MONETARY POLICY REVIEW

OCTOBER 2022

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.

In normal circumstances, the *MPR* is presented by senior officials of the SARB in major centres across South Africa. However, due to COVID-19, these presentations, except for the official launch, remain suspended.

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

Contents

Restoring price stability

Executive summary and overview of the policy stance

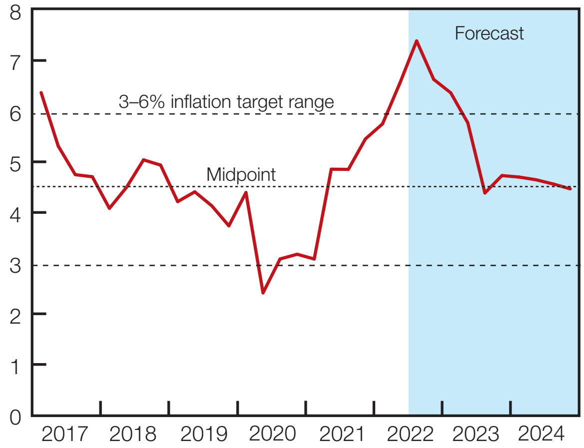
Global inflation this year reached heights last seen in the 1980s. Headline inflation in South Africa climbed to 7.6% in August, a slight moderation from the 7.8% hit in July, and a full 1.9 percentage points above the inflation outcome of January 2022. Domestic economic activity continues to improve but has been volatile from flooding in April and extensive load-shedding. The growth outlook remains modest. Headline inflation is expected to average 6.5% in 2022, and to remain above the midpoint of the target range into 2024. Central banks around the world have stepped up policy tightening to restore price stability and to re-anchor inflation expectations. As inflation and expectations of future inflation increased in South Africa over the period, the Monetary Policy Committee (MPC) raised the repurchase (repo) rate by a cumulative 200 basis points. This brings the repo rate to 6.25% compared to the average rate of 6.64% prevailing in the year prior to the COVID-19 pandemic. Further normalisation may be needed to raise rates to levels that are consistent with a stable and lower inflation rate.

In the wake of the COVID-19 pandemic and renewed geopolitical tensions, the global economy has entered a period of high inflation and weaker economic growth. While the initial impetus to inflation emanated from expansionary fiscal and monetary policies as well as demand-supply imbalances in goods markets, inflation has since broadened to many goods and services. Inflation in major advanced economies has now reached levels last seen in the 1980s and is high across emerging markets.[1]

After robust growth of 6.1% in 2021, global economic activity has slowed markedly in 2022 and is expected to remain tepid over the medium term.[2] The South African Reserve Bank (SARB) has revised its projections for global growth to 3.0% in 2022 and 2.0% in 2023, from 3.7% and 2.8% respectively in the April *Monetary Policy Review (MPR)*. The downscaling of global growth projections reflects a fading post-pandemic bounce, disrupted trade and energy supplies as well as the effects of higher inflation and the measures needed to contain it. Other forecasters, including the International Monetary Fund (IMF), have also made large downward revisions.[3]

Headline inflation

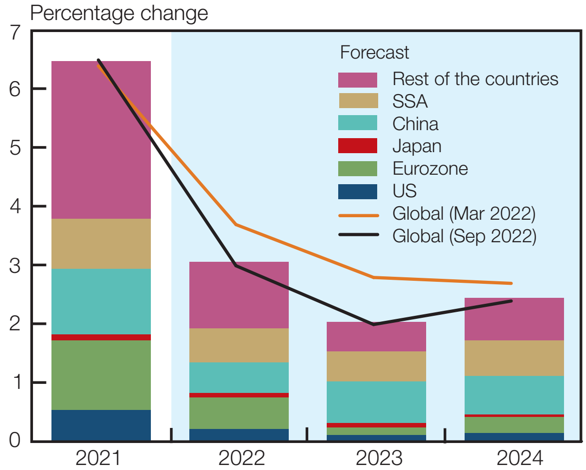
Percentage change over four quarters



Sources: Stats SA and SARB

Global growth*

Percentage change



* Real GDP growth in South Africa's major trading-partner countries

Source: SARB

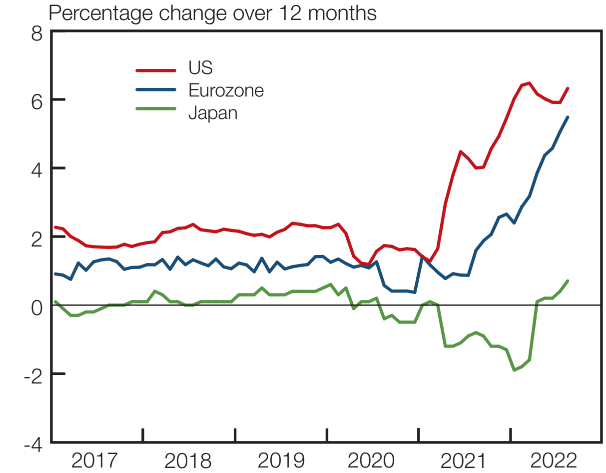
1 Year-on-year consumer price inflation in the United States (US), the eurozone and the United Kingdom (UK) in July 2022 recorded 8.5%, 8.9% and 10.1% respectively. Inflation remained contained in Japan at 2.6% in the same month.

2 International Monetary Fund (IMF), *World Economic Outlook Update (WEO Update)*, July 2022.

3 The IMF forecast was revised in the July *WEO Update* to 3.2% in 2022 and 2.9% in 2023, from 3.6% for both 2022 and 2023 in the January *WEO Update*.

G3 core inflation

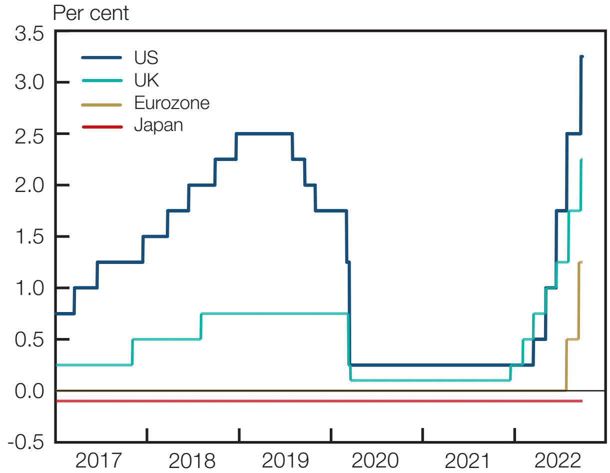
Percentage change over 12 months



Source: Haver

Policy rates in major advanced economies

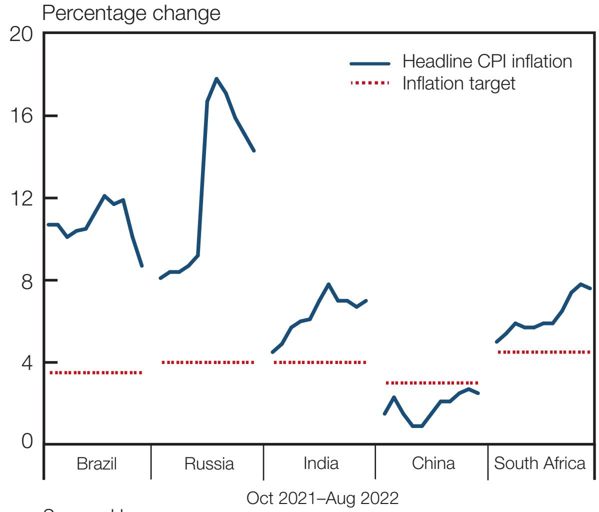
Per cent



Source: Haver

BRICS headline inflation

Percentage change



Source: Haver

While inflationary pressures have been building for some time, inflation surged in the period under review, reflecting multiple overlapping shocks to the global economy. The most significant of these is Russia's invasion of Ukraine. Apart from raising the prices of oil, food and industrial commodities, the invasion has exacerbated COVID-19-related supply chain disruptions.[4] Meanwhile, sustained expansionary policies have tightened labour markets, pushed up demand for goods and accelerated the rotation of demand back to services, particularly in the Group of Three (G3) economies.[5]

Although global energy and food prices have come off recent highs and weaker economic growth could further erode price pressures, for most of the world both the risks to inflation and its future path remain highly uncertain. Rising core inflation implies that food and energy price disinflations, on their own, are unlikely to bring headline inflation back to targets. In the absence of swift and strong policy action, inflation could develop additional momentum as economic actors price in more inflation.[6]

Advanced and emerging economy central banks have generally responded forcefully to this test of their policy frameworks, raising policy rates in large steps. The United States (US) Federal Reserve (Fed) has raised the Fed funds rate by a cumulative 300 basis points since March 2022, at times moving in 75 basis points steps, and has begun quantitative tightening. Meanwhile, the European Central Bank (ECB) has hiked rates by a cumulative 125 basis points since July 2022.[7] The Bank of England (BoE) has also hiked aggressively in recent months.[8]

The inflation experience of emerging markets has been varied. Latin American economies have seen markedly stronger inflation as food and fuel prices escalated while accommodative policies boosted demand. This prompted central banks in the region to increase policy rates sharply to keep inflation expectations anchored and to eliminate the demand impetus.[9] By contrast, in Asia and elsewhere, inflation was often more

4 A Carstens, 'A story of tailwinds and headwinds: aggregate supply and macroeconomic stabilisation', Jackson Hole Economic Symposium, 26 August 2022.

5 These are the US, the eurozone and Japan.

6 See the Bank for International Settlements, *Annual Economic Report*, 2022.

7 Unlike in the US, inflation in the eurozone is largely an energy (gas) story. July marked the first time that the ECB hiked rates since 2011.

8 The 50 basis points hike in August 2022 was the largest hike by the Bank of England (BoE) in nearly 30 years.

9 Brazil, for instance, raised its policy rate to 13.75% in August 2022 from a low of 2.0% in February 2021. Meanwhile, inflation slowed to 8.7% in August from 10.1% in July.

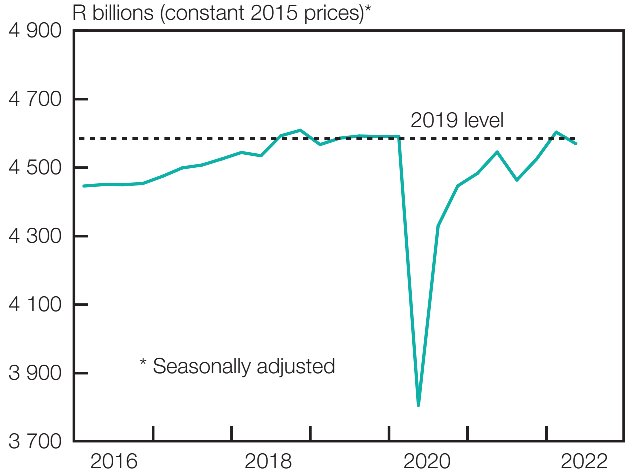
muted, with less pronounced swings in aggregate demand and consumption patterns. As a result, policy rates have generally been lower and more stable. A few countries, including South Africa, occupy a middle space, having had a slow rise in inflation early in the recovery but then an acceleration in recent months as inflationary pressures became more acute and risks deteriorated.

Across most economies, the pace of policy normalisation has ramped up faster than was expected only last year. This reflects both the 'surprise' persistence of inflation and the resolve by central banks to restore price stability.

High inflation presents potentially severe challenges to the fabric of societies, both in the short and in the long run. The disproportionate reduction in the purchasing power of poorer households and those dependent on fixed incomes gives rise to rapidly widening income inequality.[10] Rising inflation also distorts resource allocations and undermines productive activities, degrading growth prospects, investment and jobs. As inflation increases, so do inflation risk premiums, raising long-term borrowing costs and further adversely impacting on investment.[11] If persistently elevated inflation is not brought under control within a reasonable time frame, inflation expectations de-anchor and result in a prolonged period of higher interest rates. In that case, the overall economic cost of eventually getting back to lower and stable inflation rates can rise sharply, well beyond short-run costs. Guiding inflation back towards the target sooner reduces the risk that high inflation gets entrenched.

Real GDP level

R billions (constant 2015 prices)*



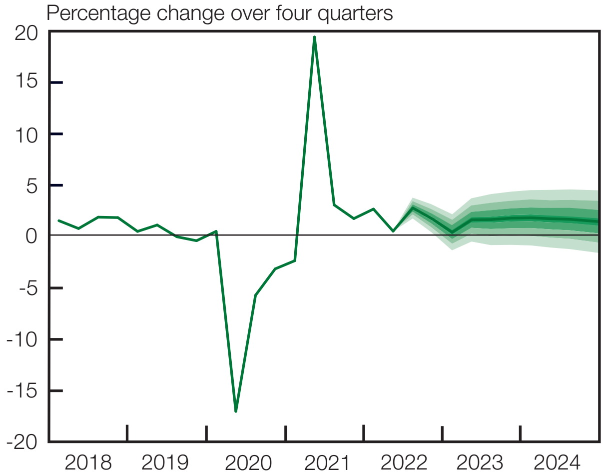
Sources: Stats SA and SARB

The domestic economic recovery and outlook

The South African economy continued its slow and gradual recovery from the pandemic in 2022, with real gross domestic product (GDP) increasing to around its pre-pandemic level. Since January, the economy has expanded by 1.4%. However, on a quarterly basis, GDP has been volatile, increasing by 1.7% in the first quarter and decreasing by 0.7% in the second quarter. While the strong first-quarter outcome lifted output beyond that of 2019, the second-quarter contraction lowered it below 2019 levels again.

Real GDP growth*

Percentage change over four quarters



* 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

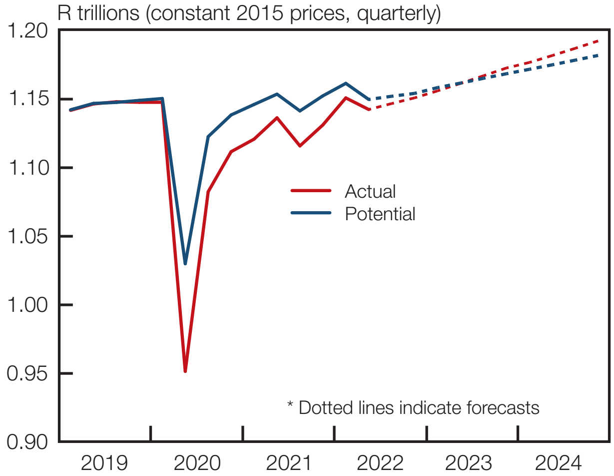
Policy support to the economy has generally been

10 C Loewald and K Makrelov, 'The impact of inflation on the poor', *South African Reserve Bank Occasional Bulletin of Economic Notes No. OBEN/20/01*, Pretoria: South African Reserve Bank, June 2020.

11 R J Barro, 'Inflation and economic growth', *Annals of Economics and Finance 14(1)*, 2013, pp 121–144.

Actual and potential GDP*

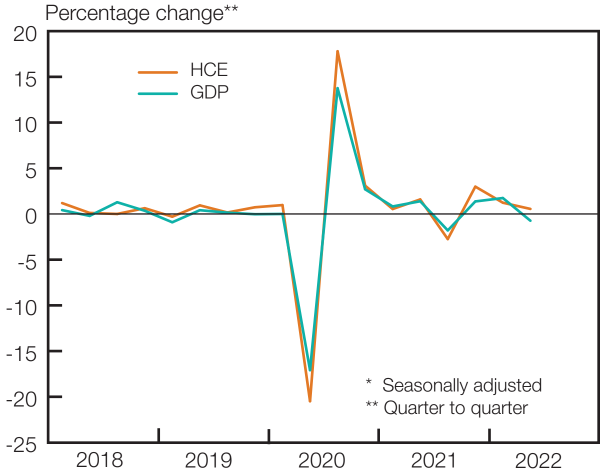
R trillions (constant 2015 prices, quarterly)



Sources: Stats SA and SARB

GDP and consumption expenditure by households*

Percentage change**



Source: Stats SA

extensive, with real interest rates at negative levels and public spending levels high.[12] Commodity export prices have provided a significant positive demand shock to the economy since the early months of the COVID-19 pandemic in 2020. However, global conditions have been more mixed in recent months, in particular as high global prices have filtered through to domestic prices. Commodity export prices eased from the highs reached in the wake of Russia's invasion of Ukraine, while import prices continue to rise. With a sharp spike in global financial volatility and still unclear domestic growth prospects, the rand depreciated sharply since the start of June 2022, weakening by 10.5% against the US dollar.

Across the various meetings of the MPC, forecasts of GDP growth for the year ranged between 1.7% and 2.0%. This deceleration from the nearly 5% reached in 2021 represents a return towards the trend growth rate, shaped in large part by insufficient supply of energy. In line with this lower trend growth and growing demand, the economy is forecast to expand by 1.4% in 2023 and by 1.7% in 2024, below the projection of 1.9% for both years at the time of the last *MPR*.

Monetary policy is in part shaped by how the balance between potential growth and aggregate demand contributes to inflation. South Africa's demand trajectory has proven to be relatively buoyant.[13] Alongside robust net exports, both household spending and investment have been stronger than expected and employment levels higher. Looking ahead, employment should benefit further from the rotation of demand back to the more labour-intensive services sectors such as transport, tourism and hospitality.

Growth in disposable income, better employment levels and social transfers have supported growth in household spending through the recovery and this year so far. After rising by 5.6% in 2021, household spending is expected to moderate to 3.2% in 2022 and to 1.8% in 2023 as growth slows and inflation erodes real purchasing power.[14]

While forecasts for gross fixed capital formation rose over the

12 Public spending increased to 32.1% of GDP in the 2020/21 financial year, from 29.7% of GDP in the 2019/20 cycle.

13 Nominal GDP grew by 5.7% and gross domestic expenditure by 9.7% during the first half of 2022.

14 After expanding by a downwardly revised 1.2% (previously 1.4%) in the first quarter of 2022, household consumption slowed to 0.6% in the second quarter.

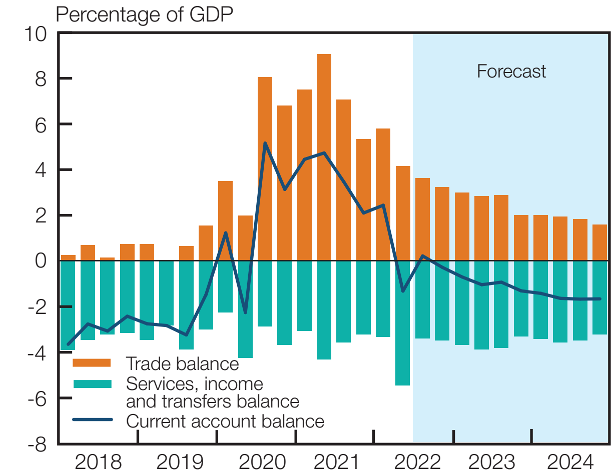
period under review, investment growth has come almost entirely from stronger-than-expected private investment. Public sector investment remains weak. Looking ahead, the recently announced energy reforms should prompt increased private and public investment in electricity generation.

South Africa's current account balance unexpectedly plunged into a deficit of 1.3% of GDP in the second quarter of 2022, ending seven uninterrupted quarters of surpluses that began in the third quarter of 2020. While this deficit came as a surprise, as dividend payments increased sharply, it is in line with the underlying trend for the current account back towards a deficit – a function of rising domestic spending (and investment) and declining commodity export price gains.

The terms of trade improvement, which started well before the pandemic and was accelerated by it, has generally supported the rand and helped subdue inflationary pressures. As the global economy cooled in recent months and commodity prices further corrected, currency weakness reemerged, exposing the vulnerabilities South Africa faces in financing the domestic economy.

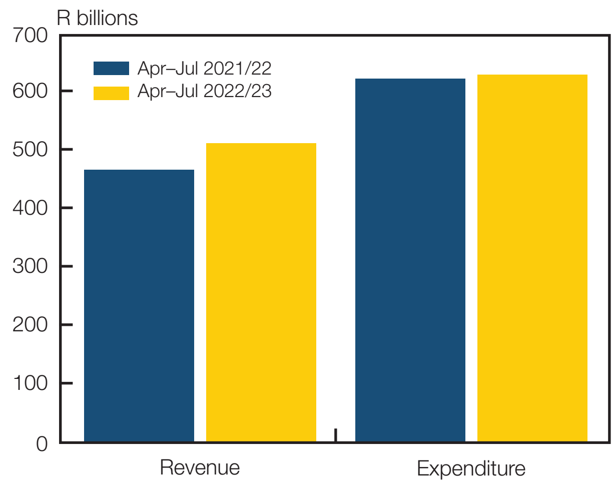
Alongside the current account, the public sector was an additional beneficiary of the post-pandemic recovery as the strong terms of trade boosted tax revenues and the revenue base broadened. Government spending grew by 5.5% in 2021/22 and by 1.1% in the first four months of the 2022/23 fiscal year. Despite some easing of financing conditions early in the year, ongoing spending pressures, higher risk aversion and inflation have tightened financing conditions, contributing to persistently high long-term borrowing costs.[15]

Current account



Source: SARB

Public finances

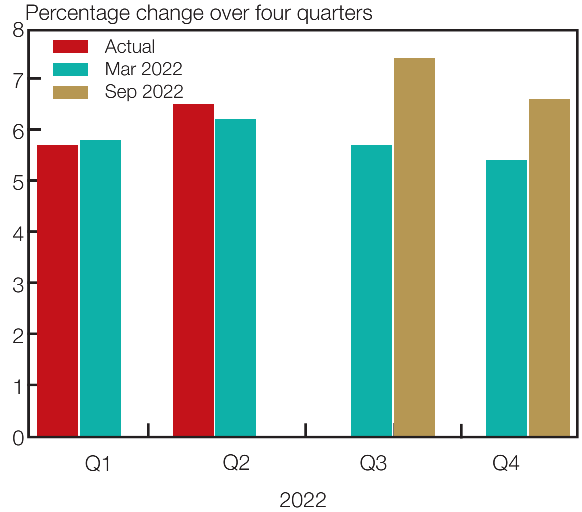


Source: National Treasury

15 The 10-year bond yields have increased to about 10.8% in recent months.

Headline inflation forecasts for each quarter of 2022

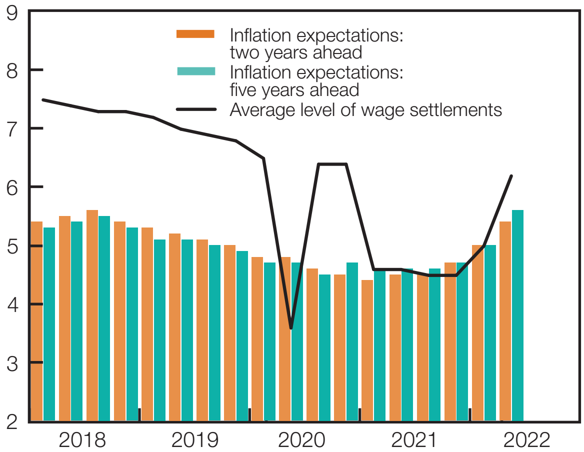
Percentage change over four quarters



Sources: Stats SA and SARB

Wage settlements and inflation expectations

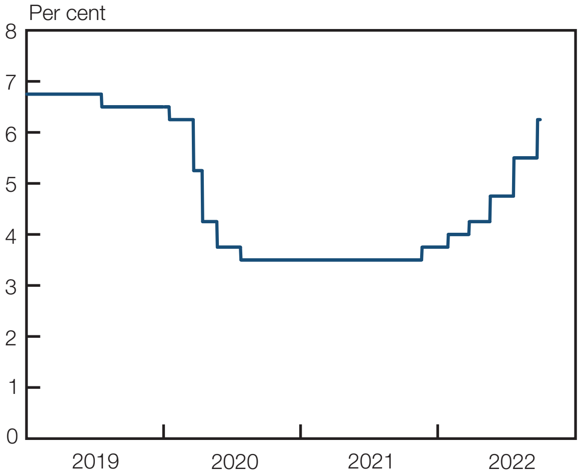
Per cent



Sources: Andrew Levy and BER

Repo rate

Per cent



Source: SARB

Through much of the post-pandemic recovery, South Africa exhibited a modest climb in headline inflation. Even as externally determined prices (oil and food) pulled the overall headline inflation rate up, core prices generally dragged the rate lower in response to a stronger rand exchange rate, low unit labour cost (ULC) growth and muted demand-side pressures. The SARB's inflation forecast, in turn, depended on energy and food price inflation easing and core inflation rising only gradually. Over the course of the past year and the last six months especially, global energy and food prices continued to rise strongly, while various components of core inflation increased more rapidly than expected. In more recent weeks, global energy and food prices disinflated significantly, as measured by the Brent crude oil price and the United Nations (UN) Food and Agricultural Organization (FAO) food price index respectively.

Inflation ramped up markedly since the release of the April 2022 *MPR*, surging to 7.8% in July before moderating slightly to 7.6% in August, providing a serious test to South Africa's supposed 'inflation exceptionalism'. Headline inflation is expected to peak in the third quarter of 2022 at 7.4% against the previous *MPR*'s expectation of 6.2% in the second quarter of 2022.

Core inflation is forecast to average 4.3% in 2022, accelerating to 5.4% in 2023 before easing to 4.8% in 2024. Headline inflation is projected to average 6.5% in 2022 and to decline closer to the midpoint of the target range by the middle of 2023.

Overview of the policy stance

Over the three meetings covered in this edition of the *MPR* (May, July and September), the MPC raised the repo rate by a cumulative 200 basis points, bringing the nominal repo rate to 6.25%. The pace of tightening reflected higher inflation and inflation expectations than had been expected and the need for the real repo rate level to be more consistent with a stable inflation rate at the target. With higher global economic volatility and a steadily closing output gap, the risk profile for inflation was consistently seen to be to the upside.

The upside risk profile for inflation reflected the continued monthly surprise outcomes of higher headline inflation, as well as increases in both core inflation and evidence of second-round effects.[16] These effects were seen in spillovers from energy prices to core goods prices (discussed in Box 2), in final producer prices, and in surveyed expectations of future inflation. Nominal wage demands increasingly reflected contemporaneous inflation outcomes, suggesting some de-anchoring from the 4.5% midpoint of the inflation target range.

16 The Stats SA trimmed mean measure of underlying inflation unambiguously shows that pressures have intensified, having risen from an average of 3.8% in 2021 to an average of 4.9% in the year to date.

The May 2022 meeting of the MPC was held against the backdrop of the devastating floods in April, worsening load-shedding as well as the intensifying war in Ukraine. Global growth was revised lower and G3 inflation up. GDP growth for South Africa in the second quarter was revised lower to 0.0%, from 0.6% in March. The near-term forecast of headline inflation at the time remained close to the upper limit of the target range while core inflation, although averaging only 3.9% in 2022, was expected to rise sharply and to exceed headline inflation from 2023 onwards. Both food and fuel inflation were seen decelerating markedly due to base effects and the easing of supply constraints globally.[17] Services inflation was forecast to exceed the midpoint of the target range in 2023 and to remain above it over the medium term.

Headline inflation was forecast to rise to 5.9% in 2022 (5.8% in March) and to remain above the midpoint of the target range over the medium term.[18] Compared to the March repo profile, the QPM suggested an additional 25 basis points policy rate hike in the second quarter to total 50 basis points. With inflation becoming more broad-based and risks tilted to the upside, the MPC agreed unanimously to raise the repo rate by 50 basis points to 4.75%.

Economic data releases preceding the July meeting of the MPC painted a mixed picture of the outlook for growth and inflation. Economic activity had recovered to pre-pandemic levels by the first quarter of 2022, but the economy was projected to contract sharply (by 1.1%) in the second quarter. Meanwhile, headline inflation breached the upper limit of the target range in May, rising to 6.5%, and forward projections showed it rising to 7.3% in June and July before moderating. Alongside currency depreciation, other risks to the inflation outlook, such as increased food and fuel prices, had largely materialised, pushing up projected ULC growth and expectations of future inflation.[19, 20] Core inflation was forecast higher at 4.3% in 2022 (from 3.9% in May), rising to 5.6% in 2023 (from 5.1%) before moderating somewhat to 4.9% (from 4.8%). With upward pressure from both core and non-core inflation, headline inflation was revised higher to 6.5% in 2022 (from 5.9%) and up to 5.7% in 2023 (from 5.0%), and forecast at 4.7% in 2024, unchanged from the May meeting.[21]

17 Core inflation was projected lower at 3.9% in 2022 (from 4.2% in March), 5.1% in 2023 (from 5.0%) and 4.8% in 2024 (from 4.7%). The downward revision to core inflation in 2022 was largely due to the lower outturn for medical insurance during the first quarter of the year.

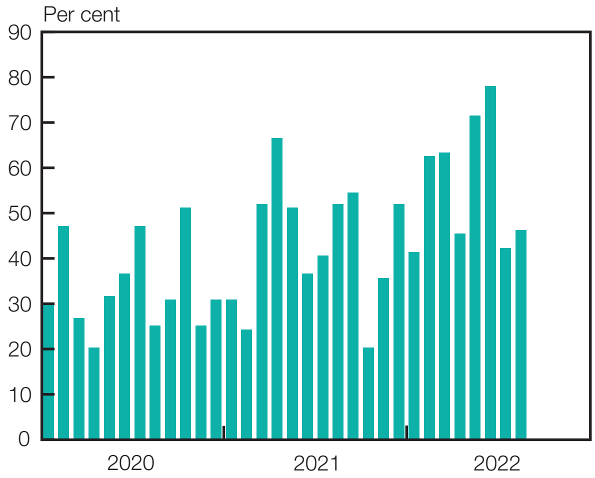
18 Headline inflation was projected at 4.9% in 2023 and 4.7% in 2024.

19 Fuel price inflation was revised up to 38.9% in 2022 (from 31.2%) and to 4.5% in 2023 (from -0.3%). Food price inflation was revised higher to 7.4% in 2022 (from 6.6%) and to 6.2% in 2023 (from 5.6%), but remained unchanged at 4.2% for 2024.

20 The Bureau for Economic Research (BER) average surveyed expectations of future inflation in the second quarter of 2022 reached 5.6% for 2023 (from 5.0%) and 5.4% for 2024 (from 5.0%).

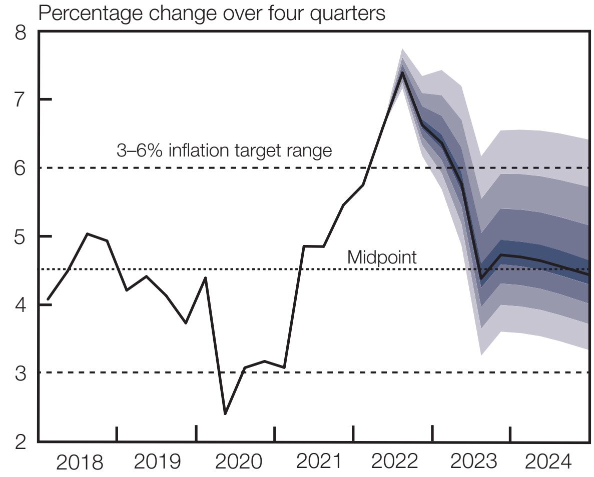
21 The QPM forecast for headline inflation takes into account the policy rate trajectory endogenously generated by the model.

