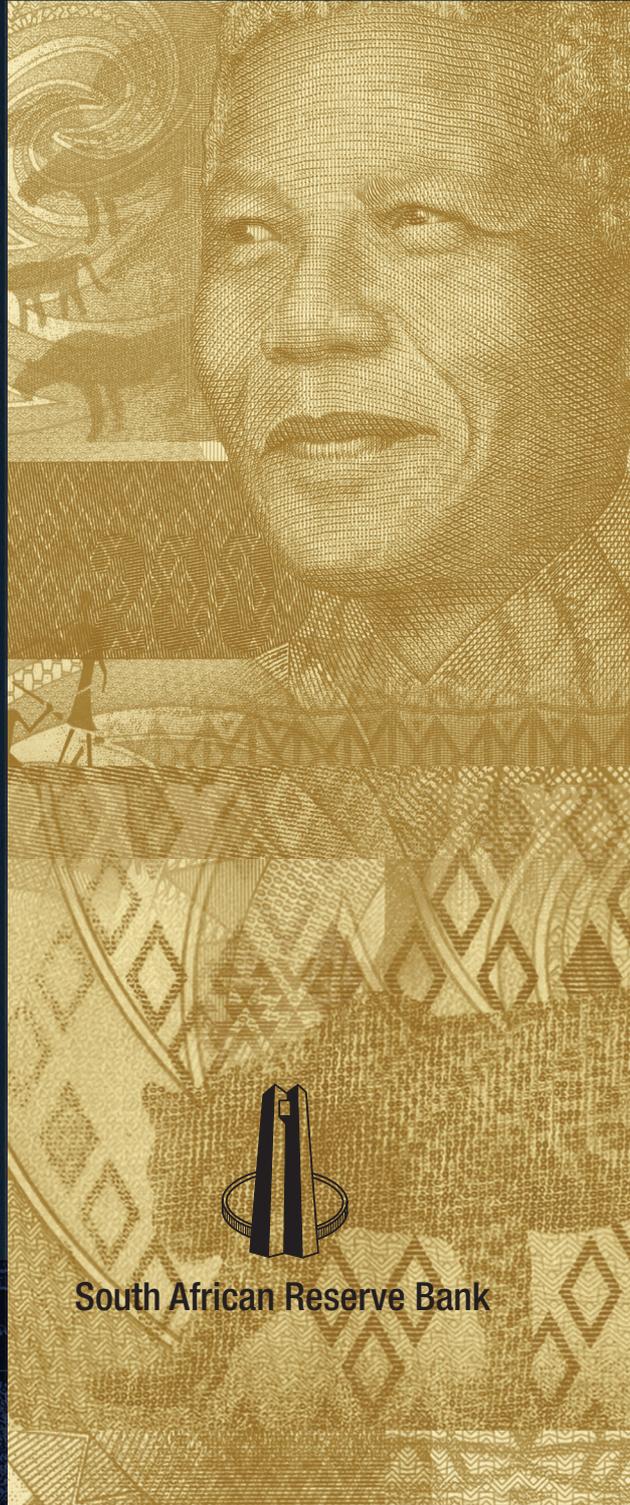
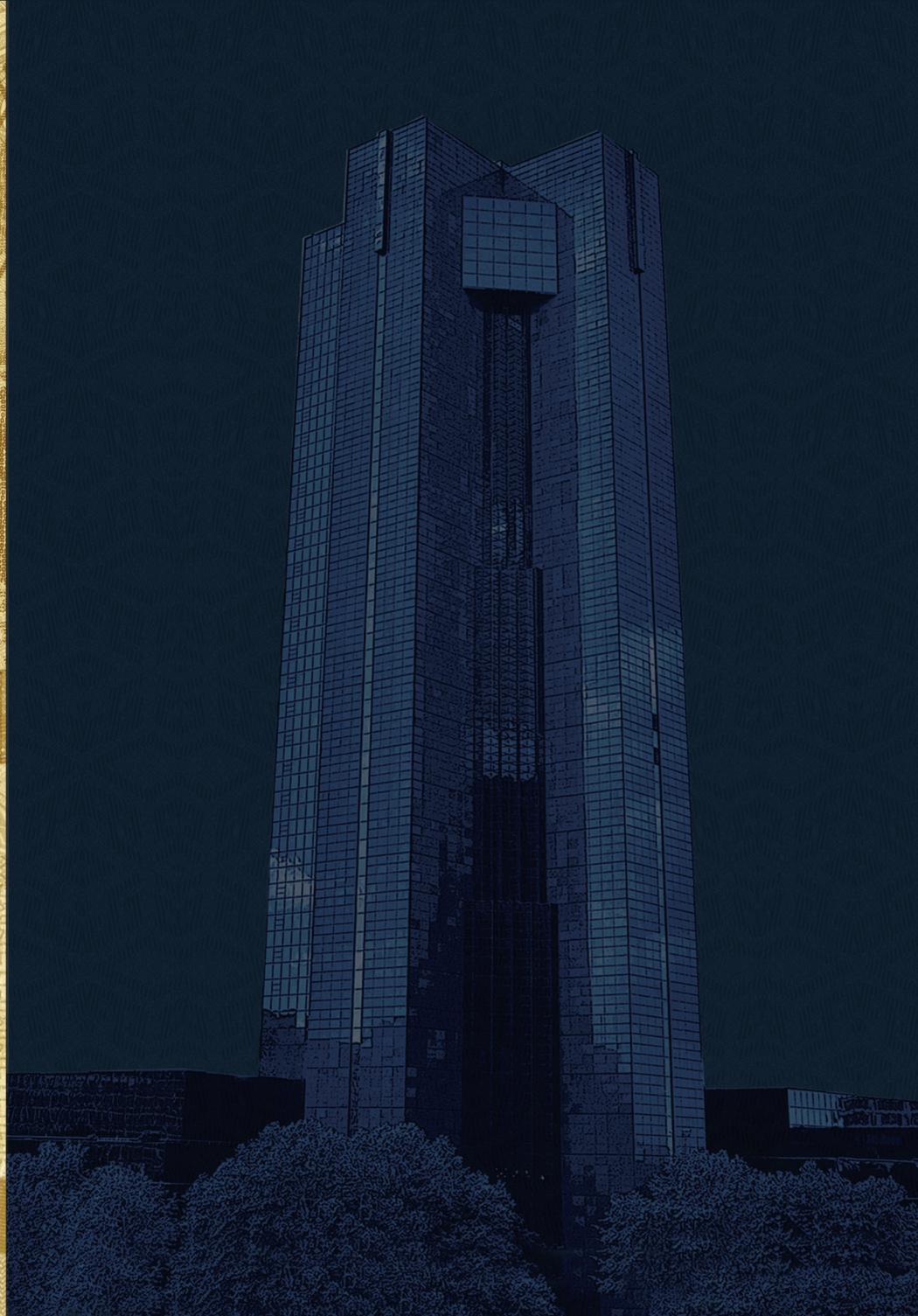


Monetary Policy Review

October 2019



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.

This 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 public understanding of the objectives and conduct of monetary policy. The *MPR* covers domestic and international developments that affect the monetary policy stance. The *MPR* is presented by senior officials of the SARB at monetary policy forums at major centres across South Africa, in an effort to develop a better understanding of monetary policy through direct interactions with stakeholders.

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Delivering on the mandate in a world of risks

Executive summary and overview of the policy stance

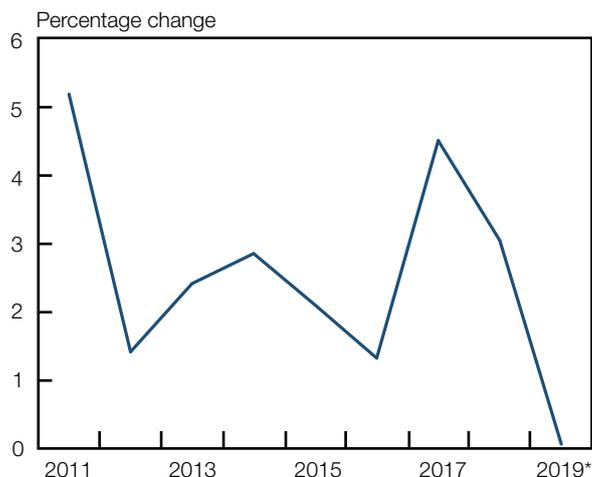
South Africa's economy faces two large macroeconomic risks. The first is global, a slowdown in trade growth that could precipitate a global recession. The second is domestic, a deteriorating fiscal situation linked to bailouts for state-owned enterprises. Both could worsen an already difficult domestic growth situation. The economy's potential growth rate has slumped to around 1% in the context of supply constraints (especially electricity shortages) and depressed business confidence. Demand has also weakened, in the face of higher taxes and slowing wage growth, among other factors. Inflation outcomes have been better, close to the midpoint of the 3–6% target range, which has given policymakers some space to reduce rates. Looking forward, the policy stance aims to provide support to a weak economy while ensuring inflation remains securely within the target range across the forecast period, despite risks.

Trade tensions have been a feature of the global economy since 2017, but their costs have become much clearer in 2019. Global export growth has fallen to its lowest levels since the 2009 crisis. Manufacturing sectors are contracting worldwide. Trade-exposed economies, such as Germany's, have seen sharp growth slowdowns. Many other economies, however, have held up better. Unemployment rates across advanced economies are unusually low, which has supported household consumption. Relatedly, even as manufacturing sectors have weakened, advanced economy service sectors have typically remained in expansion territory.

In emerging markets, by contrast, conditions are more clearly negative. Unemployment rates have generally trended higher, while growth rates have slowed. The growth differential between advanced economies and emerging markets – the key rationale for investing in emerging markets – has fallen close to zero (and would be zero, excluding China). As discussed in the global economy chapter, weakness in emerging markets reflects a range of idiosyncratic problems: slowdowns in India, Brazil, China, Russia and elsewhere all have unique characteristics. However, there are also general factors at work, of which the most important appear to be excessive debt, dollar strength (which raises the price of capital goods and discourages capital flows), and the trade tensions already mentioned.

