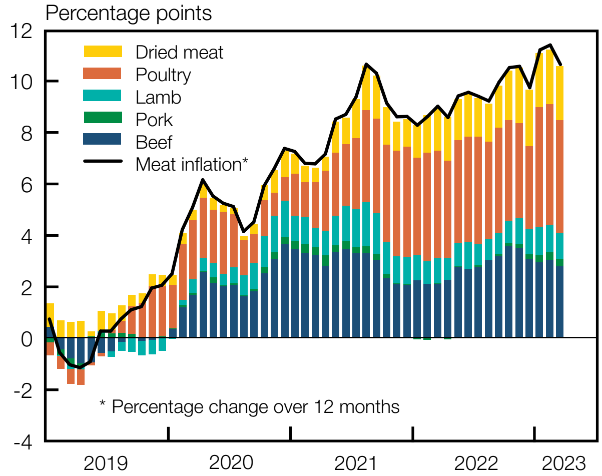
42 The United Nations (UN) Food and Agriculture Organization (FAO) food price index decreased by 20.5% in US dollar terms but only by 3.1% in rand terms in March 2023.

43 A Khoza, P Mnguni and P Mathuloe, 'The "steaks" are high: domestic factors might keep food inflation running hot'. *South African Reserve Bank Research Brief Series No. 2023/04*, Pretoria: South African Reserve Bank, March 2023.

time, poultry prices have been impacted by intensified load-shedding as well as supply constraints arising from the spread of avian flu in the northern hemisphere, negating the benefits from the suspension by government of anti-dumping duties in August 2022. The expectation, however, is for meat inflation to moderate somewhat in the near term, benefitting from lower input costs as grain commodity prices soften.

The high feed costs have also pushed prices for milk, cheese and eggs higher, while localised flooding due to heavy rains and electricity supply disruptions have affected the distribution and storage of milk products, resulting in increased spoilage. After averaging 6.7% in 2022, inflation for milk, cheese and eggs is projected to remain elevated in 2023.

Contributions to meat inflation



Sources: Stats SA and SARB

Consumer food price inflation (March 2023 forecasts)

Percentage change over four quarters, September 2022 forecasts in brackets

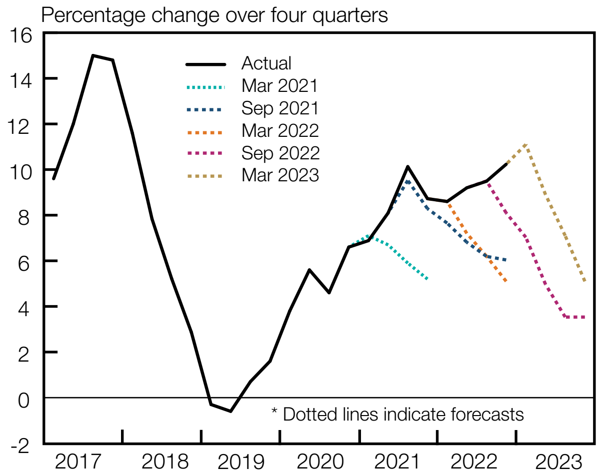
	Actual			Forecast	Actual		Forecast			
	Weight	2012–22*	2022*	2023*	2022Q3	2022Q4	2023Q1	2023Q2	2023Q3	2023Q4
Food and non-alcoholic beverages	17.14	6.4	9.2	9.9	11.0	12.3	13.5	12.0	7.9	6.5
				(5.6)	(9.9)	(8.9)	(7.7)	(6.7)		
Bread and cereals..................	3.16	6.2	12.1	12.1	16.9	20.0	20.9	17.5	8.2	3.4
				(5.7)	(16.8)	(18.1)	(13.1)	(7.9)		
Meat	5.42	6.6	9.4	8.0	9.5	10.2	11.1	8.9	7.1	5.1
				(5.1)	(9.5)	(8.1)	(7.0)	(5.0)		
Beef...................................	1.42	7.2	10.5	7.5	11.4	12.9	11.2	7.3	6.1	5.3
				(5.0)	(11.4)	(11.8)	(8.6)	(5.5)		
Poultry	2.09	7.0	10.2	9.1	10.5	9.3	11.8	9.4	8.6	6.6
				(4.9)	(10.4)	(8.7)	(7.4)	(5.1)		
Vegetables	1.27	6.0	6.8	15.6	9.4	8.3	15.9	17.4	15.3	13.6
				(5.1)	(9.0)	(5.1)	(6.9)	(7.8)		

* Annual average percentage change

Sources: Stats SA and SARB

Overall, food inflation is expected to remain elevated and to average 9.9% in 2023. While global factors kept food and NAB inflation elevated for most of 2022, the dynamics have shifted to domestic drivers. Risks to food and NAB inflation are to the upside.

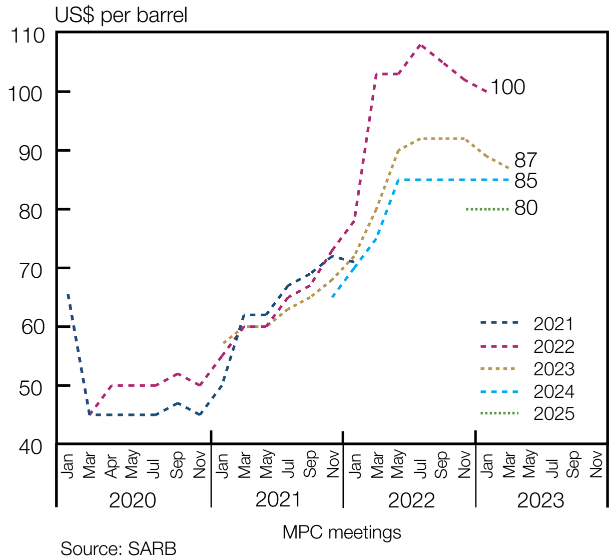
Meat inflation*



Sources: Stats SA and SARB

Evolution of oil price forecasts

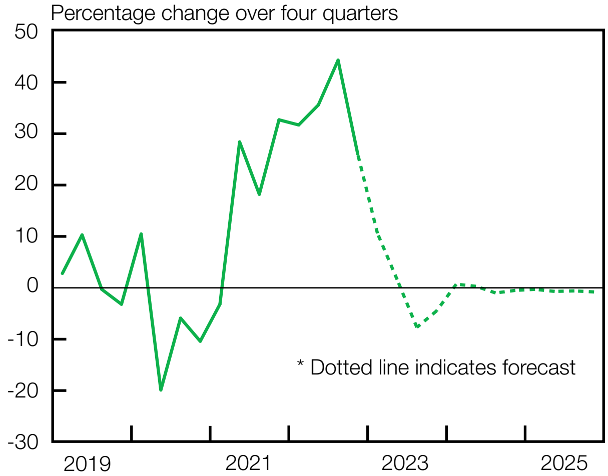
US$ per barrel



Source: SARB

Fuel inflation*

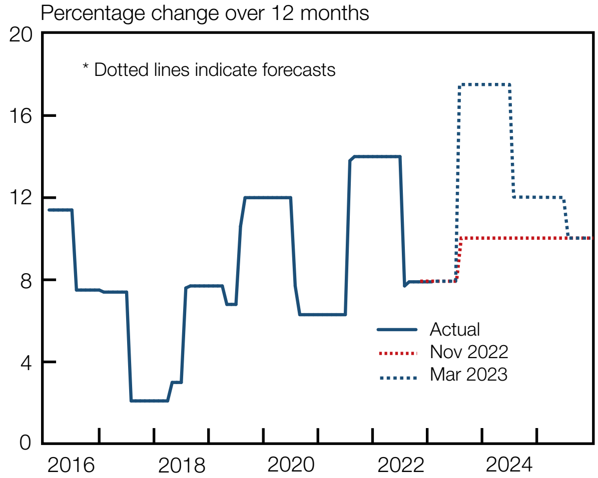
Percentage change over four quarters



Sources: Stats SA and SARB

Electricity prices*

Percentage change over 12 months



Sources: Stats SA and SARB

Oil price developments

After peaking at US$113 per barrel in the second quarter of 2022, Brent crude oil prices continued to moderate through the second half of the year, and averaged US$101 per barrel in the third quarter and US$89 per barrel in the fourth quarter. Brent crude oil prices moderated further in the first quarter of 2023, averaging lower at US$81 per barrel.[44] The SARB, however, expects oil prices to average slightly higher at US$87 per barrel this year on increased demand from China and the residual uncertainty related to the war in Ukraine.[45] Oil prices are forecast at US$85 per barrel in 2024 and US$80 per barrel in 2025. Lingering structural supply-side issues such as limited surplus capacity in the Organization of the Petroleum Exporting Countries (OPEC) and continued output restrictions by OPEC will likely keep prices elevated above pre-pandemic levels over the forecast horizon.

Administered price inflation

Consistent with past trends, in 2022 administered prices increased at rates that were much higher than the upper limit of the SARB's 3–6% target range, which pulled headline inflation higher. Administered prices rose by 14.0% in the year, mostly as a result of sharply higher fuel inflation which peaked at 56.2% in July 2022.[46] Fuel inflation has since dropped significantly as oil prices have fallen, recording 8.1% in March 2023. Fuel prices are expected to deflate over the forecast period, mainly driven by base effects.

Over the past 15 years, electricity prices have persistently inflated at rates substantially above headline inflation, and 2023 is no exception (Box 2). Electricity prices are expected to increase by 17.5%, effective for a period of 12 months from July 2023, following the National Energy Regulator of South Africa's (NERSA) announcement of a 18.49% increase in electricity prices for municipal bulk purchases in March. Electricity inflation is forecast at 14.5% in 2024 and 10.9% in 2025, but risks are to the upside, particularly given the increased use of OCGTs to minimise load-shedding. Higher inflation is also expected for education fees at 6.5% in March 2023, up from 4.4% in March 2022 and 4.1% for 2021.[47]

44 Alongside the heightened fears of a global recession, US crude oil inventories have increased for 10 consecutive weeks since mid-December 2022, pushing oil prices lower.

45 Western sanctions such as the Group of Seven (G7) price caps and European Union (EU) sanctions imposed on Russian crude oil and oil products could lead to tightness in the global oil market.

46 Part of the increase in fuel inflation reflected the markedly higher global Brent crude oil prices, a component which, technically, is not regulated, as well as a surge in international fuel refinery margins, higher transport costs and a generally weaker rand exchange rate.

47 Media reports have mentioned tertiary education fees increasing, on average, between 5.1% and 7.1% for 2023. https://www.skillsportal.co.za/content/government-urged-regulate-university-fee-increases

However, given the sharp disinflation in fuel prices (29.0% of the administered price basket), regulated price inflation is forecast to decelerate markedly to 4.1% in 2023.

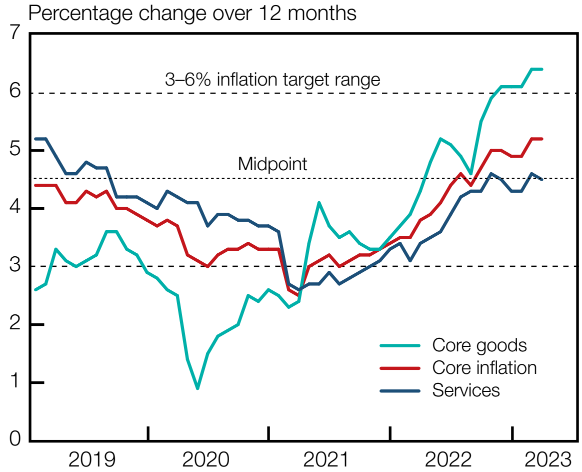
Core inflation

The dynamics for core inflation over the past year largely reflected core goods price movements. After remaining subdued (averaging below 3.0%) and well below services inflation since 2018, core goods inflation rose to 3.2% in 2021 and accelerated further to 5.0% in 2022. This momentum has persisted, with core goods inflation rising to 6.4% year on year in February 2023 and remaining elevated at this level in March 2023. Services inflation also gained momentum in 2022 but remained well below the midpoint of the target range and averaged 3.9% for the year as a whole. With upside pressures from both core goods and services prices, core inflation jumped to 4.3% in 2022, up from 3.1% in 2021. Although it averaged below the target midpoint for the year, core inflation has been above the 4.5% level since September 2022 and recorded 5.2% in both February and March 2023. The QPM projects core inflation to average 5.1% in the current year before moderating to 4.8% in 2024 and settling at the midpoint of the target range in 2025.

The surge in core goods inflation is attributed to high global goods inflation and the depreciated rand exchange rate that has raised the domestic prices for exchange rate-sensitive core goods.[48] After having bounced around the 6.0% level since April 2022, new motor vehicle inflation accelerated to 7.2% in January 2023, before moderating slightly to 7.0% in March 2023. Similarly, alcoholic beverages and tobacco inflation jumped to 6.5% in November 2022 and has oscillated around that level since then, recording a slightly moderated 6.2% in March 2023.

Components of core inflation

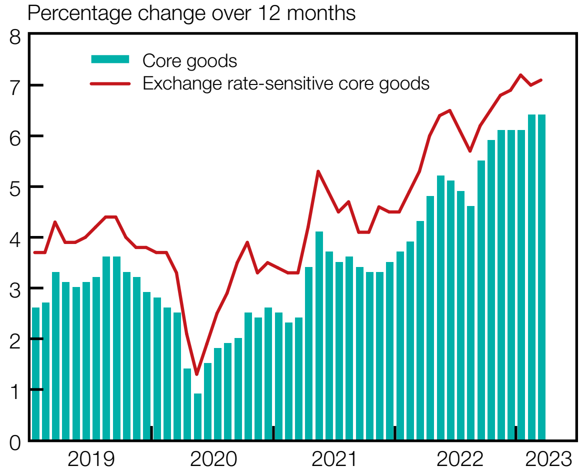
Percentage change over 12 months



Sources: Stats SA and SARB

Core goods inflation

Percentage change over 12 months



Sources: Stats SA and SARB

48 Exchange rate-sensitive core goods make up 62.5% of the core goods basket and include alcoholic beverages and tobacco (43.4%), vehicles (40.9%), household contents (12.7%) as well as spare parts and accessories (3.0%).