Headline broadness



Sources: Stats SA and SARB

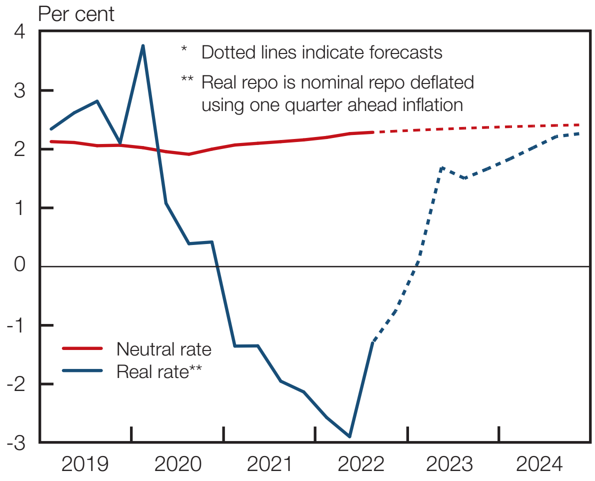
Targeted inflation forecast*



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

Sources: Stats SA and SARB

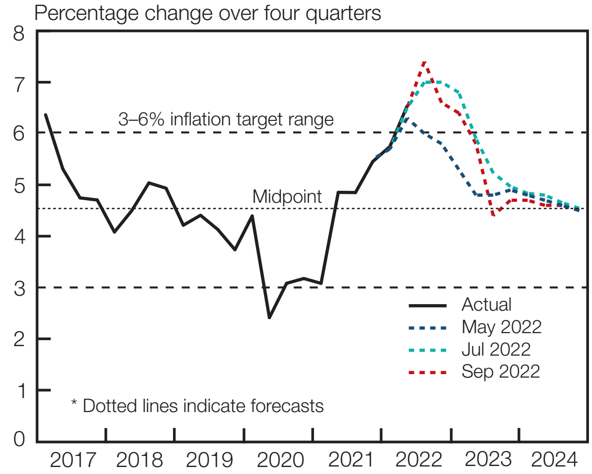
Real and neutral repo rates*



Source: SARB

Headline inflation*

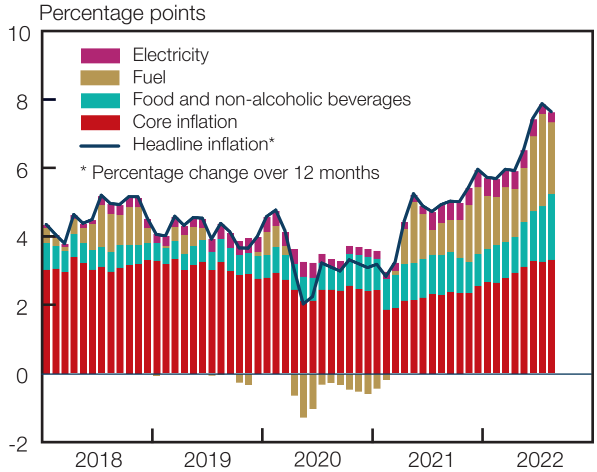
Percentage change over four quarters



Sources: Stats SA and SARB

Contributions to headline inflation

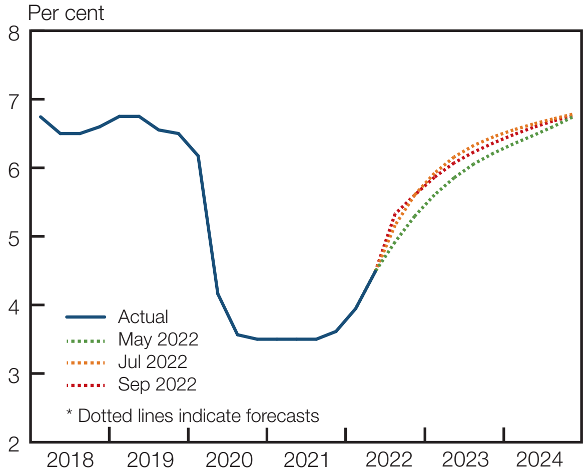
Percentage points



Sources: Stats SA and SARB

Evolution of repo rate forecasts*

Per cent



Source: SARB

Meanwhile, economic growth continued to slow globally, even as inflation surprised further to the upside. The SARB's estimate for inflation in the G3 economies was revised higher to 6.9% in 2022 (from 6.3% in May) and up to 3.0% in 2023 (from 2.7%) but remained unchanged at 2.0% in 2024. Global financial conditions were seen tightening as higher-than-expected inflation pushed global central banks to accelerate the normalisation of policy rates.

Against this backdrop, the MPC decided to raise the repo rate by 75 basis points to 5.50%, with three members expressing a preference for the announced increase, one member preferring a 100 basis points increase and another member preferring a 50 basis points increase.

At the September meeting of the MPC, the headline inflation forecast was unchanged at 6.5% in 2022 but revised lower to 5.3% in 2023 (5.7% in July) and 4.6% in 2024 (4.7%). The trajectory for core inflation was forecast to moderate slightly compared to the July meeting. The near-term inflation print eased somewhat from the 7.8% reached in July to 7.6% in August, reflecting moderating global food and oil price inflation, as well as lower electricity price inflation. Inflation expectations and wage increases turned out marginally better than expected, although the overall outcome was mixed. The rand, however, was expected to weaken further over the forecast horizon, in part due to declining terms of trade and rising global interest rates.

Domestic growth was revised slightly lower for 2022 due to persistent load-shedding. Meanwhile, household consumption remained relatively strong, helped by moderating food and fuel prices, still accommodative real interest rates, and improvement in employment. Investment was expected to grow by 7.4% in 2022 but to slow somewhat in 2023 before being buoyed by the announced energy reforms, rising from 3.9% in 2023 to 5.5% in 2024. Net exports were expected to remain under pressure mainly due to slower global growth and idiosyncratic domestic factors.

The QPM's implied policy rate path suggested a 25 basis points increase in the fourth quarter and another 25 basis points increase in the first quarter of 2023, following the 75 basis points increase at the July meeting. Although fuel price inflation had eased and global food prices were somewhat lower, the MPC noted that upside risks remained elevated. As a result, the MPC raised the repo rate by 75 basis points, bringing it to 6.25%. Three members expressed a preference for the announced rate increase while two members preferred a 100 basis points increase. Risks to the inflation outlook have consistently been seen to be on the upside over the review period.

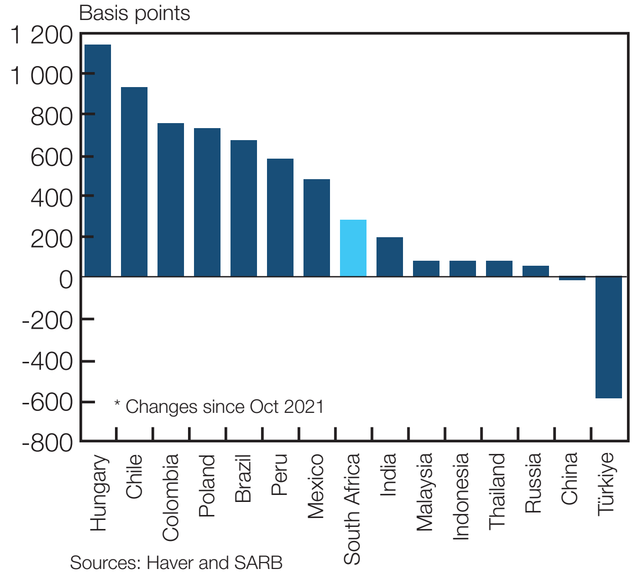
Although rates have increased at every meeting of the MPC since the lift-off in November 2021, the steps have been incremental and smaller than in peer economies, and the hiking cycle has been shallower than in many other economies. An early start to repo rate normalisation has supported a more balanced recovery, while commodity price strength and a more appreciated rand have helped keep the effects of high global inflation at bay.

Conclusion

While inflation expectations were well anchored for much of the period, in recent months South Africa's 'inflation exceptionalism' has been severely challenged. The monetary policy stance has been adjusted over time to better address those challenges, looking to anchor inflation expectations more strongly to 4.5% over the medium term. With higher inflation and closing of the output gap, continuing the strongly expansionary policy stance of recent years is both unnecessary and imprudent, risking additional de-anchoring of inflation expectations. Normalisation of the repo rate to date has helped to address that challenge.

Sustainable economic growth requires both the attainment of low inflation and structural reforms that enhance investment and productivity, and thus trend growth, such as providing sufficient energy for growth and further de-risking the economy by stabilising public debt. Energy reforms are in motion, with tangible commitments expressed by potential investors. Speedy and judicious implementation could see investment rising markedly over the medium term, although the effects on trend growth may only begin to manifest towards the end of the forecast period.

Emerging market policy rates*



Sources: Haver and SARB

Box 1 South Africa's sacrifice ratio

The public debate about monetary policy often focuses on the short-term transition costs of moving from one inflation rate to another lower one, a measure known as the 'sacrifice ratio.' Many estimates of sacrifice ratios, however, are small, and empirically are insignificant relative to the size of medium and long-run benefits of lower inflation.

Recent estimates[1] of the sacrifice ratio for South Africa using the approach developed by L Ball[2, 3] show a negative outcome over the 2016–2019 period, suggesting little or no output losses even as inflation eased significantly.[4] Other approaches show similar results. The Cecchetti and Rich[5, 6] method reveals a low sacrifice ratio of around 0.5 over the entire post-1994 period – similar to other recent estimates for South Africa.[7] A low sacrifice ratio implies that the short-run costs of achieving permanently lower inflation rates are small and even at times positive.

One of the benefits of adopting credible and effective inflation-targeting frameworks is generally understood to be smaller sacrifice ratios.[8] In South Africa's case, central bank communication has improved significantly over the past decade, heightening credibility and helping to lower relatively inflexible administered price inflation.[9] Exchange rate pass-through, which is a function of credibility and communications, has also declined, and inflation expectations have become more forward-looking, reducing inflation inertia and contributing to the decline in the sacrifice ratio.[10, 11, 12]

South Africa's inflation target range and the associated 4.5% midpoint of the range remain high relative to peer emerging markets, most of which have a point target of around 3% with a tolerance of 1% around the target. This difference in target presents an unambiguous cost to the economy over time, foregoing more predictability of returns to investment and savings as well as clearer relative price signals that support economic growth.[13]

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1 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, August 2022.

2 'What determines the sacrifice ratio?', in *Monetary Policy*, edited by G Mankiw, 1994. Chicago: University of Chicago Press.

3 The approach identifies disinflation episodes as periods when trend inflation falls by more than 2 percentage points per year. The accumulated output losses over the disinflation episodes are calculated as the sum of deviations of actual from trend output.

4 See also Box 2 in the April 2021 *MPR*.

5 S G Cecchetti and R W Rich, 'Structural estimates of the US sacrifice ratio', *Journal of Business and Economic Statistics 19(4)*, 2001, pp 416–427.

6 The approach estimates the sacrifice ratio by identifying unanticipated monetary policy shocks in a simple structural autoregressive model.

7 H Y Gereziher and N Y Nuru, 'Structural estimates of the South African sacrifice ratio', *World Institute for Development Economics Research Working Paper No. 2021/12*, Helsinki: United Nations University World Institute for Development Economics Research, January 2021.

8 R I M Torres, 'Inflation targeting in emerging economies: a comparative sacrifice ratio analysis', *Dynamic models and their applications in emerging markets*, edited by S Motamen-Samadian, 2005, pp 77–108.

9 A Coco and N Viegi, 'The monetary policy of the South African Reserve Bank: stance, communication and credibility', *South African Reserve Bank Working Paper Series No. WP/20/06*, Pretoria: South African Reserve Bank, June 2020.

10 A N Kabundi and M M Mlachila, 'Monetary policy credibility and exchange rate pass-through in *South Africa', South African Reserve Bank Working Paper Series No. WP/18/04*, Pretoria: South African Reserve Bank, August 2018.

11 M B Reid and P L Siklos, 'How firms and experts view the Phillips curve evidence from individual and aggregate data from South Africa', *South African Reserve Bank Working Paper Series No. WP/21/03*, Pretoria: South African Reserve Bank, March 2021.

12 See C Loewald, K Makrelov and E Pirozhkova, ibid.

13 See, for example, J de Gregorio, 'The effects of inflation on economic growth: lessons from Latin America', *European Economic Review 36(2–3)*, 1992, pp 417–425.

Global economy – stagflation?

The growth outlook for the world economy has been downgraded further since the previous MPR *as high and persistent inflation coupled with tightening financial conditions and geopolitical tensions weigh on global supply and demand. After a slow start to monetary tightening, and amid intensifying core inflationary pressures, central banks have raised policy rates more aggressively to prevent a de-anchoring of inflation expectations. Higher inflation and interest rates increase the risks for many economies – developing, emerging and advanced – with higher debt levels post-COVID-19.*

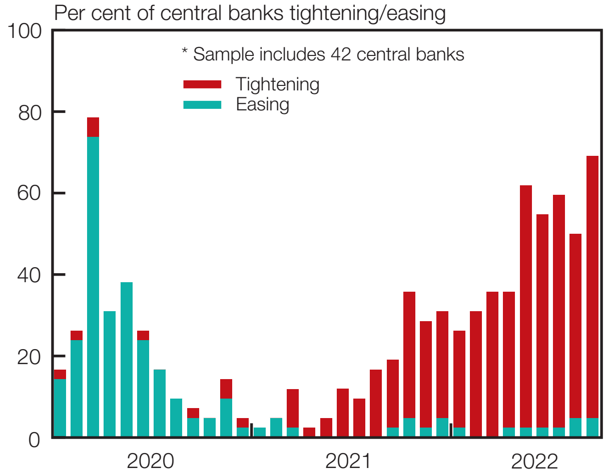
Following the sharp rebound in global growth in 2021, the IMF now expects global real GDP growth to slow to 3.2% this year.[22] Meanwhile, global inflation is expected to be sharply higher, revised up to 6.6% for advanced economies and to 9.5% for emerging market and developing economies, compared to the 3.8% and 5.8% respectively expected at the start of the year.

The emergence of this stagflationary environment reflects two broad dynamics in the world economy: a major expansion in aggregate demand and a wide range of serious supply constraints. These have generated large shocks to the prices of food, energy and goods, and have created space for price increases of other goods, services and other input costs, like wages, in reaction. The sharp appreciation in the US dollar, partly reflecting the anticipated faster pace of rate increases in the US relative to most other advanced economies, has contributed to a deterioration in inflation prospects for most countries. Compounding this has been a string of other negative developments, including the ongoing war in Ukraine and slowing growth in the Chinese economy. Beyond 2022, global growth is likely to slow further, as central banks and fiscal authorities act to prevent even more damage to the global economy from a further increase in inflation.

Growth in advanced economies is forecast to slow to around 2.5% in 2022, 1.4 percentage points lower than was forecast in the IMF's January 2022 *World Economic Outlook Update (WEO Update)*, dampened by declining household purchasing power and tighter financial conditions in most large economies. In the US, lower consumer spending and weakness in the housing sector could drag real GDP growth to 2.3% in 2022 compared to the 4.0% projected in the January 2022 *WEO Update.* The eurozone is now estimated to grow by 2.6% in 2022, 1.3 percentage points lower than the January 2022 projection. A recession is expected in the second half of the year as the region is heavily impacted by the war in Ukraine and as financial conditions tighten further. Meanwhile, the Japanese economy finally managed to return to its pre-pandemic trend

Global central bank policy changes*

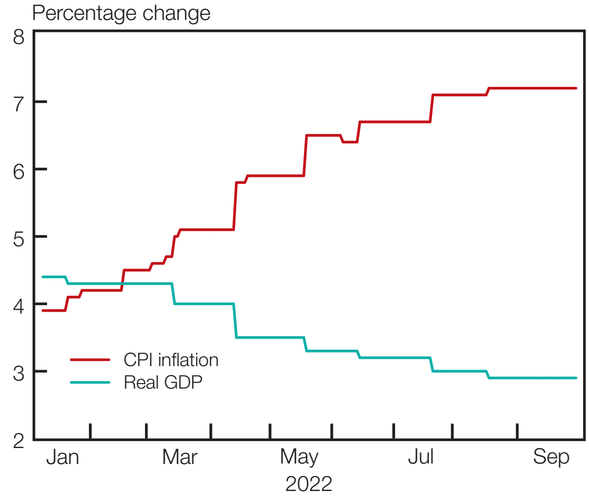
Per cent of central banks tightening/easing



Sources: Haver and SARB

Global real GDP growth and inflation forecasts (2022)

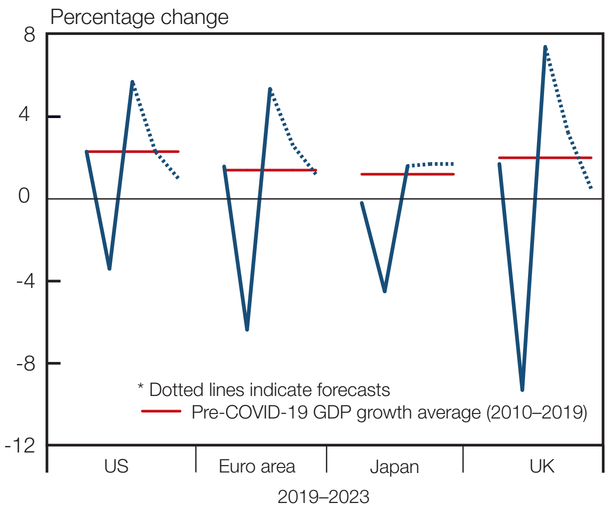
Percentage change



Source: Bloomberg

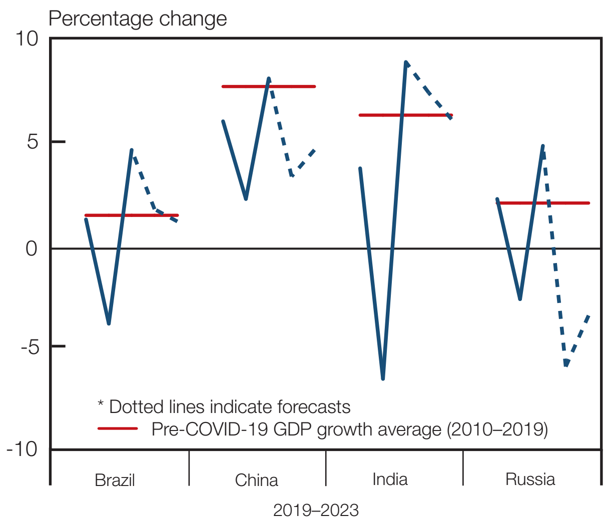
22 The IMF's projection for global growth in 2022 has been lowered by 1.2 percentage points between the January and July updates of the *World Economic Outlook (WEO).*

Real GDP growth projections for advanced economies*



Sources: IMF and SARB

Real GDP growth projections for selected emerging markets*



Sources: IMF and SARB

in the third quarter of 2022, with real GDP growth forecast to reach 1.7% in 2022. In the United Kingdom (UK), consumption has weakened markedly as soaring inflation and higher interest rates erode real disposable income.

Some advanced economies could prove more resilient despite slowing growth, as consumer and corporate balance sheets remain healthy. Cash and bank deposits held by households, as a share of disposable income, are well above the averages of the past decade and reflect the still unspent transfers that households received during the COVID-19 pandemic.[23] Similarly, profitability has been healthy in the past year and interest burdens low, which helped with corporate debt consolidation. As a result, non-financial businesses entered the current slowdown with relatively healthy financial positions.

Weaker growth prospects in the emerging world mainly reflect the marked slowdown in China and the sharp contraction in Russia, although most emerging regions show subdued growth.[24] Chinese economic activity is expected to rebound in the second half of 2022 following a sharp slowdown in the first half on the back of strict COVID-19 lockdowns and turmoil in the property sector. However, some early signs, in particular disappointing retail sales data, suggest that the rebound is more subdued – a view that appears to find support in the surprise interest rate cut by the People's Bank of China in August 2022. The outlook for China remains clouded by renewed COVID-19 outbreaks and a further deterioration of the country's property sector. Real GDP growth in China is expected to average 3.3% in 2022, well below government's 5.5% growth target for the year. Following its invasion of Ukraine, Russia's economy is expected to contract by 6.0% this year, down from a projected 2.8% growth in January, as the war, trade and financial sanctions as well as oil and gas embargoes by major economies take their toll.

Seemingly bucking the trend for larger emerging markets, the Indian economy is expected to expand by 7.4% this year. This projection, however, is 1.6 percentage points lower than the January forecast, and is subject to downside risks related to weaker domestic demand and lower net exports. Contrary to the brighter prospects in India, economies across Latin America will experience more subdued growth, weighed down by higher inflation and tightening financial conditions. In Brazil, real GDP growth is projected at 1.7% in 2022.[25] Growth in sub-Saharan Africa (SSA) is expected to average 3.8% in 2022, reflecting the favourable effects of elevated energy and metals prices for commodity-exporting countries.[26] The region, however, remains vulnerable to slowdowns in global growth, particularly slower growth in China, and tightening global financial conditions.

23 Data from the major central banks – including the Fed, the Bundesbank, Banque de France and the BoE – show similar trends.

24 These growth projections are taken from various editions of the IMF's *WEO* for 2022.

25 While low, this is an improvement relative to the 0.4% forecast in January 2022.

26 Excluding Nigeria and South Africa, SSA is expected to expand by 4.6% in 2022.

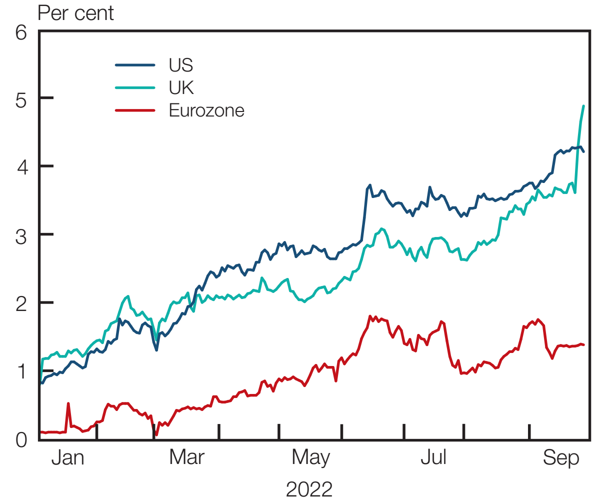
Monetary policy tightening in full swing

Faced with persistently high global inflation, a 'global' monetary policy tightening cycle is underway. Central banks have reduced monetary accommodation, with both the frequency and the magnitude of hikes initially exceeding market expectations. Some central banks have also begun to reduce the size of their balance sheets, tightening financial conditions further. Market expectations of future policy rate hikes have been revised higher in recent quarters, consistent with central banks' communicated intent to bring inflation lower sooner. Among the emerging markets, Brazil has been an outlier, with sharply higher rate expectations, reflecting persistent and widespread inflationary pressures throughout the economy. The Brazilian central bank has undertaken the biggest rate-hiking cycle among emerging market economies.

Despite the aggressive increases in policy rates, monetary policy remains generally accommodative, suggesting that central banks could do more. For advanced economies, ex post real rates remain in negative territory. Assuming that inflation forecasts materialise as expected, ex ante real rates (based on inflation projections for the fourth quarter of 2023) are now more or less in line with pre-pandemic averages. For emerging markets, ex post real rates have shifted closer to post-global financial crisis (GFC) averages but still remain below ex ante rates. On a forward-looking basis, monetary policy across emerging markets appears to be more in line with long-run averages.

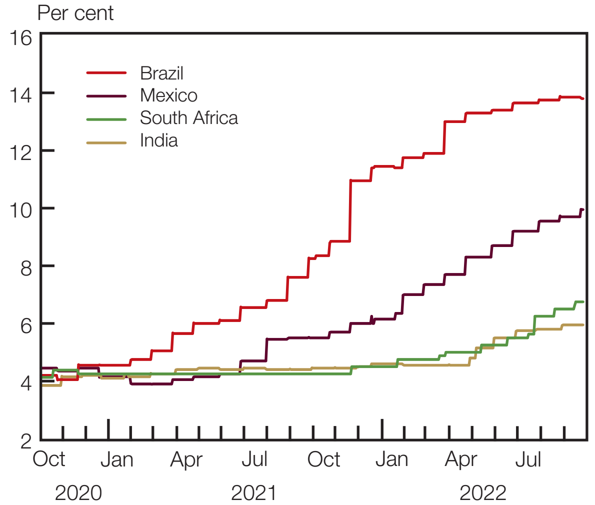
However, comparing ex ante real rates to averages of the past decade may be misleading, as many advanced economies had a 'low inflation problem' in the post-GFC period, prompting central banks to keep real rates below neutral. At present, with inflation extremely high and persistent, most central banks need to raise real rates to at least the neutral real level, and probably higher. Complicating this is the possibility that the level of neutral real rates may have shifted in the post-pandemic period (see Box 2 in the April 2022 *MPR*).

Advanced economy rate expectations (end 2022)



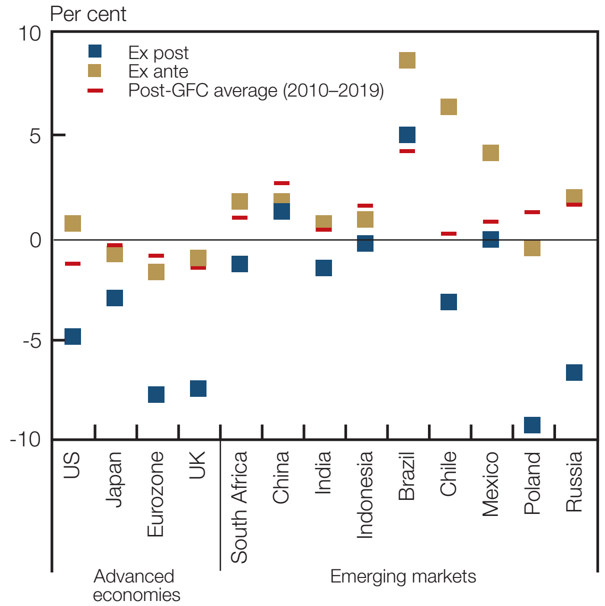
Source: Bloomberg

Emerging market rate expectations (end 2022)



Source: Bloomberg

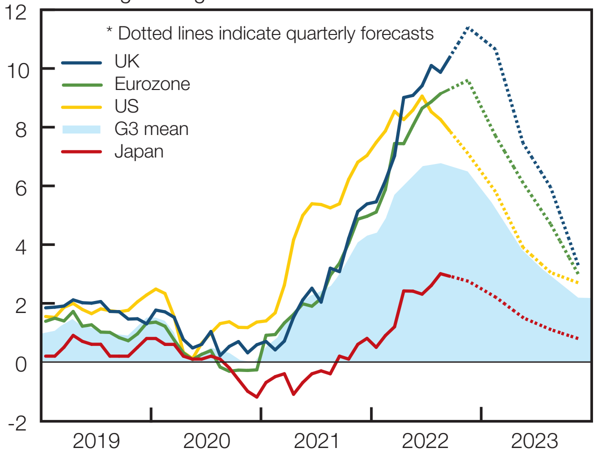
Real policy rates



Sources: Bloomberg, Haver and SARB

Advanced economy inflation*

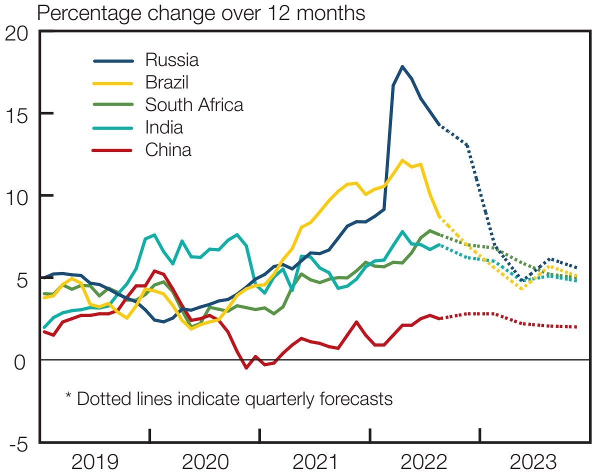
Percentage change over 12 months



Sources: Bloomberg, Haver and SARB

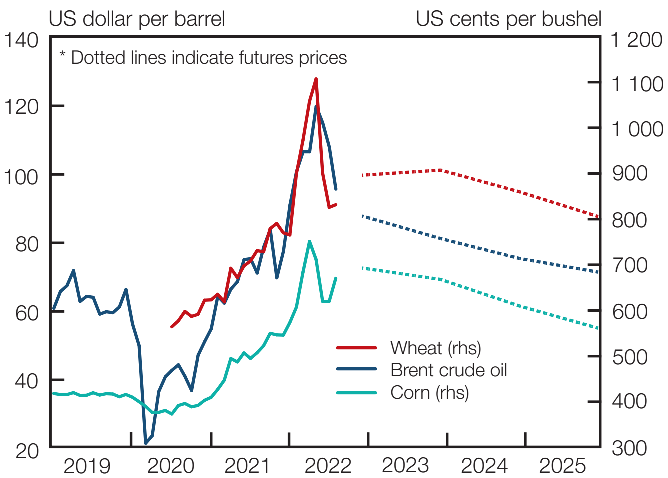
Emerging market inflation*

Percentage change over 12 months



Sources: Bloomberg, Haver and SARB

Food and oil prices*



Source: Bloomberg

Peaking inflation?

Major forecasters[27] see a peak in global inflation in 2022. Headline inflation, however, remains elevated and above target in most economies, owing to still-high price increases for food and energy, supply constraints, tight labour markets (particularly in advanced economies) as well as a rebalancing of demand back towards services.

Over the medium term, inflation is expected to move lower and to return closer to central bank targets, although uncertainty around inflation forecasts remains elevated. Three factors should contribute to a declining inflation trajectory: falling commodity prices, easing supply constraints and monetary policy tightening. Futures prices for Brent crude oil as well as wheat and corn prices suggest some moderation in prices over the medium term.[28] The lower commodity price trajectory is premised mainly on lower demand as the global economy weakens and as higher prices temper consumption.