Given a combination of growth risks and subdued inflation, major central banks have put aside interest rate normalisation plans and lowered rates instead. A year ago, the United States (US) Federal Reserve (Fed) was expected to raise rates twice in 2019; instead, it has cut rates twice, in July and

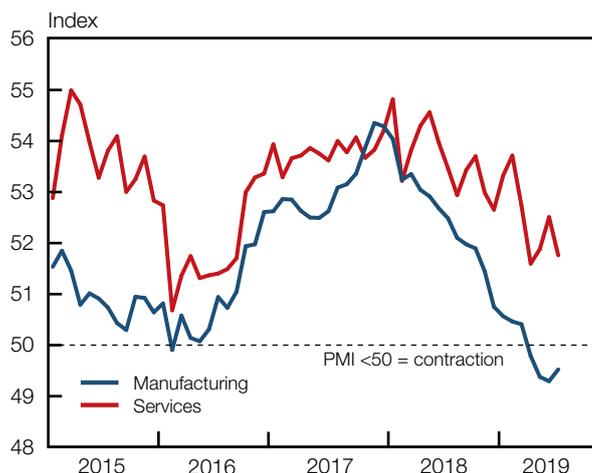
World export volumes



* Year to date

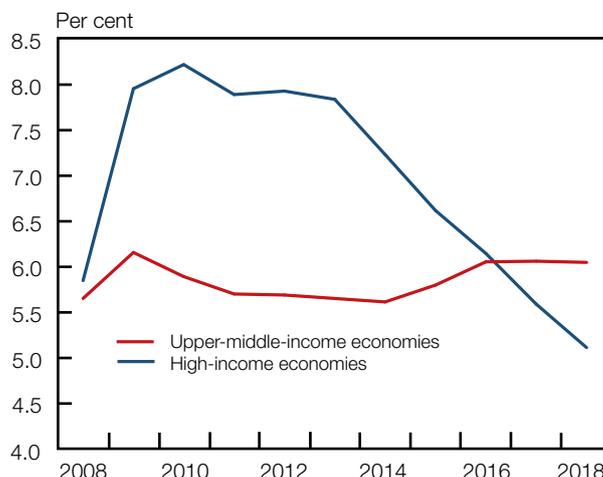
Sources: CPB Netherlands Bureau for Economic Policy Analysis and SARB

Global purchasing managers' indices



Sources: Haver, IHS Markit and JPMorgan

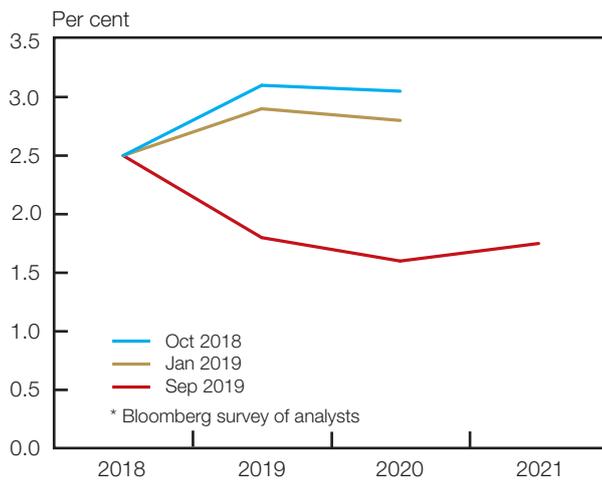
Unemployment rates in selected regions



Source: World Bank



US Fed policy rate path*



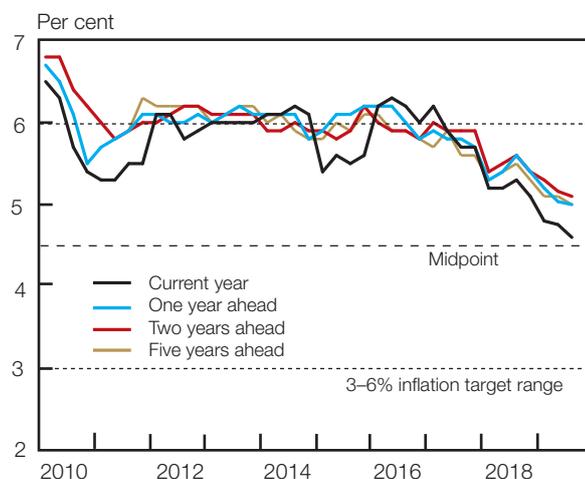
Source: Bloomberg

South African 10-year government bond yields



Sources: Haver, BER and SARB

Surveyed inflation expectations*



* Average of labour, business and analyst expectations

Sources: BER and SARB

September, and markets anticipate further reductions by year-end. Similarly, where the European Central Bank (ECB) was previously expected to start hiking rates in the second half of 2019, it has instead initiated a new round of policy easing, cutting its deposit rate further into negative territory (-0.4% to -0.5%) and restarting quantitative easing.

For investors, these global conditions create two contradictory imperatives. Policy uncertainty and recession risks prompt flights to safety, benefitting assets such as gold. Low or negative returns on safe assets, however, also incentivise risk-taking to achieve yield. In practice, the past six months have been characterised by both risk-on and risk-off phases, with risk-on sentiment strongest around July and weakening again in August.

In these circumstances, the rand exchange rate has fluctuated in a wide range over the past six months, with a low of R13.25 and a high of R15.47 per US dollar (using daily data). The bond market saw outflows in May, June, July and August, as investors reduced their exposure to local assets. Ten-year government bonds have returned 9% or more, for an inflation adjusted return of around 4% – which is high relative to peers and to history. Tellingly, long-term rates have stayed elevated despite falling inflation expectations and lower short-term rates, demonstrating that high rates are not a function of monetary policy but rather a higher term premium (as discussed in Box 5).

Since 2017, the Monetary Policy Committee (MPC) has expressed a preference for inflation stabilising nearer the middle of the 3–6% target range. Inflation, which averaged 6.3% in 2016 and 5.7% in 2017, has since moderated to 4.6% in 2018, and is likely to be 4.2% in 2019. The disinflation effort has benefitted from unusually low food price inflation, as well as a flatter exchange rate trend over the past three years, which has helped to stabilise import prices. Weak demand has played a role, for instance in record-low housing inflation, although housing supply has also grown rapidly. Lower inflation expectations have also contributed, by moderating the trend component of inflation, whereby price- and wage-setters index to the consumer price index (CPI) to protect the real value of their incomes. Lower inflation expectations are visible in both survey- and market-based measures. For instance, the latest Bureau for Economic Research (BER) survey shows expectations are down to 4.6% for the current year and around 5% for the longer-term. Although most expectations measures are still above 4.5%, the direction of change remains favourable.

Over the forecast period, inflation is expected to peak at 5.3% in the first quarter of 2020, mainly due to base effects from fuel prices. (Core inflation, which omits fuel, is projected at 4.6% in this quarter.) As the base effect falls away, the forecast shows inflation reverting to 4.5%, in line with where it has been through most of 2018 and 2019.

Based on the inflation fan chart, it is highly probable that inflation will remain within the target range throughout the forecast period. The implied probability of inflation above the upper bound of the target range is just 6%; the probability of a target undershoot is even smaller, at 2%. Within the target range, inflation is somewhat more likely to be in the top half of the range than the bottom: the probabilities are 53% and 39% respectively. The slightly higher probability of outcomes in the top half of the band is consistent with external forecasts. The median of the Reuters survey, for example, is at 4.8% for 2021.

Over the past six months, gross domestic product (GDP) growth outcomes have remained volatile around a low trend. Growth surprised to the downside in the first quarter of the year, at -3.1% (quarter on quarter, at a seasonally adjusted annualised rate) – the single worst quarterly number since 2009. It then rebounded to 3.1% in the second quarter, this time surprising on the upside. (The July MPC forecast had anticipated a second-quarter rebound to 2.6%.) Annual growth for 2019 is now expected to be 0.6%, recovering somewhat to 1.5% and 1.8% in 2020 and 2021 respectively. These medium-term growth forecasts have been revised down since July, from 1.8% for 2020 and 2% for 2021, given lower world growth, fiscal risks and lower business confidence.

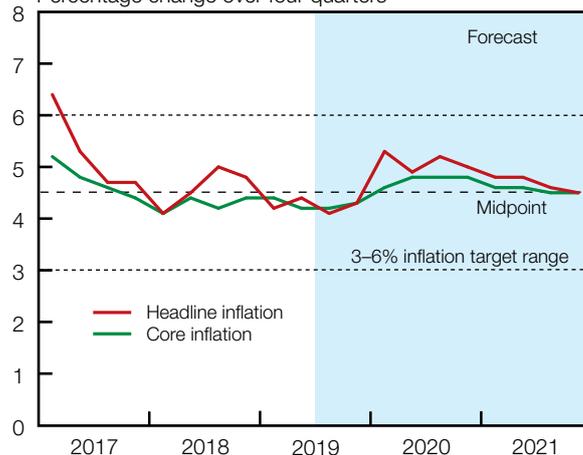
Although the forecasts indicate better growth than has been achieved over the past three years, the projections nonetheless reflect modest quarter-on-quarter numbers, mostly below 2%. The annual figures are higher mainly because the forecast features no first-quarter growth contractions, which have outsize effects on annual growth rates (as discussed in the real economy chapter). For this reason, the forecasts should not be read as envisioning a robust growth recovery.

The output gap widened with the adverse first-quarter growth outcome, reaching -2.1% of potential GDP, from -1.3% in the preceding quarter. This was the most negative output gap since 1993.¹ It narrowed again with the second-quarter rebound, to -1.7% of potential GDP, but remains negative. A range of data points support the case that the South African economy is operating with a shortage of demand. These include slowing

¹ The 2009 gap was smaller because the economy had previously been overheating. Historical estimates of the output gap indicated more negative numbers for much of the post-crisis period, below -4% of potential GDP at some points; this claim refers to output gap estimates based on current information and estimation techniques.