Headline inflation (March 2023 forecasts)

Percentage change over four quarters, September 2022 forecasts in brackets

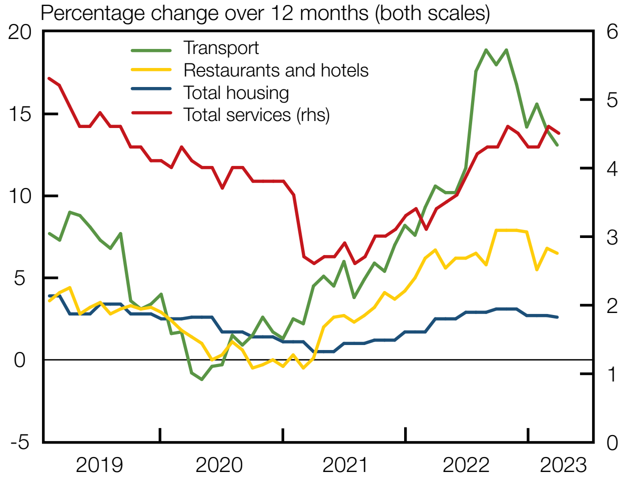
	Actual			Forecast	Actual		Forecast			
	Weight	2011–22*	2022*	2023*	2022Q3	2022Q4	2023Q1	2023Q2	2023Q3	2023Q4
Headline inflation	100.00	5.2	6.9	6.0	7.6	7.4	6.9	6.4	5.5	5.3
				(5.3)	(7.4)	(6.6)	(6.4)	(5.8)	(4.4)	(4.7)
Core inflation**	74.4	4.5	4.3	5.1	4.6	5.0	5.1	5.3	5.1	5.0
				(5.4)	(4.5)	(5.0)	(5.4)	(5.5)	(5.3)	(5.2)
Rentals***	16.49	3.8	2.6	3.3	3.0	3.0	2.9	3.2	3.4	3.8
				(3.8)	(3.0)	(3.2)	(3.5)	(3.8)	(3.9)	(3.9)
Insurance	9.89	6.8	4.0	6.5	3.6	4.6	5.9	6.8	6.8	6.7
				(5.8)	(3.9)	(5.4)	(6.6)	(6.4)	(5.8)	(4.3)
Education	2.62	7.1	4.3	6.2	4.4	4.4	5.1	6.5	6.5	6.5
				(5.1)	(4.4)	(4.4)	(4.7)	(5.2)	(5.2)	(5.2)
Vehicles	5.91	3.7	6.0	6.8	6.0	6.4	7.1	7.1	6.8	6.2
				(4.9)	(6.0)	(5.6)	(5.5)	(4.4)	(4.3)	(3.9)
Fuel	4.82	9.7	34.3	0.0	44.1	26.2	10.6	1.6	-7.7	-4.5
				(1.7)	(43.8)	(24.0)	(14.2)	(3.7)	(-7.0)	(-4.2)
Electricity	3.63	9.6	10.7	12.7	7.7	7.8	7.9	7.9	17.5	17.5
				(8.9)	(7.7)	(7.7)	(7.7)	(7.7)	(10.0)	(10.0)

* Annual average percentage change
** CPI excluding food, non-alcoholic beverages, fuel and electricity
*** Combines actual rentals and owners' equivalent rent

Sources: Stats SA and SARB

Drivers of services inflation

Percentage change over 12 months (both scales)



Source: Stats SA

Services inflation picked up pace in 2022, spurred by the rotation of demand from goods back to services, as well as the spillover of higher fuel and food costs to transportation and to hotels and restaurants. Subdued housing and medical insurance inflation helped to slow the rise in services inflation in 2022.[49] The SARB expects housing inflation to rise further as the demand for rentals increases as a result of reduced mortgage affordability. With respect to medical insurance, medical aid schemes again applied more muted price increases in 2022. Accordingly, the inflation rate for this category averaged 4.3% in 2022 – a rate of increase last seen in 2005. As the demand for health services returns to normal levels following the relaxation of the COVID-19-induced curtailments, medical insurance inflation is expected to edge closer to its longer-term average of around 9.0%. Medical insurance inflation is projected to accelerate to 7.0% in 2023, in line with the announced price increases that range from 5.9% to 9.5% for

49 Housing inflation averaged 2.7% in 2022. Average rental escalations have remained below pre-pandemic levels (2.8% in 2022 versus 3.7% in 2018 and 3.0% in 2019).

2023. With somewhat higher housing and medical insurance inflation, services inflation is expected to rise to 4.9% in 2023, before slowing and settling at 4.5% in 2025.

Medium-term inflation outlook

The QPM uses four fundamental drivers to explain the evolution of core (headline) inflation over the medium term. These are (i) inflation expectations, (ii) the real unit labour cost (ULC) gap, (iii) the real exchange rate gap, and (iv) the output gap. Of these, inflation expectations, the real ULC gap and the real exchange rate gap are expected to exert upward pressure on inflation over the forecast period, while the output gap bounces around its neutral level.

Since the October 2022 *MPR*, inflation expectations have drifted higher. Of concern is that the two-years-ahead inflation expectations – the SARB's preferred indicator for medium-term inflation expectations – have diverged from the SARB's official inflation forecast over the same horizon. Specifically, the two-years-ahead inflation expectations increased from 5.3% in the third quarter of 2022 to 5.6% in the fourth quarter, and remained elevated at 5.5% in the first quarter of 2023. Meanwhile, the SARB projects inflation to be around the midpoint of the target range in two years' time. There are signs that expectations, especially for the business sector, are becoming somewhat unanchored (Box 8).

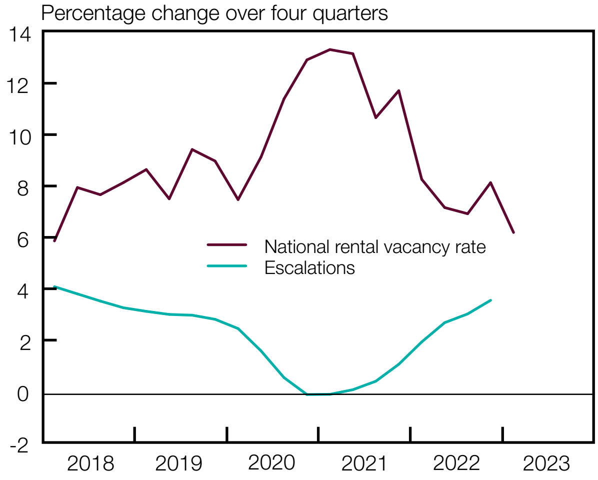
Over the medium term, growth in real salaries is expected to increase to 0.3% in 2023 and 1.3% in 2024, up from -1.6% in 2022. At the same time, productivity growth is expected to slow from 1.7% in 2022 to 0.3% and 0.2% in 2023 and 2024 respectively.[50] Higher real wage growth combined with lower productivity growth over the forecast period will raise the real ULC gap and add to inflationary pressures.

A depreciated rand exchange rate raises both the price of imported goods and the real marginal cost of production, and this pushes inflation higher. The real exchange rate gap denotes the extent to which the real exchange rate deviates from its estimated equilibrium level, and thus exerts pass-through pressures. The starting point for the rand/US dollar exchange rate at the March 2023 MPC meeting was R17.82. The rand/US dollar exchange rate is expected to depreciate further over the medium term, and to average R17.96 in 2023 and R17.67 in 2024. Given this starting point, the model estimates that the rand, in real terms, is 10.5% undervalued relative to its equilibrium. This real exchange rate gap is not expected to close during the current forecast window given the elevated risk premium that is now projected to remain above

50 Nominal salary increases are expected to average 6.4%, 6.2% and 5.1% over the medium term (i.e. for 2023, 2024 and 2025 respectively).

National rental vacancy versus escalations

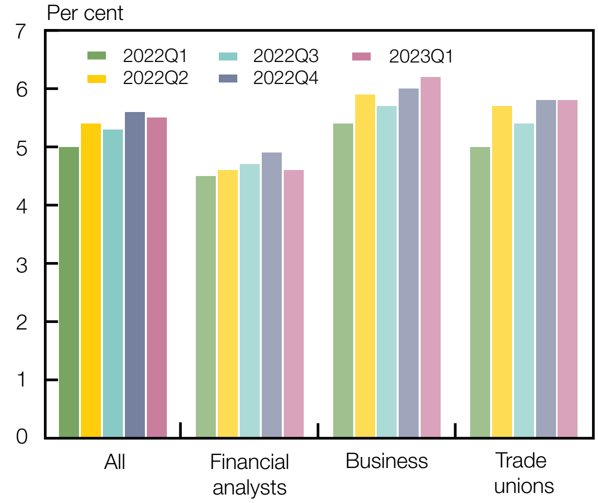
Percentage change over four quarters



Source: TPN Credit Bureau

Two-years-ahead inflation expectations

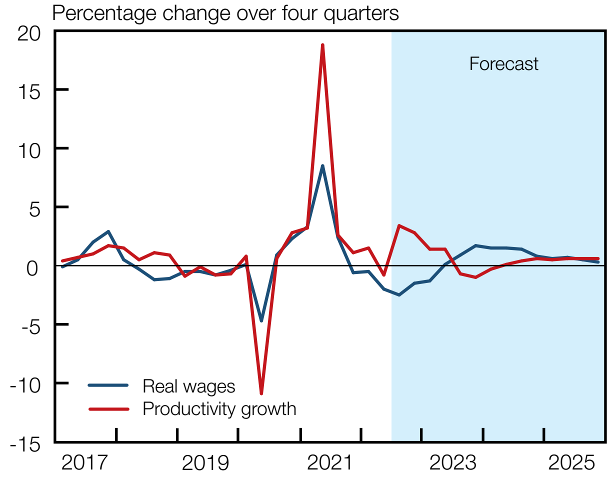
Per cent



Source: BER

Real wages and productivity growth

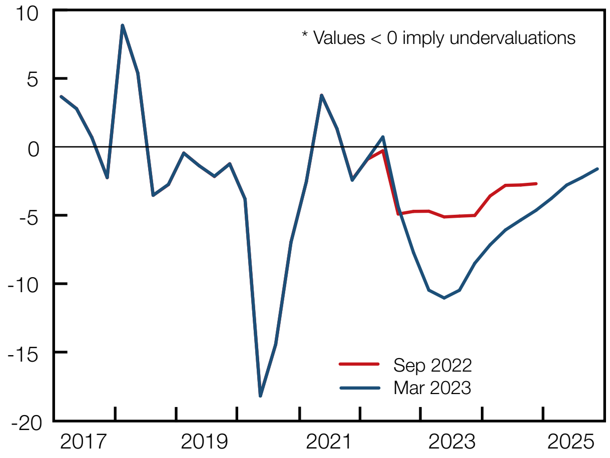
Percentage change over four quarters



Source: SARB

Real effective exchange rate gap*

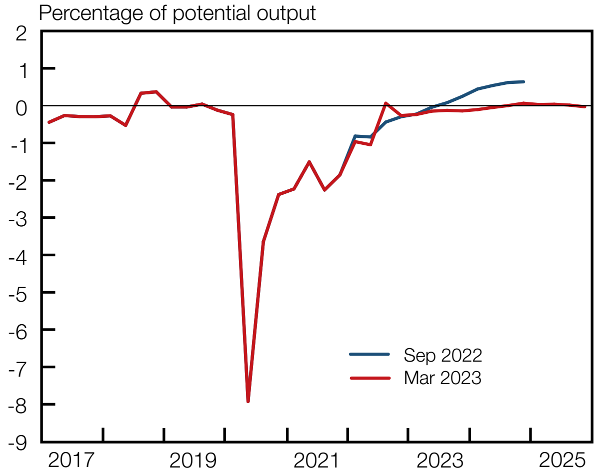
Per cent



Source: SARB

Output gap estimates

Percentage of potential output



Source: SARB

its equilibrium throughout the forecast horizon. Consequently, the exchange rate remains inflationary throughout the forecast horizon, keeping core inflation sticky.

The output gap has effectively closed, having narrowed from -2.0% in 2021 to -0.6% in 2022. It is forecast to remain closed over the medium term, implying that demand and supply conditions will be broadly in balance, which suggests neither upward nor downward inflationary pressures. However, demand–supply imbalances could emerge from load-shedding-induced supply bottlenecks.

Conclusion

While fuel and food inflation pushed headline inflation sharply higher for much of 2022, declining fuel inflation has underpinned its slowdown in recent months. Food inflation remains elevated, primarily reflecting domestic pressures. Meanwhile, core inflation pressures have broadened and are expected to intensify further before beginning to ease. Rising core inflation is expected to slow the pace of disinflation in headline inflation in the near term. Nonetheless, disinflation is expected to continue. Headline inflation is forecast to return to the 3–6% target range in the third quarter of 2023, but to the midpoint of the target range only in 2025.

Box 7 Why the large 2022 inflation forecast errors?

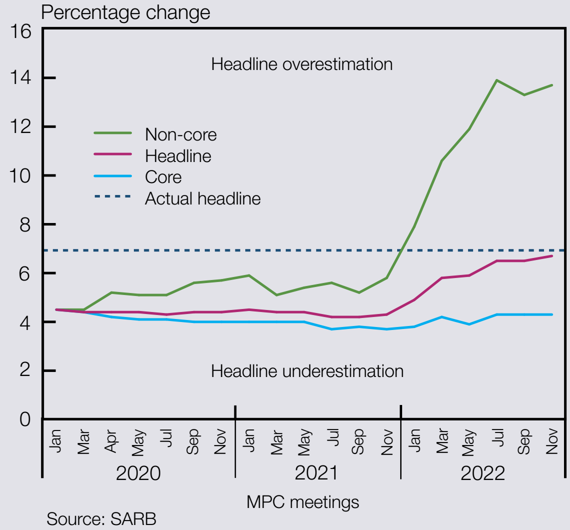
This box reviews the Monetary Policy Committee (MPC) inflation forecast errors for 2022. Inflation forecasts serve as important guideposts to policymakers when deciding on the interest rate path and help the MPC to evaluate inflationary pressures over the medium term. To be considered useful, forecasts must be accurate and unbiased. The South African Reserve Bank (SARB) conducts routine inflation forecast error analysis to assess its performance and to facilitate continuous refinements in its model assumptions, model structure and imposed judgements.