After rising sharply through the second half of 2020 and most of 2021, supply chain pressures also appear to be easing. For instance, container shipping costs from China to the rest of the world have trended lower while global supplier delivery times are improving. At the same time, the disinflationary effects of monetary policy should weigh on price developments through this year and over the medium term, subduing demand. Meanwhile, inflation expectations have begun levelling off, suggesting confidence that central banks will prevail in taming rampant inflation.

Debt overhang

Many economies sharply increased fiscal spending during the COVID-19 pandemic to strengthen their health-care systems and to ameliorate the impact of lockdowns on households, corporates and the economy overall. In the process they accumulated large amounts of debt, often at very low interest rates. Global government debt reached 99.2% as a share of world GDP in 2020 from 83.6% in 2019.[29] While government debt eased somewhat to 97.6% in 2021, it remains at elevated levels. Rising global interest rates and tightening financial conditions will push up debt-service costs and could lead to increased debt sustainability challenges and possibly debt

27 Organisation for Economic Co-operation and Development (OECD), *Economic Outlook 2022*, Paris: OECD June 2022.

28 However, much uncertainty remains over the outlook for global natural gas supplies in 2022 and 2023.

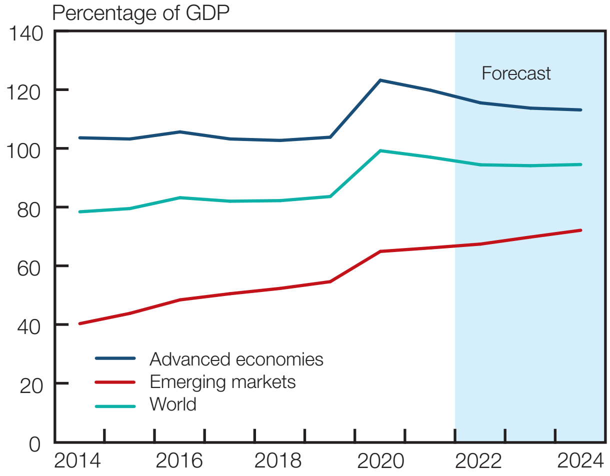
29 International Monetary Fund (IMF), *Fiscal Monitor: Fiscal Policy from Pandemic to War*, Washington, D.C.: IMF, April 2022.

distress for some economies.[30] These problems are more acute for emerging market and developing economies with large macroeconomic imbalances, as they could also face balance of payments challenges and weakening currencies in a risk-off environment, further pushing up inflation.

Heightened stagflationary risks

With global inflation sharply higher and global growth weaker, stagflation has emerged as a global condition. Several risks could worsen the outlook even further. One such risk would be central banks not doing enough to increase the credibility of their inflation targets and thereby prevent inflation expectations from drifting higher. Stagflation could further deepen if disruptions to energy supplies persist, keeping oil and other energy-related prices elevated for longer even in an environment of slowing energy demand. Overall, failure to bring inflation under control in a reasonable time frame would jeopardise global growth over the medium to long term.

Global government debt



Source: IMF

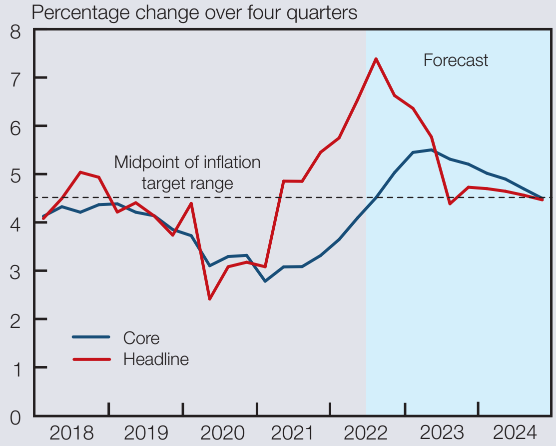
30 Around 60% of low-income countries are now at risk of, or already in, debt distress, compared to about 30% in 2015. IMF *Fiscal Monitor*, April 2022.

Box 2 How and why second-round effects matter

Despite most of the inflationary pressures over the past year emanating from sharp increases in food and energy prices, central banks in both advanced and emerging market economies have accelerated the normalisation of policy rates. The pace of policy rate hikes has mirrored the degree to which headline inflation has risen above targets, reflecting concern about second round effects and the high economic costs of re-anchoring inflation expectations should they be allowed to drift.[1] This box discusses how and why second-round effects matter for monetary policy.

Second-round effects refer to the extent to which food and energy price inflation (also known as non-core inflation) drives up headline inflation and then embeds into core inflation. Econometrically, second-round effects can be assessed by considering whether headline inflation reverts to core inflation and whether core inflation reverts to headline inflation. For instance: if non-core inflation rises and drives headline inflation higher, and above core inflation, today, but then headline inflation falls lower to the trend of core inflation, there are no second-round effects (the non-core price shock dissipates quickly without affecting the trajectory for core inflation). But if, instead, a few months down the line core inflation rises to catch up with the trajectory for headline inflation, then second-round effects are present. In the latter case, the non-core price shock is persistent and eventually influences the dynamics of core inflation.

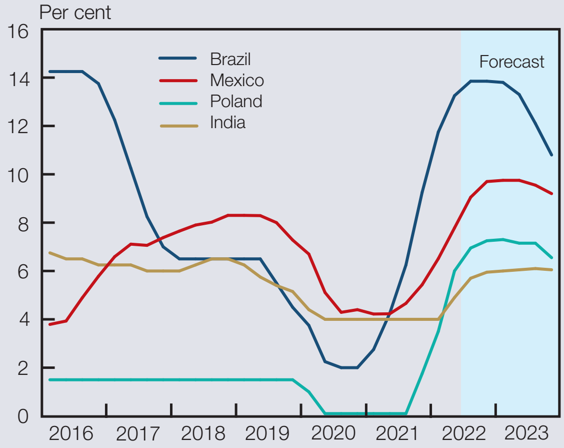
South Africa's headline and core inflation



Sources: Stats SA and SARB

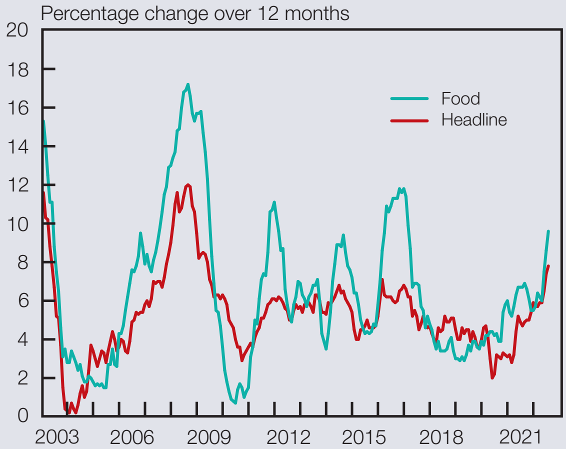
1 Despite central banks hiking policy rates aggressively, real interest rates have remained negative in most economies as inflation has continued to surprise to the upside.

Policy rates in selected emerging markets



Source: Bloomberg

Headline and food inflation in South Africa



Source: Stats SA

Various econometric studies have concluded that in emerging market and developing economies, including South Africa, shocks to food and energy prices tend to persist.[2] This is because food and energy have a disproportionately large weight in the consumption basket of a typical household in these economies, and often do not have close substitutes. As a result, movements in food and/or energy prices have large effects on households' cost of living. For this reason, sharp increases in food or energy prices lift total inflation expectations higher and elicit higher wage demands as workers push to restore real consumption levels.[3] The resulting wage pressures can potentially start a wage-price spiral: higher wages translate into higher production costs for firms which then increase selling prices. Higher selling prices of goods (and services), in turn, lead workers to demand further raises in salaries, and so on. Relatedly, sharp increases in energy (electricity or fuel) prices imply higher supply costs for goods, which may require firms to sell at higher prices to maintain profit margins. However, when demand is more elastic or less strong, firms may prefer to compress margins rather than pass higher costs to consumers.

The fact that sharply higher food and energy price inflation, if not responded to, can transmit to core inflation and thus lead to permanently higher headline inflation largely explains the current policy tightening by most central banks. Ignoring second-round effects in the calibration of monetary policy amounts to a policy error with potentially long-lasting negative economic repercussions.

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2 See S G Cecchetti and R Moessner, 'Commodity prices and inflation dynamics', *Bank for International Settlements Quarterly Review*, December 2008; R Anand, D Ding and V Tulin, 'Food inflation in India: the role for monetary policy', *International Monetary Fund (IMF) Working Paper No. WP/14/178*, Washington, D.C.: IMF, September 2014.

3 See J de Gregorio, 'Commodity prices, monetary policy, and inflation', *IMF Economic Review 60(4)*, Washington, D.C.: IMF, 2012, pp 600–633; L Rangasamy and E Nel, 'Reconsidering the role of food prices in South African headline inflation', *Agrekon 53(4),* 2014, pp 16–37; G Peersman and I van Robays, 'Oil and the euro area economy', *Economic Policy 24(60)*, 2009, pp 603–651; F U Ruch, 'Second-round effects on inflation, and underlying inflation', PhD dissertation, Stellenbosch University, 2016; C Chisadza, J Dlamini, R Gupta and M Modise, 'The impact of oil shocks on the South African economy', *Energy Sources, Part B: Economics, Planning, and Policy 11(8)*, 2016, pp 739–745.

Financial markets

Global financial market conditions have tightened sharply over the past six months. In response to higher inflation, major central banks have raised rates and started to shrink their balance sheets. This has pushed up global risk-free rates. While some emerging markets have been severely strained by these conditions, most have been resilient. In South Africa, there has been a clear increase in volatility, but the overall market adjustment to a more uncertain, potentially stagflationary global environment has been orderly. Operationally, the SARB completed its transition to a new monetary policy implementation framework during this period.

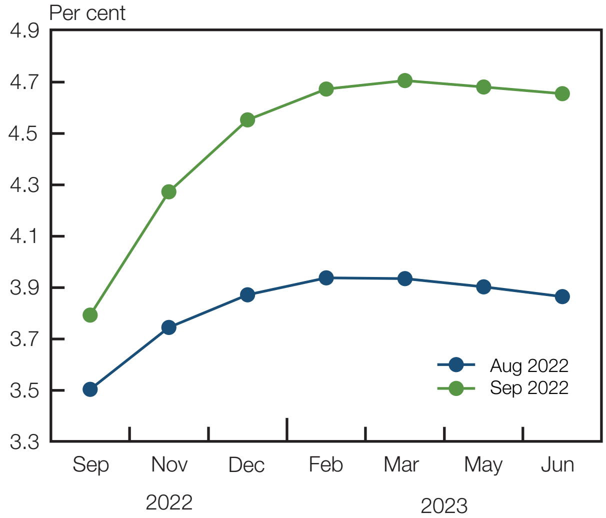
Global financial markets

Central bank tightening has been the foremost determinant of financial market conditions over the past six months. The Fed began raising rates in March and has so far increased the Fed Funds Rate by 300 basis points. The BoE has raised rates by 215 basis points, having started somewhat earlier than the Fed with a 15 basis points increase in December 2021. The ECB has, to date, raised rates by 125 basis points. The balance sheets of these institutions have also begun to contract again. Amongst the major advanced economy central banks, only Japan, with persistently subdued inflation, still has negative interest rates and an expanding balance sheet.

Advanced economy tightening cycles still have some way to go. Fed funds futures suggest over 100 basis points in additional hikes in the US, taking the peak rate to around 4.3% by early 2023. The Fed's own 'dot plot' projections suggest a rate of 4.4% by the end of 2022, rising to 4.9% in 2023. Current market prices indicate the ECB will raise rates to about 1.7% by December 2022 and 2.9% in 2023. Meanwhile, in the UK, the September sell-off pushed market expectations for Bank Rate to 4.8% by year's end, rising to nearly 6% in 2023.

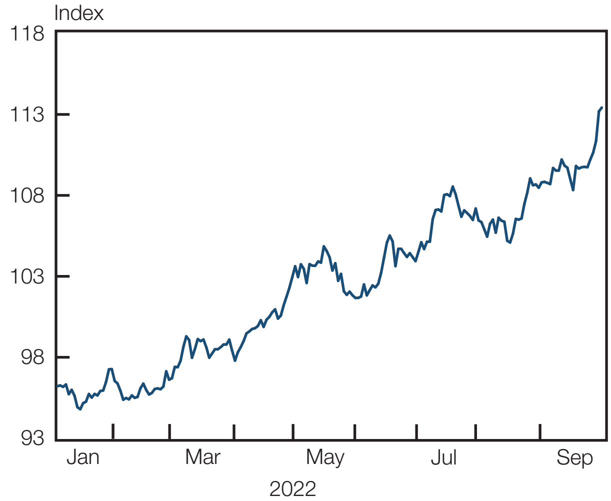
One major consequence of the Fed's relatively aggressive tightening cycle has been a stronger dollar. The US dollar index has appreciated by almost 9.9% since the April 2022 *MPR*, with year-to-date gains of nearly 18.3%, putting the dollar at its strongest levels in over two decades. Initially, dollar strength came mostly at the expense of other advanced economy currencies rather than those of emerging markets. For instance, by the end of May 2022, the broad MSCI Emerging Markets (EM) Foreign Exchange (FX) index was nearly unchanged from its April levels, while the Japanese yen had lost over 10.0%, the euro 5.0% and the pound sterling over 6.0%. Emerging market currencies have also depreciated against the dollar in recent months, however, given further increases in US rates as well as lower commodity prices. At the same time, only a limited

Market expectations for US policy rates



Source: Bloomberg

US dollar exchange rate



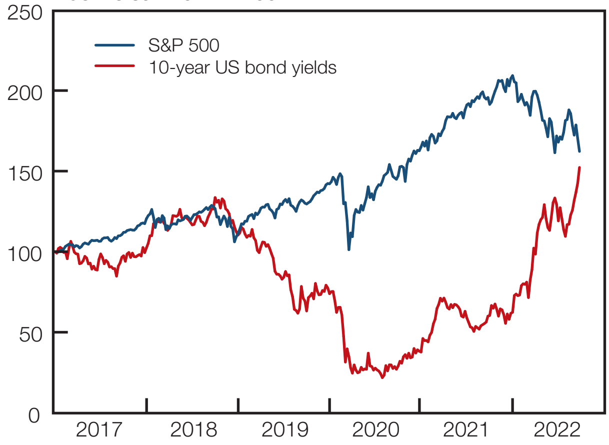
Source: Bloomberg

Advanced economy and emerging market exchange rates against the US dollar

Sources: Bloomberg and SARB

US equity and bond markets

Index: 6 Jan 2017 = 100



Source: Bloomberg

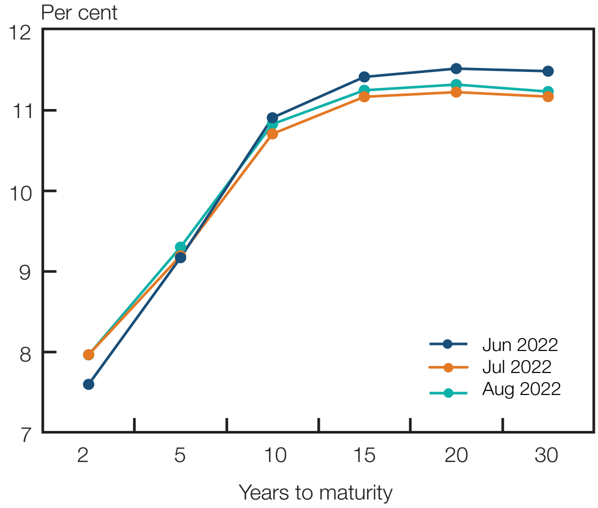
Equity market performance

Index: 3 Jan 2022 = 100

Source: Bloomberg

South African bond market yield curve

Per cent



Source: Bloomberg

number of countries with idiosyncratic vulnerabilities (such as Argentina and Türkiye[31]) had simultaneously depreciated against the euro.

As short-term rates have risen in advanced economies, both equity and bond markets have registered losses. The US S&P 500, for example, has lost 22.5% for the year to date, while the Euro Stoxx 50 has lost 22.2%. The government bond prices for these sovereigns have also fallen significantly (moving inversely to yields). Yield curves have inverted in various jurisdictions, including the US and the UK, with 2-year rates above 10-year rates, contrary to the typical pattern of an upward-sloping curve. This reflects expectations that short-term rates will be temporarily above their longer-run norms, consistent with tighter policy stances to achieve disinflation. In the eurozone, meanwhile, spreads between the bond yields of the so-called 'core' and 'peripheral' sovereigns have risen to their widest levels since the onset of the COVID-19 pandemic.

Among emerging markets, tighter global financial conditions have triggered crises in only a small number of cases to date. The most prominent example has been Sri Lanka, which defaulted on its external debt in May 2022. Vulnerability is also elevated in Argentina, Pakistan and Türkiye, and Ghana has recently approached the IMF to pre-empt a more serious financial dislocation. Many other emerging markets, however, have demonstrated resilience, supported in part by rate-hiking cycles that started before those in advanced economies.

China has been a prominent exception to the higher-inflation trend, with the People's Bank of China easing policy instead in the context of weaker growth.

Domestic financial markets

South Africa has joined the broad global trends of lower asset prices and higher short-term rates. The rand has weakened in line with other emerging market currencies, depreciating by 10.5% against the US dollar since the start of June 2022. The sovereign yield curve has shifted up over the past six months, with short rates moving more than long rates – consistent with a SARB hiking cycle. Analyst expectations, as reflected in surveys, show the repo rate rising to 6.50% by year-end and reaching a terminal rate of 6.75% in early 2023. Market expectations from forward rate agreements are moderately higher, currently pricing in a terminal rate modestly over 7.0%.

Local stocks have weakened over the past six months, with the All-Share Index (Alsi) down 14.89% year to date (or 9.65% in dollar terms). Volatility has also picked up markedly during the year, although it has remained below 2020 averages.

31 The Republic of Türkiye changed its official name from the Republic of Turkey on 26 May 2022 in a request submitted to the United Nations.

South African stocks have nonetheless performed better than the broad emerging market average. The best-performing component of the Alsi has been the oil, coal and gas subindex, which has benefitted from the higher energy prices related to the war in Ukraine.

According to JSE Limited (JSE) settled trade data, there has been net selling of local assets by non-resident investors this year, with equities experiencing more sustained outflows than bonds. The proportion of South African bonds owned by non-residents has fallen further, down almost 1.1 percentage points for the year to date, to 27.3%.[32]

Monetary policy operations

The main operational development in recent months has been the transition to a new monetary policy implementation framework (MPIF). Between 8 June 2022 and 24 August 2022, the SARB moved from a money market shortage of around R30 billion to a surplus of approximately R50 billion. At the same time, banks were provided with quotas, allowing them to earn the policy rate on overnight deposits of excess reserves. The new system, formally a 'tiered floor' framework, is now fully operational.

The money market surplus was mainly created through maturing FX swaps and moving Corporation for Public Deposits (CPD) funds[33] back to the market. These operations effectively unwound the draining activities initiated in 2020. The outstanding swap balance at the start of the transition was R34 billion, which fell to zero by the end of August.[34] Over the same time frame, CPD balances at the SARB declined from R71.8 billion to around R30 billion. Debenture issuance also ceased early in the transition, with the value of debentures outstanding moving from a modest R1.1 billion at the end of May to zero in early July.

While repo auctions are not central to the new framework, as they were in the shortage system, they continue to be held weekly. Their uptake by banks declined steadily through the transition, and none of the auctions to date have been fully allotted. This indicates an ample supply of liquidity in the market.

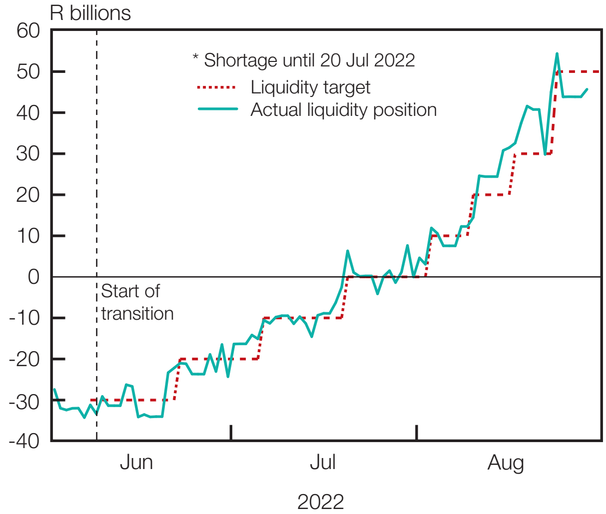
On the whole, the transition proceeded smoothly, as indicated both by feedback from market participants and by the behaviour of relevant interest rate benchmarks. Interbank market functioning has since improved, with usage of the

32 This figure peaked at 41.7% in 2017 and was at 34.0% before the onset of the COVID-19 pandemic and the loss of South Africa's last investment-grade credit rating.

33 These are public sector balances managed by the SARB.

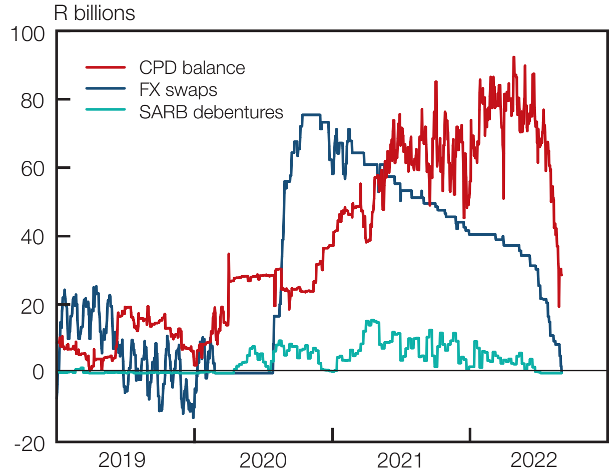
34 Maturing swaps have added dollars to South Africa's gross FX reserves while moving rands to banks.

MPIF transition liquidity target*



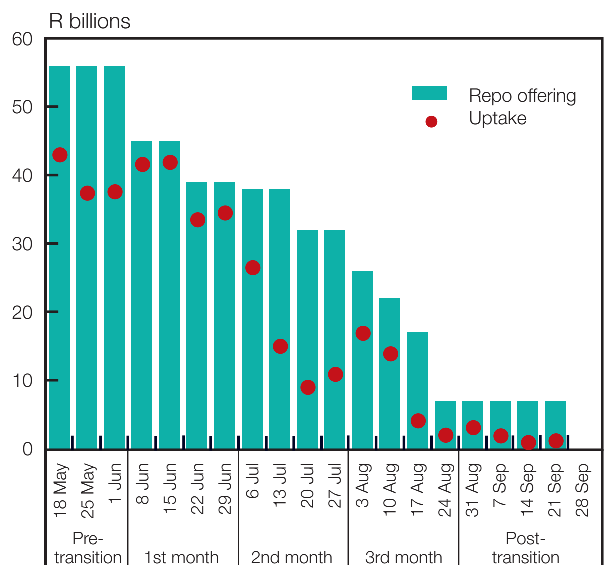
Source: SARB

SARB draining tools



Source: SARB

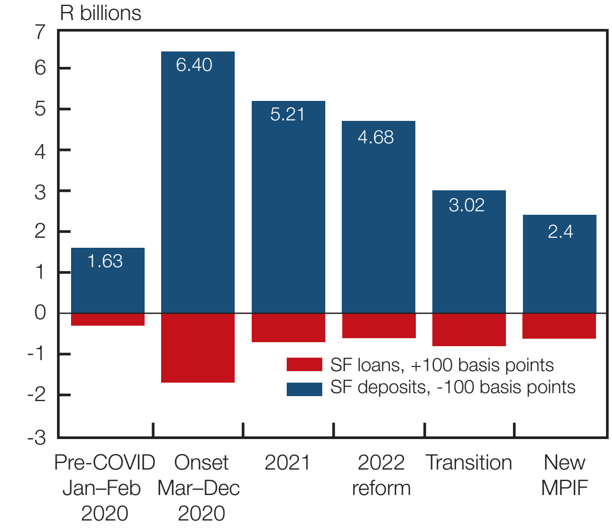
Repo auctions in 2022



Source: SARB

Banks' use of standing facilities

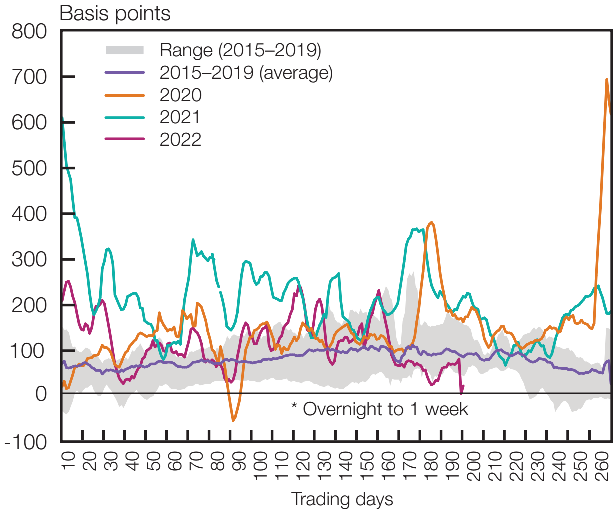
R billions



Source: SARB

FX-implied rate spread to the repo rate*

Basis points



Source: Bloomberg

penalty-rate standing deposit facility moderating to R3 billion during the transition period, and to R2.4 billion subsequently, from levels of around R5 billion previously. Roughly 95% of excess liquidity is finding its way to quotas at the end of each day. The distribution of penalty-rate deposits has also shifted. Since the start of the reform, penalty-rate deposits have come almost exclusively from medium-sized banks, whereas previously small banks were frequent users of this facility and big banks were also occasional depositors.

The MPIF transition coincided with an interest rate hiking cycle by the MPC, and markets duly priced in higher short-term rates. There was no evidence of this necessary adjustment being impaired by the MPIF reform. The elimination of the forward book also appears to have supported the normalisation of rates in the forward market, which generally traded in line with pre-COVID-19 averages through the transition and have traded close to repo subsequently.[35]

35 To read more about the distortions in this market over the past two years, see Box 5 of the April 2021 *MPR*.

Box 3 Leaning against the wind with monetary and fiscal policy

The global financial crisis showed that when inflation is low, monetary policy settings may be constrained from preventing the build-up of large financial imbalances.[1] Since then, policy efforts, guided by the Basel Committee on Banking Supervision, have focused on developing macroprudential tools and guidelines to deal with systemic financial risks. Financial imbalances, however, can be caused by poor coordination of fiscal, monetary or growth policies, such as in excessive holdings of risky sovereign debt by local banks.[2] Macroprudential measures can miss these underlying causes, imposing high costs on economic agents that are simply responding to strong incentives created by other policies.

A recent study explores how fiscal and monetary policies can be used to manage the financial cycle, creating space for macroprudential policies to focus on increasing the resilience of the financial system.[3] This box presents the findings of this study.

The economic literature often recommends the application of Tinbergen's rule in financial cycles, addressing different policy goals with separate instruments. In practice, this becomes difficult where policy goals are interdependent or where the individual and joint transmission of macroprudential instruments is not well understood, increasing the probability of unintended policy outcomes. Also, macroprudential measures are not always effective in influencing the bank behaviour that drives financial cycles. For example, loosening cyclical capital buffers may not stimulate credit extension due to the stigma arising from their use.[4] In South Africa, reducing the liquidity coverage ratio (LCR) during the COVID-19 crisis had little impact on risk aversion, with LCRs instead rising while credit extension remained weak.[5]

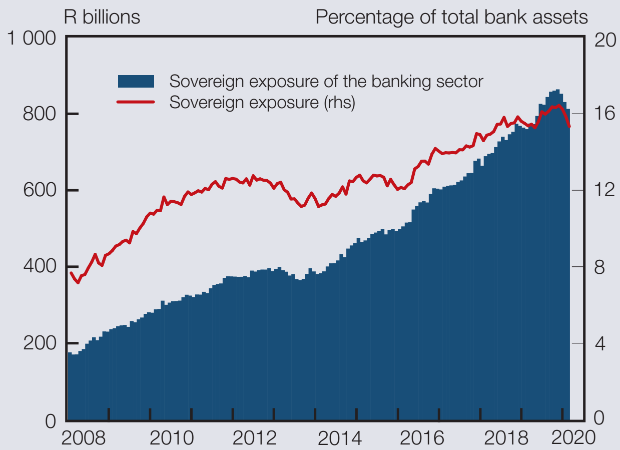
Macroeconomic policy itself can also be a source of financial risk, in particular when fiscal balances deteriorate and the holdings of sovereign debt by banks increase the exposure of the sector to more risk.[6]

Macroprudential measures are also often advocated for minimising the costs of capital inflows. In South Africa, however, capital flows and credit cycles are not strongly correlated, reducing the justifications normally used for capital control measures. There is little reliance by domestic banks on foreign funding and low levels of cross-border bank loans.[7] Foreign investment allowances and the holdings of foreign assets for and by resident investors also significantly reduce the probability of sustained capital outflows.[8]

The study uses a large macroeconometric model to capture the interactions between fiscal, monetary and macroprudential policies. The model reflects the strong links between the real economy and financial conditions.[9] It assesses the impact on gross domestic product (GDP), real house prices, lending spreads and total credit extension in response to higher capital inflows under three different scenarios:

- monetary policy is countercyclical to the financial cycle;
- monetary policy and fiscal policy are countercyclical to the financial cycle; and
- monetary policy is countercyclical and fiscal policy is procyclical in relation to the financial cycle, which in turn requires macroprudential interventions.

Bank sovereign exposure as a share of total assets



Source: SARB

1 C M Reinhart and K S Rogoff, 'The aftermath of financial crises', *American Economic Review 99(2)*, 2009, pp 466–472.

2 C Loewald, 'Macro works: applying integrated policy frameworks to South Africa', *South African Reserve Bank Working Paper Series No. WP/21/10*, Pretoria: South African Reserve Bank, June 2021. https://www.resbank.co.za/content/dam/sarb/publications/working-papers/2021/WP%202110.pdf

3 S de Jager, C Loewald, K Makrelov and X Sibande, 'Leaning against the wind with fiscal and monetary policy', *South African Reserve Bank Working Paper Series No. WP/22/12*, Pretoria: South African Reserve Bank, September 2022. https://www.resbank.co.za/content/dam/sarb/publications/working-papers/2022/leaning-against-the-wind-with-fiscal-and-monetary-policy

4 H Mehran, 'Why financial regulations might fail to produce their desired outcome: the case of the capital conservation buffer' *Promarket, Stigler Center for the Study of the Economy and the State* blog, 9 February 2022. https://www.promarket.org/2022/02/09/financial-crisis-regulation-capital-conservation-buffer-banks/

5 P Mnguni, M Rapapali and W Simbanegavi, 'Weathering the COVID-19 storm: the response of macro-prudential policy', *South African Reserve Bank Occasional Bulletin of Economic Notes No. OBEN/20/02*, Pretoria: South African Reserve Bank, November 2020. https://www.resbank.co.za/content/dam/sarb/publications/occasional-bulletin-of-economic-notes/2020/10411/OBEN%202002%20(Weathering%20the%20Covid-19%20storm%20The%20response%20of%20macro-prudential%20policy)%20-%20November%202020.pdf

6 T Janse van Rensburg, S de Jager and K Makrelov, 'Fiscal multipliers in South Africa after the global financial crisis', *South African Journal of Economic and Management Sciences 25(1)*, 2022, pp 1–13.