Headline and core inflation

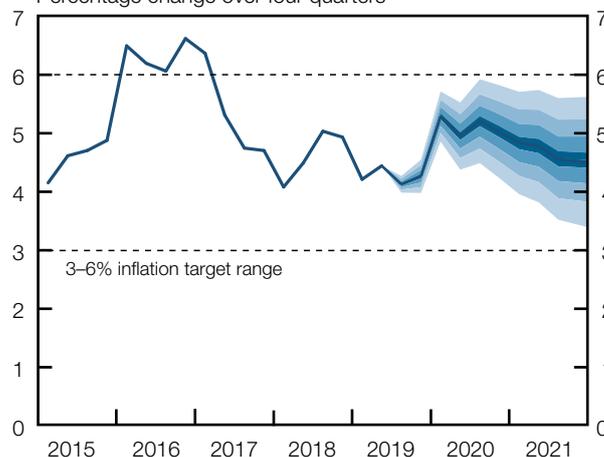
Percentage change over four quarters



Sources: Stats SA and SARB

Headline inflation*

Percentage change over four quarters

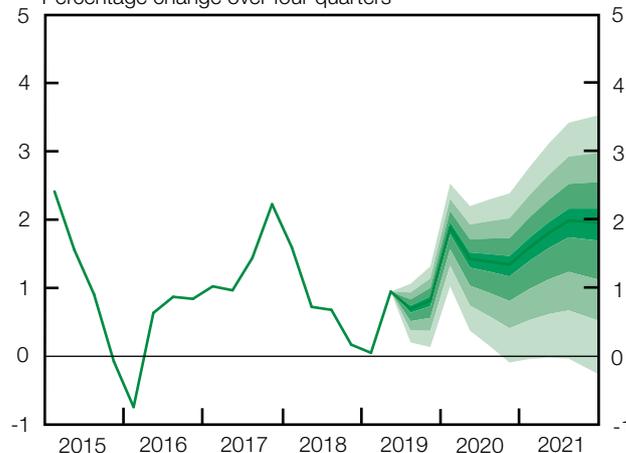


* The bands around the central projection show confidence intervals of 10%, 30%, 50% and 70%.

Sources: Stats SA and SARB

Real GDP growth*

Percentage change over four quarters

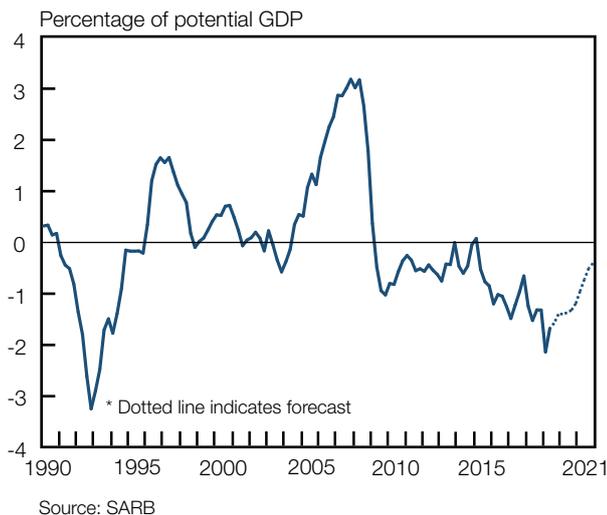


* The bands around the central projection show confidence intervals of 10%, 30%, 50% and 70%.

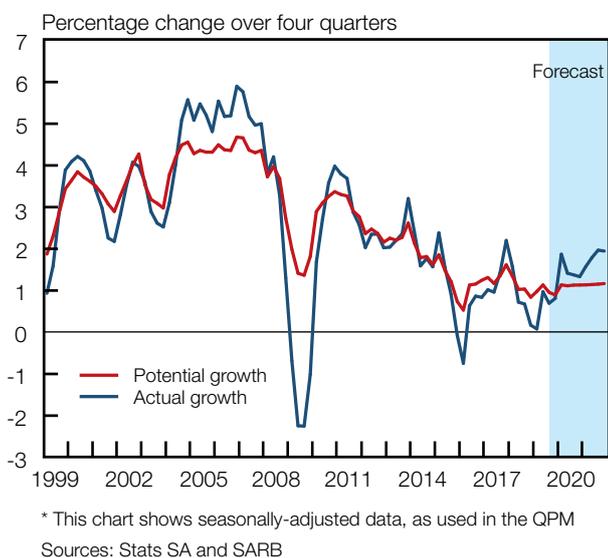
This chart shows seasonally-adjusted data, as used in the QPM

Sources: Stats SA and SARB

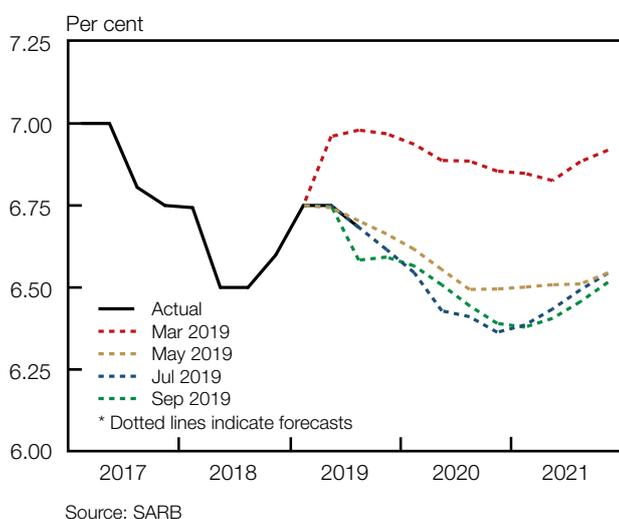
Output gap*



Potential and actual real GDP growth*



Evolution of the QPM repo path



employee compensation, weak growth in the tertiary sector, and repeated trade surpluses, achieved through import compression. There has been no sudden shock to demand, such as a financial crisis; demand nonetheless appears to have wilted under sustained pressure from supply-side shocks and persistent policy uncertainty.

Although the forecast is premised on a demand shortfall, recent growth disappointments should not be assigned purely to low demand. Growth has also suffered from temporary supply-side problems, such as the electricity shortages and mining-sector strikes that disrupted economic activity in the first quarter. In addition, growth is being affected by low business confidence, in part due to policy uncertainty, which is a different problem to either demand shortfalls or supply-side constraints. In the forecasting process, both the low trend and temporary shocks are allocated to the economy's potential growth rate. This is now very low, at 1% for 2019, which compares unfavourably with a longer-term average of around 2.5%. Low potential growth remains the single most important aspect of South Africa's growth problem, which is why the South African Reserve Bank (SARB) has repeatedly pressed for structural reforms. That said, even with low potential growth, it is still possible to have cyclical deviations from the trend, and these deviations should be responsive to interest rate adjustments – even if the larger growth problem, of low potential growth, is beyond the powers of monetary policy.

Overview of the policy stance

Over the six months covered by this *Monetary Policy Review (MPR)*, there have been three policy rate decisions by the MPC, one of which resulted in a reduction of the repurchase (repo) rate by 25 basis points.

In the May 2019 meeting, the repo rate was left unchanged, a decision fully anticipated by analysts² and wholly priced in by financial markets.³ The MPC judged that the growth forecast risks lay to the downside, while the inflation forecast risks were balanced, with both upside and downside risks in roughly equal proportions. The implied policy rate path generated by the Quarterly Projection Model (QPM) suggested an unchanged policy rate through 2019, followed by a 25 basis point cut in the first quarter of 2020 (the first rate cut in the forecast since the QPM's introduction in November 2017).

In the July meeting, the MPC opted to reduce the repo rate by 25 basis points, as predicted both by a large majority of analysts and in keeping with market expectations. The MPC once again assessed the growth forecast risks as lying on the downside, with the inflation forecast risks remaining balanced. The QPM repo path showed the rate cut from the previous meeting shifting one quarter earlier, to the fourth quarter of 2019, with no additional cut in the forecast. The MPC also

² As surveyed by both Bloomberg and Reuters.

³ According to Forward Rate Agreements.

considered a scenario in which the model ‘saw through’ the temporary increase in inflation expected in early 2020, on the grounds that this would come from a base effect, and was therefore a technical matter rather than evidence of new price pressure. This scenario showed the repo cut shifting earlier to the third quarter, and therefore due at either the July or September meeting.

In September, the MPC held the repo rate unchanged, at 6.50%. The QPM indicated a stable rate path, as the MPC had already delivered the cut foreseen in the July forecast. The decision was correctly anticipated by the large majority of analysts (in the Bloomberg survey, for instance, 14 out of 18 economists saw no change), although markets had priced a cut as probable, with a likelihood of around 75%. In assessing the risks to the forecasts, the MPC characterised both the growth and inflation risks as broadly balanced in the short term, with a degree of downside risk to the medium-term growth trajectory, and administered prices posing some upside risk to inflation.

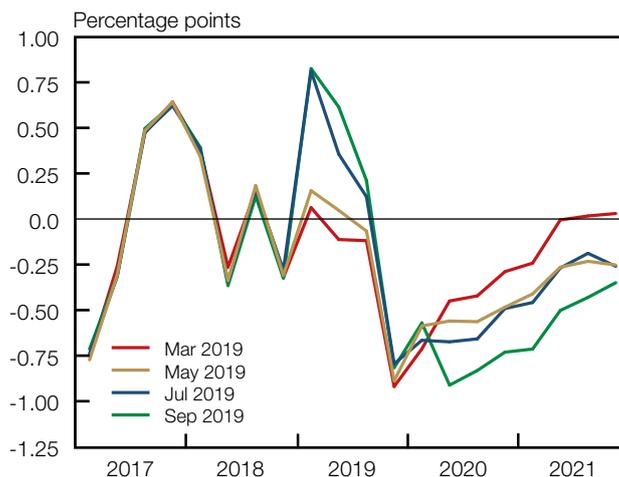
Despite the 25 basis point decline in the nominal repo rate during the July 2019 meeting, the overall policy stance has changed little since the previous *MPR*. The real repo has been somewhat higher than expected in the near term, given downside inflation surprises. It is accommodative over the medium term, however, which is the relevant horizon for monetary policy, averaging 1.6% for 2020 and 1.9% for 2021. This contrasts with a neutral rate estimated at 2.4% for both 2020 and 2021.