The first inflation forecast for 2022 was published in January 2020, and projected headline inflation at 4.5%. This forecast was consistent with the design of the Quarterly Projection Model (QPM) which endogenously uses the policy rate to smooth business cycle fluctuations to ensure inflation settles at the midpoint of the target range over the medium term. The realised inflation for 2022, however, was substantially higher, at 6.9%. A large part of the upside surprise was due to major unforeseen shocks at the time of the forecast, namely the COVID-19 pandemic restrictions and the Russia–Ukraine war. The supply chain bottlenecks associated with the COVID-19 lockdowns, alongside Russia's war in Ukraine, pushed food and fuel inflation sharply higher. Forecast accuracy improved markedly once Russia's invasion of Ukraine became known, but the forecast still understated overall inflation. This was unsurprising given the significant uncertainties regarding the duration and impact of the war as well as the extent of supply-side disruptions, particularly for key commodities.[1]

Although the QPM is theoretically better suited to forecast core inflation than headline inflation,[2] the uncertainties related to second-round effects following the COVID-19 pandemic resulted in core inflation forecasts also being biased to the downside. A closer inspection reveals that core goods inflation projections were also understated, while services inflation forecasts were overestimated in most MPC meetings. The upside surprise in core goods inflation was mainly on account of higher global goods inflation, a weaker rand exchange rate, and sharply higher transport costs. By contrast, services inflation was overstated as medical schemes and educational institutions continued with more muted price increases against the SARB's expectation of an early normalisation in these prices. From the QPM medium-term inflation drivers' perspective, the somewhat subdued real unit labour cost (ULC) gap helped to slow the rise in services inflation.

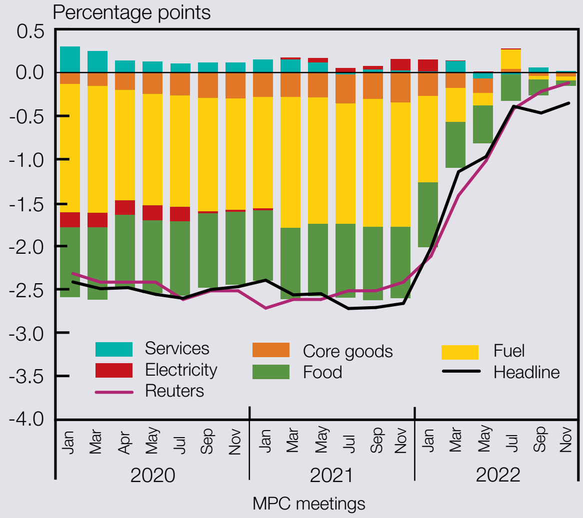
In summary, the large forecast errors for 2022 headline inflation were mainly due to the unexpected major supply shocks that significantly lifted non-core inflation. Core inflation forecasts fared somewhat better, with mean absolute forecast errors of 0.1 and 0.5 percentage points for the current year and one-year-ahead forecasts respectively, compared with the 0.6 and 2.5 percentage points for headline inflation forecasts for the current year and one-year-ahead respectively. The SARB forecasts that were generated after Russia's invasion of Ukraine were marginally better than the Reuters median forecasts, with a root mean square error of 0.7 compared to the Reuters median of 0.8.

Evolution of key inflation forecasts for 2022



Source: SARB

Inflation forecast errors



Source: SARB

1 Initially, expectations were for the war to be short-lived. As a result, at the March 2022 MPC meeting, fuel inflation in 2022 was projected to average 26.1%, but the actual outcome was 34.3%. Similarly, food inflation was forecast to average 6.1% in 2022, lower than the actual outcome of 9.2%.

2 Over the medium term, core inflation in the QPM is explained by inflation expectations, the real exchange rate, the real unit labour cost gap and the output gap. These are typically slow-moving variables. By contrast, the exogenous factors of food and energy inflation tend to be quite volatile, making it relatively more challenging to forecast headline inflation.

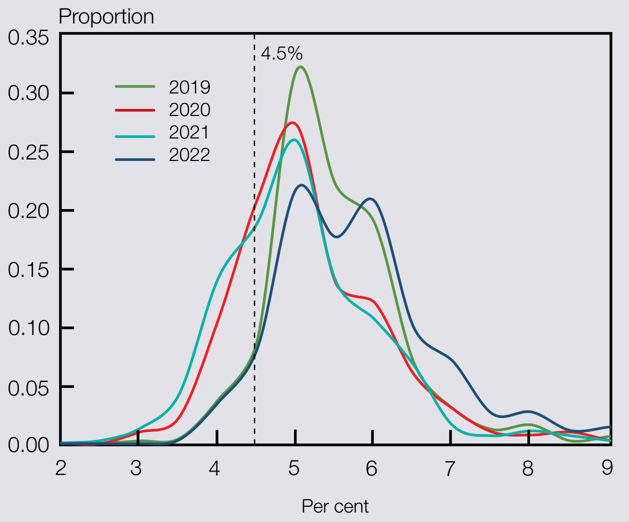
Box 8 South Africa's business inflation expectations anchor (mean) has drifted

Since 2017, the South African Reserve Bank (SARB) has communicated a preference for inflation, and inflation expectations, to stabilise closer to the midpoint of the 3–6% inflation target range. Inflation expectations, which were anchored around the upper limit of the target range for most of the 2010s, appear to have responded positively to the communicated SARB preference, having drifted lower and closer to the midpoint by 2019 and remaining stable through 2021. Recently, however, inflation expectations, particularly for business and unions, have shifted markedly higher. The two-years-ahead business expectations jumped to 6.2% in the first quarter of 2023, from 6.0% in the previous quarter. This marks a considerable divergence with the SARB's medium-term inflation forecasts, which project inflation in two years' time at 4.6%, and raises the question whether inflation expectations are becoming unanchored. This box uses disaggregated business inflation expectations survey data[1] to assess the stability of the business inflation expectations anchor and to gauge the prevalence of second-round effects.

Recent global literature[2] shows that increased dispersion (or 'disagreement') of inflation expectations among respondents and changes in the skewness of the distributions often precede sustained deviations from a central point or anchor (i.e. de-anchoring of inflation expectations). South African data reveal that, while the means of the distributions of business inflation expectations have shifted in line with actual inflation outcomes, the dispersion of the two-years-ahead expectations distribution has increased since 2019.[3] In addition, the 2022 distribution is bimodal, with a fatter right tail, indicating that a relatively larger share of business respondents expect inflation to be above 6.0% in two years' time. This evidence suggests that the expectations of parts of the business population may have become unanchored.[4]

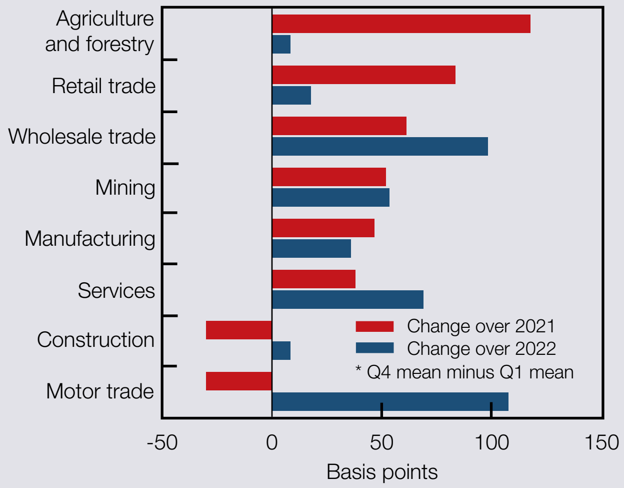
In addition to informing on 'anchoredness', sectoral business inflation expectations can provide insights about the evolution of inflationary pressures, including whether they

Distribution of two-years-ahead business inflation expectations



Sources: BER and SARB

Changes in two-years-ahead inflation expectations*



Sources: BER and SARB

1 The Bureau for Economic Research's (BER) Inflation Expectations Survey covers businesses, financial analysts, trade union representatives and households. South Africa is one of a few countries worldwide with a long-running and detailed business sector inflation expectations dataset.

2 See R Reis, 'Losing the inflation anchor', *Brookings Papers on Economic Activity, September 2021*; R Reis, 'The burst of high inflation in 2021–22: how and why did we get here?', *Bank for International Settlements Working Papers No. 1060*, December 2022.

3 The standard deviation of each distribution is a measure of the spread (the higher the number, the higher the spread): two years ahead: 0.97, 1.17, 1.10 and 1.56 for 2019, 2020, 2021 and 2022 respectively.

4 The drifting anchor is also a feature of the 'aggregate' inflation expectations. One possible explanation for the surge in business inflation expectations is the sharply higher factory-gate prices.

are becoming more generalised. Intuitively, sectors experiencing an adverse 'direct' inflationary shock are more likely to revise their inflation expectations higher immediately, while the sectors somewhat removed from the initial shock only adjust their expectations in subsequent periods as inflationary pressures broaden. South African data seem to affirm this thesis. The agricultural and retail sectors raised their expectations considerably in 2021, reflecting their proximity to the initial supply shocks.[5] By contrast, sectors less likely to have been directly impacted by the supply shocks, such as the services sector, saw smaller changes to expectations in 2021 but much larger adjustments in 2022, suggesting the presence of spillover and second-round effects.[6]

Drifting inflation expectations and broadening inflationary pressures largely explain the SARB's monetary policy tightening over the past year. Under conditions of high credibility, monetary policy can ensure that expectations remain relatively anchored and help contain the degree to which second-round effects take hold.

5 Such supply shocks included rising fertiliser prices on higher energy prices and geopolitical tensions as well as supply chain constraints affecting retailers.

6 W Simbanegavi and A Palazzi, 'Mind second-round effects! The effects of food and energy inflation on core inflation in South Africa'. *SARB Economic Note No. EN/2022/09*, October 2022.

Conclusion

Over the past three years the global economy has endured multiple major shocks, particularly the COVID-19 pandemic and Russia's war in Ukraine. Although the COVID-19 shock has largely faded, it has, together with the war in Ukraine, given rise to several aftershocks – including strained global supply chains and tight food, energy and labour markets – which have resulted in sharply higher and persistent global inflation. Central banks globally have responded with more aggressive policy rate hikes in their fight to overcome inflation, and this has contributed to the sharp slowdown in global growth.

Global inflation likely peaked in the third quarter of 2022 and has moderated somewhat going into 2023.[51] Core inflation, however, remains elevated in many jurisdictions, reflecting strong demand and firm labour markets, and possible second-round effects from the high food and fuel inflation in 2022. The resilience of demand, alongside tight labour markets, suggests that interest rates may need to rise further to bring global inflation down sustainably.

The SARB estimates trading-partner growth to have declined to 3.5% in 2022, from 7.0% in 2021, and expects it to decline further to 2.0% in 2023 as credit conditions tighten amid banking stresses in the US and eurozone. Growth is expected to improve slightly over the outer period, however, in part reflecting better growth outcomes in China following the country's relaxation of its zero-COVID policy. Meanwhile, high global interest rates have brought debt sustainability considerations to the fore, particularly for developing economies with weak macroeconomic fundamentals. The strong US dollar has added to inflationary pressures worldwide.

Over the past year, South Africa also experienced sharply rising inflation and slowing growth. After peaking at 7.8% in July 2022, headline inflation eased to 6.9% in January 2023, in line with the moderation in global oil prices, before edging slightly higher to 7.1% in March 2023. Inflation is expected to return to the 3–6% target band in the third quarter of 2023, and to settle at 4.5% in 2025. Meanwhile, growth slowed sharply to 2.0% in 2022, from 4.9% in 2021, and is projected to fall steeply to just 0.2% in 2023. Although the domestic inflation and growth trajectories have paralleled global trends, the domestic outcomes have primarily been shaped by idiosyncratic domestic factors.

51 See the IMF's April 2023 *WEO*.

The domestic economy was subjected to multiple shocks in the past year, including the floods in KZN in April 2022, intensified load-shedding and a marked deterioration in freight rail and port logistics. These shocks mostly explain the wild swings in quarterly output over the past year. Load-shedding has diminished the economy's capacity to produce, resulting in GDP growth (and potential growth) being revised sharply lower to 0.2% (-0.2%) in 2023, from 1.0% (0.8%) at the time of the October 2022 *MPR*. Both GDP and potential growth have been marked down substantially over the medium term.

The persistent rise in domestic food inflation, despite the moderation in global food prices, reflects domestic factors such as the depreciated rand exchange rate and foot and mouth disease. Load-shedding has also added to inflation and remains a risk factor. Core inflation has risen strongly over the past year and has shown substantial momentum going into 2023. Core inflation pressures have emanated mostly from core goods prices. Although services inflation has remained relatively subdued and averaged 3.9% in 2022, risks are to the upside, given the tightening rental housing market, rising medical insurance inflation and wage inflation risks. Inflation expectations have risen markedly, reflecting the repeated upward surprises in headline inflation and possible second-round effects.

Amid persistent inflation pressures, the MPC raised the repo rate by a cumulative 150 basis points over the review period, bringing the nominal repo rate to 7.75% in March 2023. The real repo rate has also risen, albeit at a slower pace due to upward inflation surprises, but remains below its estimated neutral rate of 2.5%. The aim of policy is to anchor inflation expectations more firmly around the midpoint of the target band and to increase the confidence of attaining the inflation target sustainably over time. Guiding inflation back towards the midpoint of the target band within a reasonable time frame can reduce the economic costs of high inflation.