7 J-F Mercier, 'Capital inflows and domestic credit: the South African "exception"', *South African Reserve Bank Economic Note Series No. 2018/29,* Pretoria: South African Reserve Bank, July 2018.

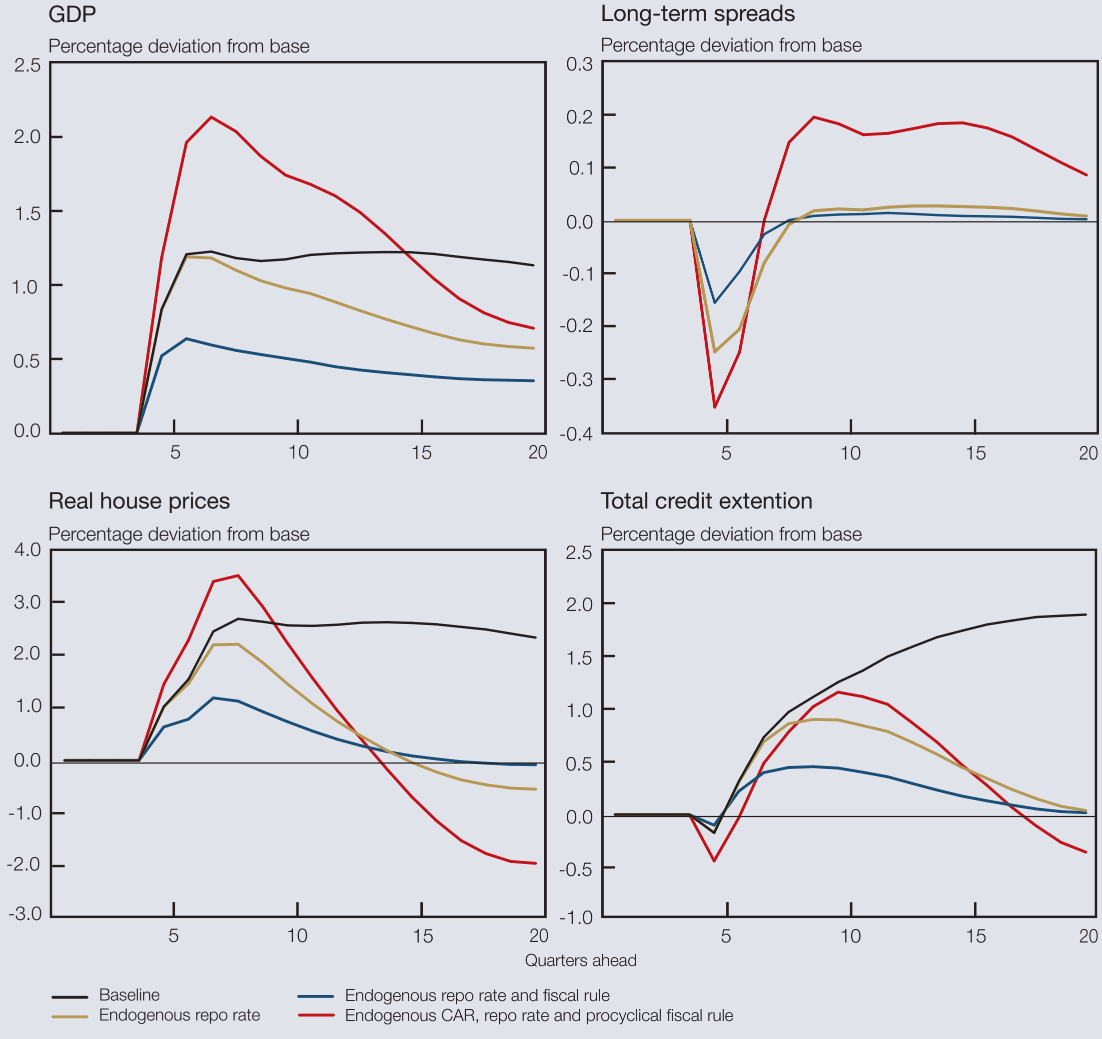
8 A Smith, 'Dodging sudden stops', *South African Reserve Bank Occasional Bulletin of Economic Notes No. OBEN/19/01*, Pretoria: South African Reserve Bank, July 2019. https://www.resbank.co.za/content/dam/sarb/publications/occasional-bulletin-of-economic-notes/2019/9343/04OBEN-1901--Dodging-Sudden-Stops----July-2019.pdf

9 A Kabundi and A Mbelu, 'Estimating a time-varying financial conditions index for South Africa', *Empirical Economics 60(4)*, 2021, pp 1817–1844.

The results show that countercyclical fiscal and monetary policies are effective in managing the financial and real economy cycle, reducing macroeconomic volatility. If fiscal policy is procyclical, however, a macroprudential policy response improves outcomes. In the last scenario, the higher capital buffer (from increased macroprudential measures) directly affects credit extension, which slows growth in house prices and increases lending spreads. The rest of the heavy lifting in the scenario is achieved by a combination of a higher repurchase (repo) rate, long-term bond yields, risk premiums (due to the increase in fiscal deficits) and lending spreads.

Better use of monetary and fiscal policy to manage the economic and financial cycles reduces complexity in the policy space and has a smaller impact on borrowing costs and potential growth. Where fiscal policy is procyclical, macroprudential policy can be used to increase the resilience of the financial sector, but not to manage the financial cycle – that is better left to sustainable fiscal and monetary policies.

Comparison of results from the different simulations



Source: De Jager, Loewald, Makrelov and Sibande (2022)

The real economy: in search of growth drivers

South Africa's real GDP surpassed its 2019 level in the first quarter of 2022, signalling the completion of the recovery from the COVID-19-induced recession of 2020. The growth momentum has slowed sharply, however, with the economy expected to expand by only 1.9% in 2022, following growth of 4.9% in 2021, and to average below 1.6% over the medium term. The subdued growth reflects the lingering effects of the unrest in July 2021, the extensive flooding in April this year and slowing global growth, alongside structural constraints such as inadequate electricity supply that also depress the economy's potential. While multiple supply-side constraints remain, the recently announced energy reforms could raise private investment over the coming years, benefitting growth, although the effects on potential growth are unlikely to be realised over the current forecast horizon.

Recent economic developments

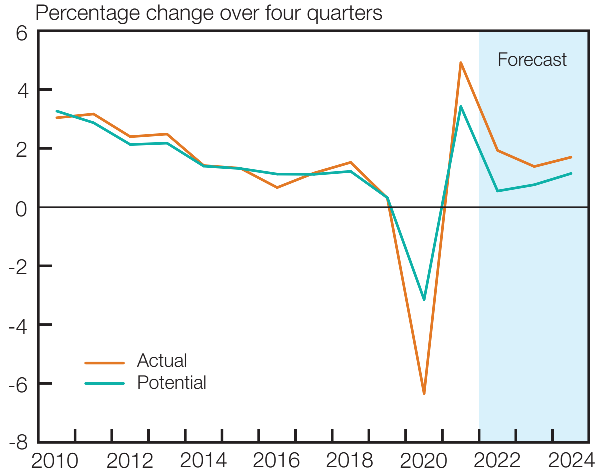
South Africa's GDP surpassed its 2019 level in the first quarter of 2022, indicating the completion of the recovery from the COVID-19-induced recession of 2020. The economy grew by 1.4% in the first half of 2022. The first-half performance, however, masks the volatility of quarterly output during the period: output grew by 1.7% quarter on quarter (revised downwardly from 1.9%) in the first quarter, but declined by 0.7% in the second quarter.[36] The strong growth in the first quarter of 2022 lifted the economy's total output above its 2019 level for the first time since the sharp contraction in the second quarter of 2020. Whereas growth in the first quarter was broad-based, with all sectors (except for mining and construction) contributing positively, only three sectors (transport, finance as well as community, social and personal services) contributed positively to growth in the second quarter.

The surprisingly good growth outcome in the first quarter partly reflected the easing of lockdown restrictions, favourable commodity export prices and improving domestic demand underpinned by low borrowing costs. The growth momentum was, however, derailed in the second quarter of 2022 as the economy experienced multiple adverse shocks – including flooding in KwaZulu-Natal in April, intensified load-shedding and strike activity – all of which dampened economic activity and exacerbated pre-existing challenges such as the COVID-19-induced supply constraints and other operational difficulties. Commodity export prices also begun to correct as global demand softened amid sharply higher global inflation and rising recessionary fears.

36 These growth outturns surprised to the upside. The SARB had expected growth of 0.9% in the first quarter at the May MPC meeting and a contraction of 1.1% for the second quarter at the July MPC meeting. Reuters median forecasts were 0.8% for the first quarter and a contraction of 0.7% for the second quarter.

Actual and potential GDP growth

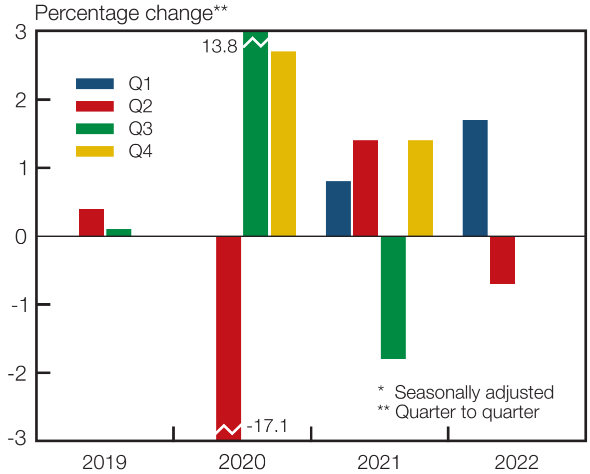
Percentage change over four quarters



Sources: Stats SA and SARB

Real GDP growth*

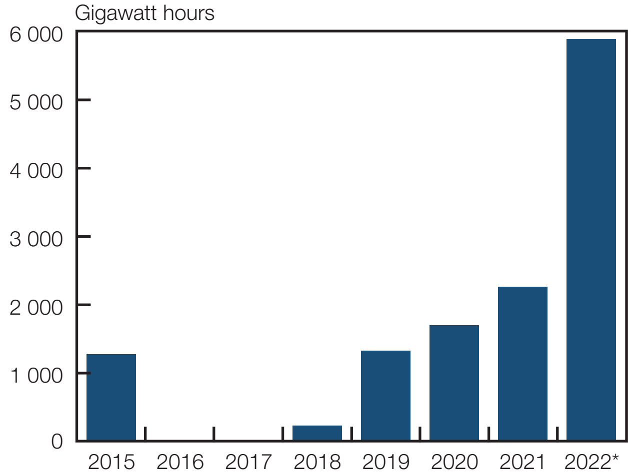
Percentage change**



Source: Stats SA

Load-shedding

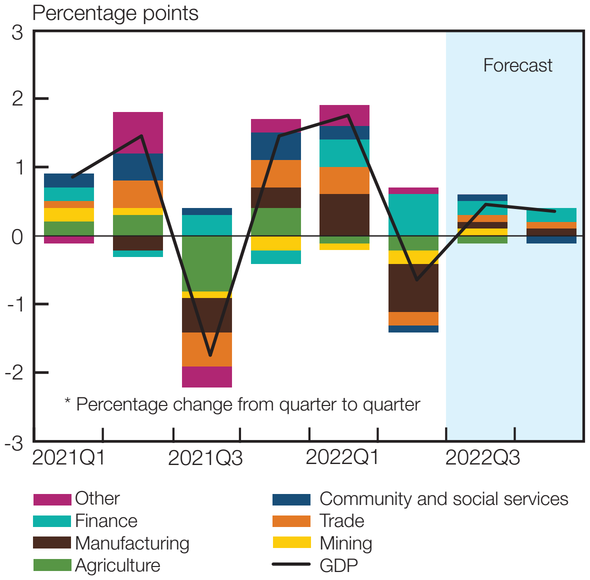
Gigawatt hours



* Year to date

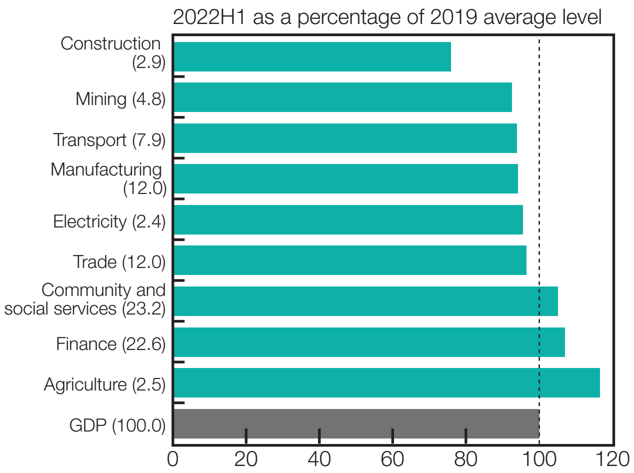
Source: Eskom se Push (app)

Contributions to GDP growth*



Sources: Stats SA and SARB

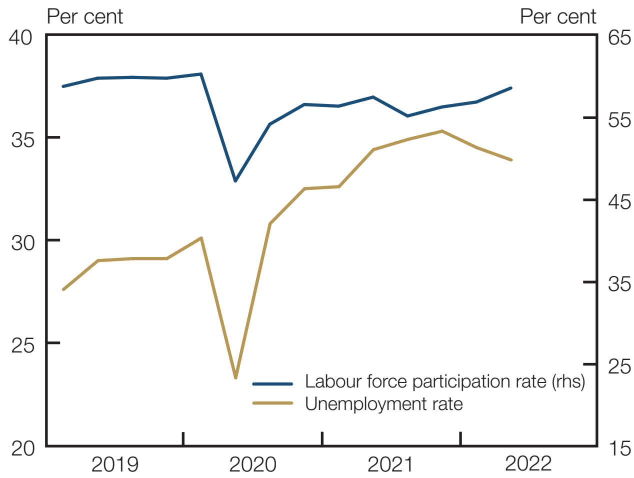
Gross value added*



* Weights in brackets

Sources: Stats SA and SARB

Unemployment and labour force participation



Source: Stats SA

The economy is expected to rebound in the third quarter, growing by 0.4% quarter on quarter, due to base effects accompanied by the resumption of normal economic activity following the floods and the dropping of all remaining COVID-19 restrictions, and to moderate to 0.3% in the fourth quarter. However, load-shedding will remain an impediment to growth for the remainder of the year (and over the medium term), having progressively worsened since 2018.[37]

Sectoral overview: a deep dive

Despite aggregate economic activity having recovered to its pre-pandemic level, sectoral performance remains uneven. Three subsectors – namely agriculture, finance as well as community, social and personal services (which together constitute just under half of the country's GDP) – have now exceeded their pre-COVID-19 output levels. The rest of the subsectors show differing levels of recovery, with construction still 24.0% below pre-pandemic activity levels in the first half of 2022. This deficient performance points to idiosyncratic challenges in the subsector beyond the effects of the COVID-19 pandemic, as construction's gross value added has been declining since 2017.

Looking at the broad sectors, the primary sector contracted by 9.9% in the first half of the year, as both agriculture and mining contracted across both quarters. The secondary sector contracted by 2.0% in the first half of 2022 as the second-quarter slump outweighed the robust performance during the first quarter. The sharp swing in manufacturing performance from 5.0% growth in the first quarter a decline of 5.9% in the second quarter explains much of this contraction. Although tertiary sector activity was also disrupted by the flooding and load-shedding during the period under review, the sector managed to shrug this off and grew by 3.7% in the first half of the year, underpinned by the transport and finance subsectors.

Despite the volatility in output, the labour market has continued its slow and gradual recovery, with over a million jobs gained between the fourth quarter of 2021 and the second quarter of 2022, bringing employment to 95.2% of the 2019 level.[38] With employment growing relatively fast, the official unemployment rate ticked lower to 33.9% in the second quarter of 2022 from 35.3% in the fourth quarter of 2021. While there is ample evidence that the economy has continued to add new jobs,

37 Strike action by Eskom employees sparked dramatic escalations in load-shedding in June, necessitating the institution of stage 6. A total of 1 590 GWh were shed in the second quarter of 2022, up from 554 GWh in the first quarter, bringing the cumulative total for the first half of the year to 2 144 GWh, marginally lower than the 2 264 GWh shed in the whole of 2021.

38 *Quarterly Labour Force Survey (QLFS)*, 2022Q2.

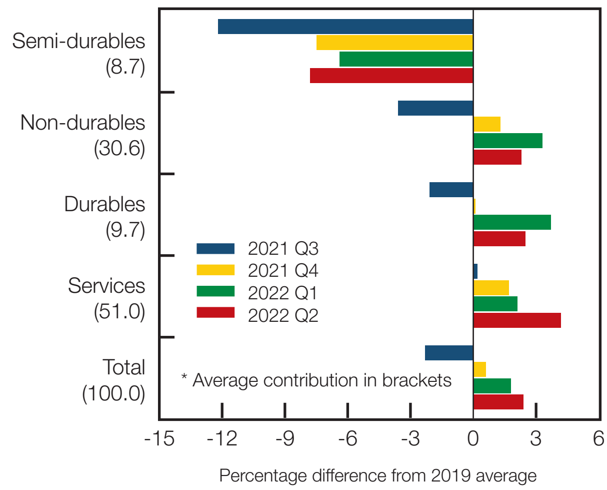
some of the employment growth from one survey to the next may also reflect improvements in data collection, allowing previously 'missing employment' to be accounted for.[39]

The biggest drivers of employment growth in the first half of the year were community and social services, trade as well as manufacturing. Looking ahead, employment growth will likely be driven by the more labour-intensive services sectors as they continue to recover following the scrapping of COVID-19-related restrictions and are supported by the rotation of demand back to these sectors. Employment in community and social services, however, is expected to decline in the near term as major government projects which provided temporary employment were downscaled or terminated during the quarter.[40]

Consumer demand has underpinned much of the recovery, benefitting from the improvement in employment and wages, alongside the sharp rebound in household net wealth, increased social transfers and lower interest rates. During the period under review, household spending grew by 1.2% in the first quarter of 2022 and by a more modest 0.6% in the second quarter.[41] The slowdown in household consumption spending has been associated with a shift in spending patterns from durable and semi-durable goods to more non-discretionary items. Pressure on households' real incomes and near record-low levels of consumer confidence could further weigh on household spending in the near term.[42]

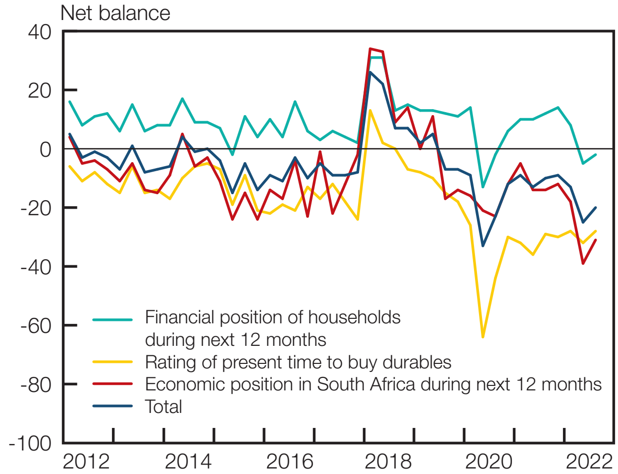
During the period under review, total fixed investment rose by 3.4% in the first quarter of 2022 but slowed to 0.5% in the second quarter. This marks three consecutive quarters of increases in investment. The moderation in the second quarter was likely due to the floods, electricity supply constraints and a deterioration in global growth prospects, which have weighed on business confidence. Throughout the recovery, private investment repeatedly surprised to the upside, increasing by 0.1% in 2021 and by 7.3% in the first half of 2022, providing much support to GDP growth. Considering the subcomponents, outlays on machinery and equipment have been the largest contributor to fixed investment growth

Household spending by durability*



Source: Stats SA

Consumer confidence



Source: BER

39 Proximate indicators of employment recovery include the GDP level, salary payments data (Bankserv) and the recovery in personal income tax revenues.

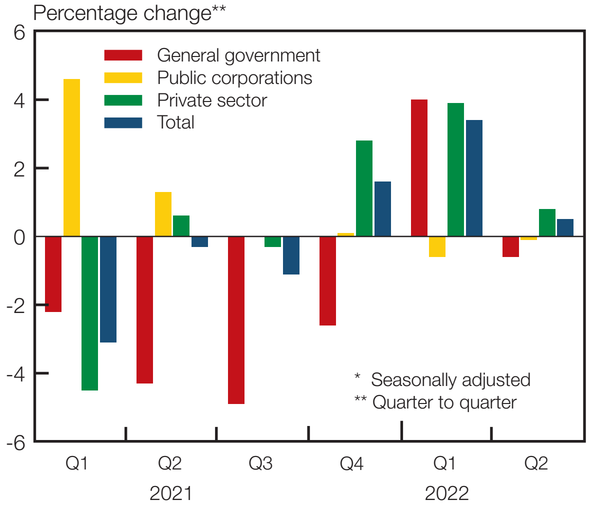
40 These include the enumeration operations of Census 2022 and the employment of education assistants as part of Phase 3 of the Presidential Employment Stimulus which came to an end in the third quarter.

41 On a year-on-year basis, household spending grew by 2.4% in the first half of this year, lower than the 9.0% growth recorded in the first half of 2021.

42 The FNB/BER Consumer Confidence Index (CCI) plummeted from -13 index points in the first quarter of 2022 to -25 index points in the second quarter, but recovered somewhat to -20 index points in the third quarter. The second-quarter confidence level reading was the lowest in 36 years (excluding the COVID-19 period).

Gross fixed capital formation*

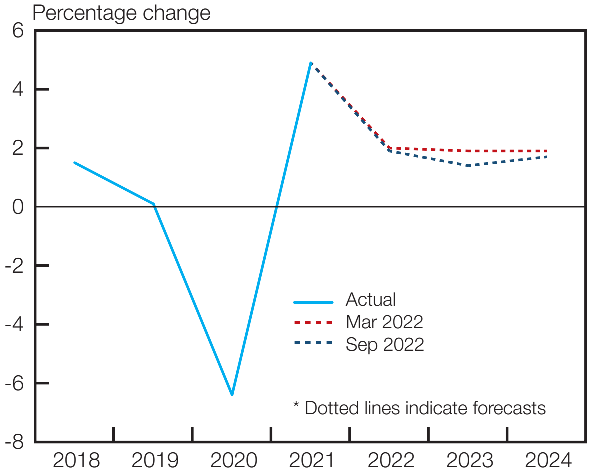
Percentage change**



Source: Stats SA

Real GDP growth*

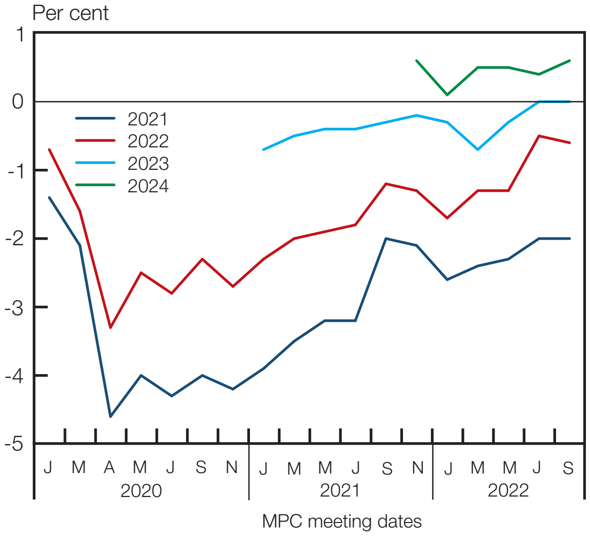
Percentage change



Sources: Stats SA and SARB

Evolution of output gap estimates

Per cent



Source: SARB

in the first half of 2022.[43] Despite a sharp increase in general government fixed investment in the first quarter of 2022, public sector fixed investment continues to struggle on the back of underspending due to capacity constraints.[44] Raising public investment spend and efficiency could crowd in private investment and raise the investment-to-GDP ratio closer to the levels articulated in the National Development Plan 2030.

Growth outlook

Despite GDP contracting sharply in the second quarter, the economy is projected to expand by 1.9% in 2022, marginally lower than the 2.0% forecast in the April *MPR*. The relatively strong annual growth is made possible by the robust growth realised in the first quarter and the expected further recovery in the services sector. Output growth for 2022 could have been higher if not for the riots in July 2021 and intensified load-shedding. The SARB estimates that load-shedding will shave about 1.0 percentage points from growth in 2022, which is an additional 0.4 percentage points compared to the previous *MPR*.

Although domestic growth during the recovery repeatedly surprised to the upside, it is expected to moderate markedly over the medium term, with the economy forecast to expand by 1.4% in 2023 and by 1.7% in 2024, which is below the previous projection of 1.9% for both years at the time of the April *MPR*. Despite these downward revisions, the rate of economic growth remains above potential, accelerating the narrowing of the output gap, which is now forecast to close in the second quarter of 2023, one quarter earlier than in the previous *MPR*, and to rise to 0.6% in 2024.[45] The low potential growth reflects the constraining effect on productive potential of factors such as inadequate electricity supply, logistical bottlenecks, skills constraints, product and labour market rigidities as well as high long-term borrowing costs.

Much of the domestic growth dynamics is explained by household consumption expenditure, which accounts for nearly two-thirds of GDP. Over the outlook period, household expenditure is expected to continue to drive growth, although to a lesser extent than during the recovery. Household spending is likely to be supported by continued recovery in employment and wages as well as a monetary policy stance which remains supportive of credit demand and keeps debt-service costs contained. However, higher inflation, lower asset prices and rising interest rates will dampen consumer confidence

43 Machinery and other equipment contributed 2.2 percentage points in the first quarter of 2022 and 1.2 percentage points in the second quarter.

44 Over the last three issues of the *Budget Review*, there has been underspending on infrastructure of approximately R150 billion.

45 At the time of the April *MPR,* potential growth was estimated at 0.8% in both 2022 and 2023 and at 1.1% in 2024, but was subsequently revised following the extensive flooding and intensive load-shedding. The estimates at the September MPC meeting were 0.5% for 2022 and unchanged at 0.8% and 1.1% for 2023 and 2024 respectively.

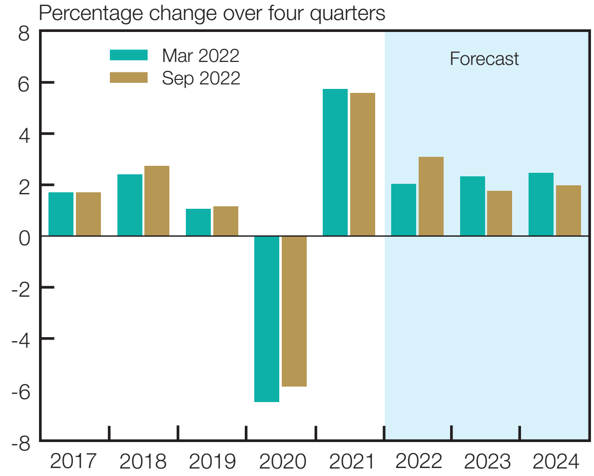
somewhat and could impair credit demand. After averaging 5.6% in 2021, growth in household consumption expenditure is expected to moderate to 3.2% in 2022, 1.8% in 2023 and 2.0% in 2024.

Commodity prices, though softening, should continue to provide some impetus to growth over the medium term through their effects on domestic asset prices, terms of trade and net exports. Early in the recovery, the combination of record-high commodity export prices and subdued imports led to record-high terms of trade of 128.9 index points by the second quarter of 2021. However, the recent softening of commodity prices due to slowing global growth, alongside a recovery in imports, implies that the terms of trade, and the commodities channel more generally, will be less supportive of domestic growth over the medium term. While the SARB anticipates further broad-based declines in commodity prices, coal prices are expected to remain elevated due to strong demand, moderating the deterioration in the terms of trade.

An economy's productive potential or long-run equilibrium growth rate is determined by capital and labour as well as the efficiency with which these inputs are combined in production – so-called 'total factor productivity'. Investment not only affects the quality and quantity of capital; it also affects total factor productivity and thus both realised and potential GDP. Encouragingly, domestic investment surprised to the upside during the recovery, which explains the upside surprises to growth during this time. This momentum is likely to persist, underpinned by investments in the energy sector, including the Renewable Energy Independent Power Producer Programme (REIPPP) and other large-scale projects.

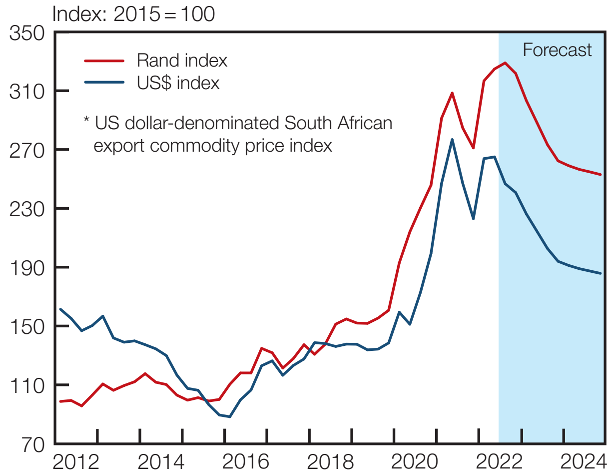
The raising of the embedded generation threshold to 100 MW and other energy reforms have lifted the prospects for investment markedly. New announced projects in the first half of 2022[46] are valued at R267.6 billion (annualised), with the energy sector having the lion's share at R152 billion.[47] Additional new project announcements are expected towards the end of the year. Apart from directly adding to total investment, investments in electricity generation and transmission should have multiplier effects, crowding in other private sector investment as the electricity constraint is relaxed. While investment is expected to show up in the data as early as next year, the SARB does not anticipate a material rise in potential growth over the current forecast horizon (up to 2024) given the time required to implement these projects (see Box 4).