The neutral rate in the QPM comprises a global rate and a country risk premium, as well as compensation for the expected change in the real effective exchange rate (REER).⁴ Over the past six months, neutral rate estimates have edged up slightly (by an average of 0.1 percentage point in each forecast year). This upward pressure has come from heightened country risk and a more depreciated exchange rate projection (up about 0.4 percentage points, combined). Together, these factors have more than offset a lower path for global rates (down about 0.3 percentage points).

Importantly, in the neutral rate estimate, all these components are equilibrium concepts, not actual outcomes. This means the neutral rate does not change immediately and proportionately to data shifts, such as the US Fed cutting rates, or the market-implied South African risk premium spiking. Those developments feed into other aspects of the forecast, and thereby influence the projected policy stance, but they are not incorporated directly in neutral.

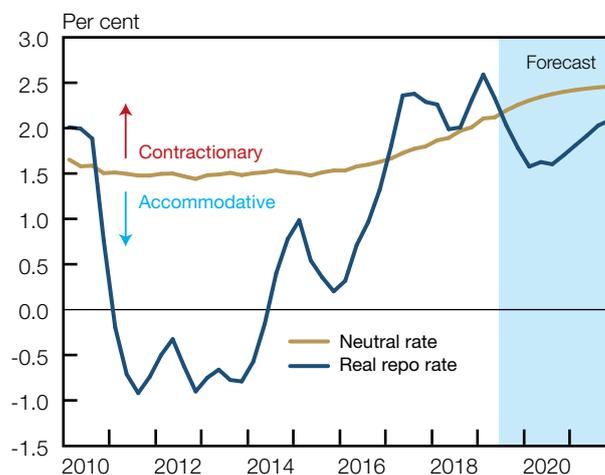
⁴ This last factor is required to satisfy the uncovered interest parity (UIP) condition, which holds that over time a higher-yielding currency will depreciate to compensate for the interest rate differential with a lower yielding currency. If the REER equilibrium is expected to shift, the neutral rate equilibrium must also change so UIP holds. This component is not a permanent feature of neutral, unlike the other two factors, because in the long run the REER is stable.

Evolution of the QPM real repo gap



Source: SARB

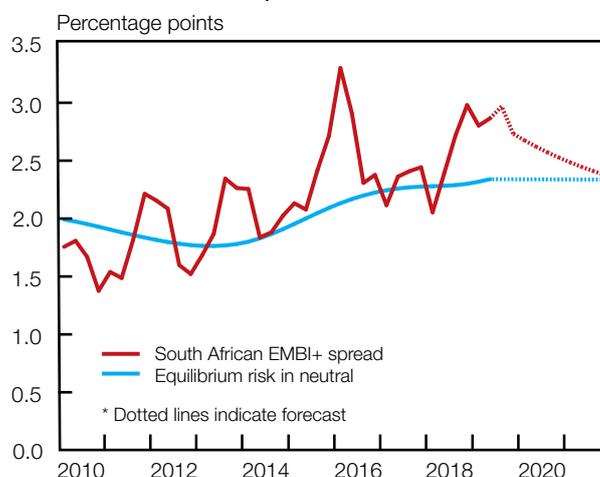
Real repo rate* and its neutral level



* Nominal repo rate deflated by a four-quarter moving average of year-on-year headline inflation.

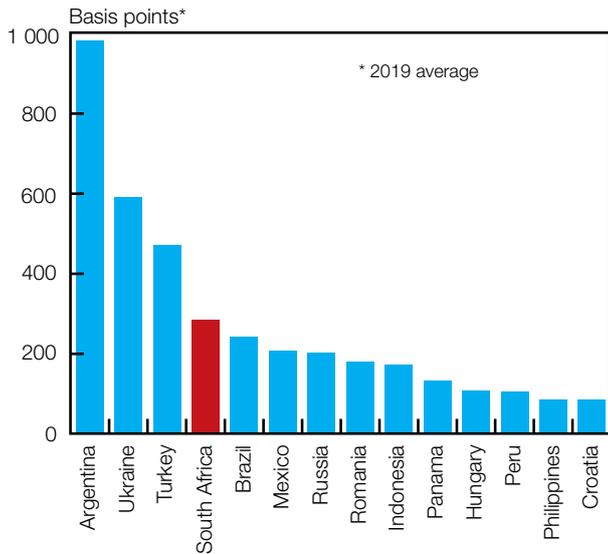
Source: SARB

South African risk premium*



Sources: JPMorgan and SARB

Risk premium: EMBI+

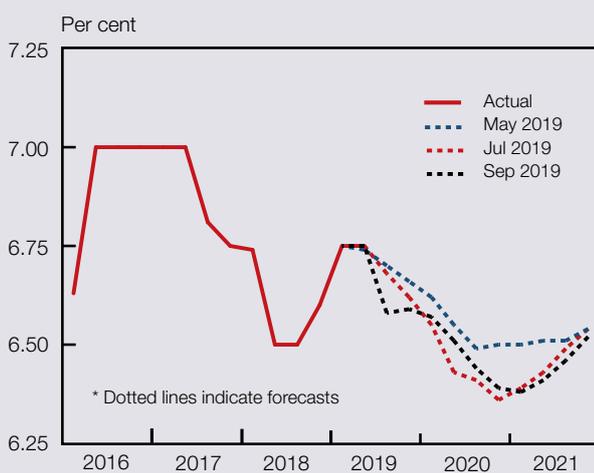


Sources: JPMorgan and SARB

The rationale for including country risk in the neutral rate is that investors require compensation for holding local assets instead of risk-free instruments. For emerging markets in particular, even short-term investments can be affected by risk events (with Nenegate the most dramatic example in recent South African experience). This country risk is a separate concept to the term premium, which by definition is the price paid for the duration of a loan. The country risk premium applies across the entire yield curve.

The risk premium incorporated in the model's neutral rate is derived from the JPMorgan Emerging Market Bond Index Plus (EMBI+) spread for South Africa. This measure provides clear evidence that South African risk has risen over the past five years or so, and is now higher than for most emerging market peers. As the neutral rate uses equilibrium risk, the actual value in neutral is somewhat below the prevailing EMBI+ spread (2.3% versus 2.8%). The forecast therefore anticipates the actual risk premium will moderate towards its equilibrium. There is a chance, however, that risk will not ease as projected, requiring further upward revisions in the equilibrium risk rate. Furthermore, even at currently-estimated levels, South Africa's risk premium is elevated. This constrains monetary policy by raising the interest rate needed to stabilise inflation. The crucial policy message is that a lower risk premium, closer to historical and peer averages, would give monetary policy space to cut rates without compromising on inflation.

Repo rate path forecasts*



Source: SARB

Box 1 Where is the repo going? Explaining the evolution of the projected repo path

Each Monetary Policy Committee (MPC) forecast is premised on a repurchase (repo) rate path that adjusts to changing economic conditions over the forecast period – instead of just being fixed at the last known rate, as per previous practice. This repo path is generated endogenously in the Quarterly Projection Model (QPM), following a Taylor-type rule. The repo projections are published alongside the MPC statement, accompanied by the caveats that the MPC is not bound to follow these forecasts, and that the repo path can and will change from meeting to meeting. This box unpacks how these changes occur.

The South African Reserve Bank Taylor rule comprises a smoothing parameter, plus the standard Taylor-rule variables: a neutral rate, inflation and growth.

- The smoothing parameter has the single biggest weight, which tethers the repo to its previous setting, reflecting the fact that policy changes are rarely large or volatile.
- Inflation is measured as the deviation of future inflation from the 4.5% midpoint of the 3–6% target range, with future inflation defined as the average forecast inflation rate for three, four and five quarters ahead. The rule uses future instead of current inflation because policy only transmits with a lag, and therefore must be forward looking.
- Growth is expressed as an output gap, which is the accumulated difference between actual and potential gross domestic product (in levels).

- Neutral is the estimated interest rate at which inflation is stable and the economy is operating at potential. When the repo rate is at its neutral level, there is no expansionary or restrictive impulse from monetary policy. The neutral rate is the sum of the inflation target (4.5%) and the real neutral interest rate (often referred to as r^*). As discussed above, r^* in the QPM is made up of the equilibrium global rate and the equilibrium country risk premium, with a smaller, temporary contribution for expected changes in the real effective exchange rate.¹

The table below unpacks the evolution of the repo rate projections across the past three MPC meetings. The May 2019 forecast envisioned a rate cut in the first quarter of 2020. By July, this cut had shifted to the fourth quarter of 2019. In September, with the MPC having already reduced rates in July, the path flattened out.

Across these meetings, the negative output gap exerted consistent downward pressure on the repo rate. The inflation gap became less of an influence over time, with the 3–5 quarter ahead inflation window initially catching the 2020 uptick in inflation, but then moving

1 To sense-check the QPM results, separate estimates of neutral are calculated using a Laubach-Williams approach. This shows similar r^* estimates to the QPM, at around 2% for 2018 and 2019. See L Kuhn, F Ruch and R Steinbach, 'Reaching for the (r)-stars: estimating South Africa's neutral real interest rate', *South African Reserve Bank Working Paper Series No. WP/19/01*, Pretoria: South African Reserve Bank, February 2019. <http://www.resbank.co.za/Publications/Detail-Item-View/Pages/Publications.aspx?sarbweb=3b6aa07d-92ab-441f-b7bf-bb7dfb1bedb4&sarblst=21b5222e-7125-4e55-bb65-56fd3333371e&sarbitem=9097> (accessed 20 August 2019).

further out to a period where inflation is projected nearer 4.5% again. The neutral rate estimates have been relatively stable over the three forecasts, being pushed up by risk but down by global factors.