The efficacy of monetary policy can be enhanced by structural reforms which improve its transmission into the broader economy. Ensuring an adequate supply of energy, improving transport logistics, easing product and labour market regulations, lowering the influence of administered prices on headline inflation, and reducing the fiscal risk should support investment and growth while moderating domestic inflationary pressures. Such a constellation presents the prospect of achieving permanently lower interest rates in the future.

Statement of the Monetary Policy Committee

24 November 2022

Issued by Lesetja Kganyago, Governor of the South African Reserve Bank, at a meeting of the Monetary Policy Committee in Pretoria

High inflation and weak economic growth continue to shape global conditions alongside monetary and fiscal policy responses. Russia's war in Ukraine drags on, impairing trade and raising prices of a wide range of energy, food and other commodities. Growth in the United States is set to weaken, and remains low in China. Although energy constraints have eased somewhat in the euro area, recession risk is high. Additionally, a number of developing economies face debt distress, exacerbated by tighter global financial conditions.[1]

Policy normalisation has accelerated and monetary conditions are likely to tighten further to ensure inflation declines from its current high rates. With long-term borrowing costs high and fiscal positions extended, there is less policy space available for major counter-cyclical efforts to increase economic growth. In several economies, including South Africa, ongoing consolidation of fiscal positions will support disinflation. Asset values in major markets have also declined sharply, and investor appetite for riskier assets remains weak.

Taking these and other factors into account, the South African Reserve Bank's (SARB) forecast for global growth in 2023 is revised lower to 1.9% (from 2.0%).[2] The International Monetary Fund's (IMF) October's forecast for global growth is 3.2% in 2022 and 2.7% in 2023.

We now expect the South African economy to grow by 1.8% (from 1.9%) this year. Despite considerable volatility in monthly indicators, GDP growth of 0.4% is still expected in the third quarter. Fourth quarter growth is forecast to be only 0.1%, largely due to record load-shedding.

Over the medium term, and despite stronger private investment, the forecast takes into account lower commodity prices, higher inflation and interest rates. On the supply side, the forecast incorporates an assumption of increased load-shedding, which could deduct 0.6 percentage points in 2023.

As a result of these factors, the economy is forecast to expand by 1.1% in 2023 (from 1.4%) and by 1.4% in 2024 (from 1.7%), below previous projections.[3] GDP growth of 1.5% is forecast for 2025.

With a low rate of potential, our current growth forecast leaves the output gap slightly larger in the near term, before closing in the third quarter of 2023.[4]

After revisions, the risks to the medium-term domestic growth outlook are assessed to the downside.

Commodity price movements in recent months have been mixed, with oil prices relatively stable and export prices lower. Compared to September, our oil price forecast is broadly unchanged, averaging US$102 per barrel for 2022 and US$92 per barrel in 2023.[5] South Africa's export commodity price basket has come down from earlier peaks.[6]

As a result of weaker export developments, the current account balance is expected to be -0.2% of GDP this year, falling to -1.5% in 2023 and -1.9% in 2024.[7] The current account balance in 2025 is expected to be -2.1% of GDP.

Although near-term fiscal risk has eased on the back of better tax revenue, a weaker commodity price trajectory than currently expected could increase risk. Financing conditions for rand-denominated bonds have been generally tight and more volatile in recent months. Ten-year bond yields currently trade at about 10.7%.

Policy normalisation in major economies and the slower growth in China have contributed to the depreciation of many emerging market currencies, including the rand. The implied starting point for the rand forecast is R17.76 (2022Q4) to the US dollar, compared with R16.91 (2022Q3) at the time of the previous meeting.

Globally, economic growth is slowing and prices have fallen for some goods and transport services. However, price pressures continue to spread from goods to services and

1 According to the IMF's October 2022 *Global Financial Stability Report*, eight low-income countries are in debt distress and 30 are at high risk of distress (out of 69 countries considered low-income countries—among which there are some frontier markets).

2 Global growth in the QPM model is a trade-weighted average of South Africa's trading partners. Global growth in 2024 is forecast unchanged at 2.4%, before rising to 3.1% in 2025.

3 The growth forecast includes expected changes in the policy rate as given by the QPM.

4 Potential growth for 2022 is revised lower at 0.4%, 0.5% in 2023 and unchanged at 1.1% in 2024. For 2025, potential growth is forecast at 1.5%.

5 The Brent crude oil assumptions in September were US$105, US$92 and US$85 for 2022, 2023 and 2024 respectively. The current forecast is for oil prices to remain unchanged at US$85 for 2024 and is US$80 for 2025.

6 Commodity export prices are now forecast to rise by 1.2% for the year as a whole (down from 2.3%), before falling in 2023 by about 18.1% and by a further 11.0% in 2024.

7 In September, a current account balance for 2022 was expected to be 0.2% of GDP, -1.0% in 2023 and -1.6% in 2024.

wages.[8] Our estimate for inflation in the G3 is revised higher to 7.3% in 2022 (from 7.0%), and 4.1% in 2023 (from 3.5%). The forecast for 2024 is unchanged at 2.1%.[9]

Even though South Africa's fuel price inflation for the year remains exceedingly high, some easing of global oil prices has led to forecast revisions in the last few MPC meetings. Fuel price inflation for this year is now forecast at 33.3% (down from 33.5%), falling to 0.8% in 2023 (down from 1.1%). Local electricity price inflation is slightly higher at 10.7% in 2022, 9.0% in 2023, and is unchanged at 10% in 2024.

Global food price inflation has declined. However, local food price inflation is revised up due in part to the weaker exchange rate and is now expected to be 8.8% in 2022 (up from 8.1%). Food price inflation is revised higher to 6.2% (from 5.5%) in 2023 and unchanged at 4.2% in 2024.

The SARB's forecast of headline inflation for this year and next is slightly higher at 6.7% and 5.4%, respectively. In 2024 and 2025, we expect headline inflation of 4.5%.

Our forecast for core inflation is unchanged at 4.3% in 2022, and is higher than previously expected at 5.5% (from 5.4%) in 2023. The forecast for 2024 is unchanged at 4.8%, and 4.5% is projected for 2025. Services inflation is broadly unchanged, and continues to be driven by expected spillover effects and steadily rising unit labour costs. Core goods price inflation is forecast somewhat higher at 5.7% for next year.[10] The forecast for average salary growth is broadly unchanged.[11]

Risks to the inflation outlook are assessed to the upside. Despite easing of global producer price and food inflation, Russia's war in Ukraine continues, with adverse effects on global prices generally. The oil market is expected to remain tight, with upside risk to prices. Electricity and other administered prices continue to present clear medium-term risks. Given low public sector wage assumptions, and high petrol and food price inflation, considerable risk still attaches to the forecast for average salaries.

Higher than expected inflation has pushed major central banks to accelerate the normalisation of policy rates. This has tightened global financial conditions and raised the risk profiles of economies needing foreign capital. G3 interest rate levels for the forecast period are now expected to be significantly higher than in September.[12] On balance, and with few exceptions, capital flow and market volatility will be elevated for emerging market assets and currencies. While the rand has recovered somewhat, it has depreciated by about 7% year to date against the USD.

Inflation expectations increased strongly over this year and remain high. Expectations of future inflation surveyed in the third quarter of this year had earlier increased to 6.5% for 2022 and 5.9% for 2023.[13] Expectations for inflation in 2022 based on market surveys have increased to 6.8%.[14] By contrast, long-term inflation expectations derived from the five-year break-even rates in the bond market have moderated to 5.27%.[15]

In the second quarter of this year, headline inflation breached the upper end of the target range, and is forecast to remain above it until the second quarter of 2023. Headline inflation is only expected to sustainably revert to the midpoint of the target range by around the second quarter of 2024. The forecast takes into account the policy rate trajectory indicated by the SARB's Quarterly Projection Model (QPM). As usual, the repo rate projection from the QPM remains a broad policy guide, changing from meeting to meeting in response to new data and risks.

Against this backdrop, the MPC decided to increase the repurchase rate by 75 basis points to 7% per year, with effect from 25 November 2022. Three members of the Committee preferred the announced increase. Two members preferred a 50 basis point increase.

The level of the repurchase rate is now above the level prevailing before the start of the pandemic. The revised repurchase rate remains supportive of credit demand in the near term, while raising rates to levels more consistent with

8 Inflation in agricultural commodities decelerated sharply in 2022Q3 with the UN FAO food price index increasing by 8.7% (compared to a 25.5% increase in 2022Q2), helped lower by a sharp decline in cereals and vegetable oils. Consequently, the assumption used for the forecast for USD-denominated world food prices in 2022 was revised lower from 17.8% to 14.7%.

9 The G3 comprises the United States, the eurozone and Japan. The latest CPI inflation in the respective components sits at 7.7%, 10.6% and 3.7%. We expect G3 inflation of 2.0% in 2025.

10 Core goods refers to total CPI goods excluding food and NAB, fuel and energy, whereas services include all surveyed services within the CPI basket. Core goods inflation is expected to be 4.8% in 2022, 5.7% in 2023, 4.9% in 2024, and 4.5% in 2025.

11 Average salaries were expected to be 5.1%, 6.7% and 5.6% for 2022, 2023 and 2024 at the time of the September meeting. For the November meeting, the respective figure are 5.3%, 6.7%, 5.4%, and 4.8% for 2025.

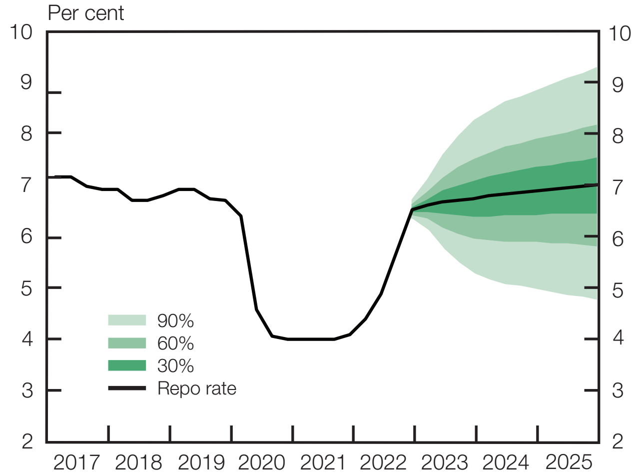
12 The weighted average of G3 policy rates is forecast to be 3.6% in 2023 (up from 3.1%), 3.4% in 2024, and 2.4% in 2025.

13 For 2024, the BER survey of inflation expectations in Q3 moderated to 5.3% (from 5.4%). The Q3 survey had 2022 expected inflation at 6.5% and 5.9% for 2023.

14 At the median, market analysts (Reuters Econometer) in November expect inflation to be higher at 6.8% (from 6.7% in September) in 2022, 5.4% in 2023 and 4.6% in 2024.

15 Market-based rates are calculated from the break-even inflation rate, which is the yield differential between conventional and inflation-linked bonds. These now sit at about 5.27% for the 5-year and 6.14% for the 10-year break-even, while 15-year break-even inflation sits at 6.43%.

Repurchase rate forecast (November 2022)



The uncertainty bands for the repo rate are based on historical forecasting experience and stochastic simulations in the QPM. The bands are symmetric and do not reflect any assessment of upside or downside risk.

Source: SARB

the current view of inflation and risks to it. The aim of policy is to anchor inflation expectations more firmly around the mid-point of the target band and to increase confidence of attaining the inflation target sustainably over time.[16]

Guiding inflation back towards the midpoint of the target band can reduce the economic costs of high inflation and enable lower interest rates in the future. Achieving a prudent public debt level, increasing the supply of energy, moderating administered price inflation and keeping wage growth in line with productivity gains would enhance the effectiveness of monetary policy and its transmission to the broader economy.

Economic and financial conditions are expected to remain more volatile for the foreseeable future. In this uncertain environment, monetary policy decisions will continue to be data dependent and sensitive to the balance of risks to the outlook. The MPC will seek to look through temporary price shocks and focus on potential second-round effects and the risks of de-anchoring inflation expectations. The SARB will continue to closely monitor funding markets for stress.

16 The forecasted trajectory for the repurchase (repo) rate implies a rise in the inflation-adjusted repo rate from -1.5% in 2021 to -1.0% in 2022, 1.7% for 2023, and 2.3% in 2024. The real repo level for 2025 is expected to be 2.4%. The real repo rate calculation here is based on the one-quarter-ahead inflation forecast and refers to annual average rates.

Summary of assumptions: Monetary Policy Committee meeting on 24 November 2022*

1. Foreign sector assumptions

	Actual		Forecast			
	2020	2021	2022	2023	2024	2025
1. Real GDP growth in South Africa's major trading-partner countries	-2.5%	6.9%	3.3%	1.9%	2.4%	3.1%
	(-2.6%)	(6.5%)	(3.0%)	(2.0%)	(2.4%)	
2. Output gap in South Africa's major trading-partner countries (ratio to potential GDP)	-2.7%	-0.9%	-0.2%	-0.9%	-0.7%	0.0%
	(-1.6%)	(-0.6%)	(-0.2%)	(-0.5%)	(-0.7%)	
3. Change in international commodity prices in US$ (excluding oil)	25.5%	45.6%	1.2%	-18.1%	-11.1%	-1.5%
	(25.5%)	(45.6%)	(2.3%)	(-17.6%)	(-10.0%)	
4. Brent crude (US$/barrel)	41.8	70.7	102.0	92.0	85.0	80.0
	(41.8)	(70.7)	(105.0)	(92.0)	(85.0)	
5. Change in world food prices (US$)	3.2%	28.1%	14.7%	-7.7%	0.2%	3.2%
	(3.2%)	(28.1%)	(17.8%)	(-5.3%)	(-1.0%)	
6. Change in international consumer prices	0.7%	3.3%	7.3%	4.1%	2.1%	2.0%
	(0.7%)	(3.3%)	(7.0%)	(3.5%)	(2.1%)	
7. International policy interest rate	0.2%	0.1%	1.1%	3.6%	3.4%	2.4%
	(0.2%)	(0.1%)	(1.0%)	(3.1%)	(3.2%)	

2. Domestic sector assumptions

	Actual		Forecast			
	2020	2021	2022	2023	2024	2025
1. Change in electricity price	9.1%	10.2%	10.7%	9.0%	10.0%	10.0%
	(9.1%)	(10.2%)	(10.6%)	(8.9%)	(10.0%)	
2. Change in fuel taxes and levies	5.7%	6.1%	2.7%	5.3%	1.2%	4.5%
	(5.7%)	(6.1%)	(2.8%)	(9.3%)	(4.4%)	
3. Potential growth	-3.1%	3.4%	0.4%	0.5%	1.1%	1.5%
	(-3.1%)	(3.4%)	(0.5%)	(0.8%)	(1.1%)	
4. Inflation target midpoint	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
	(4.5%)	(4.5%)	(4.5%)	(4.5%)	(4.5%)	
5. Neutral real interest rate	2.0%	2.1%	2.3%	2.3%	2.4%	2.4%
	(2.0%)	(2.1%)	(2.3%)	(2.3%)	(2.4%)	

Notes

1. Shaded areas indicate forecast assumptions.
2. The figures in brackets represent the previous assumptions of the Monetary Policy Committee.