Real final consumption expenditure of households



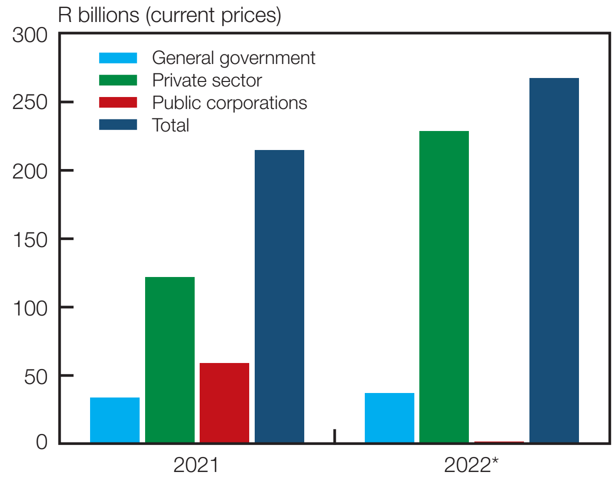
Sources: Stats SA and SARB

Commodity prices*



Source: SARB

Announced capital expenditure on projects by type of organisation



* R133.8 billion in the first half of 2022 translates to R267.6 billion on an annualised basis.

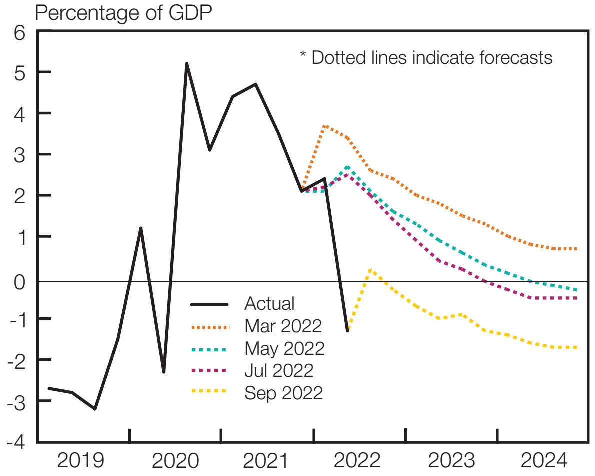
Source: Nedbank

46 Nedbank, *Capital expenditure project listing: H12022*, Sandton: Nedbank Group Economic Unit, 3 August 2022.

47 The value of announced projects has been boosted by the Green Hydrogen Plant Project (R75 billion) led by Hive Hydrogen and Linde, which is expected to produce a combined 2 200 MW of renewable solar and wind energy.

Current account balance*

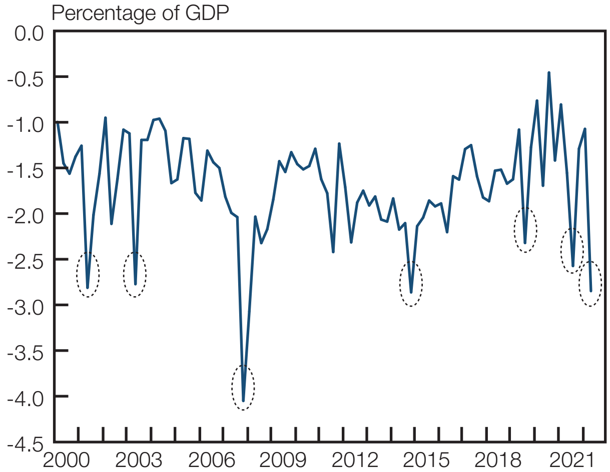
Percentage of GDP



Source: SARB

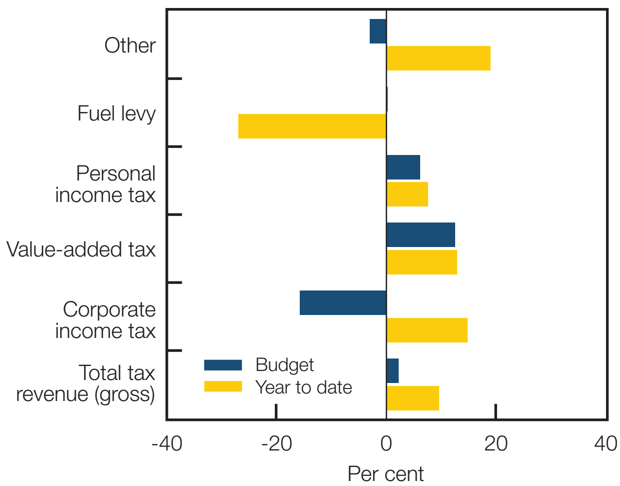
Dividend payments

Percentage of GDP



Source: SARB

Tax revenue (2022/23)



Sources: National Treasury and SARB

Macro balances

The current account and its drivers

After an uninterrupted surplus run for seven consecutive quarters, South Africa's current account balance plunged into an unanticipated deficit in the second quarter of 2022 on stronger imports and dividend payments. The trade surplus declined markedly to 4.1% of GDP in the second quarter of 2022, after averaging 6.5% of GDP between the second quarter of 2020 and the first quarter of 2022, due to stronger imports and somewhat weaker export performance.[48] At the same time, the services, income and transfers (SIT) account deteriorated sharply on higher dividend payments, reaching a deficit of 5.5% of GDP in the second quarter from its post-GFC average of 3.4% of GDP. Together with a reduced trade surplus, this dragged the current account into a 'surprise' deficit of 1.3% of GDP in the second quarter.

Although the current account surplus has been declining since it peaked in the second quarter of 2021, a deficit was not expected in the second quarter and is not projected to persist into the third quarter. The large dividend payments in the second quarter of 2022 are mostly associated with windfall profits due to high commodity export prices. Spikes in dividend payments occur at irregular intervals. However, the recent spike followed the previous one much sooner than usual. Barring another large successive dividend outflow, the SIT account should revert to its average level from the third quarter, while the trade balance is expected to continue to gradually decline as imports recover and commodity prices moderate further. As a result, the current account surplus is expected to narrow from 3.7% in 2021 to 0.3% in 2022 (3.0% in the April *MPR*) before reverting to a deficit of 1.0% in 2023.

Fiscal balances

Despite the recent softening in South Africa's commodity export prices, fiscal revenues have remained strong. Revenue collections increased by 9.6% year on year in the first four months of the 2022/23 fiscal year to R510 billion after growing by 15.0% in the final quarter of the 2021/22 fiscal year. Some tax revenues (year to date) are still outpacing budgeted forecasts, except for the fuel levy.[49] As has been the norm through the recovery, corporate income tax revenue increased strongly, reflecting persistent windfall profits. On the spending side,

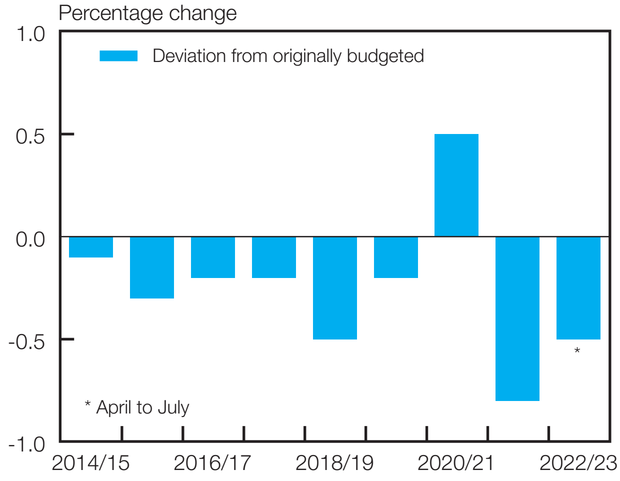
48 The mining surplus fell by 4.6% on the back of lower commodity prices and effects of floods while vehicle exports contracted by 14.1% in the second quarter (largely because of the floods) and hence increased the trade deficit for manufacturing.

49 The temporary reduction in the general fuel levy to provide short-term relief to households resulted in forgone government revenue from this category.

after growing by 8.8% year on year in the final quarter of the 2021/22 fiscal year, actual national government expenditure increased by 1.1% to R628 billion in the first four months of the 2022/23 fiscal year due to higher equitable share transfers to provinces and debt-service costs.[50] In all, this resulted in a cash book deficit of R118 billion, which was a R37.9 billion improvement relative to the same period last year.

While the near-term fiscal position remains stronger, consistent with government's fiscal consolidation programme and helped by revenue windfalls, there are material risks to spending over the Medium-Term Expenditure Framework, including larger-than-budgeted-for wage increases for public sector employees and further support to state-owned enterprises. This could potentially crowd out spending on growth enhancers such as infrastructure or worsen the debt trajectory.[51] Because revenue windfalls will fade as commodity prices normalise, sustainability of the fiscus requires the alignment of permanent spending commitments to the more enduring component of fiscal revenues.

Expenditure by national government



Sources: National Treasury and SARB

Conclusion

The domestic economy has now fully recovered to pre-pandemic activity levels. With the recovery completed, growth is expected to slow, in line with low potential growth. A myriad of shocks, including intensified load-shedding and floods, have detracted from growth in 2022, which is now projected at 1.9%, slightly below the 2.0% forecast in the April *MPR*. Growth over the forecast period is revised downward due to weak global output, tightening global financial conditions and a turnaround in commodity prices. On the domestic front, rising domestic inflation and worsening electricity supply add to downside pressures. While multiple supply-side constraints remain, the proposed reforms in the energy sector will bear fruit in the medium to longer term, relieving electricity supply constraints and raising potential growth.

50 Debt-service costs rose by 13.3% year on year to R82.3 billion in the first four months of the 2022/23 fiscal year.

51 National Treasury is finalising a plan to transfer a portion of Eskom's R396 billion debt to the sovereign balance sheet in efforts to place the SOE on a sustainable footing in line with the ongoing restructuring of the entity. According to the BER, the absorption of half of Eskom's debt could add approximately 3% of GDP to government debt.

Box 4 Energy reforms and economic growth

South Africa has had persistent electricity supply shortages since 2008, which have contributed to weak investment and low growth in the post-global financial crisis period. Supply constraints reached a new high in the second quarter of 2022 when rolling power cuts escalated to stage 6 (i.e. 6 000 MW shed at any given point in time), making 2022 the worst load-shedding year on record. This brought energy sector reforms to the fore and culminated in a comprehensive reform package from the Presidency.[1] This box discusses the announced reforms and what these could mean for investment and growth.

The President outlined the following five reform priorities:

1. Enhance the performance of the existing fleet of power stations by, among other things, increasing Eskom's budget for critical maintenance, cutting red tape on maintenance-related procurement and recruiting more skilled personnel.
2. Completely remove the licensing requirements for embedded generation projects.
3. Double the amount of new generation capacity procured through Bid Window 6 of the Renewable Energy Independent Power Producer Programme to 5 200 MW, and speed up the process to start construction of Bid Window 5 projects.[2]
4. Incentivise an increased uptake of solar installations by firms and individuals, and develop a feed-in tariff to enable them to sell surplus power to Eskom.
5. Expedite the restructuring of Eskom into independent generation, transmission and distribution businesses by the end of 2022 for more private sector inclusion and greater competition.

The June 2021 raising of the threshold on embedded generation to 100 MW gave rise to new projects for about 6 000 MW of potential capacity, adding to the 2 600 MW of construction-ready projects procured through Bid Window 5. The total removal of licensing requirements for embedded generation projects, alongside the announced doubling of new generation capacity to be procured through Bid Window 6 to 5 200 MW, could see further rapid expansion of generation capacity.

Arguably, reforms 1, 4 and 5 are not new. However, they have received substantial impetus through the focus on reducing red tape. Notable milestones have already been achieved. First, government has provided partial exemptions for designated local content for solar PV panels from 100% local content to 35% for Bid Window 5 and 50% for Bid Window 6. Second, Eskom has reached the final stages of its land lease programme for independent renewable energy projects, with an expected 1 800 MW of generation capacity. Third, the National Energy Regulator of South Africa (NERSA) registration process for renewable generation projects has been streamlined and now averages 19 days, from anything between 60 days to a year previously. Further reducing the restrictions around local content requirements would lower total investment costs and make embedded generation more attractive.

These reforms, if fully implemented, could accelerate investment and, over time, bring an end to load-shedding, in turn boosting economic growth. Under the proposed energy reforms, private sector investment in the energy sector could increase total real private investment by 10–15% per year relative to the baseline over the 2023–2025 period.[3] The South African Reserve Bank's core model estimates that this would raise growth by about 0.9 percentage points over the first year (2023). Investment in energy has the potential to crowd in other productive investment, creating a virtuous cycle.

Despite the optimism about the efficacy of these reforms, the impact of load-shedding on potential growth for the medium term remains unchanged at this stage. Installing new capacity takes time and the additional capacity required to eliminate load-shedding altogether is substantial.[4]

Overall, a swift and full implementation of the announced energy sector reforms should bring resolution to South Africa's energy crisis. Additional efforts to reduce or eliminate red tape, including the further lowering of local content requirements and their associated costs, would spur investment and an uptake of embedded generation, and spread economic gains. Much stronger and sustained growth, however, would be enabled by similar reforms in other network industries, including ports, rail and water.

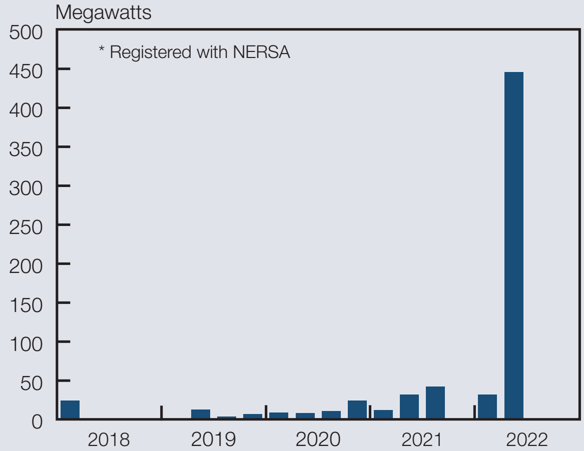
1 This reform initiative will be facilitated by the National Energy Crisis Committee, which is chaired by the President and consists of various ministerial heads.

2 Bid Window 5 was concluded towards the end of 2021; it consisted of 25 renewable energy projects valued at R50 billion. It will add 2 583 MW of generation capacity.

3 Interest in new projects following the raising of the threshold for embedded generation to 100 MW has risen to about 6 000 MW. This suggests that if half of these projects are realised (about the same capacity as Bid Window 5), about R50 billion in investment could be easily achieved.

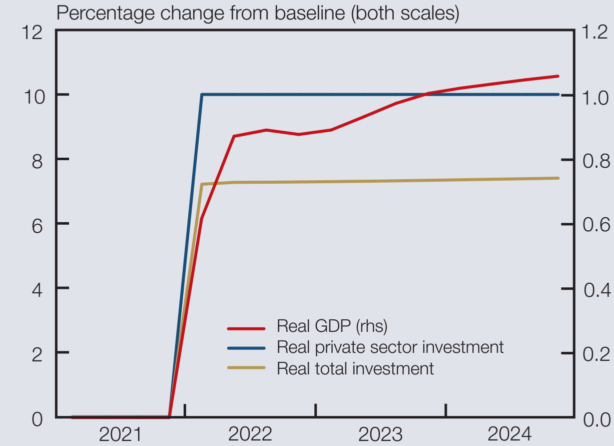
4 According to Eskom, ending load-shedding would require an additional 4 000–6 000 MW of new capacity.

Generation capacity*



Source: TIPS

R50 billion real private sector investment increase



Source: SARB

Box 5 How well did the SARB forecast GDP in the COVID-19 pandemic?

Gross domestic product (GDP) growth forecasts, alongside those of potential growth, help to estimate the degree of slack, or the output gap, and thus demand pressures, in the economy. Good forecasts of demand conditions in the economy help to determine the appropriate level of monetary policy accommodation that should be provided to realise inflation compatible with the target. While macroeconomic forecasting always involves uncertainty, the COVID-19 pandemic posed major challenges for forecasting due to extreme uncertainty and possible parameter changes caused by structural breaks in the data. This box evaluates the South African Reserve Bank's (SARB) accuracy in forecasting GDP during 2020 and 2021, focusing on errors in Monetary Policy Committee (MPC) forecasts once the shock became known.

GDP growth forecasts for 2020 were overstated in the first two pandemic-period MPC meetings: March 2020 and April 2020. The March 2020 MPC forecast occurred before any lockdown restrictions were imposed, while the April 2020 MPC forecast only included the initial 21 days of lockdown restrictions. As it turned out, lockdowns were imposed for much longer, though with varying intensity. With lockdowns extended beyond the initial 21 days, the SARB expected the restrictive measures, which raised uncertainty and lowered confidence, to keep growth subdued for longer. The recovery, however, has proved stronger, resulting in forecasts for GDP growth underestimating realised growth in all the other MPC forecasts.[1] The Reuters median also understated GDP growth in both 2020 and 2021, performing slightly worse than the SARB, particularly in 2021.

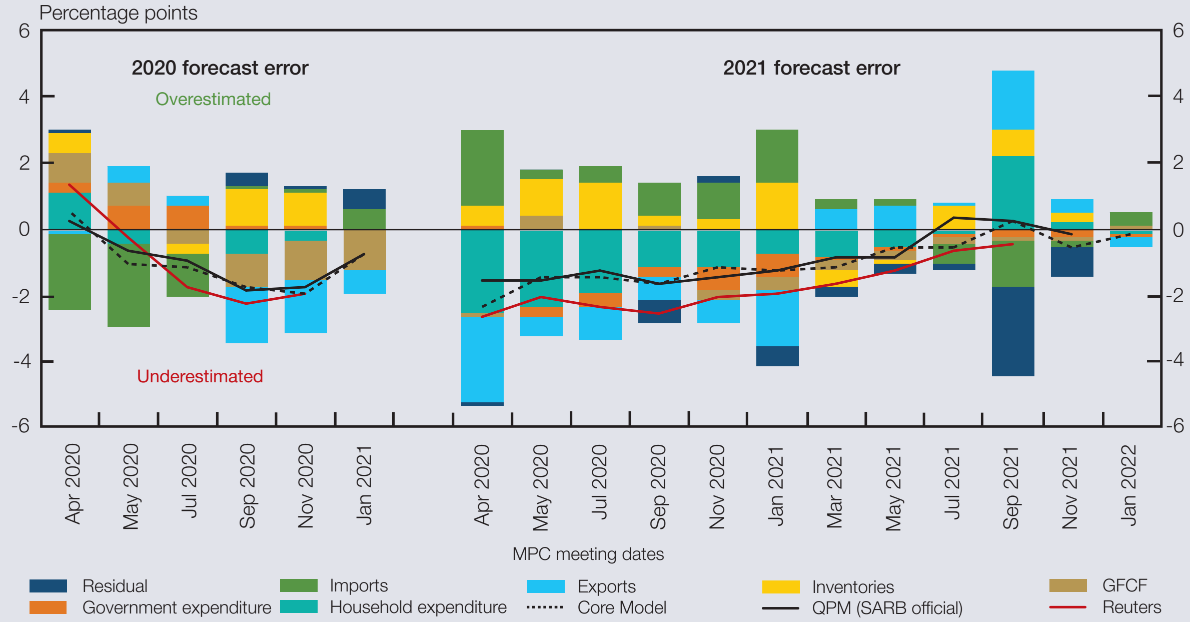
Closer inspection reveals that the underestimation of growth in 2020 and 2021 was because the SARB underestimated the pace of recovery in exports, investment and household spending. Exports were anticipated to recover at a much slower pace given the weak global demand as well as supply disruptions. Similarly, low growth, weak business confidence, heightened uncertainty and the possibility of some businesses collapsing informed the view of a slow recovery in investment. Household spending growth was also understated due to expectations of a protracted loss of income caused by lockdowns as well as weak consumer confidence. However, actual data surprised to the upside for all three components, reflecting a stronger global and domestic recovery.[2] Meanwhile, stronger-than-anticipated domestic demand alongside supply disruptions resulted in a larger-than-anticipated drawdown of inventories. As a result, the change in inventories was overstated, and this helped to moderate the underestimation of GDP growth during the period under review.

In conclusion, the SARB's suite of models struggled to correctly reflect the impact of the pandemic as some relationships were (temporarily) broken amid extreme uncertainty. This is perhaps best illustrated by the better performance of the Quarterly Projection Model (QPM) when staff adjusted estimates. Without such adjustments, the forecast errors would have been larger. Therefore, a key lesson for forecasting under extreme uncertainty is that data or information outside of typical macroeconomic models takes on a more significant role.

1 The meetings considered here begin with the May 2020 MPC meeting, going all the way to the November 2021 MPC meeting.

2 The stronger recovery in household spending was due to a sharper rebound in wages and asset prices as well as increased social transfers.

Contributions to 2020 and 2021 GDP errors (forecast-actual)

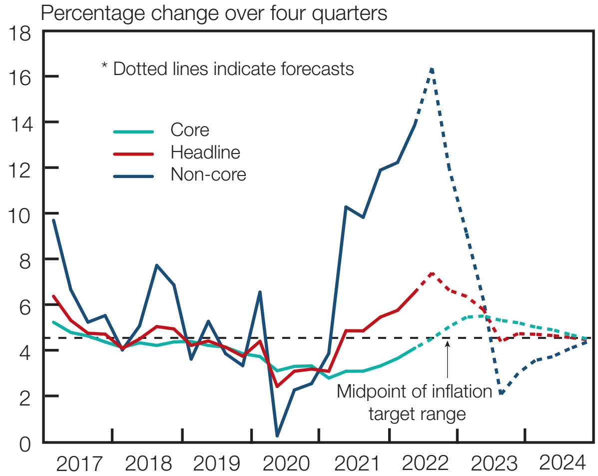


Sources: Reuters and SARB

Price developments: risks have materialised

Headline inflation and its components

Percentage change over four quarters



Sources: Stats SA and SARB

Domestic inflationary pressures have intensified sharply since the previous MPR*, pushing headline inflation to a 13-year high of 7.8% in July 2022, as price pressures have broadened to the core inflation basket.[52] Core goods prices have risen markedly, reflecting both higher imported inflation and increased pass-through from high producer prices. Services inflation has started to climb strongly, albeit from a low base, as the disinflationary effects from housing fade. Spillover effects into core inflation from high food and fuel price increases have also become evident. Projections are for headline inflation to peak in the third quarter of 2022 and to decelerate towards the midpoint of the target range over the medium term supported by fading exogenous drivers. Headline inflation is expected to average 6.5% in 2022, up from the 5.8% projected in the April* MPR*.*

Domestic inflation outcomes have worsened markedly over the past six months as headline inflation has accelerated, breaching the 6.0% upper limit of the target range in May 2022 and rising to 7.8% in July before slowing moderately to 7.6% in August. The impact of the ongoing war in Ukraine has been felt domestically as higher global food and Brent crude oil prices have weighed on domestic prices more than initially expected, with the effects accentuated by a weaker rand. Food and fuel price inflation has averaged 7.7% and 37.7% respectively since the start of the year. Despite the recent moderation, Brent crude oil prices are expected to remain elevated in 2022.

The depreciation of the rand during the period under review, alongside markedly higher global traded goods inflation, has intensified price pressures for core goods.[53] At the same time, sharply higher producer prices have begun to feed through into consumer prices as firms act to reduce further erosion of margins. Services price inflation has also begun climbing strongly in recent months, albeit from a low base, partly reflecting the rotation of demand back to services. Meanwhile, the shocks to food and fuel prices over the past year show signs of pass-through into core inflation, evidenced by the sharp rise in inflation expectations. These developments add impetus to headline inflation, which is forecast to average 6.5% in 2022 from 4.5% in 2021 and 3.3% in the year before.

52 Core inflation excludes volatile price items such as food and non-alcoholic beverages (NAB), fuel and electricity.

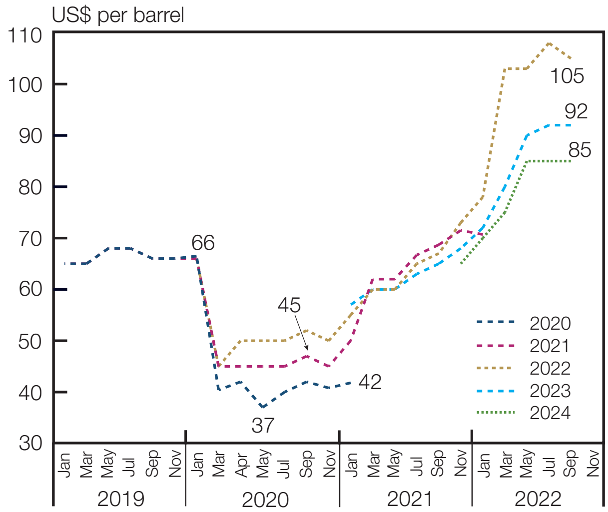
53 Although the depreciation of the rand is more on a bilateral (R/US$) than on a nominal effective exchange rate (NEER) basis, the bulk of South Africa's traded goods are invoiced in US dollars.

Oil price developments

Oil price movements explain much of the impulse to headline inflation over the past six months After averaging US$89 per barrel over the period October 2021 to March 2022, Brent crude oil prices rose to average US$110 per barrel between April 2022 and August 2022.[54] Brent crude oil prices peaked at an average of US$123 per barrel in June 2022 due to supply constraints as the European Union (EU) agreed on a partial embargo on crude oil and petroleum products from Russia – the world's second-largest crude oil exporter. Recently, however, oil prices have fallen, trading closer to the US$90 per barrel mark in September, dragged lower by global recessionary fears. In the near term, oil prices are prone to volatility, with markets weighing expectations of weaker demand against supply tightness. The SARB expects oil prices to average US$105 per barrel this year.[55]

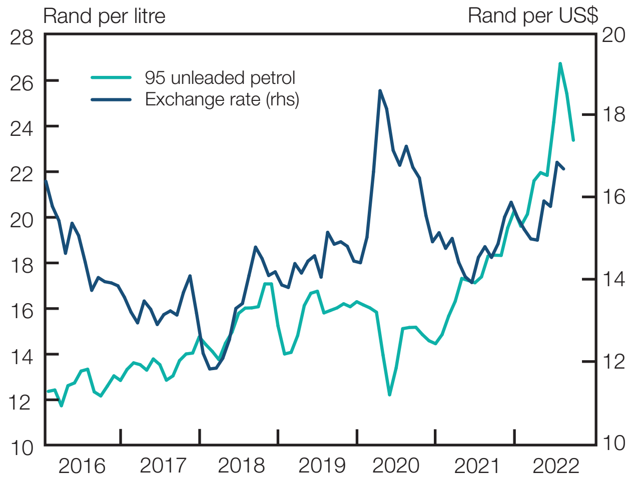
Over the short to medium term, structural supply-side challenges within the crude oil industry – ranging from limited surplus capacity in the Organization of the Petroleum Exporting Countries (OPEC) through historically low investment to limited refinery capacity – could persist. As a result, oil prices are expected to remain elevated above pre-pandemic levels over the forecast period, averaging US$92 per barrel in 2023 and US$85 per barrel in 2024 – a significant upward revision compared to the expectations in the previous *MPR*, where oil was projected to average US$80 per barrel in 2023 and US$75 per barrel in 2024.

Evolution of oil price forecasts



Source: SARB

Gauteng unleaded petrol price



Sources: Bloomberg and Central Energy Fund

Administered prices

At 13.7% in 2022, regulated prices will again inflate at rates markedly higher than the midpoint of the target range after recording 9.2% in 2021 and averaging above 6% since 2007.[56] Sharply higher fuel inflation is the main driver and overshadows electricity price inflation for 2022/23, which came in at 7.7%.

Fuel price inflation increased by 56.2% year on year in July 2022 due to higher Brent crude oil prices, the surge in international fuel refinery margins, higher transport costs and a depreciated rand exchange rate. Since August, fuel prices have moderated somewhat, with petrol prices (95 octane) falling by R3.36 per litre, as oil prices softened.[57] The effects on pump prices were, however, tempered by the reversal of the temporary R1.50 per

54 The rise in international petroleum product prices has led to a cumulative increase in the petrol price of R7.83 from February 2022 to July (excluding the effect of the exchange rate). However, between August and September, a decline of R5.25 was reported.

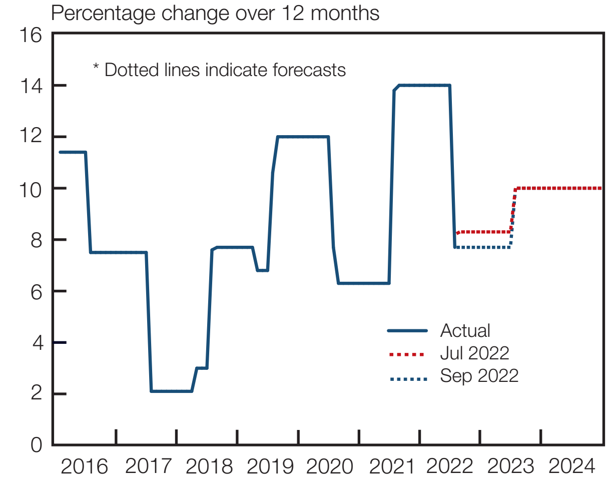
55 Upside pressures could emanate from the ending of the Strategic Petroleum Reserve releases and the commencement of EU sanctions on Russian crude imports just before winter begins in the Northern Hemisphere. On the other hand, a sharp slowdown in global growth or a recession, higher-than-expected production from the US or the lifting of the embargo on Iranian oil could exert downside pressures on crude prices.

56 See Box 9 in the April 2022 *MPR*.

57 International refinery margins have declined somewhat since July 2022 due to slowing global demand, softening shipping demand and lower freight costs and other inputs.

Electricity prices*

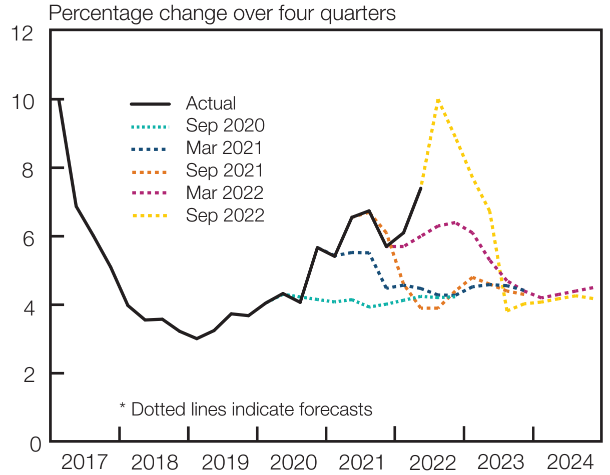
Percentage change over 12 months



Sources: Stats SA and SARB

Food and non-alcoholic beverages inflation*

Percentage change over four quarters



Sources: Stats SA and SARB

litre reduction in the fuel levy effected in April 2022, which was subsequently reinstated in two equal increments of 75 cents per litre in July 2022 and August 2022 respectively.[58] Fuel price inflation is expected to average 33.5% in 2022, from 26.1% projected in the previous *MPR*, and to decelerate sharply to 1.1% in 2023 and to -1.0% in 2024 driven by base effects and the assumed moderation in oil prices.