The QPM displays repo rate projections down to any number of decimal places, but because the MPC moves in quarter-percentage point increments, the timing of a rate cut is identified by rounding to the nearest quarter-point threshold. For instance, the July forecast recommended a cut from 6.75% to 6.5% in the fourth quarter, with the endogenous repo at 6.62% – and not the third quarter, when it was 6.68%. The current low point in the repo projection falls in the first quarter of 2021, at 6.38%, just above the threshold for an additional rate reduction. The endogenous repo rises in the following quarters, however, so the close proximity to a rate cut is temporary.²

2 This also explains why the July MPC QPM repo of 6.36% for the last quarter of 2020 was not flagged as a second rate cut: the QPM path rounds to 6.50% in the adjacent quarters, implying a rate reduction in November would be immediately reversed at the following meeting.

Repo rate path forecasts

Contribution to total (percentage points)

	Parameter	2019Q1	2019Q2	2019Q3	2019Q4	2020Q1	2020Q2	2020Q3	2020Q4	2021Q1	2021Q2	2021Q3	2021Q4
May MPC 2019													
Repo rate (per cent)		6.75	6.74	6.70	6.66	6.62	6.55	6.49	6.50	6.50	6.51	6.51	6.54
Persistence	0.7906		5.34	5.33	5.30	5.27	5.23	5.18	5.16	5.16	5.15	5.15	5.15
Neutral	0.2094		1.39	1.40	1.40	1.41	1.41	1.42	1.43	1.43	1.44	1.43	1.44
Inflation gap	0.3288		0.18	0.12	0.09	0.06	0.03	-0.01	-0.01	-0.02	-0.03	-0.03	0.00
Output gap	0.1131		-0.17	-0.15	-0.13	-0.12	-0.12	-0.10	-0.08	-0.07	-0.05	-0.04	-0.04
July MPC 2019													
Repo rate (per cent)		6.75	6.75	6.68	6.62	6.55	6.43	6.41	6.36	6.39	6.43	6.49	6.54
Persistence	0.7906			5.34	5.28	5.23	5.17	5.11	5.09	5.06	5.07	5.11	5.13
Neutral	0.2094			1.39	1.39	1.40	1.41	1.42	1.42	1.43	1.43	1.44	1.43
Inflation gap	0.3288			0.14	0.09	0.06	-0.02	0.01	-0.05	-0.02	-0.01	-0.01	0.02
Output gap	0.1131			-0.18	-0.15	-0.15	-0.14	-0.13	-0.11	-0.08	-0.06	-0.05	-0.05
September MPC 2019													
Repo rate (per cent)		6.75	6.75	6.58	6.59	6.57	6.51	6.44	6.39	6.38	6.41	6.46	6.52
Persistence	0.7906				5.20	5.21	5.19	5.15	5.09	5.05	5.04	5.06	5.10
Neutral	0.2094				1.41	1.42	1.43	1.44	1.44	1.45	1.45	1.46	1.46
Inflation gap	0.3288				0.13	0.09	0.04	0.01	-0.01	-0.01	-0.01	-0.01	0.00
Output gap	0.1131				-0.16	-0.16	-0.15	-0.15	-0.13	-0.11	-0.08	-0.06	-0.05

Source: SARB

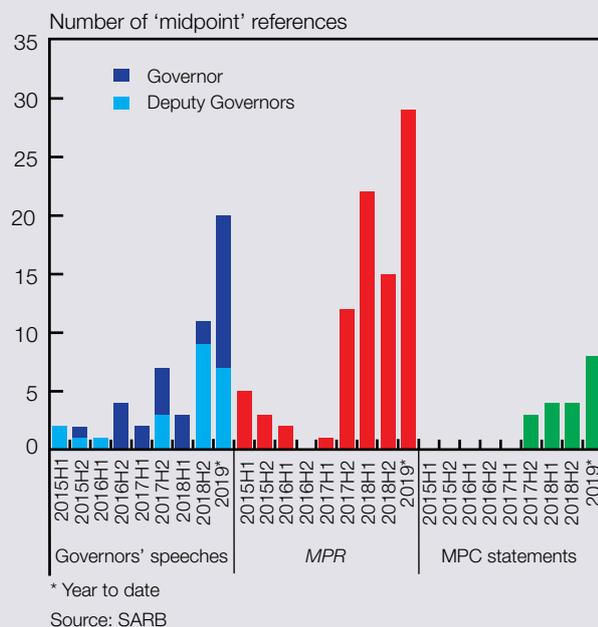
Box 2 Getting the point: how the South African Reserve Bank's 4.5% preference diffused to analysts and the media

In 2017, the Monetary Policy Committee (MPC) changed its communication strategy around the inflation target. Previously, it had not expressed a clear view about where inflation should settle in the long run, or where inflation expectations should be anchored, beyond citing the 3–6% target range. With actual inflation generally close to 6%, and measures of inflation expectations also hovering around 6%, that range appeared to have turned into a *de facto* 6% target. Having resolved through a process of internal deliberation that this was a sub-optimal outcome, the MPC began communicating a preference for inflation closer to the 4.5% midpoint of the target range. This box explores how that message diffused to financial analysts and the media – two crucial intermediaries for reaching a broader audience.

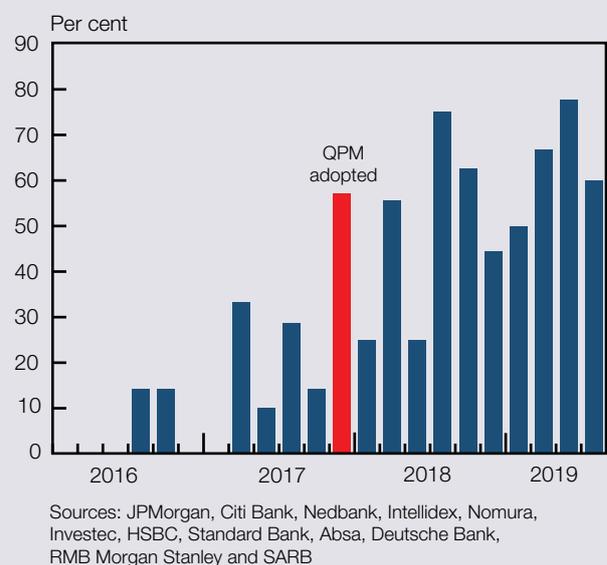
The South African Reserve Bank's (SARB) new messaging around 4.5% began to take shape in 2016, starting with speeches delivered by the Governor. The first mention of the midpoint preference in a general SARB publication was in the *2016/17 Annual Report*, published in June 2017. The MPC first referred to the midpoint in the July 2017 statement. The objective has since been re-iterated in many speeches, MPC statements, and across editions of the *Monetary Policy Review*.

In media reports, there is evidence of terms such as '4.5%' or 'midpoint' appearing in close proximity to the 'SARB' (or similar markers, such as 'Reserve Bank' or 'Resbank') from 2017. These became more common towards the end of 2017, and proliferated in late-2018. The two most important events driving greater attention

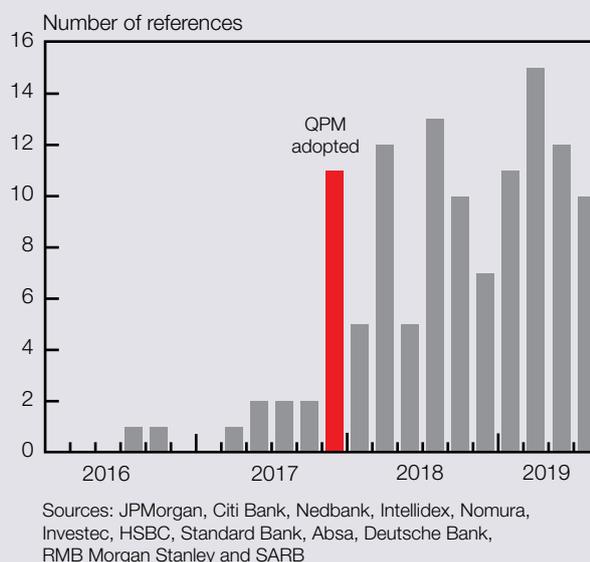
Total number of references to 4.5% or related terms



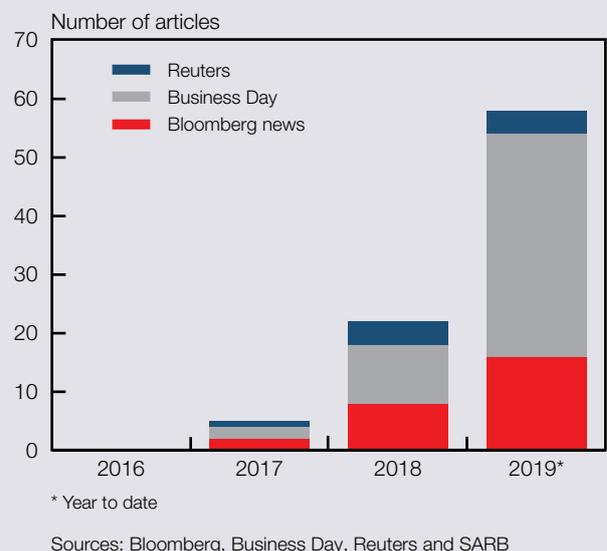
Proportion of surveyed analysts mentioning 4.5% or related terms



Total number of references to 4.5% or related terms



News articles mentioning SARB and 4.5% or related terms



to the midpoint appear to have been the adoption of the Quarterly Projection Model (QPM), with its 4.5% model target, in November 2017, and the period of higher inflation risk, as well as a rate hike, in the second half of 2018.