* For an explanation of foreign sector assumptions and domestic sector assumptions, see pages 62 and 63.

Summary of selected forecast results: Monetary Policy Committee meeting on 24 November 2022

Selected forecast results (quarterly)

Year-on-year percentage change

	2022				2023				2024				2025				Steady state
	6.7 (6.5)				5.4 (5.3)				4.5 (4.6)				4.5				
1. Headline inflation	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
	5.7	6.6	7.6	6.8	6.8	6.0	4.4	4.7	4.6	4.5	4.4	4.4	4.5	4.4	4.5	4.5	4.5
	(5.7)	(6.6)	(7.4)	(6.6)	(6.4)	(5.8)	(4.4)	(4.7)	(4.7)	(4.6)	(4.6)	(4.5)					
	2022				2023				2024				2025				
	4.3 (4.3)				5.5 (5.4)				4.8 (4.8)				4.5				
2. Core inflation	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4					
	3.6	4.1	4.6	4.8	5.4	5.7	5.5	5.3	5.1	4.9	4.7	4.5	4.5	4.5	4.5	4.5	4.5
	(3.6)	(4.1)	(4.5)	(5.0)	(5.4)	(5.5)	(5.3)	(5.2)	(5.0)	(4.9)	(4.7)	(4.5)					

Notes

1. Shaded areas indicate the forecasts of the Monetary Policy Committee.
2. The figures in brackets represent the previous forecasts of the Monetary Policy Committee.

Selected forecast results (annual)

	Actual		Forecast				Steady state
	2020	2021	2022	2023	2024	2025	
1. GDP growth	-6.3%	4.9%	1.8%	1.1%	1.4%	1.5%	2.5%
	(-6.3%)	(4.9%)	(1.9%)	(1.4%)	(1.7%)		
2. Output gap (ratio to potential GDP)	-3.5%	-2.0%	-0.6%	0.0%	0.2%	0.1%	0.0%
	(-3.5%)	(-2.0%)	(-0.6%)	(0.0%)	(0.6%)		
3. Change in nominal effective exchange rate	-12.8%	9.9%	-2.9%	-4.8%	0.9%	0.8%	2.5%
	(-12.8%)	(9.9%)	(-2.3%)	(-4.0%)	(-0.4%)		
4. Change in real effective exchange rate	-10.6%	11.1%	-3.7%	-3.6%	3.2%	3.3%	0.0%
	(-10.6%)	(11.1%)	(-2.8%)	(-2.3%)	(2.0%)		
5. Real exchange rate gap	-10.9%	0.0%	-3.6%	-7.1%	-4.0%	-0.8%	0.0%
	(-10.9%)	(0.0%)	(-2.7%)	(-5.0%)	(-3.0%)		
6. Repurchase rate (end of period)	3.50%	3.61%	6.30%	6.55%	6.71%	6.83%	7.00%
	(3.50%)	(3.61%)	(5.60%)	(6.36%)	(6.76%)		
7. Current account balance (ratio to GDP)	2.0%	3.7%	-0.2%	-1.5%	-1.9%	-2.1%	
	(2.0%)	(3.7%)	(0.2%)	(-1.0%)	(-1.6%)		

Notes

1. The nominal effective exchange rate (NEER) is based on the bilateral exchange rates of South Africa's three largest trading partners (the eurozone, the US and Japan). The bilateral exchange rates are weighted by export trade weights.
2. The real effective exchange rate (REER) is the NEER deflated by the consumer price differential between South Africa and the trade-weighted CPI of the eurozone, the US and Japan.
3. The real exchange rate gap signifies the extent to which the real exchange rate deviates from its estimated equilibrium level. A positive gap shows an overvaluation of the currency, and vice versa.
4. The forecast of the current account balance is obtained from the SARB's Core Macroeconometric Model.
5. Shaded areas indicate the forecasts of the Monetary Policy Committee.
6. The figures in brackets represent the previous forecasts of the Monetary Policy Committee.

Statement of the Monetary Policy Committee

26 January 2023

Issued by Lesetja Kganyago, Governor of the South African Reserve Bank, at a meeting of the Monetary Policy Committee in Pretoria

As this year commences, high inflation and weak economic growth continue to shape global conditions. Russia's war in Ukraine drags on and recession risks remain elevated in the euro area, even though energy constraints have eased. Growth prospects for the United States this year are lower. The growth outlook for China has improved but is likely to remain modest by historical standards. In the developing world, a number of economies face debt distress, exacerbated by tighter global financial conditions.[1]

Last year, higher-than-expected headline inflation and rising core inflation led major central banks to accelerate the normalisation of policy rates. With advanced economy interest rates likely to increase in the near term, we expect financial asset prices globally to remain volatile.

Taking these and other factors into account, the South African Reserve Bank's (SARB) forecast for global growth in 2023 is revised slightly lower to 1.6% (from 1.9%).[2] We expect better growth in 2024 at 2.6% (from 2.4%). The International Monetary Fund's (IMF) global growth forecast will be updated later this month.

While the South African economy grew by a relatively strong 1.6% in the third quarter of 2022, the expansion was not broad-based. We forecast no growth in the fourth quarter. For the whole of last year, GDP growth of 2.5% is expected (up from 1.8%).

For 2023, and as a result of extensive load-shedding and other logistical constraints, the SARB now forecasts GDP growth of only 0.3%. Given the scale of load-shedding, the SARB estimates that it deducts as much as 2 percentage points from growth in 2023, compared to the previous estimate of 0.6 percentage points.

Over the medium term, the forecast takes into account ongoing high levels of load-shedding, and more modest household spending and investment growth than previously. Investment is still positive, but is revised down due to weaker confidence and lower expected growth. With declining commodity prices, exports are also forecast to be less robust. The forecast incorporates an assumption of increased load-shedding in each year compared to what was pencilled in at the time of the November meeting.[3]

As a result of these factors, the economy is forecast to expand by 0.7% in 2024 (down from 1.4%) and by 1.0% in 2025 (down from 1.5%).[4]

While economic growth has been volatile for some time, prospects for growth appear even more uncertain than normal. A material reduction in load-shedding would significantly raise growth. There could also be higher investment in alternative energy sources as firms and households offset the impact of load-shedding. Upside risks to global growth could also arise from reduced geopolitical tensions, a stronger recovery in China, and consequential increases in commodity export prices.

With a lower rate of potential, our current reduced growth forecast leaves the output gap around zero, implying little positive or negative impact on inflation from expected growth.[5]

After the downward revisions to the GDP forecast, the risks to the medium-term domestic growth outlook are assessed to be balanced.

As expected for some time, commodity export prices continue to trend gradually lower. While oil prices increased somewhat at the end of last year, compared to November, our oil price forecast is slightly lower, averaging US$89 per barrel in 2023.[6] South Africa's export commodity price basket is expected to continue to decrease, by about 18% this year, and stabilise in 2025.[7]

As a result of weaker export outcomes and prospects, the current account balance is estimated to have been -0.7% of

1 According to the IMF's October 2022 *Global Financial Stability Report*, eight low-income countries are in debt distress and 30 are at high risk of distress (out of 69 countries considered low-income countries—among which there are some frontier markets).

2 Global growth in the QPM model is a trade-weighted average of South Africa's trading partners. Global growth in 2024 is forecast higher at 2.6% (from 2.4%), before rising to 3.1% in 2025, unchanged from the November meeting.

3 The number of days of expected load-shedding in 2023 has been increased to 250 days from 100 days. In 2024 the number of days was revised up to 150 days from 40 days. Load-shedding of 100 days has been assumed for 2025. Estimates of the average stages of load-shedding is multiplied by the number of days and then multiplied by the cost to GDP per stage-day. The cost per stage has been revised lower for stages 1 and 2. In nominal terms, these costs vary between R0–R1.2 million for stages 1 and 2 and up to R204–R899 million for stages 3 to 6, when continued on a 24-hour basis on weekdays.

4 The growth forecast includes expected changes in the policy rate as given by the QPM.

5 Potential growth for 2022 was revised higher to 0.7%, and lowered in 2023 to 0.0%. It is also revised lower to 0.6% for 2024 (from 1.1%) and to 1.1% for 2025 (down from 1.6%).

6 The Brent crude oil assumptions are US$85 for 2024 and US$80 for 2025 (unchanged).

7 Commodity export prices rose by 1.4% in 2022.

GDP in 2022, and forecast to deteriorate to about - 1.8% for the next three years.[8]

Although fiscal risk eased over the past year, weaker commodity prices and rising state-owned enterprise financing needs could reverse that positive outcome. Financing conditions for rand-denominated bonds remain tight. Ten-year bond yields currently trade at about 10.3%, despite the expected moderation of inflation over the forecast period.

Policy normalisation in major economies and slower global growth last year contributed to the depreciation of many emerging market currencies, including the rand. In recent months, while better global growth prospects have increased appetite for riskier assets, the rand has been less buoyant than other currencies. The implied starting point for the rand forecast is R16.92 (2023Q1) to the US dollar, compared with R17.68 at the time of the previous meeting.

Globally, economic growth has slowed and prices decreased for some goods and transport services. While headline inflation eased in major economies in December, price pressures continue to spread from goods to services and wages.[9] Our estimate for inflation in the G3 is unchanged at 7.3% in 2022 and slightly lower to 4.0% in 2023 (from 4.1%). The forecast for 2024 is lower at 1.8% (from 2.1%).[10]

Although South Africa's fuel price inflation for last year averaged 34.5%, it is expected to be -2.7% in 2023 (down from 0.7%). Local electricity price inflation has been revised higher at 12.9% in 2023, 14.5% in 2024, and 10.9% in 2025.

While global food price inflation continues to ease, local food price inflation is revised up again, in part due to the lagged impact of the weaker exchange rate. Food price inflation reached 9.2% in 2022 and is now expected to be 7.3% in 2023 (up from 6.2%) and 4.4% in 2024 (up from 4.2%).

Headline inflation in 2022 came out at 6.9%. The SARB's forecast of headline inflation for 2023 is unchanged at 5.4% and is slightly higher at 4.8% for 2024. In 2025 we still expect headline inflation of 4.5%.

Our forecast for core inflation is somewhat lower at 5.2% in 2023 (down from 5.5%) and 4.7% in 2024 (down from 4.8%). Services price inflation in 2023 is forecast to be 5.1%, lower than the 5.5% previously expected, on the back of lower public transport services, housing rental price inflation and owners' equivalent rent. Core goods inflation is also forecast somewhat lower for this year at 5.5% (from 5.7%).[11] The forecast for core inflation in 2024 and 2025 is largely unchanged at 4.7% and 4.5%, respectively.

The forecast for average salary growth is broadly unchanged.[12] Despite a benign unit labour cost outcome in 2022, lower productivity and higher inflation expectations raise the forecast for this year and next.[13]

While core inflation in December came out significantly better than expected, increases in electricity and food price inflation and higher headline inflation for 2022 as a whole keep the headline inflation forecast elevated in the near and medium term.

Risks to the inflation outlook are assessed to the upside. Despite some easing of global producer price and food inflation, global price levels remain elevated and Russia's war in Ukraine continues. The oil market is expected to remain tight, particularly as China's economy rebounds. Electricity price inflation has shifted significantly higher this year and next and other administered prices continue to present clear medium-term risks. Domestic food price inflation continues to surprise higher and may again. Load-shedding may have broader price effects on the cost of doing business and the cost of living. Given sticky petrol and food price inflation, considerable risk still attaches to the forecast for average salaries and hence for the trajectory of core inflation.

G3 interest rate levels for the forecast period are similar to those projected in November, averaging 3.7% in 2023 (up from 3.6%), 3.3% in 2024, and 2.4% in 2025. Tightened global financial conditions have raised the risk profiles of economies needing foreign capital. While the rand appreciated in December alongside other emerging market currencies, it has depreciated by about 1.6% against the USD year to date. Given deteriorated growth prospects, the risk of currency weakness has increased.

Inflation expectations increased strongly over the past year. Average expectations of future inflation surveyed in the fourth quarter of 2022 increased to 6.1% for 2023 and 5.6% for 2024.[14] Expectations for inflation in 2023 based on market surveys sit at 5.5%.[15] Long-term inflation expectations derived

8 In November, a current account balance of -0.2% of GDP was expected for 2022, -1.5% in 2023 and -1.9% in 2024.

9 Inflation in agricultural commodities decelerated to 0.1% in 2022Q4 (from 8.7% in 2022Q3) due to vegetable oils and cereals components. This year global food inflation is expected to be in deflation (after registering 14.3% in 2022) due to base effects and improving supply constraints.

10 The G3 comprises the United States, the eurozone and Japan. The latest CPI inflation in the respective components sits at 6.5%, 9.2% and 4%. We expect G3 inflation of 1.9% in 2025.

11 Core goods refers to total CPI goods excluding food and NAB, fuel and electricity, whereas services include all surveyed services within the CPI basket. Core goods inflation was 5.0% in 2022 and is expected to be 4.8% in 2024 and 4.5% in 2025.