Electricity saw a marked deceleration in price inflation in July 2022, from 14.0% to 7.7%, effective over the next 12 months. From an historical perspective, electricity prices have consistently inflated at rates substantially above headline inflation over the past two decades.[59] Electricity inflation is forecast at 10.0% in July 2023 and 10.0% in July 2024, in line with the projections of some of the main metropolitan municipalities' medium-term revenue and expenditure frameworks published in annual budgets. However, these projections contrast sharply with Eskom's 32.7% tariff increase application to the National Energy Regulator of South Africa (NERSA) for the 2023/24 financial year, suggesting a large upside risk to the forecast.[60] Other administered components, specifically property rates and water, rose by 4.3% and 8.1% respectively in July 2022.

Because several administered price categories – including water, electricity as well as fuel taxes and levies – serve as inputs into production, high administered price inflation raises the cost structure for the economy and complicates efforts to keep inflation closer to the midpoint of the 3–6% target range.

Food prices

Over the past six months, several adverse factors have converged to push domestic food and non-alcoholic beverages (NAB) price inflation higher to 9.7% in July and 11.3% in August, from 6.0% in April. For the year 2022, food and NAB inflation is projected to increase to 8.1%, up from 6.1% at the time of the previous *MPR*. Among the factors pushing domestic food prices higher is the war in Ukraine, which has disrupted production and trade of important energy and agricultural commodities (grains and oils) – of which Russia and Ukraine are key exporters – exerting upward pressure on global food prices.[61] Agricultural input costs have increased due to high crude oil and fertiliser prices. These pressures have been worsened by a weaker rand exchange rate, with other domestic idiosyncrasies such as the outbreak of foot-and-mouth disease adding to price pressures.[62]

58 The Demand Side Management Levy of 10 cents per litre imposed on 95-octane petrol was permanently removed in June 2022.

59 Between 2009 and 2021 electricity prices rose fourfold while CPI just about doubled.

60 M Illidge, 'Eskom warns 32.66% electricity price hike might not be enough'. *Mybroadband* blog, 31 July 2022. https://mybroadband.co.za/news/energy/454745-eskom-could-ask-for-more-than-32-66-tariff-increase-after-ramaphosa-speech.html

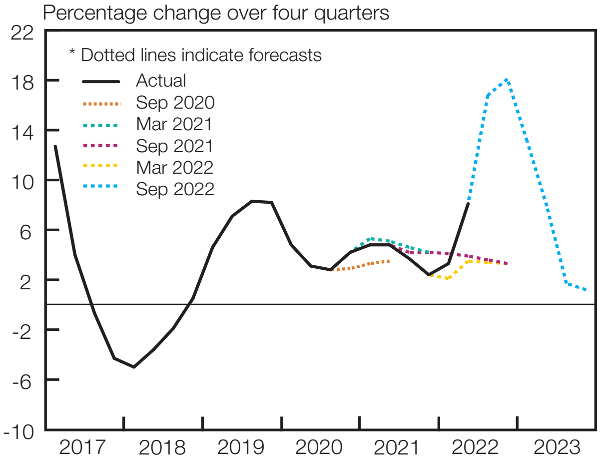
61 The UN FAO food price index increased from 19.0% in January 2022 to 23.0% in June and remains elevated, although it has been showing some signs of easing in recent months.

62 The rand depreciated by 7.7% between January 2022 and August 2022.

Increases in domestic food and NAB inflation during the period under review have been broad-based, but most pressure has come from the rising prices of bread and cereals, meat, and oils and fats. Bread and cereals inflation accelerated sharply to 17.8% in August 2022 despite the bumper crop in 2021 and favourable domestic crop estimates in the current year. Notwithstanding some expected moderation over the remainder of the year in line with slowing global cereals inflation,[63] domestic bread and cereals inflation is projected to average 11.3% in 2022, substantially higher than the 3.1% projected at the time of the previous *MPR* and the 3.9% outturn for 2021.

Bread and cereals inflation*

Percentage change over four quarters



Sources: Stats SA and SARB

Consumer food price inflation (September 2022 forecasts)

Percentage change over four quarters, March 2022 forecasts in brackets

	Actual			Forecast	Actual		Forecast			
	Weight	2011–21*	2021*	2022*	2022Q1	2022Q2	2022Q3	2022Q4	2023Q1	2023Q2
Food and non-alcoholic beverages	17.14	6.2	6.1	8.1	6.1	7.4	9.9	8.9	7.7	6.7
				(6.1)	(5.7)	(6.0)	(6.3)	(6.4)		
Bread and cereals..................	3.16	5.8	3.9	11.3	3.3	8.1	16.8	18.1	13.1	7.9
				(3.1)	(2.1)	(3.5)	(3.4)	(3.3)		
Meat	5.42	6.8	8.5	8.8	8.6	9.2	9.5	8.1	7.0	5.0
				(6.7)	(8.6)	(7.2)	(6.2)	(5.1)		
Beef...................................	1.42	7.5	11.5	10.2	8.0	9.6	11.4	11.8	8.6	5.5
				(7.1)	(7.8)	(7.0)	(7.2)	(6.2)		
Poultry	2.09	6.6	7.4	9.9	10.7	10.4	10.4	8.7	7.4	5.1
				(9.1)	(10.4)	(9.0)	(9.3)	(7.7)		
Vegetables	1.27	5.8	4.1	5.9	6.3	3.1	9.0	5.1	6.9	7.8
				(9.3)	(7.1)	(8.1)	(11.3)	(10.4)		

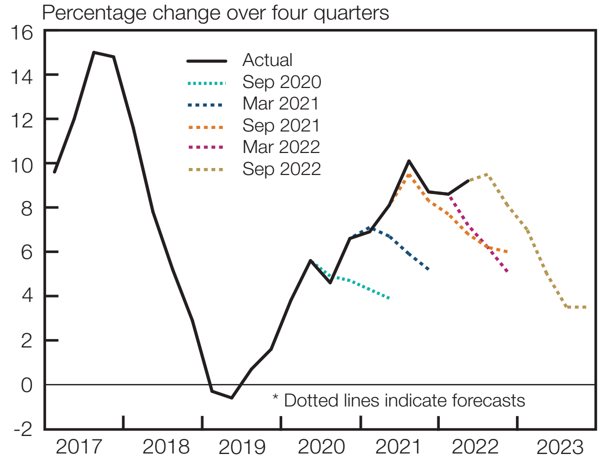
* Annual average percentage change

Sources: Stats SA and SARB

Price inflation for meat reached a high of 9.5% in June 2022 before moderating slightly to 9.4% in July and 9.2% in August. The elevated meat inflation derives from reduced slaughtering activity amid the foot-and-mouth disease outbreaks over the past year extending through to the third quarter of 2022 and sharply higher price increases for poultry. Poultry inflation increased by 11.0% in July from 7.1% a year earlier, reflecting rising input costs and increased import duties. The recent suspension of anti-dumping duties on chicken imports for a period of 12 months with effect from August 2022 should help to soften poultry prices (see Box 6). Meat inflation is expected to average 8.8% in 2022 (6.7% in the previous *MPR*).

Meat inflation*

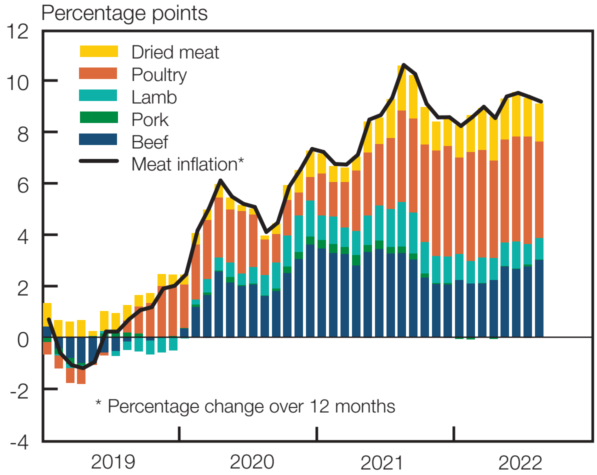
Percentage change over four quarters



Sources: Stats SA and SARB

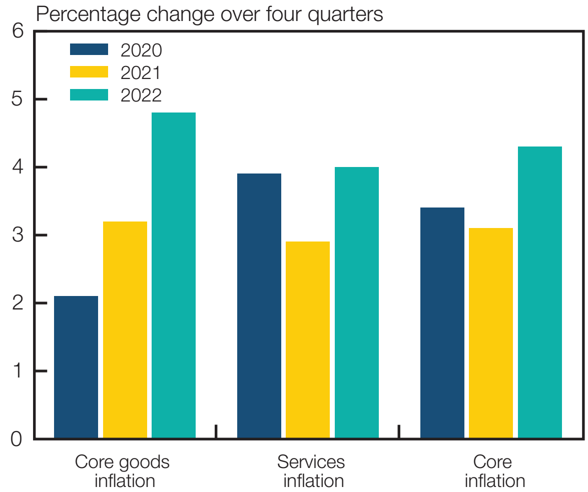
63 Global cereals inflation moderated to 11.4% in August 2022 after peaking at 37.3% in March.

Contributions to meat inflation



Sources: Stats SA and SARB

Components of core inflation



Source: SARB

After registering 21.2% in April 2022, domestic oils and fats inflation surged to 37.6% in August, reflecting sharply higher global prices due to tight supplies and a weaker rand exchange rate.[64] In August 2022, oils and fats alone contributed 0.2 percentage points to headline inflation and 1.0 percentage points to food inflation.[65] Despite the recent drop in global price inflation for oils and fats from 58.0% in March 2022 to -1.5% in August, benefits to South African consumers may be delayed since changes in global prices pass through to their domestic counterparts with a lag of up to five months.[66] After averaging 18.6% in 2021, domestic oils and fats inflation is projected higher at 29.9% in 2022, much above the 11.6% projected in the previous *MPR*.

In summary, a range of factors, both global and domestic, has driven food inflation higher over the past six months. While global food prices started to show some signs of easing in July 2022, the high price inflation experienced over the past six months, together with elevated domestic drivers, underlies the upward revision to food and NAB inflation in 2022.

Core inflation

Year-to-date core price inflation has averaged 4.0%. Projections are for core price inflation to average 4.3% in 2022, slightly higher than the 4.2% forecast at the time of the April *MPR*. Core price inflation has been more muted over the past two years, averaging 3.4% in 2020 and 3.1% in 2021. The recent rise to 4.6% in July is primarily due to sharp increases in the price inflation of core goods, although services price inflation has also begun to show upward impetus in recent months, as demand rotates back to services following the scrapping of all remaining COVID-19-related restrictions. Core price inflation slowed marginally to 4.4% in August following some moderation in core goods price inflation.

64 Global oils and fats inflation averaged 65.8% in 2021 and 40.1% in the first half of 2022.

65 The weights of oils and fats in headline and food inflation are 0.45% and 2.6% respectively.

66 The delay in pass-through could also reflect weak upstream market competition and/or possible anticompetitive conduct given the high concentration in the sector.

Core goods price inflation remained elevated at 4.6% in August 2022, having moderated somewhat from 5.2% in May. The trajectory for core goods price inflation is shaped by various drivers, including higher global inflation, a relatively weaker rand, increasing pass-through from elevated producer prices and sharply higher transport costs. Inflation for exchange rate-sensitive core goods rose to 6.5% in June 2022 and remained elevated at 5.7% in August, up from 6.0% in April.[67] For instance, inflation for alcoholic beverages and tobacco accelerated to 6.7% in June 2022 from 6.3% in April before slowing to 5.5% in July on the base effects of wine and beer, while household contents inflation rose to 6.9% in July 2022 from 4.0% in April. Inflation for new motor vehicles, on the other hand, has exhibited a declining trend from 6.0% in April 2022 to 5.1% in August.

As its fundamental drivers show few signs of abating, core goods price inflation is expected to remain elevated, averaging 4.8% in 2022 from 3.2% in 2021, and rising to 5.5% in 2023 before moderating to 4.9% in 2024.

After remaining subdued through much of the post-COVID-19 recovery, services price inflation has begun climbing, nearly doubling over the past year. Services price inflation rose to 4.3% in August 2022 from 3.5% in April. The moderate trajectory belies the recent surge in price inflation for items more exposed to higher food and fuel price increases such as public transport as well as restaurants and hotels, and reflects the slow pace of medical insurance and housing inflation thus far.[68]

Housing rental demand has strengthened over the review period, which has permitted higher-than-expected rental escalations, pushing housing inflation to 2.9% in August 2022 from 2.5% in April. Looking ahead, housing inflation is expected to increase further, as the mortgage costs to property owners rise and demand for rentals increases.

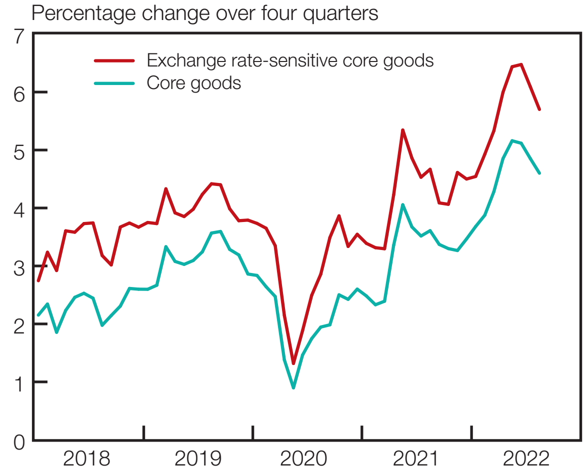
With respect to medical insurance, it appears that medical schemes have broadly adopted more moderate pricing since the pandemic, resulting in inflation repeatedly surprising to the downside. Medical insurance recorded inflation of 4.2% in the first quarter of 2022 against the SARB's expectation of 6.0%. The SARB's medical insurance forecast has therefore been revised lower to 5.0% for 2022 from 6.7% in the previous

67 Exchange rate-sensitive core goods refer to the imported components of the core CPI basket which are more susceptible to exchange rate movements. These include alcoholic beverages and tobacco (27.1%), vehicles (25.6%), household contents (8.0%) as well as spare parts and accessories (1.9%). Together, they constitute 62.6% of the core goods basket.

68 Public transport inflation recorded 24.3% in August (from 13.5% in April), while restaurant and hotel price inflation rose to 5.8% in the same month (from 5.6% in April).

Core goods inflation

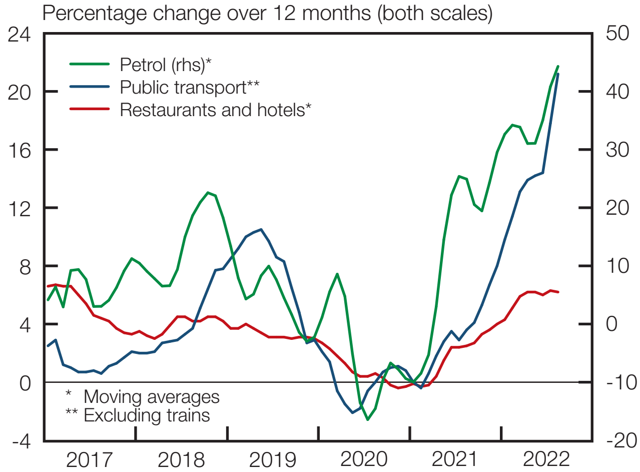
Percentage change over four quarters



Sources: Stats SA and SARB

Petrol prices and inflation for public transport as well as restaurants and hotels

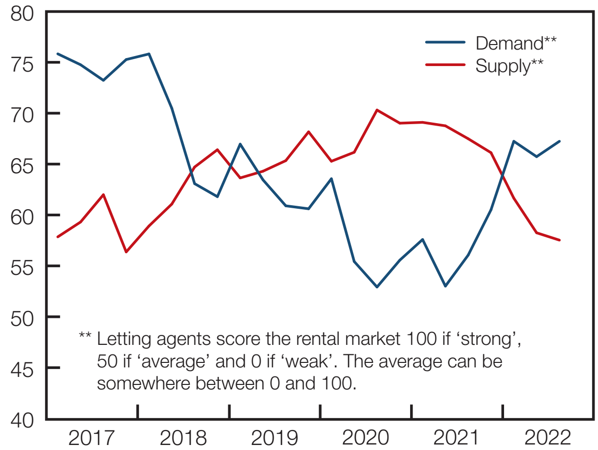
Percentage change over 12 months (both scales)



Sources: Stats SA and SARB

Supply and demand of rental space*

Scale

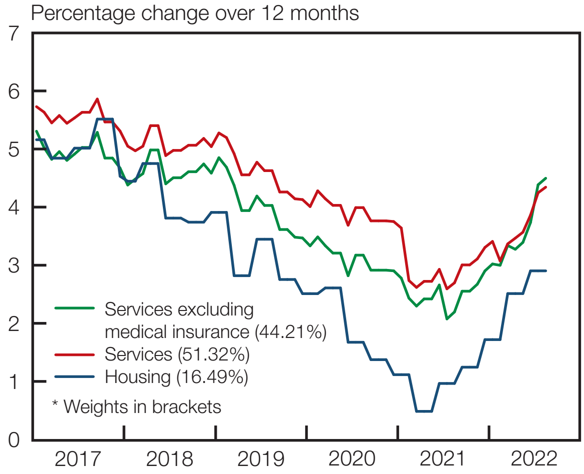


* No survey results for 2017Q1

Source: TPN Credit Bureau

Services inflation*

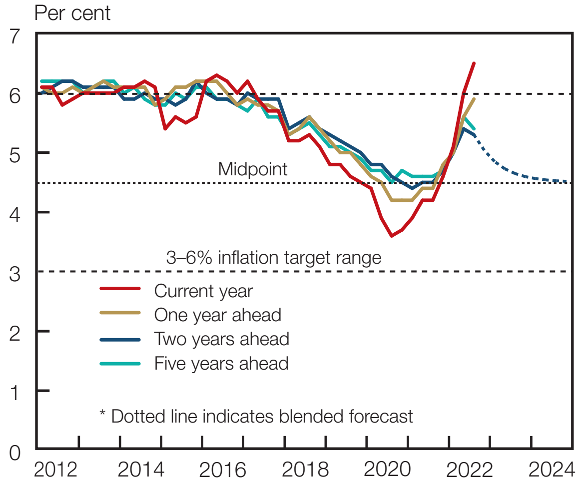
Percentage change over 12 months



Source: Stats SA

Inflation expectations*

Per cent



Sources: BER and SARB

MPR (and from 9.0% in the October 2021 *MPR*). This trend of moderate price increases may continue into 2023 as the Council for Medical Schemes (CMS) has recommended contribution increases below 5.7%.[69]

After registering 2.9% in 2021, services inflation is forecast to average 4.0% in 2022, from 4.2% in the April *MPR*, and to rise sharply to 5.4% in 2023 before slowing to 4.7% in 2024. The downward revision to the 2022 projection is due to lower medical insurance inflation while the upward adjustment to the 2023 forecast relative to the previous *MPR* is attributed to higher inflation expectations, a closed output gap and a more depreciated exchange rate.[70]

Medium-term inflation outlook

While near-term headline inflation is driven primarily by exogenous factors (food and fuel price dynamics), the trajectory over the medium term reflects the dynamics of its underlying determinants, namely inflation expectations, real ULC, the exchange rate and the output gap. Inflation expectations have risen sharply since the previous *MPR*, reflecting high domestic consumer and producer price inflation as well as expected second-round effects from higher food and fuel inflation as wage demands adjust to the rising cost of living while businesses adjust pricing to protect tight margins.

Over the review period, inflation expectations, as measured by the Bureau for Economic Research's (BER) survey, have drifted higher, with large upward adjustments between the first and second quarter but some apparent stabilisation in the third quarter. Both the two-years-ahead and the five-years-ahead inflation expectations edged up between the first and second quarter of 2022, to 5.4% and 6.0% respectively, from 5.0% for both in the first quarter, but moderated slightly to 5.3% and 5.4% respectively in the third quarter.[71] Of the surveyed groups – namely financial analysts, trade unions and business – it was the latter two for whom both the two-years-ahead and the five-years-ahead inflation expectations moderated, albeit only marginally. This could reflect a correction as these two subgroups had revised their expectations substantially higher between the fourth quarter of 2021 and the second quarter of 2022.

69 Editorial, 'Proposal to cap medical aid price increases for 2023'. *Businesstech* blog, 2 August 2022. https://businesstech.co.za/news/finance/612945/proposal-to-cap-medical-aid-price-increases-for-2023/

70 Inflation expectations affect both wage setting and price setting. Higher inflation expectations, other things being equal, imply higher wage increases and higher price increases, as both sellers and workers attempt to protect real incomes.

71 The current year and one-year-ahead inflation expectations increased further in the third quarter to 6.5% and 5.9% respectively, from 6.0% and 5.6% respectively in the second quarter.

Headline inflation (September 2022 forecasts)

Percentage change over four quarters, March 2022 forecasts in brackets

	Actual			Forecast	Actual		Forecast			
	Weight	2011–21*	2021*	2022*	2022Q1	2022Q2	2022Q3	2022Q4	2023Q1	2023Q2
Headline inflation	100.00	5.0	4.5	6.5	5.7	6.5	7.4	6.6	6.4	5.8
				(5.8)	(5.8)	(6.2)	(5.7)	(5.4)		
Core inflation**	74.4	4.5	3.1	4.3	3.6	4.1	4.5	5.0	5.4	5.5
				(4.2)	(3.7)	(4.0)	(4.3)	(4.6)		
Rentals***	16.49	3.9	1.0	2.7	2.0	2.6	3.0	3.2	3.5	3.8
				(2.5)	(2.0)	(2.5)	(2.6)	(2.7)		
Insurance	9.89	7.0	4.8	4.4	4.0	4.2	3.9	5.4	6.6	6.4
				(5.8)	(5.5)	(6.5)	(5.7)	(5.6)		
Education	2.62	7.4	4.5	4.3	4.2	4.4	4.4	4.4	4.7	5.2
				(4.9)	(4.4)	(5.0)	(5.0)	(5.0)		
Vehicles	5.91	3.5	5.0	5.8	5.4	6.1	6.0	5.6	5.5	4.4
				(4.9)	(5.3)	(5.1)	(5.0)	(4.7)		
Fuel	4.82	7.5	18.2	33.5	31.6	35.4	43.8	24.0	14.2	3.7
				(26.1)	(31.9)	(40.0)	(25.0)	(10.4)		
Electricity	3.63	9.5	10.2	10.7	14.0	14.0	7.7	7.7	7.7	7.7
				(11.0)	(14.0)	(14.0)	(8.3)	(8.3)		

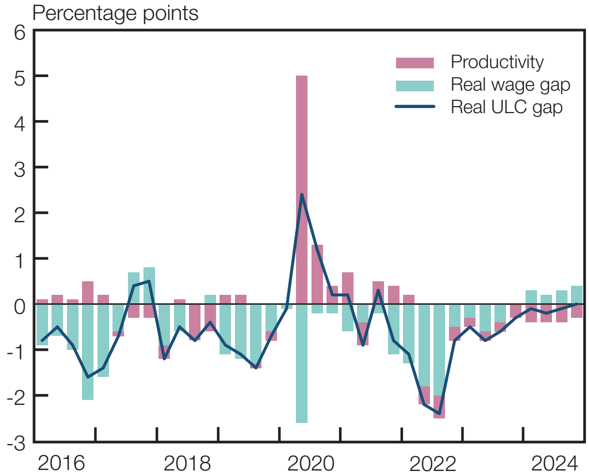
* Annual average percentage change
** CPI excluding food, NAB, fuel and electricity
*** A combination of actual rentals and owners' equivalent rent

Sources: Stats SA and SARB

Higher inflation expectations are associated with higher wage demands and price increases as workers and firms seek to protect real incomes.[72] When real wage increases exceed productivity growth, firms' pricing behaviour adjusts as their margins are constricted. Over the outlook period, real salaries, which is nominal wages adjusted for inflation, are forecast to increase by 1.3% and 0.9% in 2023 and 2024 respectively, while productivity increases by only 0.4% and 0.9% over the corresponding periods.[73] Higher real wage increases, coupled with a slower pace of productivity growth, raise the real ULC gap over the medium term, in turn pushing core inflation higher.[74]

Contributions to the ULC gap

Percentage points



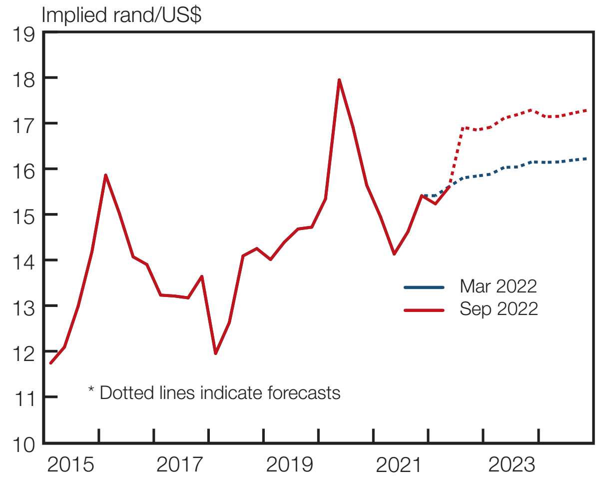
Source: SARB

72 The BER survey for the third quarter of 2022 found that labour unions expected salaries and wages to increase by 5.9% in both 2022 and 2023, in line with the 6.1% average wage settlement in the first half of 2022 as reported by Andrew Levy. See the Andrew Levy Wage Settlement Survey of June 2022.

73 Nominal salary increases are expected to average 5.1%, 6.7% and 5.6% in 2022, 2023 and 2024 respectively.

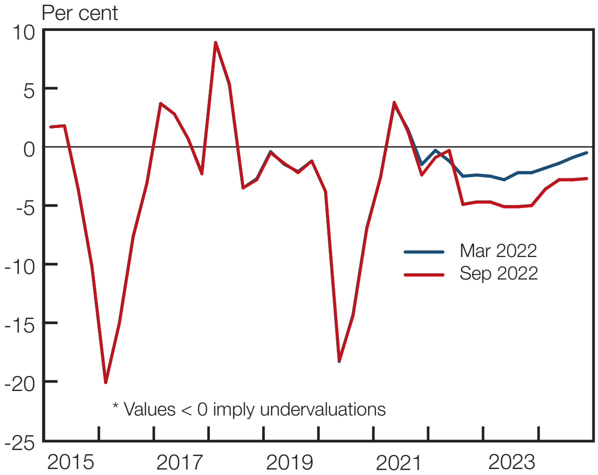
74 A 1.0% rise in the real ULC gap raises headline inflation by 0.3 percentage points and core inflation by 0.31 percentage points.

Nominal exchange rate



Source: SARB

Real effective exchange rate gap*



Source: SARB

The SARB QPM predicts the exchange rate to remain undervalued throughout the forecast horizon, amplifying pressures from imported inflation.[75] The starting point for the rand to the US dollar was R16.91 in the September 2022 MPC meeting compared to R15.41 at the March MPC meeting. The model projects a 2.2% depreciation over the forecast period, with the rand averaging R17.28 by the fourth quarter of 2024.[76] In real terms, the exchange rate is on average 4.1% undervalued throughout the forecast period as domestic real interest rates rise slower relative to those for advanced economies. A weaker rand diminishes the beneficial effects of the projected moderation in global inflation, keeping domestic core goods inflation elevated.

The output gap has effectively closed, narrowing to a projected -0.6% in 2022 from -1.3% in the previous *MPR* and from -1.96% in 2021 before turning positive in 2023 and 2024. A closing output gap signifies improving domestic demand conditions and permits firms to push higher price increases to relax margin compression. This is consistent with the projected path of core price inflation where it overshoots the midpoint of the inflation target range over the medium term.[77]

Conclusion

Headline inflation is projected to average 6.5% in 2022 from 4.5% in 2021 and to gradually decelerate towards the midpoint of the target range as exogenous drivers dissipate. Increased core price inflation pressures – as seen in the elevated inflation expectations and wage settlements, a depreciating rand and a fast-closing output gap – are expected to slow the reversion of headline inflation to the midpoint of the target range. Risks to the inflation outlook are to the upside.

75 This reflects weaker uncovered interest rate parity (UIP) conditions.

76 The recent rand depreciation against the US dollar perhaps reflects more the dollar strength than mere rand weakness.

77 In the model context, a closing output gap is recognised as an increase in the marginal costs of producing an additional unit of output.

Box 6 How pricey can frozen chicken get?

South Africa's trade liberalisation of the 2000s helped to increase domestic competition and lower the prices of traded goods for the domestic consumer.[1] However, trade measures have been increased in recent years to protect domestic industries, as is reflected in the rising aggregate tariff rates for consumer goods. This box assesses the inflationary impacts of tariffs imposed by South Africa on frozen chicken imports as well as the broader costs to consumers from these and other tariffs.

The poultry sector has seen extensive use of protective trade measures by South Africa in recent years. Customs duties on frozen whole chicken and bone-in pieces have more than trebled between 2013 and 2022, increasing from 27% to 82% and from 18% to 62% respectively.[2] This has contributed to the rising prices of frozen chicken meat and declining imports, with the effects exacerbated by anti-dumping duties and safeguards imposed to limit substitution towards the European Union (EU).[3, 4] Frozen chicken experienced a cumulative increase in most favoured nation (MFN) tariffs from 18% in 2010 to 62% in 2021, increasing consumer prices by between 13% and 40%.[5]

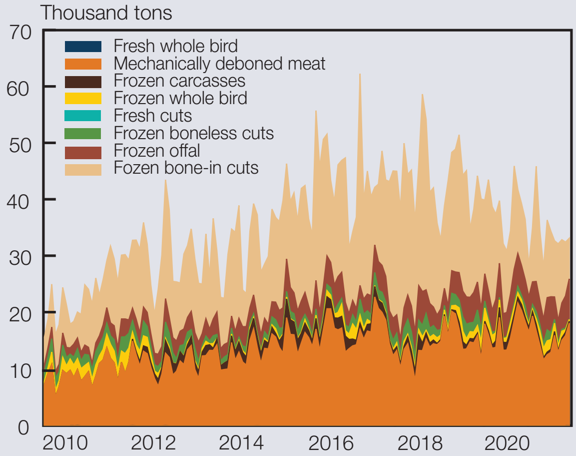
While trade policy directly affects the price of imported goods by imposing a tax at the border, its overall impact on the landed price depends on whether foreign exporters absorb some of the cost.[6] The pass-through of tariffs and other import duties to domestic consumer prices is higher when demand is less elastic (i.e. when the inclination to consume does not change much despite price increases), which is often the case with necessities such as chicken meat.[7]

The adverse impacts of tariffs on consumer prices in South Africa can be seen in the large wedge between the free-on-board (fob) price of imports and the fob price inclusive of all duties.[8] The marked widening of this gap over the recent period reflects more binding import restrictions, as discussed above. This is also evidenced in the growing divergence between the consumer price index (CPI) for frozen chicken and the CPI for pork, which is a substitute, after they had tracked one another relatively closely from 2012 to 2016.