The spread of this message is also visible in analysts' reports following MPC meetings. As might be expected, given that analysts are subject-matter experts, the 4.5% message appears earlier and more often than it did in the press. Once again, the adoption of the QPM stands out as a major event that prompted wider recognition of the midpoint objective. By 2019, references to 4.5% are commonplace in analysts' reports.

These results provide evidence that sustained central bank communication shapes media and analyst reporting on monetary policy. The SARB was not clearly heard the first time its leadership expressed a preference for steering inflation to the middle of the target band, but over time, this message spread widely. It is also interesting that the new communications strategy commenced with the repurchase (repo) rate at 7%, and the subsequent diffusion of the 4.5% message and the moderation of inflation expectations was accomplished without policy tightening above this level. This was contrary to initial, internal studies which suggested the repo rate would have to go higher, reaching about 8.5%, to establish the credibility of the midpoint objective.

Global economy: recession risks

Global prospects are clouded by trade tensions, which have disrupted economic activity this year and could precipitate a global recession. Trade aside, advanced economy performances are generally healthy, with low rates of unemployment and output close to potential. In emerging markets, by contrast, growth has underperformed badly, for reasons including excessive leverage and dollar strength, as well as trade problems. Globally, inflation is contained or – in many advanced economies – too low, with a few prominent exceptions (such as Argentina, Turkey and Zimbabwe).

Global growth

Global growth is likely to average 3.3% in 2019, according to the World Bank, below 2018's 3.7%. Most analysts expected a global slowdown in 2019, given the fading effects of fiscal stimulus in the US, structurally lower growth in China, and similar factors. The global deceleration has nonetheless been worse than expected. Over the past six months, global growth estimates for 2019 have been lowered by around 0.3 percentage points, with downward revisions split roughly equally between advanced economies and emerging markets. Forecast revisions have been largest for the euro area (-0.4 percentage points) and emerging markets excluding China (-0.5 percentage points), a reminder that although trade tensions are clearest in the US–China relationship, growth problems are larger elsewhere.

Advanced economies

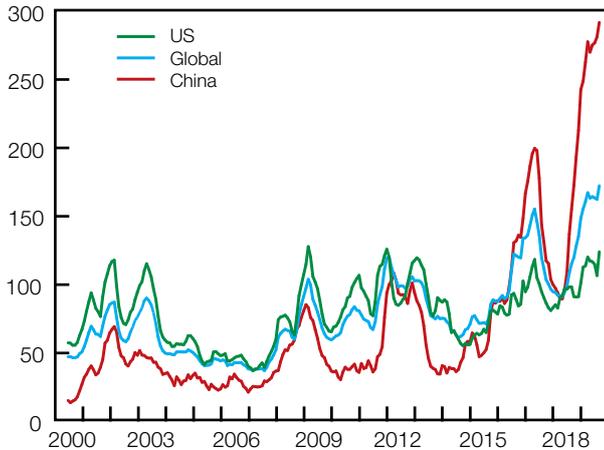
In the US, unemployment remains at half-century lows, below most estimates of its natural rate. Job creation has nonetheless stayed robust, averaging 160 000 jobs per month for the year to date. The quits rate is at an 18-year high, demonstrating workers' confidence that the gains to leaving jobs outweigh the risks. Wage growth has also trended higher, with the Atlanta Fed's wage tracker showing growth of around 4% in the middle of 2019.⁵ Inflation rates have nonetheless remained quite muted, below the Fed's 2% inflation target, although forecasts still indicate inflation rising to the target in 2020.

US growth slowed to 2% in the second quarter of 2019, from 3.1% in the first quarter. This lower growth rate is nonetheless consistent with estimates of potential, and the output gap appears to be positive, which implies, at a highly aggregated level, that there is no shortage of demand. Individual sectors show greater weakness, however. Industrial production growth has slowed, while manufacturing Purchasing Managers' Indices (PMIs) have fallen sharply, in both cases apparently due to trade tensions affecting supply chains. Farmers have also

⁵ This measure tracks wages for individual workers and therefore avoids problems that can arise with simple aggregate measures. For instance, it will not show lower wage growth where a well-paid person leaves the work force through retirement – a pressing issue as the baby boomer generation ages out of the workforce.

Economic policy uncertainty

Index: Jan 2016=100*

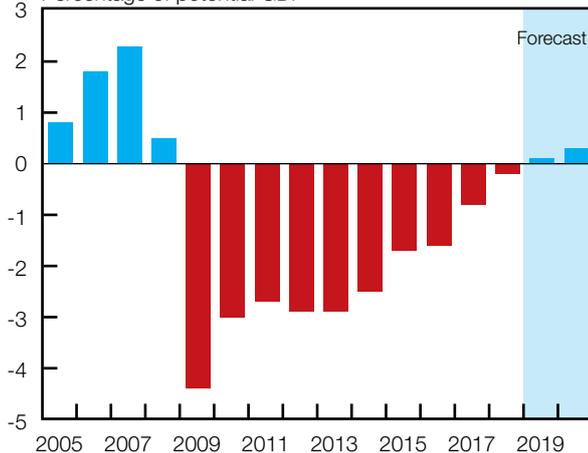


* Six-month moving average

Sources: Haver, PolicyUncertainty.com and SARB

G3* output gap

Percentage of potential GDP



* G3 economies: US, Japan and euro area

Sources: IMF, OECD and SARB

US quits rate

Percentage of total employment



Sources: US Bureau of Labor Statistics and Haver

suffered from trade policy problems, in this case from retaliatory tariffs; accordingly, the US Department of Agriculture projects agricultural exports will fall 6.2%, in dollar terms, between 2018 and 2019.

While in the US domestic consumption has so far compensated for external weakness, more trade-exposed economies have shown greater vulnerability. In the euro area, Germany, Italy and the Netherlands have all decelerated this year, with the German economy contracting in the second quarter. Inflation in the euro area is lower than in the US, with core apparently stuck around 1%, and inflation expectations have fallen further from the ECB's target during the year. (The ECB's survey of professional forecasters has two-year-ahead inflation at 1.5%; market expectations for longer-term inflation, from five-year five-year forward swaps, are down to 1.2%.) Much the same holds for Japan, where growth has also been weak in the context of slowing global trade; output is likely to expand by 1.0% this year, from 0.8% in 2018 and 1.9% in 2017. (Exports have contracted for eight consecutive months, up to July 2019.) Inflation in Japan has also been stubbornly low, despite extraordinary central bank measures to hit its 2% target, although a value-added tax (VAT) increase scheduled for October 2019 is likely to raise inflation temporarily.

The United Kingdom (UK) stands out as the rare instance of an advanced economy with inflation close to 2% (the July 2019 print was 2% exactly, although it moderated to 1.7% in August). This is primarily a consequence of sterling depreciation, due to Brexit, with inflation pressure particularly affecting tradeables – more than offsetting the disinflationary effects of weak demand.⁶ Given acute uncertainty, UK growth has been both weak and volatile, with firms building up inventories before Brexit deadlines and running them down again following postponements.

Emerging markets

The most striking feature of the emerging market universe at present is a large and widespread growth shortfall. In the years immediately before and after the global financial crisis, emerging market growth was typically 3–5 percentage points above advanced economy rates. This meant emerging market income levels were converging on those of advanced economies, reversing a long period of divergence spanning the late 1970s, 1980s and 1990s.⁷ Convergence has since stalled, however, with the emerging market growth differential having narrowed over the past five years or so, turning negative in 2016 and slumping again this year (to just 0.5 percentage points, or zero percentage points, excluding China).

6 N Gerstein, B Hobijn, F Nechio and A Shapiro, 'The Brexit spike', *FRBSF Economic Letter No. 2019-20*, San Francisco: Federal Reserve Bank of San Francisco, 5 August 2019. <https://www.frbsf.org/economic-research/publications/economic-letter/2019/august/brexit-price-spike/>.

7 D Patel, J Sandefur and A Subramanian. 'Everything you know about cross-country convergence is (now) wrong'. *Center for Global Development blog*, 15 October 2018. <https://www.cgdev.org/blog/everything-you-know-about-cross-country-convergence-now-wrong>.

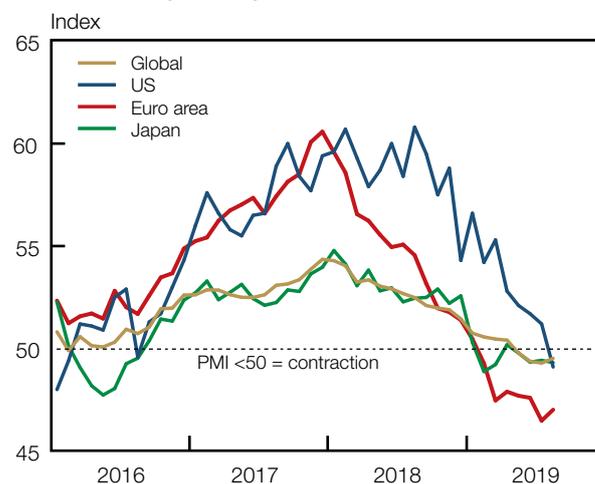
Industrial production



* Six-month moving average

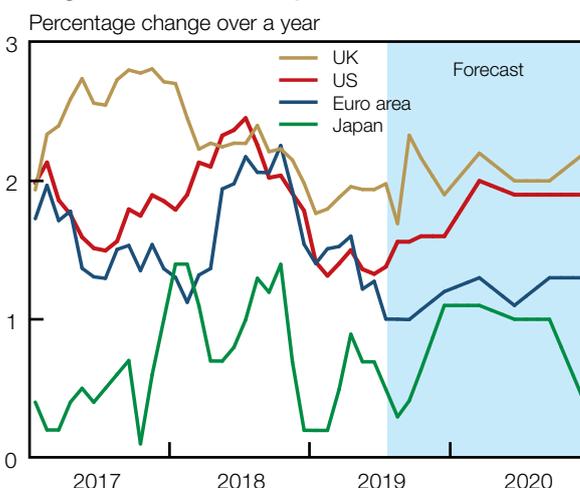
Source: Haver

Purchasing managers' indices



Sources: Haver, IHS Markit and JPMorgan

Targeted inflation in major advanced economies



Sources: Bloomberg and Haver

Emerging market* and advanced economy growth differentials



This latest growth slowdown has affected most large emerging markets, and many of the medium-sized ones. It has also occurred in the absence of a single clear trigger, comparable to the 2016 commodity price collapse.