12 Average salaries were expected to be 5.3%, 6.7% and 5.4% for 2022, 2023 and 2024 respectively at the time of the November meeting. For the January meeting, the respective figures are 5.2%, 6.9%, 5.5%, and 4.7% for 2025.

13 Unit labour costs are forecast to have grown by 3.6% in 2022, below the forecast of 4.4%. They are expected to rise by 7.7%, 5.3% and 4.1% respectively in 2023, 2024 and 2025. Productivity per unit of labour is lower due to reduced expected output.

14 The BER Q4 survey of inflation expectations indicated inflation at 6.1% in 2023 (up from 5.9%) and 5.6% for 2024 (up from 5.3%).

15 At the median, market analysts (Reuters Econometer) in January expect inflation to be higher at 5.5% (from 5.4% in November) in 2023, 4.7% in 2024 and 4.7% in 2025.

from the five-year break-even rates in the bond market have moderated to about 5.0%.[16]

In the second quarter of 2022, headline inflation breached the upper end of the target range, and is forecast to remain above it until the second quarter of this year. Headline inflation is only expected to sustainably revert to the midpoint of the target range by the fourth quarter of 2024. The forecast takes into account the policy rate trajectory indicated by the SARB's Quarterly Projection Model (QPM). As usual, the repo rate projection from the QPM remains a broad policy guide, changing from meeting to meeting in response to new data and risks.

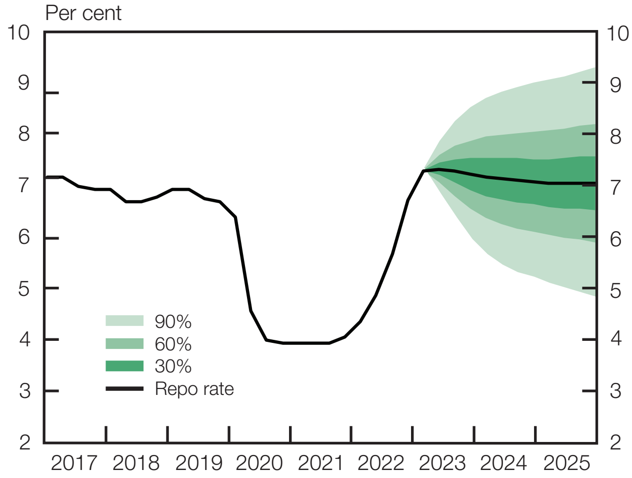
Against this backdrop, the MPC decided to increase the repurchase rate by 25 basis points to 7.25% per year, with effect from 27 January 2023. Three members of the Committee preferred the announced increase. Two members preferred a 50 basis point increase.

The revised repurchase rate remains supportive of credit demand in the near term, while raising rates to levels more consistent with the current view of inflation and risks to it. The aim of policy is to anchor inflation expectations more firmly around the midpoint of the target band and to increase confidence of attaining the inflation target sustainably over time.[17]

Guiding inflation back towards the midpoint of the target band can reduce the economic costs of high inflation and enable lower interest rates in the future. Achieving a prudent public debt level, increasing the supply of energy, moderating administered price inflation and keeping wage growth in line with productivity gains would enhance the effectiveness of monetary policy and its transmission to the broader economy.

Economic and financial conditions are expected to remain more volatile for the foreseeable future. In this uncertain environment, monetary policy decisions will continue to be data dependent and sensitive to the balance of risks to the outlook. The MPC will seek to look through temporary price shocks and focus on potential second-round effects and the risks of de-anchoring inflation expectations. The SARB will continue to closely monitor funding markets for stress.

Repurchase rate forecast (January 2023)



The uncertainty bands for the repo rate are based on historical forecasting experience and stochastic simulations in the QPM. The bands are symmetric and do not reflect any assessment of upside or downside risk.

Source: SARB

16 Market-based rates are calculated from the break-even inflation rate, which is the yield differential between conventional and inflation-linked bonds. These now sit at about 4.95% for the 5-year and 5.91% for the 10-year break-even, while 15-year break-even inflation sits at 6.41%.

17 The forecasted trajectory for the repurchase (repo) rate implies a rise in the inflation-adjusted repo rate from -1.7% in 2021 to -1.9% in 2022, 2.0% for 2023, and 2.3% in 2024. The real repo level for 2025 is expected to be 2.4%. The real repo rate calculation here is based on the one-quarter-ahead inflation forecast and refers to annual average rates.

Summary of assumptions: Monetary Policy Committee meeting on 26 January 2023*

1. Foreign sector assumptions

	Actual		Forecast			
	2020	2021	2022	2023	2024	2025
1. Real GDP growth in South Africa's major trading-partner countries	-2.5%	7.0%	3.4%	1.6%	2.6%	3.1%
	(-2.5%)	(6.9%)	(3.3%)	(1.9%)	(2.4%)	(3.1%)
2. Output gap in South Africa's major trading-partner countries (ratio to potential GDP)	-2.7%	-0.9%	-0.2%	-1.1%	-0.7%	0.1%
	(-2.7%)	(-0.9%)	(-0.2%)	(-0.9%)	(-0.7%)	(0.0%)
3. Change in international commodity prices in US$ (excluding oil)	25.5%	45.6%	1.4%	-18.0%	-12.2%	-1.5%
	(25.5%)	(45.6%)	(1.2%)	(-18.1%)	(-11.1%)	(-1.5%)
4. Brent crude (US$/barrel)	41.8	70.7	100.4	89.0	85.0	80.0
	(41.8)	(70.7)	(102.0)	(92.0)	(85.0)	(80.0)
5. Change in world food prices (US$)	3.2%	28.1%	14.3%	-7.9%	0.6%	3.2%
	(3.2%)	(28.1%)	(14.7%)	(-7.7%)	(0.2%)	(3.2%)
6. Change in international consumer prices	0.7%	3.3%	7.3%	4.0%	1.8%	1.9%
	(0.7%)	(3.3%)	(7.3%)	(4.1%)	(2.1%)	(2.0%)
7. International policy interest rate	0.2%	0.1%	1.1%	3.7%	3.4%	2.4%
	(0.2%)	(0.1%)	(1.1%)	(3.6%)	(3.4%)	(2.4%)

2. Domestic sector assumptions

	Actual		Forecast			
	2020	2021	2022	2023	2024	2025
1. Change in electricity price	9.1%	10.2%	10.7%	12.9%	14.5%	10.9%
	(9.1%)	(10.2%)	(10.7%)	(9.0%)	(10.0%)	(10.0%)
2. Change in fuel taxes and levies	5.7%	6.1%	3.3%	7.7%	1.1%	4.4%
	(5.7%)	(6.1%)	(2.7%)	(5.3%)	(1.2%)	(4.5%)
3. Potential growth	-3.1%	3.4%	0.7%	0.0%	0.6%	1.0%
	(-3.1%)	(3.4%)	(0.4%)	(0.5%)	(1.1%)	(1.5%)
4. Inflation target midpoint	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
	(4.5%)	(4.5%)	(4.5%)	(4.5%)	(4.5%)	(4.5%)
5. Neutral real interest rate	2.0%	2.0%	2.3%	2.4%	2.4%	2.5%
	(2.0%)	(2.1%)	(2.3%)	(2.3%)	(2.4%)	(2.4%)

Notes

1. Shaded areas indicate forecast assumptions.
2. The figures in brackets represent the previous assumptions of the Monetary Policy Committee.

* For an explanation of foreign sector assumptions and domestic sector assumptions, see pages 62 and 63.

Summary of selected forecast results: Monetary Policy Committee meeting on 26 January 2023

Selected forecast results (quarterly)

Year-on-year percentage change

	2022				2023				2024				2025				Steady state
	6.9 (6.7)				5.4 (5.4)				4.8 (4.5)				4.5 (4.5)				
1. Headline inflation	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
	5.7	6.6	7.6	7.4	6.5	5.9	4.9	4.6	5.1	4.9	4.6	4.5	4.5	4.5	4.5	4.5	4.5
	(5.7)	(6.6)	(7.6)	(6.8)	(6.8)	(6.0)	(4.4)	(4.7)	(4.6)	(4.5)	(4.4)	(4.4)	(4.5)	(4.4)	(4.5)	(4.5)	
	2022				2023				2024				2025				
	4.3 (4.3)				5.2 (5.5)				4.7 (4.8)				4.5 (4.5)				
2. Core inflation	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
	3.6	4.1	4.6	5.0	5.1	5.4	5.2	5.0	5.0	4.9	4.6	4.4	4.4	4.4	4.5	4.5	4.5
	(3.6)	(4.1)	(4.6)	(4.8)	(5.4)	(5.7)	(5.5)	(5.3)	(5.1)	(4.9)	(4.7)	(4.5)	(4.5)	(4.5)	(4.5)	(4.5)	

Notes

1. Shaded areas indicate the forecasts of the Monetary Policy Committee.
2. The figures in brackets represent the previous forecasts of the Monetary Policy Committee.

Selected forecast results (annual)

	Actual		Forecast				Steady state
	2020	2021	2022	2023	2024	2025	
1. GDP growth	-6.3%	4.9%	2.5%	0.3%	0.7%	1.0%	2.5%
	(-6.3%)	(4.9%)	(1.8%)	(1.1%)	(1.4%)	(1.5%)	
2. Output gap (ratio to potential GDP)	-3.5%	-2.0%	-0.3%	0.1%	0.1%	0.1%	0.0%
	(-3.5%)	(-2.0%)	(-0.6%)	(0.0%)	(0.2%)	(0.1%)	
3. Change in nominal effective exchange rate	-12.8%	9.9%	-2.5%	-3.2%	-1.5%	0.4%	2.5%
	(-12.8%)	(9.9%)	(-2.9%)	(-4.8%)	(0.9%)	(0.8%)	
4. Change in real effective exchange rate	-10.6%	11.1%	-3.2%	-1.9%	1.3%	3.0%	0.0%
	(-10.6%)	(11.1%)	(-3.7%)	(-3.6%)	(3.2%)	(3.3%)	
5. Real exchange rate gap	-10.9%	0.0%	-3.1%	-4.9%	-3.5%	-0.6%	0.0%
	(-10.9%)	(0.0%)	(-3.6%)	(-7.1%)	(-4.0%)	(-0.8%)	
6. Repurchase rate (end of period)	3.50%	3.61%	6.54%	7.08%	6.91%	6.89%	7.00%
	(3.50%)	(3.61%)	(6.30%)	(6.55%)	(6.71%)	(6.83%)	
7. Current account balance (ratio to GDP)	2.0%	3.7%	-0.7%	-1.7%	-1.8%	-1.8%	
	(2.0%)	(3.7%)	(-0.2%)	(-1.5%)	(-1.9%)	(-2.1%)	

Notes

1. The nominal effective exchange rate (NEER) is based on the bilateral exchange rates of South Africa’s three largest trading partners (the eurozone, the US and Japan). The bilateral exchange rates are weighted by export trade weights.
2. The real effective exchange rate (REER) is the NEER deflated by the consumer price differential between South Africa and the trade-weighted CPI of the eurozone, the US and Japan.
3. The real exchange rate gap signifies the extent to which the real exchange rate deviates from its estimated equilibrium level. A positive gap shows an overvaluation of the currency, and vice versa.
4. The forecast of the current account balance is obtained from the SARB’s Core Macroeconometric Model.
5. Shaded areas indicate the forecasts of the Monetary Policy Committee.
6. The figures in brackets represent the previous forecasts of the Monetary Policy Committee.

Statement of the Monetary Policy Committee

30 March 2023

Issued by Lesetja Kganyago, Governor of the South African Reserve Bank, at a meeting of the Monetary Policy Committee in Pretoria

As we enter the second quarter of the year, sticky inflation, sluggish growth and now elevated financial stability risks mark the global economy. Despite somewhat better growth outcomes in the first months of the year, we see no material easing of difficult global economic conditions.

Russia's ongoing war in Ukraine weighs heavily on European growth prospects, while financial conditions in the United States continue to tighten. The growth outlook for China has improved but is likely to remain modest by historical standards. Many economies in the developing world face weaker economic growth and prolonged adverse financing conditions.[1] With inflation and policy rates remaining higher for longer, and new weaknesses emerging in financial institutions, we expect global financial markets to remain volatile.

Taking these and other factors into account, the South African Reserve Bank's (SARB) forecast for global growth in 2023 is revised higher to 2.0% (from 1.6%).[2] Growth in 2024 is revised slightly lower to 2.5% (from 2.6%). The International Monetary Fund's (IMF) January update forecasts global growth at 2.9% in 2023 and 3.1% in 2024. That forecast will be updated in April.

The South African economy contracted by 1.3% in the fourth quarter of 2022, considerably worse than expected at the time of the January meeting. The contraction was broad-based, consistent with the extensive load-shedding experienced in the final three months of the year. For the whole of last year, GDP growth of 2.0% was achieved, compared to the 2.5% previously expected.

For 2023, the SARB's forecast for GDP growth is lowered slightly to 0.2% from the 0.3% expected in January. As a result of extensive load-shedding and logistical constraints, the supply performance of the economy remains severely impaired. As previously noted, these constraints deduct 2 percentage points from growth this year.

Over the forecast period, we expect household spending and investment to grow modestly, even as load-shedding and uncertainty continue to weigh heavily on consumption and investment decisions.[3] Private sector investment is expected to remain positive, in large part reflecting efforts to overcome constraints in energy and transport supply. The SARB's commodity price index, which in historical terms still remains above its long-run average, is forecast to continue to ease.

As a result of these factors, the economy is forecast to expand by 1.0% in 2024 (up from 0.7%) and by 1.1% in 2025 (up from 1.0%).[4]

Economic growth has been volatile for some time and prospects for growth appear even more uncertain than normal. An improvement in logistics and a sustained reduction in load-shedding or increased energy supply from alternative sources would significantly raise growth. Further upside risks to growth could emerge from a stronger recovery in China, if commodity export prices rise. Downside risks, however, emanate from more modest global growth rates and the lower terms of trade and trade volumes that would follow.