Because chicken is the main source of meat protein for most low-income households in South Africa, tariffs on chicken products are regressive.[9] To this end, the temporary suspension of tariffs on chicken imports announced by government should support the purchasing power of, and the real consumption by, lower-income South Africans.

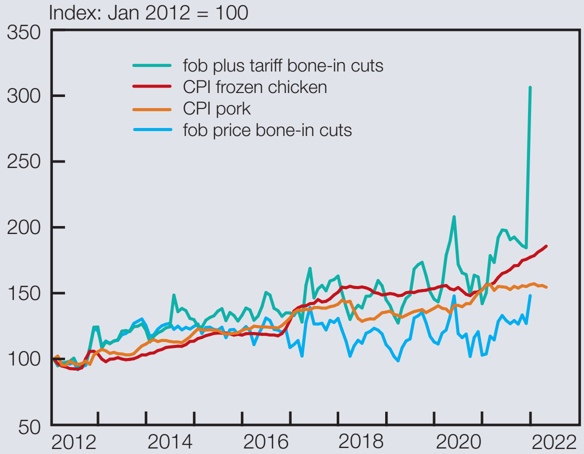
Looking ahead, greater use of economy-wide cost-benefit analyses for sectoral trade policy considerations could provide better insights into the long-run impact of tariffs.

Volume of chicken imports



Sources: SARS and World Bank

Frozen chicken and pork prices



Source: Edwards, Stern and Venter (2022)

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1 L Edwards, 'South Africa's international trade', Policy Research on International Services and Manufacturing (*PRISM) Working Paper Series No. 2021-1*, Cape Town: PRISM University of Cape Town, 2021. https://webcms.uct.ac.za/sites/default/files/image_tool/images/524/Papers/PRISM%20Working%20Paper%202021-1%20-%20Lawrence.pdf

2 Somewhat smaller increases were recorded for boneless pieces (from 5% to 12%), carcasses (from 27% to 31%) and offal (from 27% to 30%) over the same period.

3 L Edwards, G Kamutando, M Stern, F H J Venter, S Mambara and Z Ismail, 'The consumer price effects of trade policy restrictions in South Africa: A study of chicken, frozen chips and pasta,' Forthcoming as South African Reserve Bank Working Paper.

4 The total import volumes of bone-in chicken pieces, the most restricted product, in 2021 were at levels last seen in 2012, and significantly down from the peak values of 2018.

5 See Edwards et al., ibid.

6 See P K Goldberg and M M Knetter, 'Goods prices and exchange rates: what have we learned?', *Journal of Economic Literature XXXV*, 1997, pp 1243–1272; A Nicita, 'The price effect of tariff liberalization: measuring the impact on household welfare', *Journal of Development Economics 89(1)*, 2009, pp 19–27.

7 See also D Parsely and S Wei, 'A prism into the PPP puzzles: the micro-foundations of Big Mac real exchange rates', *The Economic Journal 117(523)*, October 2007, pp 1336–1356.

8 According to the Organisation for Economic Co-operation and Development (OECD) *Glossary of Economic Terms*, the free-on-board (fob) price of exports and imports of goods is 'the market value of the goods at the point of uniform valuation (the customs frontier of the economy from which they are exported)'.

9 This is true of all goods consumed predominantly by the poor.

Box 7 Forecasting inflation amid major shocks

Forecasts of inflation over the medium term play a central role in monetary policy decisions as policy is calibrated to, and acts on, the deviation of expected inflation from the midpoint of the target range. The South African Reserve Bank (SARB) routinely conducts forecast error analysis to assess its performance in forecasting inflation and to facilitate continuous model improvements. These evaluations are also benchmarked against economic analysts' forecasts. This box evaluates the accuracy of the SARB's inflation forecasts for 2021.[1]

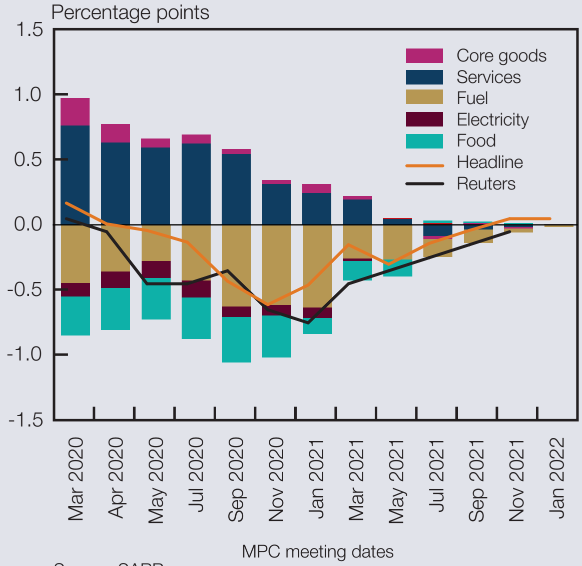
Evaluations show that inflation forecasts for 2021 were below actual inflation outcomes in most of the Monetary Policy Committee (MPC) meetings except for the March 2020 and April 2020 meetings, when forecasts were in line with actual outcomes.[2]

A decomposition of the headline inflation error indicates that non-core inflation components were understated while core inflation was overstated. Underestimation of non-core inflation can be traced to unanticipated supply- and demand-side shocks. To begin with, electricity inflation surprised on the upside when Eskom successfully disputed previous decisions of the National Energy Regulator of South Africa (NERSA) in court. Fuel inflation similarly surprised on the upside, underpinned by strong demand for oil on the back of a faster-than-anticipated rebound in the global economy from the COVID-19 pandemic. Food inflation also came in higher, in line with sharply rising global food prices and despite a bumper domestic harvest.

The overestimation of core inflation was largely from services, which on average explain about 80% of the error. This was partly a supply-side shock as both medical insurance premiums and education fees increased by less than their long-term averages while housing inflation declined further on oversupply amid softening demand. Core goods inflation picked up at a slower pace than anticipated as the rand exchange rate appreciated sharply supported by terms of trade gains.[3]

Notwithstanding the extreme uncertainty as well as the multiple and overlapping supply-side shocks during the evaluation period, the SARB's forecast errors for headline inflation remained in line with historical averages. This forecast performance was not unique to the SARB, however. Over the same period, both the Reuters median and the SARB had the same root mean square error of 0.2% and 0.4% for current-year and one-year-ahead forecasts respectively.[4] The fact that both the Reuters median and the SARB were surprised to the upside underscores the unexpected nature of the supply shocks that shaped actual inflation outcomes. Ultimately, forecasts are as good as their underlying assumptions, and are subject to no further shocks hitting the economy – a condition hardly ever met during this period. Forecasts should thus be interpreted with caution.[5]

Inflation forecast errors



Source: SARB

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1 The 2020 forecast errors were discussed in Box 7 of the October 2021 *Monetary Policy Review*.

2 In the March 2020 meeting, headline inflation was forecast to average 4.6% while in the April meeting it was forecast at 4.5%, in line with the actual outcome.

3 Terms of trade rose to a record level by the second quarter of 2021.

4 The root mean square error is a measure of forecast accuracy which ensures that errors in opposite directions do not cancel each other out.

5 The MPC attaches risks to the baseline forecast and evaluates alternative forecast scenarios.

Conclusion

In the three years since the emergence of the COVID-19 virus, the global economy has endured multiple and overlapping supply and demand shocks. The trajectory for the global economy remains highly uncertain, with sharply higher inflation and slowing growth. Inflationary pressures, which initially originated from supply-demand imbalances occasioned by lockdowns and expansionary fiscal and monetary policies as well as higher food and oil prices, have been exacerbated by Russia's invasion of Ukraine at the end of February this year. At the same time, labour market mismatches which resulted from the pandemic have taken longer to resolve, feeding into wages and pushing services prices higher. As a result, global inflation has risen sharply to levels not seen in over four decades and is unsettling inflation expectations. In response, central banks in both advanced and emerging markets have tightened their monetary policy stances faster than was considered necessary even earlier this year.

Tightening financial conditions, sharply higher food and energy prices as well as geopolitical tensions have dragged down both actual and expected global growth. The IMF recently adjusted its outlook for global GDP growth down to 3.2% and 2.9% for 2022 and 2023 respectively.[78] The combination of high inflation and slowing growth normally presents difficult trade-offs for central banks. However, where inflation takes on a momentum beyond first-round supply shocks and seriously threatens future growth, central banks will seek to re-establish low inflation conditions despite potential short-run costs to growth from tighter policy. This resolve comes from the clear evidence that growth is stronger, more broad-based and more enduring under conditions of low and stable inflation.[79] Short-run costs are therefore tolerated to avoid much higher inflation and the far larger economic consequences of it, including rising income inequality, depressed economic activity and higher unemployment.

Early in the timeline of the pandemic, the SARB cut the repo rate to an all-time low of 3.5%, bringing the prime rate down to a 54-year low of 7.0%. This monetary policy stance was maintained until November 2021 when the MPC began to gradually raise the repo rate as inflationary pressures started to show. Since then, inflation has risen markedly, initially from rising food and fuel prices, and now is more broad-based. Inflation breached the upper limit of the 3–6% target range in May 2022 and rose sharply to 7.8% in July before moderating marginally to 7.6% in August, raising serious questions about the widely noted 'inflation exceptionalism' that South Africa appeared to experience for much of 2021.

The sharp rise in inflation over the review period reflects the materialisation of the inflation risks that the MPC has repeatedly highlighted over the past 12 months. Among these, the rand has weakened, increasing pass-through and spillovers from high fuel inflation to headline inflation.[80] Other upside risks, however, remain. Inflation expectations have risen sharply over the past six months, with some indicators breaching the upper limit of the target range, while wage settlements in the first half of the year averaged around 6%, which could add further pressures to inflation expectations.

In an environment of heightened uncertainty, characterised by rising inflation and upward surprises of inflation outcomes from month to month, the possibility of inflation expectations de-anchoring creates substantial risks to the monetary policy framework and the economy. As inflation has risen and price pressures have intensified, the SARB's MPC has moved to normalise rates, raising the repo rate by a cumulative 200 basis points over the review period and by 275 basis points since November 2021. When adjusting for inflation, however, real interest rates relative to productivity and income growth remain low, and the SARB's inflation forecast remains above the midpoint of the target range over the medium term on an annual basis. These considerations suggest that further normalisation of policy rates will be needed to raise rates to levels which are consistent with a stable and lower inflation rate.[81]

Structural reforms that boost productivity growth are supportive of lower inflation and enable lower interest rates. Encouragingly, bold reforms have begun to take shape in the energy space. However, a range of reforms is required. Structural reforms, together with sustainable fiscal balances as well as a clearer and lower inflation target that locks in permanently lower interest rates, would generate large macroeconomic and welfare gains to the economy.

78 See the July 2022 *WEO Update*. In January, the IMF projected global growth of 4.4% and 3.8% for 2022 and 2023 respectively. This was subsequently lowered to 3.6% for both 2022 and 2023 in April 2022.

79 See R J Barro, 'Inflation and economic growth', *Annals of Economics and Finance 14(1)*, 2013, pp 85–109; J Andres and I Hernando, 'Does inflation harm economic growth? Evidence for the OECD', *National Bureau of Economic Research* Working Paper No. 6062, Cambridge: National Bureau of Economic Research, June 1997. https://www.nber.org/system/files/chapters/c7777/c7777.pdf

80 Headline PPI has been on an upward trend since May 2020 and reached 18% year on year in July 2022.

81 The QPM foresees the real repo rate rising from the current negative levels to positive real rates and to gradually converge to its neutral level by the end of 2024.

Statement of the Monetary Policy Committee

19 May 2022

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

In recent months, the Omicron variant has transmitted globally and a major war started in Europe. The economic costs of the coronavirus generally continue to fall, as most economies remained open despite the rapid spread of the Omicron variant. China's response to the new COVID-19 outbreak and the sustained invasion of Ukraine by Russia will, however, weigh heavily on global economic growth and contribute to higher inflation. The war has impaired the production and trade of a wide range of energy, food and other commodities, and will continue to do so for some time.

As a result of these factors, the International Monetary Fund (IMF) reduced its global growth forecast for 2022 to 3.6%. The South African Reserve Bank's (SARB) forecast for global growth in 2022 is revised down from the March meeting to 3.5% (from 3.7%), and for 2023 is lowered to 2.7% (from 2.8%).[1] The economy of the eurozone is also expected to weaken significantly this year and the next. For 2024, global growth remains unchanged at 2.7%.[2]

Dramatically higher oil, commodity and food prices, additional constraints to trade and finance, and rising debt costs all worsen economic conditions for most emerging and developing economies.

Although policy settings in advanced economies remain broadly accommodative, policy normalisation by major central banks and higher yields have tightened global financial conditions. Investor appetite for riskier assets is weaker and asset values in major markets have declined sharply. Economies that failed to take advantage of better global conditions or to reduce large macroeconomic imbalances remain vulnerable to currency depreciation and capital outflows.

Last year saw the ongoing recovery of the South African economy from the pandemic, expanding by 4.9%. The economy is expected to grow by 1.7% in 2022, revised down from 2.0% at the time of the March meeting. This is due to a combination of short-term factors, including the flooding in KwaZulu-Natal and the continued electricity supply constraints. Growth in output in the first quarter of this year is expected to be 3.6%, stronger than the 3.2% expected at the time of the March meeting.[3]

The economy is forecast to expand by 1.9% in both 2023 and 2024.[4] At these rates, growth remains well above a low rate of potential, impacted by load-shedding as well as infrastructure and policy constraints.[5] Investment by the government sector has weakened significantly in recent years and that of public corporations is forecast to be very modest. Household spending remains supportive as a result of good growth in disposable income, rising asset prices and low interest rates. Private investment has also proved to be more resilient than previously expected. Tourism, hospitality and construction should see stronger recoveries as the year progresses.

Overall, and after revisions, the risks to the medium-term domestic growth outlook are assessed to be balanced. With potential growth and expected gross domestic product (GDP) growth revised somewhat lower for this year, the output gap is unchanged over the forecast period. The output gap is expected to turn positive after the third quarter of 2023.

Although important commodity export prices such as for coal, iron ore, platinum and rhodium generally decreased in the latter half of 2021, they surged higher with the war. Oil prices spiked to around US$130 per barrel in the early days of the conflict. While oil prices currently sit at about US$110 per barrel, we expect them to stay higher than we did in March and to average US$103 per barrel for 2022, US$90 per barrel in 2023 and US$85 per barrel in 2024.[6]

South Africa's export commodity price basket is forecast to rise by 9.5% for the year as a whole (up from 8.0%), keeping the terms of trade elevated, before gradually falling in 2023 and 2024. As a result of these export and import price developments, the current account surplus is expected to reach 2.1% of GDP this year, easing to 0.8% in 2023 and to around 0.0% in 2024.[7]

Although fiscal risk has eased on the back of better tax revenue and reduced borrowing needs, financing conditions remain tight and the yield curve for rand-denominated bonds is steep. Ten-year bond yields increased to about 10.3% in late February and have remained at around that level.

The commodity export price surge appreciated the value of the currency. The rand has since depreciated strongly (from April) due to the start of policy normalisation in major

1 The International Monetary Fund's (IMF) April forecast for global growth in 2023 is 3.6% and 3.4% for 2024.

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

3 The January forecast for first-quarter growth was 2.1%, seasonally adjusted and annualised, revised up to 3.2% in March.

4 The growth forecast includes expected changes in the policy rate.

5 Potential growth for 2022 is 0.6% (down from 0.8%), 0.9% (up from 0.8%) in 2023 and unchanged at 1.1% in 2024.

6 The Brent crude oil assumptions in March were US$103, US$80 and US$75 respectively.

7 In March, the current account surplus for 2022 was expected to be about 3.0% of GDP, 1.6% of GDP in 2023 and 0.8% of GDP in 2024.

economies and the slowdown in China's economy. The implied starting point for the rand forecast is R15.88 to the United States (US) dollar compared with R15.41 at the time of the previous meeting.[8]

As the global economy rebounded from the pandemic, continued policy accommodation and supply shortages increased the prices of many goods and commodities.[9] These prices have been given fresh impetus from further transport delays, supply constraints and food export restrictions. Producer price increases have passed through to wages and consumer prices in major economies. Our estimate for inflation in the Group of Three (G3) economies is revised higher to 6.3% in 2022 (from 5.6%) and down to 2.7% in 2023 (from 3.0%) before moderating to 2.0% in 2024 (from 2.3%).[10] The IMF expects global inflation of 7.4% in 2022 and 4.8% in 2023.[11]

Oil prices are revised up further for this year, and fuel price inflation is higher at 31.2% (up from 26.1%). Local electricity price inflation is unchanged at 11.0% in 2022, 9.2% in 2023 and 10.0% in 2024.

As a result of higher global food prices, local food price inflation is also revised up and is now expected to be 6.6% in 2022 (up from 6.1%) and 5.6% in 2023 (up from 5.1%). Food price inflation is forecast to ease to 4.2% in 2024 (down from 4.4%).

The SARB's forecast of headline inflation for this year is revised higher to 5.9% (from 5.8%), primarily due to the higher food and fuel prices. While food prices will stay high, fuel price inflation should ease in 2023, helping headline inflation to fall to 5.0% despite slightly higher core inflation. Headline inflation of 4.7% is now expected in 2024.

Core inflation is forecast lower at 3.9% in 2022 (down from 4.2%) due to lower services price inflation. Our forecast for core inflation in 2023 and 2024 is slightly higher at 5.1% (from 5.0%) and 4.8% (from 4.7%) respectively. Core goods inflation is forecast higher throughout the horizon, while core services inflation is unchanged in 2023 and 2024.

The risks to the inflation outlook are assessed to the upside. Global producer price and food price inflation continued to surprise higher in recent months and may do so again. Russia's war in Ukraine is likely to persist for the rest of this year and may have significant further effects on global prices. Oil prices increased strongly from the start of the war and may rise more as stresses in energy markets intensify. Electricity and other administered prices continue to present short- and medium-term risks. Higher diesel and coal prices may result in upward revisions to our electricity price forecast for 2023. Given the below-inflation assumptions for public sector wage growth as well as higher petrol and food price inflation, considerable risk attaches to a still moderate nominal wage forecast.

Higher-than-expected inflation has pushed major central banks to accelerate the normalisation of global policy rates, tightening global financial conditions. On balance, and with some exceptions, capital flow and market volatility is expected to remain for emerging market assets and currencies. Alongside currency depreciation, other risks to the inflation outlook, such as elevated food and fuel prices, have been realised.

Average surveyed expectations of future inflation have increased to 5.1% for 2022 (from 4.8%). Expectations for inflation based on market surveys have increased to 5.9%.[12] Long-term inflation expectations derived from the break-even rates in the bond market have also increased.[13]

In the near term, headline inflation has increased well above the midpoint of the inflation target band and is forecast to breach the target range in the second quarter of 2022. Headline inflation then returns closer to the midpoint in the fourth quarter of 2024, taking into account the policy rate trajectory indicated by the SARB's Quarterly Projection Model (QPM).

Against this backdrop, the Monetary Policy Committee (MPC) decided to increase the repurchase (repo) rate by 50 basis points to 4.75% per year with effect from 20 May 2022. Four members of the MPC preferred the announced increase and one member preferred a 25 basis points rise in the repo rate.

The implied policy rate path of the QPM, given the inflation forecast, indicates gradual normalisation through to 2024. 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.

Economic and financial conditions are expected to remain more volatile for the foreseeable future. In this uncertain environment, 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.

8 The rand has depreciated by about 7.4% to the US dollar since the March meeting.

9 World food prices continue to rise. The assumption used for the forecast for US dollar-denominated world food prices in 2022 is revised higher from 6.8% to 15.3%.

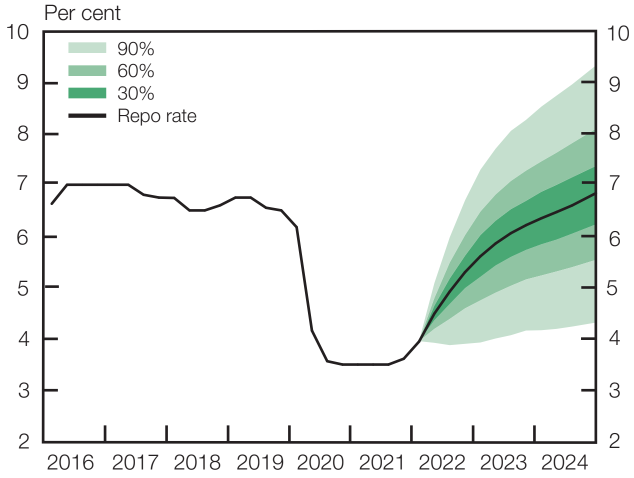
10 The G3 comprises the US, the eurozone and Japan. The latest consumer price index (CPI) inflation in the respective components sits at 8.3%, 7.5% and 1.2% respectively.

11 The IMF expects advanced economy inflation of 5.7% and emerging market economy inflation of 8.7% in 2022.

12 The Q1 Bureau for Economic Research (BER) survey expectations rose above the target range midpoint to 5.1% (from 4.8%) for 2022 and to 5.0% (from 4.7%) for 2023. Market analysts (Reuters Econometer) in May expect inflation to be higher at 5.9% (from 5.5%) in 2022, 4.7% (from 4.4%) in 2023 and 4.5% (from 4.4%) in 2024.

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 5.93% for the 5-year and 6.65% on the 10-year break-even. The 15-year break-even inflation sits at 6.91%.

Repurchase rate forecast (May 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 repo rate levels reflect an accommodative policy stance through the forecast period, keeping financial conditions supportive of credit demand as the economy continues to recover.[14] The SARB has ensured adequate liquidity in domestic markets and will continue to closely monitor funding markets for stress.

Better-anchored expectations of future inflation could support lower interest rates and can be realised by achieving a prudent public debt level, increasing the supply of energy, moderating administered price inflation and keeping wage growth in line with productivity gains. Such steps would enhance the effectiveness of monetary policy and its transmission to the broader economy.

14 The forecasted trajectory for the repurchase (repo) rate implies a rise in the inflation-adjusted repo rate from -1.5% for 2021 to -0.9% for 2022, 1.2% for 2023 and 2.0% in 2024. 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 19 May 2022*

1. Foreign sector assumptions

	Actual			Forecast		
	2019	2020	2021	2022	2023	2024
1. Real GDP growth in South Africa's major trading-partner countries	2.3%	-2.6%	6.4%	3.5%	2.7%	2.7%
	(2.3%)	(-2.6%)	(6.4%)	(3.7%)	(2.8%)	(2.7%)
2. Output gap in South Africa's major trading-partner countries (ratio to potential GDP)	-0.1%	-1.6%	-0.7%	-0.1%	0.1%	0.3%
	(-0.1%)	(-1.6%)	(-0.8%)	(0.0%)	(0.3%)	(0.3%)
3. Change in international commodity prices in US$ (excluding oil)	-1.2%	25.5%	45.6%	9.5%	-14.8%	-8.6%
	(-1.2%)	(25.5%)	(45.6%)	(8.0%)	(-23.4%)	(-8.8%)
4. Brent crude (US$/barrel)	64.4	41.8	70.7	103.0	90.0	85.0
	(64.4)	(41.8)	(70.7)	(103.0)	(80.0)	(75.0)
5. Change in world food prices (US$)	-0.8%	3.2%	28.1%	15.3%	-5.7%	-5.6%
	(-0.8%)	(3.2%)	(28.1%)	(6.8%)	(-8.8%)	(1.4%)
6. Change in international consumer prices	1.4%	0.7%	3.3%	6.3%	2.7%	2.0%
	(1.4%)	(0.7%)	(3.3%)	(5.6%)	(3.0%)	(2.3%)
7. International policy interest rate	1.1%	0.2%	0.1%	0.6%	1.6%	1.9%
	(1.1%)	(0.2%)	(0.1%)	(0.3%)	(0.8%)	(1.5%)

2. Domestic sector assumptions

	Actual			Forecast		
	2019	2020	2021	2022	2023	2024
1. Change in electricity price	9.6%	9.1%	10.2%	11.0%	9.2%	10.0%
	(9.6%)	(9.1%)	(10.2%)	(11.0%)	(9.2%)	(10.0%)
2. Change in fuel taxes and levies	5.8%	5.7%	6.1%	1.7%	2.3%	4.7%
	(5.8%)	(5.7%)	(6.1%)	(5.2%)	(2.7%)	(4.6%)
3. Potential growth	0.3%	-3.1%	3.4%	0.6%	0.9%	1.1%
	(0.3%)	(-3.1%)	(3.4%)	(0.8%)	(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%)	(4.5%)
5. Neutral real interest rate	2.1%	2.0%	2.1%	2.3%	2.3%	2.4%
	(2.1%)	(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 59 and 60.

Summary of selected forecast results: Monetary Policy Committee meeting on 19 May 2022

Selected forecast results (quarterly)

Year-on-year percentage change

	2021				2022				2023				2024			
	4.5 (4.5)				5.9 (5.8)				5.0 (4.6)				4.7 (4.6)			
1. Headline inflation	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	3.1	4.8	4.9	5.5	5.7	6.3	6.0	5.8	5.3	4.8	4.8	4.9	4.8	4.7	4.6	4.5
	(3.1)	(4.8)	(4.9)	(5.5)	(5.8)	(6.2)	(5.7)	(5.4)	(4.7)	(4.3)	(4.5)	(4.7)	(4.8)	(4.7)	(4.6)	(4.5)
	2021				2022				2023				2024			
	3.1 (3.1)				3.9 (4.2)				5.1 (5.0)				4.8 (4.7)			
2. Core inflation	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	2.8	3.1	3.1	3.3	3.6	3.8	4.0	4.4	4.8	5.1	5.2	5.2	5.0	4.9	4.7	4.6
	(2.8)	(3.1)	(3.1)	(3.3)	(3.7)	(4.0)	(4.3)	(4.6)	(4.9)	(5.0)	(5.1)	(5.1)	(4.9)	(4.8)	(4.7)	(4.6)

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		
	2019	2020	2021	2022	2023	2024
1. GDP growth	0.1%	-6.4%	4.9%	1.7%	1.9%	1.9%
	(0.1%)	(-6.4%)	(4.9%)	(2.0%)	(1.9%)	(1.9%)
2. Output gap (ratio to potential GDP)	-0.3%	-3.9%	-2.3%	-1.3%	-0.3%	0.5%
	(-0.3%)	(-4.0%)	(-2.4%)	(-1.3%)	(-0.3%)	(0.5%)
3. Change in nominal effective exchange rate	-7.0%	-12.8%	9.9%	-1.8%	-2.9%	-1.4%
	(-7.0%)	(-12.8%)	(10.1%)	(-2.0%)	(-2.3%)	(-0.9%)
4. Change in real effective exchange rate	-4.5%	-10.6%	11.1%	-2.3%	-0.8%	1.2%
	(-4.5%)	(-10.6%)	(11.4%)	(-2.0%)	(-0.9%)	(1.3%)
5. Real exchange rate gap	-1.3%	-10.8%	0.0%	-2.1%	-2.9%	-1.7%
	(-1.3%)	(-10.8%)	(0.3%)	(-1.6%)	(-2.4%)	(-1.1%)
6. Repurchase rate (end of period)	6.50%	3.50%	3.61%	5.30%	6.21%	6.74%
	(6.50%)	(3.50%)	(3.61%)	(5.06%)	(6.10%)	(6.68%)
7. Current account balance (ratio to GDP)	-2.6%	2.0%	3.7%	2.1%	0.8%	-0.1%
	(-2.6%)	(2.0%)	(3.7%)	(3.0%)	(1.6%)	(0.8%)

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.

Statement of the Monetary Policy Committee

21 July 2022

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

In the wake of the COVID-19 pandemic and aggravated geopolitical tensions, the global economy has entered a period of persistently high inflation and weaker economic growth. Many developing economies have yet to recover fully from the pandemic. Global economic conditions remain fragile.

Russia's war in Ukraine will continue to impair production and trade of a wide range of energy, food and other commodities. The supply of energy to the eurozone is limited as winter approaches, and is likely to reduce growth this year and the next. With rapid inflation and withdrawal of policy stimulus, the United States (US) will also experience slower economic growth. China's recovery from the COVID-19 outbreak and resultant lockdowns remain uncertain. The much-needed resumption of international travel and tourism will take time to generate large benefits.

Taking these and other factors into account, the South African Reserve Bank's (SARB) forecast for global growth in 2022 is revised down from 3.5% in the May meeting to 3.3% and is lowered to 2.5% (from 2.7%) for both 2023 and 2024.[1] The International Monetary Fund (IMF) has signalled a lower global growth forecast for 2022 and 2023 in its upcoming *World Economic Outlook Update*.[2]

Although policy settings in advanced economies remain broadly accommodative, policy normalisation by major central banks has accelerated and higher yields are tightening global financial conditions. Investor appetite for riskier assets is weaker and asset values in major markets have declined sharply.

Last year saw the South African economy expand by 4.9%. This year the economy is expected to grow by 2.0%, revised up from 1.7%. Growth in output in the first quarter of this year surprised to the upside, at 1.9%, stronger than the 0.9% expected at the time of the May meeting. Despite this outcome, flooding in KwaZulu-Natal and more extensive load-shedding are expected to result in a contraction of 1.1% in the second quarter. Growth in the third and fourth quarters is forecast to be 0.7% and 0.4% respectively.

The economy is forecast to expand by 1.3% in 2023 and by 1.5% in 2024, below the previous projection of 1.9% for both years at the time of the last meeting.[3] Despite these downward revisions, economic growth remains above a low rate of potential.[4] Private investment has strengthened on the back of the recovery, but public sector investment remains weak. Household spending remains supportive of growth, but is likely to soften next year due to higher inflation, lower asset prices and rising interest rates. Tourism, hospitality and construction should see stronger recoveries as the year progresses.

With potential growth revised somewhat lower for this year and expected gross domestic product (GDP) growth higher, the output gap narrows slightly faster over the forecast period. The output gap is expected to turn positive in the second quarter of 2023. Overall, and 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. The export price of coal has increased alongside oil, while prices for metals have declined. Oil prices spiked to around US$130 per barrel in the early days of the conflict in Ukraine. While oil prices currently sit at around US$106 per barrel, we expect them to stay higher than we did in May, and to average US$108 per barrel for 2022, US$92 per barrel in 2023 and US$85 per barrel in 2024.[5]

South Africa's export commodity price basket has come down from earlier peaks and is now forecast to rise by 3.2% for the year as a whole (down from 9.5%) before falling in 2023 by about 19.0% and by a further 8.0% in 2024. As a result of these export and import price and volume developments, the current account balance is expected to register a surplus of 2.0% of GDP this year, falling to 0.4% of GDP in 2023 and reaching a deficit of 0.4% of GDP in 2024.[6]

Although fiscal risk has eased on the back of better tax revenue and reduced borrowing needs, financing conditions remain tight and the yield curve for rand-denominated bonds is steep. Ten-year bond yields increased to about 11.4% in recent months.