There is no shortage of idiosyncratic explanations for slower growth in individual country cases. Turkey and Argentina have both suffered currency crises, prompting growth collapses. India has lost its status as the fastest-growing large economy, with growth slowing to 4.1% in the first quarter and 2.9% in the second, amid balance sheet problems in the financial sector as well as charges that even the high growth recorded for recent years was partly due to statistical errors.⁸ Russian growth has been persistently low, with rates under 1% in the first half of the year, given sanctions and subdued oil prices. In Brazil, business confidence has slumped again while growth has slowed, hitting -0.3% in the first quarter, before recovering to 1.8% in the second quarter. Meanwhile, China's growth rates have continued to trend lower, to 6.9% in the first quarter and 5.5% in the second (or 6.2%, measured over four quarters, marking a 27-year low). Stimulus initiatives from early in the year have not transmitted strongly to the real economy, reflecting both their more modest scope, relative to previous rounds of stimulus, as well as limited interest by both savers and lenders in yet more credit creation.

The fact that the emerging market downturn has been so widespread, however, suggests that, in addition to country specific factors, there are also likely some common causes, of which three have attracted particular attention.

The first, trade tensions, has already been mentioned as a problem for the global economy as a whole. Emerging market trade volumes have deteriorated steadily since the start of the year, with imports and exports declining by 0.9% and 0.4% respectively – the worst trade contraction since the global financial crisis. Some emerging markets have benefitted from shifts in trade: examples include Bangladesh and Vietnam taking over manufacturing share from China, or Brazil increasing soy exports at the expense of US suppliers. Overall, however, the effects have been negative for emerging markets. Policy uncertainty has prompted firms to delay investments. It has also not been easy to switch production out of China, as other countries cannot offer the same expertise and flexibility conferred by China's dense networks of firms.⁹ Furthermore, to the extent that uncertainty has become a new permanent feature of the global economy, it has persuaded some firms to shorten supply chains and automate, rather than invest in lower-wage economies, create jobs, and trade.

8 A Subramanian, 'India's GDP mis-estimation: likelihood, magnitudes, mechanisms, and implications', *CID Faculty Working Paper No. 354*, Center for International Development at Harvard University, June 2018. <https://www.hks.harvard.edu/centers/cid/publications/faculty-working-papers/india-gdp-overestimate>.

9 N Mandhana, 'Manufacturers want to quit China for Vietnam. They're finding it impossible.' *Wall Street Journal*, 21 August 2019. <https://www.wsj.com/articles/for-manufacturers-in-china-breaking-up-is-hard-to-do-11566397989>.

Second, there has been a large increase in emerging market debt levels, driven by very low world interest rates. On aggregate, debt growth was concentrated in private sectors up until about 2016; subsequently, private sector firms have attempted to de-leverage, but public sector borrowing has ramped up. The total stock of emerging market debt has therefore increased over the entire post-crisis period, relative to GDP, reaching all-time highs.

Debt can benefit long-run growth where it funds investment, improving an economy's productive capacity. However, where it funds consumption, it serves only to move future income into the present – implying a lower future capacity to consume. Debt can also increase vulnerability to shocks, particularly when it is short term or denominated in foreign currency. With emerging market investment growth having slowed in recent years, and productivity growth also very low, there is little evidence that borrowing raised potential growth. It is clearer that debt growth has compromised balance sheets, with many non-financial corporates, and some sovereigns, uncomfortably exposed to exchange rate depreciation. These problems have been especially marked in sub-Saharan Africa, where debt levels are returning to highs reached before debt relief in the early 2000s.¹⁰

Third, a persistently strong US dollar appears to have had net negative effects for emerging market growth.¹¹ In theory, the effects of dollar strength on non-US growth are ambiguous. A more appreciated dollar should enhance the competitiveness of non-US producers, boosting exports (which is why some countries have devoted huge resources to maintaining cheap exchange rates). However, a stronger dollar also raises prices of imported goods, especially capital equipment, making it more costly for emerging markets to acquire technologies from the productivity frontier.¹² Dollar strength also creates financial market frictions: because investment and trade financing in emerging markets is disproportionately dollar-denominated, dollar appreciation is disruptive because it dilutes or eliminates returns on local currency loans, even with generous interest-rate differentials. By contrast, where the dollar is weakening, returns on emerging market currency loans are magnified, incentivising further inflows, as in 2017. This mechanism helps explain why dollar strength is correlated with weaker global trade activity, and also correlated with weaker emerging market investment growth.

10 I Gill, K Karakulah and S Devarajan, 'Stressful speculations about public debt in Africa'. *Brookings Institute blog*, 19 June 2019. <https://www.brookings.edu/blog/future-development/2019/06/19/stressful-speculations-about-public-debt-in-africa/>.

11 For more on this subject, see A Carstens and H S Shin, 'Emerging markets aren't out of the woods yet' *Foreign Affairs*, 15 March 2019. <https://www.foreignaffairs.com/articles/2019-03-15/emerging-markets-arent-out-woods-yet>; and H S Shin, 'What is behind the recent slowdown?' Presentation by Hyun Song Shin, Economic Adviser and Head of Research, at the workshop arranged by German Federal Ministry of Finance and Centre for European Economic Research, 14 May 2019. <https://www.bis.org/speeches/sp190514.pdf> (accessed 2 September 2019).

12 C Goncalves and M Rodrigues, 'Exchange rate misalignment and growth: a myth?', *IMF Working Paper Series No. 17/283*, Washington: International Monetary Fund, November 2017. <https://www.imf.org/~media/Files/Publications/WP/2017/wp17283.ashx> (accessed 6 September 2019).

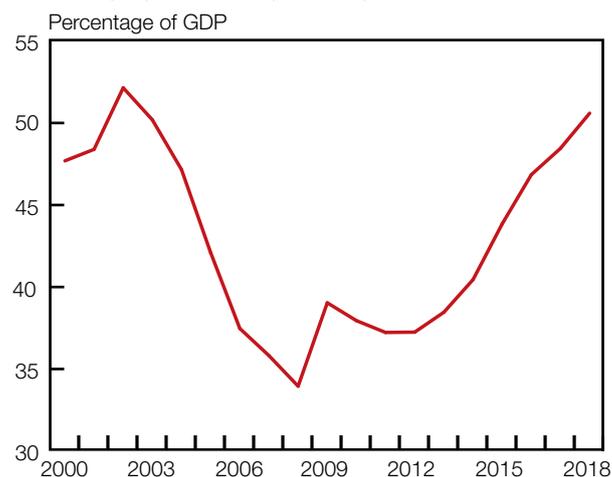
Major emerging markets credit to non-financial private sector



* Unweighted average of Argentina, Brazil, Czech Republic, Chile, China, Colombia, Hungary, India, Indonesia, Malaysia, Mexico, Poland, Russia, Saudi Arabia, South Africa, South Korea, Thailand and Turkey

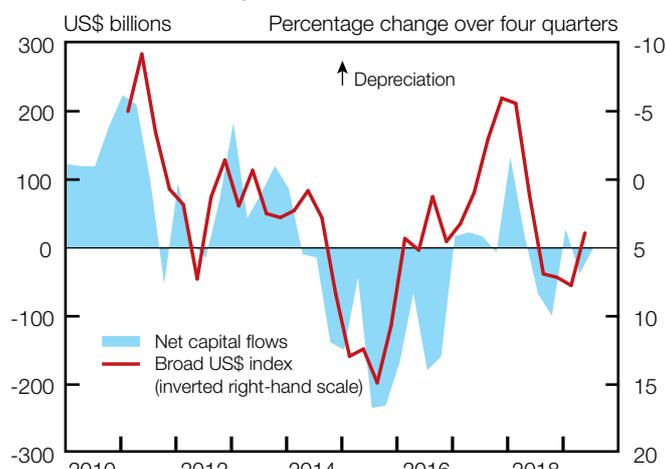
Sources: BIS and SARF

Emerging markets' general government debt



Source: IMF

Non-resident capital flows to emerging markets and the exchange rate



Sources: Bloomberg, US Fed, IIF and SARF

Emerging market inflation

Percentage change over 12 months



* Unweighted average of Argentina, Brazil, Chile, China, Colombia, India, Indonesia, Malaysia, Mexico, Peru, Philippines, Russia, South Africa, Thailand and Turkey

Sources: Haver and SARB

While emerging market growth rates have deteriorated severely, inflation performances have been more satisfactory. The average emerging market (excluding Argentina and Turkey) inflation rate has been 2.9% so far in 2019, below the post-crisis rate of 4.0%. With inflation generally close to, or below, targets, emerging market central banks have had leeway to lower interest rates (as discussed in the financial markets chapter). For instance, Brazil's inflation is likely to be 3.8% this year, against a 2019 target of 4.25%. India's inflation, at 3.2%, is somewhat below the 4% target, although this is mainly due to temporarily low food prices. China's inflation rate is also low, at 2.8%, against a 3% objective.

There have also been prominent exceptions to this low-inflation pattern, including Turkey and Argentina, where inflation is in double-digits (around 15% in Turkey, and over 50% in Argentina). In both cases, the shock of a currency crisis triggered a growth collapse, much higher interest rates and a loss of control of inflation expectations. These adverse conditions have also contributed to a more difficult political environment, and therefore less chance of implementing better policies. (In Argentina, for example, the downturn has boosted the political fortunes of the opposition Peronists, exacerbating the crisis to the extent that the government has implemented capital controls and partially defaulted on debt.) These cases demonstrate that weak policy frameworks can still generate high inflation, even in a low-inflation world.