Overall, the risks to the medium-term domestic growth outlook are assessed to be balanced. Nonetheless, the domestic and global outlook appears to be highly sensitive to new shocks. Core inflation remains high in much of the world and financial vulnerabilities have re-emerged to create new headwinds.

Turning to inflation prospects, our current growth forecast leaves the output gap around zero, implying little positive or negative pressures on inflation from expected growth.[5]

South Africa's external financing needs, however, are expected to rise. With a sharply lower export commodity price index, stable oil prices, and somewhat weaker growth in export volumes, the current account balance is forecast to deteriorate to a deficit of 2.7% of GDP for the next three years.[6]

1 According to the IMF's October 2022 *Global Financial Stability Report*, eight low-income countries are in debt distress and 30 are at high risk of distress (out of 69 countries considered low-income countries—among which there are some frontier markets).

2 Global growth in the QPM model is a trade-weighted average of South Africa's trading partners.

3 The number of days of expected load-shedding in 2023 remains unchanged at 250 days, 150 days and 100 days respectively in 2023, 2024 and 2025. Estimates of the average stages of load-shedding is multiplied by the number of days and then multiplied by the cost to GDP per stage-day. The cost per stage has been revised lower for stages 1 and 2. In nominal terms, these costs vary between R0–R1.2 million for stages 1 and 2 and up to R204–R899 million for stages 3 to 6, when continued on a 24-hour basis on weekdays.

4 The growth forecast includes expected changes in the policy rate as given by the QPM.

5 Potential growth for 2022 was revised higher to 0.7%, and lowered in 2023 to 0.0%. It is also revised lower to 0.6% for 2024 (from 1.1%) and to 1.1% for 2025 (down from 1.6%).

6 In January, a current account balance of about -1.8% of GDP was expected for the forecast period. Exports are forecast to grow in real terms by only 1.8% this year and 2.3% in 2024. Commodity export prices rose by 1.4% in 2022. South Africa's commodity export index is forecast to decline by about 20% this year, and a further 11.7% in 2024, before stabilising somewhat in 2025. Our oil price forecast is also slightly lower than in January, averaging US$87 per barrel in 2023. The Brent crude oil assumptions are US$85 for 2024 and US$80 for 2025 (unchanged).

Weaker commodity prices and higher state-owned enterprise financing needs will put pressure on financing conditions for rand-denominated bonds. Ten-year bond yields currently trade at about 11.2%, despite the expected moderation of inflation over the forecast period.

The rand has generally weakened over the past year. Recent weeks have seen a further sharp depreciation and then some reversal as sentiment shifted abruptly in the wake of policy decisions in some major advanced economies. The implied starting point for the rand forecast is R18.06 (2023Q2) to the US dollar, compared with R17.32 at the time of the previous meeting. Currency markets are expected to remain volatile.

While headline inflation eased in major economies (G3) in December, price pressures remain clearly evident in measures of core inflation, services and wages. In the G3 economies, consumer prices rose by 7.5% in 2022. Our estimate for inflation in the G3 is higher at 4.2% in 2023 (up from 4.0%) and 2.1% in 2024 (up from 1.8%) and unchanged at 2.0% in 2025 (up from 1.9%).[7]

The rise in South Africa's headline inflation rate has been shaped primarily by fuel, electricity and food price inflation. Fuel price inflation last year averaged 34.4% and is expected to be -0.6% in 2023 (up from -2.7%). The electricity price forecast is unchanged at 12.9% in 2023, 14.5% in 2024, and 10.9% in 2025.

Local food price inflation is revised up again despite global food prices falling in dollar terms, in part due to the lagged impact of the weaker exchange rate.[8] Food price inflation is now expected to be 9.9% in 2023 (up from 7.3%) and 4.5% in 2024 (up from 4.4%).

Our forecast for core inflation is largely unchanged at 5.1% in 2023 (previously 5.2%) and 4.8% and 4.5% in 2024 and 2025 respectively. Services price inflation in 2023 is forecast to be 4.9%, lower than previously expected. Core goods inflation, however, is forecast higher for this year at 5.9% (up from 5.5%).[9] The forecast for average salary growth and unit labour costs is somewhat lower in 2023 and higher in 2024 and 2025.[10]

With core goods and food higher in the near term, headline inflation for 2023 is revised significantly higher to 6.0% (up from 5.4%). Despite this, food and fuel inflation are expected to ease, resulting in a headline forecast of 4.9% for 2024 and 4.5% in 2025.

Risks to the inflation outlook, however, are assessed to the upside. Despite some easing of producer price and food inflation, global price levels remain elevated. Russia's war in Ukraine and China's economic rebound are expected to keep the global oil market relatively tight. Electricity prices and other administered prices continue to present clear short- and medium-term risks. Domestic food price inflation surprised higher again in February, and risks of drier weather conditions have increased. Load-shedding may additionally have broader price effects on the cost of doing business and the cost of living, in particular as diesel consumption increases. Given sticky petrol and higher food price inflation, considerable risk still attaches to the forecast for average salaries.

Interest rate levels in major economies are higher than were projected in January, averaging 3.8% in 2023 (up from 3.7%), 3.5% in 2024, and unchanged at 2.4% in 2025. Tighter global financial conditions raise the risk profiles of economies needing foreign capital, leading generally to weaker currencies. South Africa's risk premium is sharply higher and will likely remain elevated over the forecast period. Given load-shedding, upside inflation risks, and larger external financing needs, further currency weakness appears likely.

Inflation expectations increased strongly over the past year. Average expectations of future inflation surveyed in the first quarter of this year increased further to 6.3% for 2023 and 5.8% for 2024.[11] Expectations for inflation in 2023 based on market surveys are 5.8%.[12] Long-term inflation expectations derived from the five-year break-even rates in the bond market sit at 5.27%.[13]

Headline inflation breached the upper end of the target range in the second quarter of 2022, and is forecast to remain above it until the third quarter of this year. Headline inflation is only expected to sustainably revert to the midpoint of the target range by the fourth quarter of 2024.

7 The G3 comprises the United States, the eurozone and Japan. The latest CPI inflation in the G3 sits at 6.0%, 8.5% and 3.3%.

8 Inflation in agricultural commodities decelerated to 0.1% in 2022Q4 (from 8.5% in 2022Q3) due to vegetable oils and cereals components. This year, global food inflation is expected to be in deflation (after registering 14.2% in 2022) due to base effects and improving supply constraints.

9 Core goods refers to total CPI goods excluding food and NAB, fuel and electricity, whereas services include all surveyed services within the CPI basket. Core goods inflation is expected to be 4.9% in 2024 and 4.5% in 2025.

10 Average salaries were expected to be 6.9%, 5.5% and 4.7% for 2023, 2024 and 2025 respectively at the time of the January meeting. The March figures are 6.4%, 6.2% and 5.1% respectively. Unit labour costs are forecast to rise by 6.1%, 6.0% and 4.4% respectively in 2023, 2024 and 2025. Productivity per unit of labour is lower due to reduced expected output.

11 The BER Q4 2022 survey of inflation expectations indicated inflation at 6.1% in 2023 (up from 5.9% in Q3) and 5.6% for 2024 (up from 5.3% in Q3).

12 At the median, market analysts (Reuters Econometer) in March expect inflation to be higher at 5.8% (from 5.6% in February) in 2023, 4.7% in 2024 and 4.7% in 2025.

13 Market-based rates are calculated from the break-even inflation rate, which is the yield differential between conventional and inflation-linked bonds. These now sit at about 5.27% for the 5-year and 6.25% for the 10-year break-even, while 15-year break-even inflation sits at 6.91%.

The forecast takes into account the policy rate trajectory indicated by the Bank's Quarterly Projection Model (QPM). As usual, the repo rate projection from the QPM remains a broad policy guide, changing from meeting to meeting in response to new data and risks.

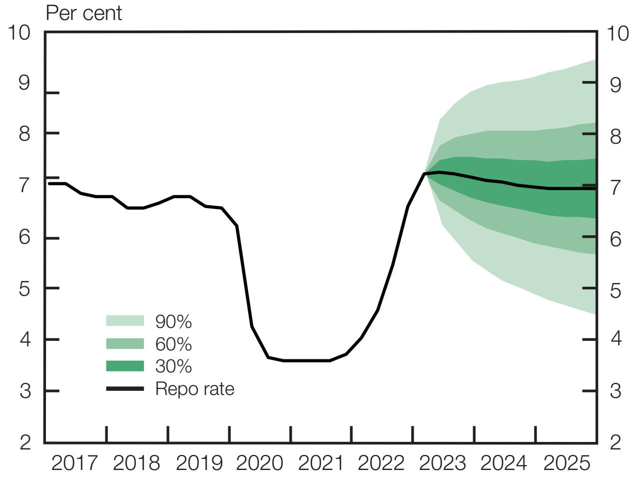
Against this backdrop, the MPC decided to increase the repurchase rate by 50 basis points to 7.75% per year, with effect from 31 March 2023. Three members of the Committee preferred the announced increase. Two members preferred a 25 basis point increase.

The revised repurchase rate is now less accommodative and is more consistent with the current view of risks to inflation. The aim of policy is to anchor inflation expectations more firmly around the midpoint of the target band and to increase confidence of attaining the inflation target sustainably over time.[14]

Guiding inflation back towards the midpoint of the target band can reduce the economic costs of high inflation and enable lower interest rates in the future. Achieving a prudent public debt level, increasing the supply of energy, moderating administered price inflation and keeping wage growth in line with productivity gains would enhance the effectiveness of monetary policy and its transmission to the broader economy.

Economic and financial conditions are expected to remain more volatile for the foreseeable future. In this uncertain environment, monetary policy decisions will continue to be data dependent and sensitive to the balance of risks to the outlook. The MPC will seek to look through temporary price shocks and focus on potential second-round effects and the risks of de-anchoring inflation expectations. The Bank will continue to closely monitor funding markets for stress.

Repurchase rate forecast (March 2023)



The uncertainty bands for the repo rate are based on historical forecasting experience and stochastic simulations in the QPM. The bands are symmetric and do not reflect any assessment of upside or downside risk.

Source: SARB

14 The forecasted trajectory for the repurchase (repo) rate implies a rise in the inflation-adjusted repo rate from -2.0% in 2022 to 1.6% for 2023 and 2.0% in 2024. The real repo level for 2025 is expected to be 2.4%. The real repo rates calculated here are based on the one-quarter-ahead inflation forecast and refer to annual average rates.

Summary of assumptions: Monetary Policy Committee meeting on 30 March 2023*

1. Foreign sector assumptions

	Actual			Forecast		
	2020	2021	2022	2023	2024	2025
1. Real GDP growth in South Africa's major trading-partner countries	-2.5%	7.0%	3.5%	2.0%	2.5%	3.1%
	(-2.5%)	(7.0%)	(3.4%)	(1.6%)	(2.6%)	(3.1%)
2. Output gap in South Africa's major trading-partner countries (ratio to potential GDP)	-2.7%	-0.9%	0.0%	-0.5%	-0.3%	0.5%
	(-2.7%)	(-0.9%)	(-0.2%)	(-1.1%)	(-0.7%)	(0.1%)
3. Change in international commodity prices in US$ (excluding oil)	25.5%	45.6%	1.4%	-20.4%	-11.7%	-1.5%
	(25.5%)	(45.6%)	(1.4%)	(-18.0%)	(-12.2%)	(-1.5%)
4. Brent crude (US$/barrel)	41.8	70.7	100.4	87.0	85.0	80.0
	(41.8)	(70.7)	(100.4)	(89.0)	(85.0)	(80.0)
5. Change in world food prices (US$)	3.2%	28.1%	14.2%	-8.7%	1.0%	3.2%
	(3.2%)	(28.1%)	(14.3%)	(-7.9%)	(0.6%)	(3.2%)
6. Change in international consumer prices	0.7%	3.3%	7.5%	4.2%	2.1%	2.0%
	(0.7%)	(3.3%)	(7.3%)	(4.0%)	(1.8%)	(1.9%)
7. International policy interest rate	0.2%	0.1%	1.1%	3.8%	3.5%	2.4%
	(0.2%)	(0.1%)	(1.1%)	(3.7%)	(3.4%)	(2.4%)

2. Domestic sector assumptions

	Actual			Forecast		
	2020	2021	2022	2023	2024	2024
1. Change in electricity price	9.1%	10.2%	10.7%	12.9%	14.5%	10.9%
	(9.1%)	(10.2%)	(10.7%)	(12.9%)	(14.5%)	(10.9%)
2. Change in fuel taxes and levies	5.7%	6.1%	2.9%	2.3%	2.6%	4.6%
	(5.7%)	(6.1%)	(3.3%)	(7.7%)	(1.1%)	(4.4%)
3. Potential growth	-3.1%	3.4%	0.6%	-0.2%	0.8%	1.0%
	(-3.1%)	(3.4%)	(0.7%)	(0.0%)	(0.6%)	(1.0%)
4. Inflation target midpoint	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
	(4.5%)	(4.5%)	(4.5%)	(4.5%)	(4.5%)	(4.5%)
5. Neutral real interest rate	2.0%	2.0%	2.3%	2.4%	2.4%	2.5%
	(2.0%)	(2.0%)	(2.3%)	(2.4%)	(2.4%)	(2.5%)

Notes

1. Shaded areas indicate forecast assumptions.
2. The figures in brackets represent the previous assumptions of the Monetary Policy Committee.

* For an explanation of foreign sector assumptions and domestic sector assumptions, see pages 62 and 63.