Policy normalisation in major economies and the slowdown in China have contributed to rand depreciation in recent months. The implied starting point for the rand forecast is

1 Global growth in the QPM is a trade-weighted average of South Africa's trading partners.
2 An update to the *World Economic Outlook* will be released on 26 July 2022.
3 The growth forecast includes expected changes in the policy rate.
4 Potential growth for 2022 is 0.5% (from 0.6%), 0.8% (from 0.9%) in 2023 and unchanged at 1.1% in 2024.
5 The Brent crude oil assumptions in May were US$103, US$90 and US$85 respectively.
6 In May, the current account surplus for 2022 was expected to be about 2.1% of GDP, 0.8% of GDP in 2023 and 0.0% of GDP in 2024.

R16.10 to the US dollar compared with R15.88 at the time of the previous meeting.[7]

While economic growth is slowing globally, inflation continues to surprise to the upside. Sustained policy accommodation, supply shortages and other restrictions have sharply increased the prices of many goods, services and commodities.[8] Producer price increases continue to pass through to wages and consumer prices globally. Our estimate for inflation in the Group of Three (G3) economies is revised higher to 6.9% in 2022 (from 6.3%) and up to 3.0% in 2023 (from 2.7%), and stays unchanged at 2.0% in 2024.[9]

A higher global oil price and rand weakness contribute to higher expected fuel price inflation for this year at 38.9% (up from 31.2%) and to 4.5% in 2023 (up from -0.3%). Local electricity price inflation is unchanged at 11.0% in 2022, 9.2% in 2023 and 10.0% in 2024.

As a result of higher global food prices, local food price inflation is also revised up and is now expected to be 7.4% in 2022 (up from 6.6%) and 6.2% in 2023 (up from 5.6%). The food price inflation forecast for 2024 is unchanged at 4.2%.

The SARB's forecast of headline inflation for this year is revised higher to 6.5% (from 5.9%). Higher food, fuel and core inflation are expected to keep headline inflation elevated at 5.7% in 2023 (up from 5.0%). Headline inflation of 4.7% is expected in 2024, unchanged since the May meeting.

Core inflation is forecast higher at 4.3% in 2022 (up from 3.9%), rising to 5.6% (from 5.1%) in 2023. Our forecast for core inflation in 2024 is slightly higher at 4.9% (from 4.8%). Core goods and services price inflation is forecast higher through to the end of 2024 compared to May when only core goods inflation was rising each year.[10] Nominal wages are forecast to rise by 5.6% in 2022, 7.3% in 2023 and 5.7% in 2024.

The risks to the inflation outlook are assessed to the upside. Global producer price and food price inflation continued to surprise higher in recent months and may do so again. Russia's war in Ukraine is likely to persist for the rest of this year and may have significant further effects on global prices. Oil prices increased strongly from the start of the war and may rise further as stresses in energy markets intensify. Electricity and other administered prices continue to present short- and medium-term risks. Given the below-inflation assumptions for public sector wage growth as well as higher petrol and food price inflation, considerable risk still attaches to the now elevated nominal wage forecast.

Higher-than-expected inflation has pushed major central banks to accelerate the normalisation of policy rates, tightening global financial conditions and raising the risk profiles of economies needing foreign capital. We now expect G3 interest rate levels for the forecast period to be twice as high as expected in May.[11] On balance, and with few exceptions, capital flow and market volatility is expected to remain elevated for emerging market assets and currencies.

Alongside currency depreciation, other risks to the inflation outlook, such as increased food and fuel prices, have been realised, pushing up unit labour costs and expectations of future inflation. Average surveyed expectations of future inflation have increased to 6.0% for 2022 and 5.6% for 2023.[12] Expectations for inflation based on market surveys have increased to 6.5%.[13] Long-term inflation expectations derived from the break-even rates in the bond market have also increased.[14]

In the second quarter of this year, headline inflation breached the upper limit of the target range and is expected to remain above it until the second quarter of 2023. By the fourth quarter of 2024, we expect headline inflation to revert to the midpoint of the target range on the back of declining fuel and food inflation. The forecast takes into account the policy rate trajectory indicated by the SARB's Quarterly Projection Model (QPM). As usual, the repurchase (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 Monetary Policy Committee (MPC) decided to increase the repo rate by 75 basis points to 5.50% per year with effect from 22 July 2022. Three members of the MPC preferred the announced increase;

7 The rand has depreciated by about 6.3% to the US dollar since the May meeting and by 7.2% to the US dollar in the year to date.

8 World food prices continue to rise. The assumption used for the forecast for US dollar-denominated world food prices in 2022 is revised higher from 15.3% to 22.3%.

9 The G3 comprises the US, the eurozone and Japan. The latest consumer price index (CPI) inflation in the respective components sits at 9.1%, 8.6% and 2.4% respectively.

10 Core goods refers to total CPI goods excluding food and non-alcoholic beverages (NAB), fuel and energy, whereas services include all surveyed services within the CPI basket.

11 The weighted average of G3 policy rates is forecast to be 1.2% in 2022, 3.0% in 2023 and 3.1% in 2024.

12 The Q2 Bureau for Economic Research (BER) survey expectations rose above the target range midpoint to 6.0% (from 5.1%) for 2022 and to 5.6% (from 5.0%) for 2023.

13 Market analysts (Reuters Econometer) in July expect inflation to be 6.5% (from 6.0%) in 2022, 5.0% (from 4.7%) in 2023 and 4.4% (from 4.5%) in 2024.

14 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 6.97% for the 5-year and 7.49% on the 10-year break-even. The 15-year break-even inflation sits at 7.64%.

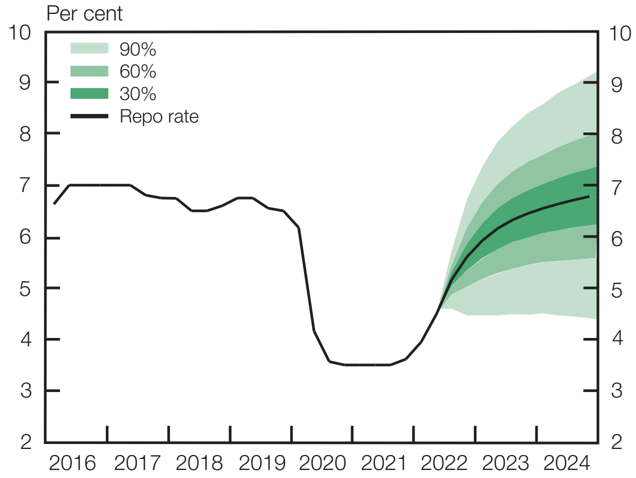
one member preferred a 100 basis points increase; another member preferred a 50 basis points increase.

The revised repo rate path remains supportive of credit demand in the near term while raising rates to levels consistent with the current view of inflation risks. The aim of policy is to stabilise inflation expectations more firmly around the midpoint of the target band and to increase confidence of hitting the inflation target range in 2024.[15]

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 (July 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

15 The forecasted trajectory for the repurchase (repo) rate implies a rise in the inflation-adjusted repo rate from -1.7% for 2021 to -2.0% for 2022, 1.0% for 2023 and 2.0% in 2024. 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 21 July 2022*

1. Foreign sector assumptions

	Actual			Forecast		
	2019	2020	2021	2022	2023	2024
1. Real GDP growth in South Africa's major trading-partner countries	2.3%	-2.6%	6.5%	3.3%	2.5%	2.5%
	(2.3%)	(-2.6%)	(6.4%)	(3.5%)	(2.7%)	(2.7%)
2. Output gap in South Africa's major trading-partner countries (ratio to potential GDP)	-0.1%	-1.6%	-0.6%	-0.1%	-0.1%	-0.1%
	(-0.1%)	(-1.6%)	(-0.7%)	(-0.1%)	(0.1%)	(0.3%)
3. Change in international commodity prices in US$ (excluding oil)	-1.2%	25.5%	45.6%	3.2%	-19.1%	-8.0%
	(-1.2%)	(25.5%)	(45.6%)	(9.5%)	(-14.8%)	(-8.6%)
4. Brent crude (US$/barrel)	64.4	41.8	70.7	108.0	92.0	85.0
	(64.4)	(41.8)	(70.7)	(103.0)	(90.0)	(85.0)
5. Change in world food prices (US$)	-0.8%	3.2%	28.1%	22.3%	-6.0%	-2.0%
	(-0.8%)	(3.2%)	(28.1%)	(15.3%)	(-5.7%)	(-5.6%)
6. Change in international consumer prices	1.4%	0.7%	3.3%	6.9%	3.0%	2.0%
	(1.4%)	(0.7%)	(3.3%)	(6.3%)	(2.7%)	(2.0%)
7. International policy interest rate	1.1%	0.2%	0.1%	1.2%	3.0%	3.1%
	(1.1%)	(0.2%)	(0.1%)	(0.6%)	(1.6%)	(1.9%)

2. Domestic sector assumptions

	Actual			Forecast		
	2019	2020	2021	2022	2023	2024
1. Change in electricity price	9.6%	9.1%	10.2%	11.0%	9.2%	10.0%
	(9.6%)	(9.1%)	(10.2%)	(11.0%)	(9.2%)	(10.0%)
2. Change in fuel taxes and levies	5.8%	5.7%	6.1%	1.8%	7.4%	4.5%
	(5.8%)	(5.7%)	(6.1%)	(1.7%)	(2.3%)	(4.7%)
3. Potential growth	0.3%	-3.1%	3.4%	0.5%	0.8%	1.1%
	(0.3%)	(-3.1%)	(3.4%)	(0.6%)	(0.9%)	(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%)	(4.5%)
5. Neutral real interest rate	2.1%	2.0%	2.1%	2.3%	2.3%	2.4%
	(2.1%)	(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 59 and 60.

Summary of selected forecast results: Monetary Policy Committee meeting on 21 July 2022

Selected forecast results (quarterly)

Year-on-year percentage change

	2021				2022				2023				2024			
	4.5 (4.5)				6.5 (5.9)				5.7 (5.0)				4.7 (4.7)			
1. Headline inflation	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	3.1	4.9	4.9	5.5	5.7	6.5	7.0	7.0	6.8	5.9	5.2	5.0	4.8	4.8	4.7	4.5
	(3.1)	(4.9)	(4.9)	(5.5)	(5.7)	(6.3)	(6.0)	(5.8)	(5.3)	(4.8)	(4.8)	(4.9)	(4.8)	(4.7)	(4.6)	(4.5)
	2021				2022				2023				2024			
	3.1 (3.1)				4.3 (3.9)				5.6 (5.1)				4.9 (4.8)			
2. Core inflation	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	2.8	3.1	3.1	3.3	3.6	4.1	4.4	5.0	5.5	5.7	5.6	5.4	5.2	5.0	4.8	4.6
	(2.8)	(3.1)	(3.1)	(3.3)	(3.6)	(3.8)	(4.0)	(4.4)	(4.8)	(5.1)	(5.2)	(5.2)	(5.0)	(4.9)	(4.7)	(4.6)

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		
	2019	2020	2021	2022	2023	2024
1. GDP growth	0.3%	-6.3%	4.9%	2.0%	1.3%	1.5%
	(0.1%)	(-6.4%)	(4.9%)	(1.7%)	(1.9%)	(1.9%)
2. Output gap (ratio to potential GDP)	0.0%	-3.5%	-2.0%	-0.5%	0.0%	0.4%
	(-0.3%)	(-3.9%)	(-2.3%)	(-1.3%)	(-0.3%)	(0.5%)
3. Change in nominal effective exchange rate	-7.0%	-12.8%	9.9%	-2.0%	-4.0%	-1.7%
	(-7.0%)	(-12.8%)	(9.9%)	(-1.8%)	(-2.9%)	(-1.4%)
4. Change in real effective exchange rate	-4.5%	-10.6%	11.1%	-2.4%	-1.5%	0.9%
	(-4.5%)	(-10.6%)	(11.1%)	(-2.3%)	(-0.8%)	(1.2%)
5. Real exchange rate gap	-1.3%	-10.9%	0.0%	-2.2%	-3.7%	-2.8%
	(-1.3%)	(-10.8%)	(0.0%)	(-2.1%)	(-2.9%)	(-1.7%)
6. Repurchase rate (end of period)	6.50%	3.50%	3.61%	5.61%	6.45%	6.78%
	(6.50%)	(3.50%)	(3.61%)	(5.30%)	(6.21%)	(6.74%)
7. Current account balance (ratio to GDP)	-2.6%	2.0%	3.7%	2.0%	0.4%	-0.4%
	(-2.6%)	(2.0%)	(3.7%)	(2.1%)	(0.8%)	(-0.1%)

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

22 September 2022

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

In the wake of the COVID-19 pandemic and heightened geopolitical tensions, the global economy has entered a period of persistently high inflation and weaker economic growth. Many developing economies exited the pandemic with less than full recovery and high debt levels.

Russia's war in Ukraine continues to impair production and trade of a wide range of energy, food and other commodities. The supply of energy to the euro area is limited as winter approaches, placing immense strain on households, businesses and governments. With rapid inflation and monetary policy normalisation, the United States (US) may also experience slower economic growth. While China's recovery from the COVID-19 lockdowns has strengthened, economic growth is expected to remain below longer-term trends.

Taking these and other factors into account, the South African Reserve Bank's (SARB) forecast for global growth in 2022 is revised down from 3.3% in the July Monetary Policy Committee (MPC) meeting to 3.0%, and is lowered to 2.0% (from 2.5%) for 2023.[1]

Although policy settings in advanced economies remain accommodative, policy normalisation has accelerated, and higher yields are tightening global financial conditions. Asset values in major markets have declined sharply, and investor appetite for riskier assets has weakened further.

This year, the SARB expects the South African economy to grow by 1.9% (from 2.0%). Growth in the first quarter of this year surprised to the upside, at 1.7%. In the second quarter, flooding in KwaZulu-Natal and more extensive load-shedding contributed to a contraction of 0.7%. Growth in the third and fourth quarters is forecast to be 0.4% and 0.3% respectively.

The economy is forecast to expand by 1.4% in 2023 and by 1.7% in 2024, above previous projections.[2] Private investment has strengthened on the back of the recovery, but public sector investment remains weak. Household spending remains supportive of growth, but is likely to soften next year. Tourism, hospitality and construction should see stronger recoveries as the year progresses.

With a low rate of potential, our current growth forecast leaves the output gap broadly unchanged.[3] The output gap is still expected to turn positive in the second quarter of 2023.

After revisions, the risks to the medium-term domestic growth outlook are assessed to be balanced. While negative global shocks and load-shedding will continue to create headwinds to growth, household spending and investment are more supportive.

Commodity price movements in recent months have been mixed. The export price of coal has increased alongside oil, while prices for metals have declined. While oil prices currently sit at around US$91 per barrel, we expect them to stay higher than we did in July, and to average US$105 per barrel for 2022, US$92 per barrel in 2023 and US$85 per barrel in 2024.[4]

South Africa's export commodity price basket has come down from earlier peaks and is now forecast to rise by 2.3% for the year as a whole (down from 3.2%) before falling in 2023 by about 17.6% and by a further 10.0% in 2024. As a result of these export and import developments, the current account balance is expected to register a surplus of 0.2% of gross domestic product (GDP) this year, falling to a deficit of 1.0% in 2023 and 1.6% in 2024.[5]

Although near-term fiscal risk has eased on the back of better tax revenue, financing conditions for rand-denominated bonds have worsened. Ten-year bond yields currently trade at about 11%.

Policy normalisation in major economies and the slowdown in China have contributed to rand depreciation in recent months. The implied starting point for the rand forecast is R16.91 to the US dollar compared with R16.10 at the time of the previous meeting.[6]

While economic growth is slowing globally, inflation continues to surprise to the upside. Sustained policy accommodation, supply shortages and other restrictions have sharply increased the prices of many goods, services

1 Global growth in the QPM is a trade-weighted average of South Africa's trading partners. Global growth in 2024 is revised down to 2.4% from 2.5% at the time of the July meeting. The International Monetary Fund's (IMF) July forecast expected global growth of 3.2% in 2022 and 2.9% in 2023. An update to the *World Economic Outlook* will be released in October.

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

3 Potential growth for 2022 is unchanged at 0.5%, 0.8% in 2023 and 1.1% in 2024.

4 The Brent crude oil assumptions in July were US$108, US$92 and US$85 respectively.

5 In July, the current account surplus for 2022 was expected to be 2.0% of GDP, 0.4% of GDP in 2023 and -0.4% of GDP in 2024.

6 The rand has depreciated by about 6.3% to the US dollar since the May meeting and by 7.2% to the US dollar year to date.

and commodities.[7] Producer price increases continue to pass through to wages and consumer prices globally. Our estimate for inflation in the Group of Three (G3) economies is revised higher to 7.0% in 2022 (from 6.9%), up to 3.5% in 2023 (from 3.0%) and slightly higher at 2.1% in 2024.[8]

Since the previous meeting, the easing of global oil prices has contributed to a less aggressive rise in fuel price inflation for this year, at 33.7% (down from 38.8%). Further moderation in fuel price inflation is expected in 2023, averaging 1.7% (down from 5.7%). Local electricity price inflation is slightly lower at 10.9% in 2022, 8.9% in 2023 and unchanged at 10.0% in 2024.

Despite the reduced global food price inflation, local food price inflation is revised up and is now expected to be 8.1% in 2022 (up from 7.4%). Food price inflation is revised lower to 5.6% (down from 6.2%) in 2023 and remains unchanged at 4.2% in 2024.

The SARB's forecast of headline inflation for this year remains unchanged at 6.5%. For 2023, headline inflation is revised lower to 5.3% (from 5.7%) as a result of lower food, fuel and core inflation forecasts for next year. Headline inflation of 4.6% is expected in 2024 (down from 4.7%).

Our forecast for core inflation is unchanged at 4.3% in 2022 and lower than previously expected at 5.4% (from 5.6%) in 2023. The forecast for 2024 is also slightly lower at 4.8% (from 4.9%). Services price inflation remains broadly unchanged. Core goods price inflation, however, is forecast lower in each year, largely due to a lower starting point for vehicles and non-alcoholic beverages inflation.[9] Average salaries are forecast to rise by less than at the time of the July meeting, at 5.1% in 2022, 6.7% in 2023 and 5.6% in 2024.[10]

The risks to the inflation outlook are assessed to the upside. While global producer price inflation and food inflation have eased, Russia's war in Ukraine continues, with adverse effects on global prices. Oil prices increased strongly from the start of the war, to around US$130 per barrel, and may rise again from today's level as stresses in energy markets intensify. Electricity and other administered prices continue to present clear medium-term risks. Given the below-inflation assumptions for public sector wage growth as well as 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, tightening global financial conditions and raising the risk profiles of economies needing foreign capital. G3 interest rate levels for the forecast period are now expected to be somewhat higher than in July.[11] On balance, and with few exceptions, capital flows and market volatility will be elevated for emerging market assets and currencies. The rand has depreciated by about 3% to the US dollar since the July meeting, and additional tightening of global conditions will present further risks to the currency.

The risks to inflation identified over the past year have been realised, pushing up South Africa's headline inflation rate and inflation expectations. Average surveyed expectations of future inflation have increased to 6.5% for 2022 and 5.9% for 2023.[12] Expectations for inflation based on market surveys have increased to 6.7%.[13] Long-term inflation expectations derived from the break-even rates in the bond market have moderated slightly to about 7%.[14]

In the second quarter of this year, headline inflation breached the upper limit of the target range and is expected to remain above it until the second quarter of 2023. By the fourth quarter of 2024, we expect headline inflation to revert to the midpoint of the target range on the back of declining fuel and food inflation. The forecast takes into account the policy rate trajectory indicated by the SARB's Quarterly Projection Model (QPM). As usual, the repurchase (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 repo rate by 75 basis points to 6.25% per year with effect from 23 September 2022. Three members of the MPC preferred the announced increase; two members preferred a 100 basis points increase.

The level of the repo rate is now closer to the level prevailing before the start of the pandemic. The revised repo rate

7 The United Nations (UN) Food and Agriculture Organization (FAO) food index declined sharply in July, falling by 8.6% month to month, largely on the back of an agreement to reopen Black Sea ports. Consequently, the assumption used for the forecast for US dollar-denominated world food prices in 2022 was revised lower from 22.3% to 17.8%.

8 The G3 comprises the US, the eurozone and Japan. The latest consumer price index (CPI) inflation in the respective components sits at 8.3%, 9.1% and 3.0% respectively.

9 Core goods refers to total CPI goods excluding food and non-alcoholic beverages (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 (down from 5.2%), 5.5% in 2023 (down from 5.9%) and 4.9% in 2024 (down from 5.1%).

10 Average salaries were expected to be 5.6%, 7.3% and 5.7% respectively at the time of the July meeting.

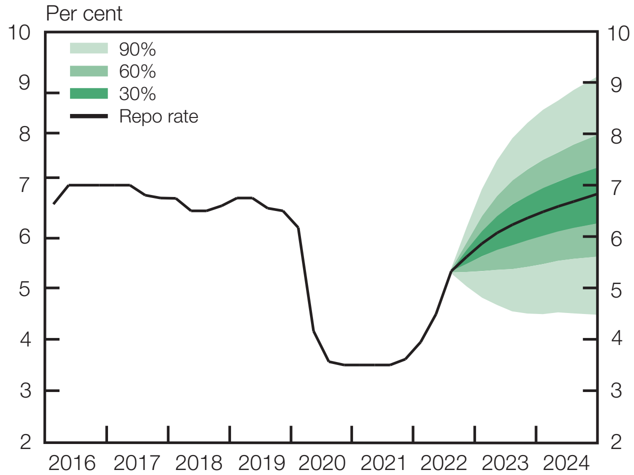
11 The weighted average of G3 policy rates is forecast to be 3.1% in 2023 (up from 3.0%) and 3.2% in 2024 (up from 3.1%).

12 For 2024, the Bureau for Economic Research (BER) survey of inflation expectations in Q3 moderated to 5.4% (from 5.6%). The Q2 survey had 2022 expected inflation at 6.0% and at 5.6% for 2023.

13 Market analysts (Reuters Econometer) in September, at the median, expect inflation to be higher at 6.7% (from 6.5% in July) in 2022, 5.4% (from 5.0% in July) in 2023 and 4.6% (from 4.4% in July) in 2024.

14 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 6.90% for the 5-year and 6.92% on the 10-year break-even. The 15-year break-even inflation sits at 7.0%.

Repurchase rate forecast (September 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

path remains supportive of credit demand in the near term while raising rates to levels more consistent with the current view of inflation risks. The aim of policy is to anchor inflation expectations more firmly around the midpoint of the target band and to increase confidence of hitting the inflation target in 2024.[15]

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.

15 The forecasted trajectory for the repurchase (repo) rate implies a rise in the inflation-adjusted repo rate from -1.7% for 2021 to -1.7% for 2022, 1.4% for 2023 and 2.2% in 2024. 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 22 September 2022*

1. Foreign sector assumptions

	Actual			Forecast		
	2019	2020	2021	2022	2023	2024
1. Real GDP growth in South Africa's major trading-partner countries	2.3%	-2.6%	6.5%	3.0%	2.0%	2.4%
	(2.3%)	(-2.6%)	(6.5%)	(3.3%)	(2.5%)	(2.5%)
2. Output gap in South Africa's major trading-partner countries (ratio to potential GDP)	0.0%	-1.6%	-0.6%	-0.2%	-0.5%	-0.7%
	(-0.1%)	(-1.6%)	(-0.6%)	(-0.1%)	(-0.1%)	(-0.1%)
3. Change in international commodity prices in US$ (excluding oil)	-1.2%	25.5%	45.6%	2.3%	-17.6%	-10.0%
	(-1.2%)	(25.5%)	(45.6%)	(3.2%)	(-19.1%)	(-8.0%)
4. Brent crude (US$/barrel)	64.4	41.8	70.7	105.0	92.0	85.0
	(64.4)	(41.8)	(70.7)	(108.0)	(92.0)	(85.0)
5. Change in world food prices (US$)	-0.8%	3.2%	28.1%	17.8%	-5.3%	-1.0%
	(-0.8%)	(3.2%)	(28.1%)	(22.3%)	(-6.0%)	(-2.0%)
6. Change in international consumer prices	1.4%	0.7%	3.3%	7.0%	3.5%	2.1%
	(1.4%)	(0.7%)	(3.3%)	(6.9%)	(3.0%)	(2.0%)
7. International policy interest rate	1.1%	0.2%	0.1%	1.0%	3.1%	3.2%
	(1.1%)	(0.2%)	(0.1%)	(1.2%)	(3.0%)	(3.1%)

2. Domestic sector assumptions

	Actual			Forecast		
	2019	2020	2021	2022	2023	2024
1. Change in electricity price	9.6%	9.1%	10.2%	10.6%	8.9%	10.0%
	(9.6%)	(9.1%)	(10.2%)	(11.0%)	(9.2%)	(10.0%)
2. Change in fuel taxes and levies	5.8%	5.7%	6.1%	2.8%	9.3%	4.4%
	(5.8%)	(5.7%)	(6.1%)	(1.8%)	(7.4%)	(4.5%)
3. Potential growth	0.3%	-3.1%	3.4%	0.5%	0.8%	1.1%
	(0.3%)	(-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%)	(4.5%)
5. Neutral real interest rate	2.1%	2.0%	2.1%	2.3%	2.3%	2.4%
	(2.1%)	(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 59 and 60.

Summary of selected forecast results: Monetary Policy Committee meeting on 22 September 2022

Selected forecast results (quarterly)

Year-on-year percentage change

	2021				2022				2023				2024			
	4.5 (4.5)				6.5 (6.5)				5.3 (5.7)				4.6 (4.7)			
1. Headline inflation	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	3.1	4.9	4.9	5.5	5.7	6.5	7.4	6.6	6.4	5.8	4.4	4.7	4.7	4.6	4.6	4.5
	(3.1)	(4.9)	(4.9)	(5.5)	(5.7)	(6.5)	(7.0)	(7.0)	(6.8)	(5.9)	(5.2)	(5.0)	(4.8)	(4.8)	(4.7)	(4.5)
	2021				2022				2023				2024			
	3.1 (3.1)				4.3 (4.3)				5.4 (5.6)				4.8 (4.9)			
2. Core inflation	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	2.8	3.1	3.1	3.3	3.6	4.1	4.5	5.0	5.4	5.5	5.3	5.2	5.0	4.9	4.7	4.5
	(2.8)	(3.1)	(3.1)	(3.3)	(3.6)	(4.1)	(4.4)	(5.0)	(5.5)	(5.7)	(5.6)	(5.4)	(5.2)	(5.0)	(4.8)	(4.6)

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		
	2019	2020	2021	2022	2023	2024
1. GDP growth	0.3%	-6.3%	4.9%	1.9%	1.4%	1.7%
	(0.3%)	(-6.3%)	(4.9%)	(2.0%)	(1.3%)	(1.5%)
2. Output gap (ratio to potential GDP)	0.0%	-3.5%	-2.0%	-0.6%	0.0%	0.6%
	(0.0%)	(-3.5%)	(-2.0%)	(-0.5%)	(0.0%)	(0.4%)
3. Change in nominal effective exchange rate	-7.0%	-12.8%	9.9%	-2.3%	-4.0%	-0.4%
	(-7.0%)	(-12.8%)	(9.9%)	(-2.0%)	(-4.0%)	(-1.7%)
4. Change in real effective exchange rate	-4.5%	-10.6%	11.1%	-2.8%	-2.3%	2.0%
	(-4.5%)	(-10.6%)	(11.1%)	(-2.4%)	(-1.5%)	(0.9%)
5. Real exchange rate gap	-1.3%	-10.9%	0.0%	-2.7%	-5.0%	-3.0%
	(-1.3%)	(-10.9%)	(0.0%)	(-2.2%)	(-3.7%)	(-2.8%)
6. Repurchase rate (end of period)	6.50%	3.50%	3.61%	5.60%	6.36%	6.76%
	(6.50%)	(3.50%)	(3.61%)	(5.61%)	(6.45%)	(6.78%)
7. Current account balance (ratio to GDP)	-2.6%	2.0%	3.7%	0.2%	-1.0%	-1.6%
	(-2.6%)	(2.0%)	(3.7%)	(2.0%)	(0.4%)	(-0.4%)

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

Alsi	All-Share Index
BER	Bureau for Economic Research
BoE	Bank of England
BRICS	Brazil, Russia, India, China, South Africa
CAR	capital adequacy ratio
CCI	Consumer Confidence Index
CI	Currency Index
CMS	Council for Medical Schemes
CPD	Corporation for Public Deposits
CPI	consumer price index
CSI	China Securities Index
ECB	European Central Bank
EM	emerging market
EU	European Union
FAO	Food and Agriculture Organization
Fed	United States Federal Reserve
FNB	First National Bank
fob	free-on-board
FX	foreign exchange
G3	Group of Three (United States, eurozone and Japan)
GDP	gross domestic product
GFC	global financial crisis
GFCF	gross fixed capital formation
GPM	Global Projection Model
GWh	Gigawatt hours
Haver	Haver Analytics
HCE	household consumption expenditure
IMF	International Monetary Fund
JSE	JSE Limited
LCR	liquidity coverage ratio
MFN	most favoured nation
MPC	Monetary Policy Committee
MPIF	monetary policy implementation framework
MPR	*Monetary Policy Review*
MTEF	Medium-Term Expenditure Framework
MW	Megawatt

NAB	non-alcoholic beverages
NEER	nominal effective exchange rate
NERSA	National Energy Regulator of South Africa
NRIR	neutral real interest rate
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of the Petroleum Exporting Countries
PPI	producer price index
PRISM	Policy Research on International Services and Manufacturing
QLFS	*Quarterly Labour Force Survey*
QPM	Quarterly Projection Model
RAF	Road Accident Fund
REER	real effective exchange rate
REIPPP	Renewable Energy Independent Power Producer Procurement (Programme)
repo (rate)	repurchase (rate)
rhs	right-hand scale
SARB	South African Reserve Bank
SARS	South African Revenue Service
SF	standing facility
SIT	services, income and transfers (account)
SOE	state-owned enterprise
S&P	Standard & Poor's
SSA	sub-Saharan Africa
Stats SA	Statistics South Africa
TIPS	Trade and Industrial Policy Strategies
UIP	uncovered interest rate parity
UK	United Kingdom
ULC	unit labour cost
UN	United Nations
US	United States
WEO	*World Economic Outlook*
WEO Update	*World Economic Outlook Update*