Summary of selected forecast results: Monetary Policy Committee meeting on 30 March 2023

Selected forecast results (quarterly)

Year-on-year percentage change

	2022				2023				2024				2025				Steady state
	6.9 (6.9)				6.0 (5.4)				4.9 (4.8)				4.5 (4.5)				
1. Headline inflation	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
	5.7	6.6	7.6	7.4	6.9	6.4	5.5	5.3	5.1	5.0	4.7	4.6	4.6	4.6	4.5	4.5	4.5
	(5.7)	(6.6)	(7.6)	(7.4)	(6.5)	(5.9)	(4.9)	(4.6)	(5.1)	(4.9)	(4.6)	(4.5)	(4.5)	(4.5)	(4.5)	(4.5)	
	2022				2023				2024				2025				
	4.3 (4.3)				5.1 (5.2)				4.8 (4.7)				4.5 (4.5)				
2. Core inflation	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
	3.6	4.1	4.6	5.0	5.1	5.3	5.1	5.0	4.9	4.9	4.7	4.6	4.6	4.5	4.5	4.5	4.5
	(3.6)	(4.1)	(4.6)	(5.0)	(5.1)	(5.4)	(5.2)	(5.0)	(5.0)	(4.9)	(4.6)	(4.4)	(4.4)	(4.4)	(4.5)	(4.5)	

Notes

1. Shaded areas indicate the forecasts of the Monetary Policy Committee.
2. The figures in brackets represent the previous forecasts of the Monetary Policy Committee.

Selected forecast results (annual)

	Actual			Forecast			Steady state
	2020	2021	2022	2023	2024	2025	
1. GDP growth	-6.3%	4.9%	2.0%	0.2%	1.0%	1.1%	2.5%
	(-6.3%)	(4.9%)	(2.5%)	(0.3%)	(0.7%)	(1.0%)	
2. Output gap (ratio to potential GDP)	-3.5%	-2.0%	-0.6%	-0.2%	0.0%	0.0%	0.0%
	(-3.5%)	(-2.0%)	(-0.3%)	(0.1%)	(0.1%)	(0.1%)	
3. Change in nominal effective exchange rate	-12.8%	9.9%	-2.3%	-8.6%	1.7%	0.8%	2.5%
	(-12.8%)	(9.9%)	(-2.5%)	(-3.2%)	(-1.5%)	(0.4%)	
4. Change in real effective exchange rate	-10.6%	11.1%	-3.2%	-7.0%	4.4%	3.3%	0.0%
	(-10.6%)	(11.1%)	(-3.2%)	(-1.9%)	(1.3%)	(3.0%)	
5. Real exchange rate gap	-10.9%	0.0%	-3.1%	-10.1%	-5.8%	-2.6%	0.0%
	(-10.9%)	(0.0%)	(-3.1%)	(-4.9%)	(-3.5%)	(-0.6%)	
6. Repurchase rate (end of period)	3.50%	3.61%	6.54%	7.13%	6.94%	6.91%	7.00%
	(3.50%)	(3.61%)	(6.54%)	(7.08%)	(6.91%)	(6.89%)	
7. Current account balance (ratio to GDP)	2.0%	3.7%	-0.5%	-2.4%	-2.7%	-2.9%	
	(2.0%)	(3.7%)	(-0.7%)	(-1.7%)	(-1.8%)	(-1.8%)	

Notes

1. The nominal effective exchange rate (NEER) is based on the bilateral exchange rates of South Africa's three largest trading partners (the eurozone, the US and Japan). The bilateral exchange rates are weighted by export trade weights.
2. The real effective exchange rate (REER) is the NEER deflated by the consumer price differential between South Africa and the trade-weighted CPI of the eurozone, the US and Japan.
3. The real exchange rate gap signifies the extent to which the real exchange rate deviates from its estimated equilibrium level. A positive gap shows an overvaluation of the currency, and vice versa.
4. The forecast of the current account balance is obtained from the SARB's Core Macroeconometric Model.
5. Shaded areas indicate the forecasts of the Monetary Policy Committee.
6. The figures in brackets represent the previous forecasts of the Monetary Policy Committee.

Foreign sector assumptions

1. Trading-partner gross domestic product (GDP) growth is broadly determined using the Global Projection Model (GPM), which is adjusted to aggregate the GDP growth rates of South Africa's major trading partners on a trade-weighted basis. Individual projections are done for the six largest trading partners, namely the eurozone, the United States (US), the United Kingdom (UK), Japan, China and India. Other countries considered, although with small weights, are Brazil, Mexico and Russia. The remaining trading partners are grouped into the 'Rest of Countries' bloc. Since sub-Saharan Africa is also a major trading region for South Africa (but does not have a bloc in the GPM), it is modelled separately and then combined with the aggregate of all the countries in the GPM to make up total trading-partner growth.

2. As with GDP growth, the output gap is determined using the GPM and is adjusted in a similar way. The output gap is driven by a combination of country-specific domestic factors, external factors and financial-real linkages (beyond interest rate and exchange rate effects). Domestic factors include expectations of future demand and medium-term interest rates. External factors include exchange rate impacts on demand, direct spillovers through trade with trading-partner countries and foreign demand.

3. The commodity price index is a weighted aggregate price index of the major South African export commodities.

4. The Brent crude oil price is expressed in US dollars per barrel. The assumption incorporates supply and demand dynamics as well as oil inventories (of all grades). The assumption is also informed by projections from the US Energy Information Administration, the Organization of the Petroleum Exporting Countries (OPEC) and Reuters.

5. World food prices is the composite food price index of the United Nations (UN) Food and Agriculture Organization (FAO) in US dollars. It is weighted using average export shares, and represents the monthly change in the international prices of a basket of five food commodity price indices (cereals, vegetable oil, dairy, meat and sugar). World food price prospects incorporate selected global institution forecasts for food prices and imbalances from the anticipated trend in international food supplies relative to expected food demand pressures.

6. International consumer prices are also broadly determined using the GPM. The index is an aggregate of the consumer price indices of the eurozone, the US and Japan, weighted by their relative trade shares. Consumer prices are determined for each of these economies by accounting for inflation expectations, demand pressures and pass-through from changes in the relevant exchange rate. Other institutional forecasts for international consumer prices are also considered.

7. International policy interest rates are again broadly determined using the GPM. Interest rates are a weighted average of the policy rates of the eurozone, the US and Japan. They are individually determined by a 'Taylor-type' monetary policy rule. The communications of the relevant central banks and other institutional forecasts are also considered.

Domestic sector assumptions

1. The electricity price is an administered price measured at the municipal level with a weight of 3.63% in the headline consumer price index (CPI) basket. Electricity price adjustments generally take place in the months of July and August of each year, and the assumed pace of increase over the forecast period reflects the multi-year price determination agreement between Eskom and the National Energy Regulator of South Africa (NERSA), with a slight adjustment for measurement at the municipal level.

2. Fuel taxes and levies are the total domestic taxes and costs included in the price of fuel paid at the pump. They include the Road Accident Fund (RAF) levy, the fuel levy, retail and wholesale margins, the slate levy and other minor levies. The two major taxes, which are set by the Minister of Finance in the annual National Budget, are the RAF levy and the fuel levy. The income generated by the RAF levy is utilised to compensate third-party victims of motor vehicle accidents, while the fuel levy is used to provide funding for road infrastructure.

3. Potential growth is derived from the South African Reserve Bank's (SARB) semi-structural potential output model. The measurement accounts for the impact of the financial cycle on real economic activity, and introduces economic structure via the relationship between potential output and capacity utilisation in the manufacturing sector (*SARB Working Paper Series No. WP/18/02*).

4. The midpoint of the inflation target range is 4.5%. The official inflation target range is 3–6%.

5. The neutral real interest rate (NRIR) is the interest rate consistent with stable inflation and output in line with the economy's potential. This variable is the basis for judging whether a given policy stance is expansionary, contractionary or neutral.

Glossary

Advanced economies: Advanced economies are countries with high gross domestic product (GDP) per capita, diversified exports and close integration into the global financial system.

Balance of payments: This is a record of transactions between the home country and the rest of the world over a specific period of time. It includes the current and financial accounts. See also 'Current account' below.

Brent crude: Brent crude is a light and sweet blend of oil from five different fields in the North Sea. The price of Brent crude is one of the benchmark oil prices in international markets.

Budget deficit: A budget deficit indicates the extent to which government expenditure exceeds government revenue.

Business and consumer confidence: These are economic indicators that measure the level of optimism about the economy and its prospects among business managers and consumers.

Commodities: Commodities can refer to energy, agriculture, metals and minerals. Major South African-produced commodities include platinum and gold.

Consumer price index (CPI): The CPI provides an indication of aggregate price changes in the domestic economy. The index is calculated using a number of categories forming a representative set of goods and services bought by consumers.

Core inflation: Core generally refers to underlying inflation, excluding the volatile elements (e.g. food and energy prices). The South African Reserve Bank's (SARB) forecasts and discussions refer to headline CPI excluding food, non-alcoholic beverages (NAB), fuel and electricity prices.

Crude oil price: This is the United States (US) dollar price per barrel of unrefined oil. See also 'Brent crude' above.

Current account: The current account of the balance of payments consists of net exports (exports less imports) in the trade account as well as the services, income and current transfers.

Emerging markets: Emerging markets are countries with low to middle income per capita. They are advancing rapidly and are integrating with global (product and capital) markets.

Exchange rate depreciation (appreciation): Exchange rate depreciation (appreciation) refers to a decrease (increase) in the value of a currency relative to another currency.

Exchange rate pass-through: This is the effect of exchange rate changes on domestic inflation (i.e. the percentage change in domestic CPI due to a change in the exchange rate). Changes in the exchange rate affect import prices, which in turn affect domestic consumer prices and inflation.

Forecast horizon: This is the future period over which the SARB generates its forecasts, typically between two and three years.

Gross domestic product (GDP): GDP is the total market value of all the goods and services produced in a country. It includes total consumption expenditure, capital formation, government consumption expenditure and the value of exports less the value of imports.

Gross fixed capital formation (investment): The value of acquisitions of capital goods (e.g. machinery, equipment and buildings) by firms, adjusted for disposals, constitutes gross fixed capital formation.

Headline consumer price index (CPI): Headline CPI refers to CPI for all urban areas, as measured on a monthly basis by Statistics South Africa (Stats SA). Headline CPI is a measure of price levels in all urban areas. The 12-month percentage change in headline CPI is referred to as 'headline CPI inflation' and reflects changes in the cost of living. This is the official inflation measure for South Africa.

Household consumption: This is the amount of money spent by households on consumer goods and services.

Inflation (growth) outlook: This outlook refers to the evolution of future inflation (growth) over the forecast horizon.

Inflation targeting: This is a monetary policy framework used by central banks to steer actual inflation towards an inflation target level or range.

Monetary policy normalisation: This refers to the unwinding of an unusually accommodative monetary policy. It could also mean adjusting the economy's policy rate towards its real neutral policy rate.

Neutral real interest rate (NRIR): The NRIR is the level at which the real interest rate will settle once the output gap is closed and inflation is stable.

Nominal effective exchange rate (NEER): The NEER is an index that expresses the value of a country's currency relative to a basket of other (trading-partner) currencies. An increase (decrease) in the NEER indicates a strengthening (weakening) of the domestic currency with respect to the selected basket of currencies. The weighted average exchange rate of the rand is calculated against 20 currencies. The weights of the five major currencies are as follows: the euro (30.68%), the Chinese yuan (24.53%), the US dollar (10.56%), the Japanese yen (4.95%) and the Indian rupee (4.85%). Index: 2015 = 100. See also ‘Real effective exchange rate’ below.

Output gap/potential growth: Potential growth is the rate of GDP growth that could theoretically be achieved if all the productive assets in the economy were employed in a stable inflation environment. The output gap is the difference between actual growth and potential growth, which accumulates over time. If this is negative, then the economy is viewed to be underperforming and demand pressures on inflation are low. If the output gap is positive, the economy is viewed to be overheating and demand pressures are inflationary.

Policy rate: A policy rate is the interest rate used by a central bank to implement monetary policy.

Productivity: Productivity indicates the amount of goods and services produced in relation to the resources utilised in the form of labour and capital.

Real effective exchange rate (REER): The REER is the NEER adjusted for inflation differentials between South Africa and its main trading partners. See also ‘Nominal effective exchange rate’ above.

Repurchase (repo) rate: This is the policy rate that is set by the Monetary Policy Committee (MPC). It is the rate that commercial banks pay to borrow money from the SARB.

Real repo rate: This is the nominal repo rate, as set by the MPC, adjusted for expected inflation.

Terms of trade: This refers to the ratio of export prices to import prices.

Unit labour cost (ULC): A ULC is the labour cost to produce one ‘unit’ of output. This is calculated as the total wages and salaries in the non-agricultural sector divided by the real value added at basic prices in the non-agricultural sector of the economy.

Abbreviations

BER	Bureau for Economic Research
BoE	Bank of England
CPI	consumer price index
ECB	European Central Bank
EM	emerging market
EMDE	emerging market and developing economy
FAO	Food and Agriculture Organization
Fed	United States Federal Reserve
FX	foreign exchange
G3	Group of Three (United States, eurozone and Japan)
GDP	gross domestic product
GPM	Global Projection Model
GWh	gigawatt hours
Haver	Haver Analytics
IIF	Institute of International Finance
IMF	International Monetary Fund
JOLTS	Job Openings and Labor Turnover Survey
KZN	KwaZulu-Natal
MAPE	mean absolute percentage error
MPC	Monetary Policy Committee
MPIF	monetary policy implementation framework
MPR	*Monetary Policy Review*
MTBPS	*Medium Term Budget Policy Statement*
MTEF	Medium-Term Expenditure Framework
NAB	non-alcoholic beverages
NBER	National Bureau of Economic Research
NEER	nominal effective exchange rate
NTSDA	National Treasury Sterilisation Deposit Account
OCGT	open cycle gas turbine
OPEC	Organization of the Petroleum Exporting Countries
QPM	Quarterly Projection Model
repo (rate)	repurchase (rate)
rhs	right-hand scale
S&P	Standard & Poor's
SARB	South African Reserve Bank
SIT	services, income and transfer (account)
Stats SA	Statistics South Africa
UK	United Kingdom
ULC	unit labour cost
UN	United Nations
US	United States
WEO	*World Economic Outlook*