Conclusion

The global economy is suffering a trade recession, which could become a broader global recession if trade tensions intensify. For emerging markets, this would exacerbate already poor growth situations. Advanced economies, by contrast, are generally starting at a point of low unemployment and fairly robust internal demand. It is unlikely that advanced economies will accelerate from here. By contrast, emerging markets could perform much better, but the headwinds of debt, dollar strength and trade tensions will make growth recoveries difficult.

Box 3 Including sub-Saharan Africa in the South African Reserve Bank's global economic forecasts

The Monetary Policy Committee (MPC) forecasts incorporate global developments using the Global Projection Model (GPM), a large model of the world economy initially developed by International Monetary Fund economists and now maintained by a network of central banks, finance ministries and other practitioners. Unfortunately, this model does not include any of South Africa's regional trading partners. This is a significant omission, for South Africa, because sub-Saharan Africa (SSA) accounts for around a quarter of South African exports (26% in 2018), close to the euro area share of 28%, and above the shares for China (18%) and the United States (13%). This box describes an initiative to include SSA in the South African Reserve Bank (SARB) global forecasts, a change that was implemented for the May 2019 MPC meeting. The box also discusses how events in the region have affected the world growth rate, as seen from a South African perspective.

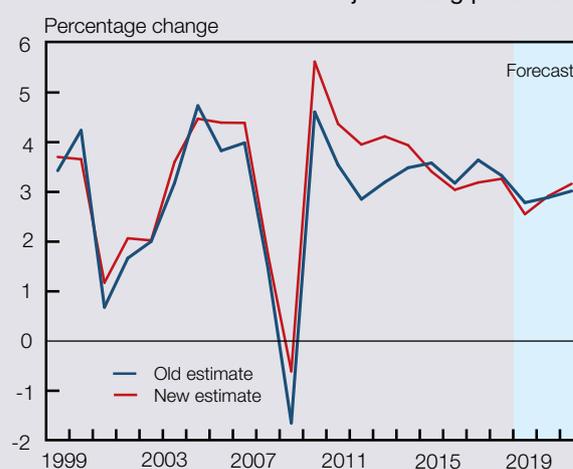
In its standard form, the GPM covers economies accounting for 60% of South Africa's exports. By including eight local trading partners – Botswana, Democratic Republic of Congo, eSwatini, Lesotho, Mozambique, Namibia, Zambia and Zimbabwe – this number can be raised to 80%. (Including additional SSA countries would yield diminished marginal returns: adding the next eight biggest trade partners would only lift the export share to 84%.) The principal obstacle to including these economies is data limitations. In particular, only one of the eight countries mentioned (Botswana) publishes quarterly growth rates. However, this limitation can be addressed by interpolating quarterly data from annual data taken from the World Bank's *Global Economic Monitor database*.¹

The old and new growth series are quite different for the post-crisis period. The new series shows a higher growth rate between 2010 and 2014, averaging 4.4% for the period, compared with 3.5% for the old series. The new series also has a sharper growth deceleration, however, and a weaker recovery in 2017/18. More recently, the new series has dipped below the old series, indicating that regional conditions are somewhat less favourable than broader global conditions. This gap chiefly reflects shocks that have hit two local partners: an economic crisis in Zimbabwe and two devastating cyclones (Idai and Kenneth) in Mozambique. Both these events have also had effects on neighbouring countries.

Generally speaking, the regional growth rate is mainly a function of South Africa's economic performance, with relatively weak feedback from the region to South Africa. This is attributable to the relative size of South Africa's economy, which is 2½ times larger than the eight identified SSA countries combined. The correlation between South Africa's growth and that of the eight SSA countries is 0.96. However, these recent shocks are an apt reminder that local conditions can exercise an independent influence on South Africa's trade-weighted global growth rate. For this reason, regional economic developments are worth monitoring consistently, via the forecasting framework.

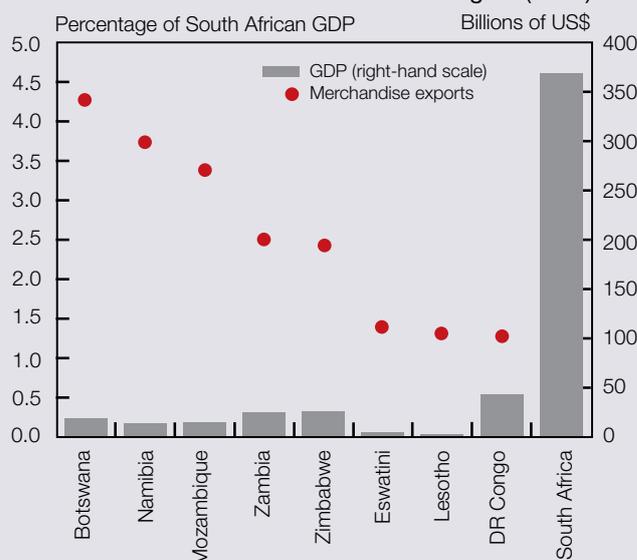
1 Using the Litterman model. See R B Litterman, 1983. 'A random walk, Markov model for the distribution of time series', *Federal Reserve Bank of Minneapolis Research Department Staff Report No. 84*, Minneapolis: Federal Reserve Bank of Minneapolis, January 1983. <https://www.minneapolisfed.org/research/sr/sr84.pdf>.

Growth in South Africa's major trading partners



Source: SARB

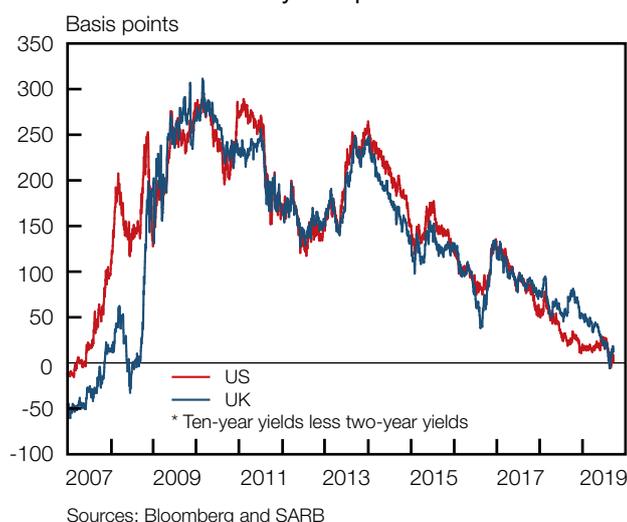
Size of SSA economies and trade weights (2018)



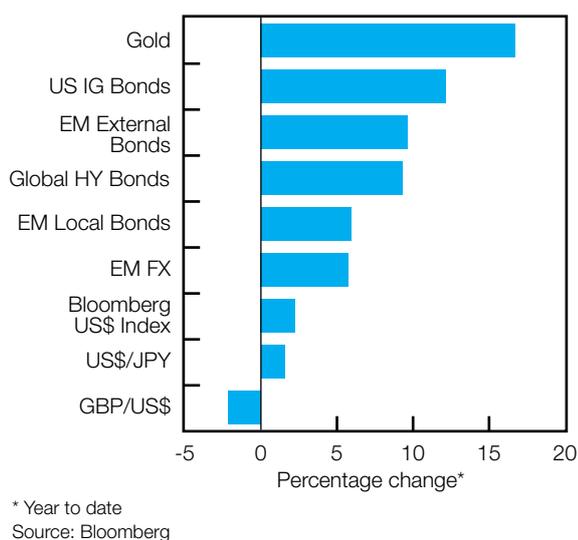
Sources: IMF, SARS, Stats SA and SARB

Financial market developments: risk on, risk off

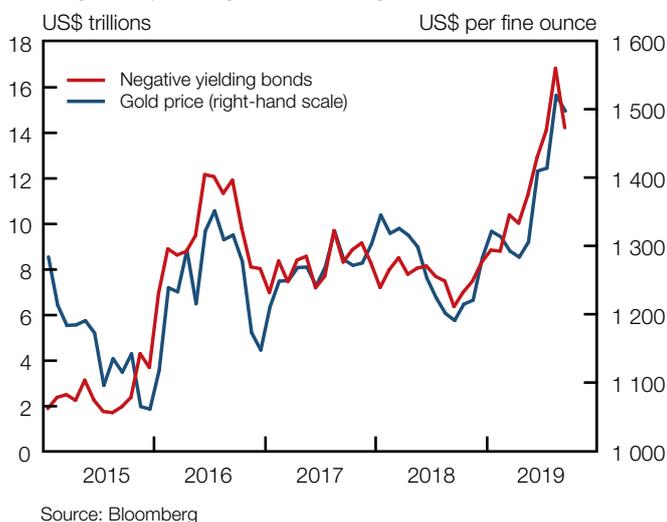
Government bond yield spreads*



Selected asset class returns



Negative yielding bonds and gold price



Since the previous MPR, six months ago, global growth prospects have deteriorated in the context of heightened policy risks, including trade tensions and Brexit. At the same time, inflation has remained subdued. In these circumstances, major central banks have abandoned plans to raise rates to more normal levels, pivoting instead to additional easing. Safe haven assets have benefited handsomely, but the performance of risk assets – including the rand, as well as local bonds and stocks – has been more erratic.

Since the May 2013 ‘taper tantrum’, more than six years ago, the US Fed has preoccupied global financial markets with its plans to normalise monetary policy. All this has now changed, with the Fed cutting rates and also stopping balance-sheet reductions. It now appears the US monetary policy cycle will have peaked with the federal funds rate at a high of 2.5% (reached in December 2018) and the balance sheet at 25% of GDP (as of late 2014). This compares with average cyclical peaks of 6.6% for the Fed funds rate and 9.7% of GDP for the Fed’s balance sheet, since 1980. Markets nonetheless interpret the federal funds rate as high, relative to expected future rates, for which reason the US yield curve has inverted for the first time since 2007.

The UK yield curve has also dipped into inversion territory, reflecting market expectations for looser policy by the Bank of England (although UK prospects are highly uncertain, given the erratic course of Brexit developments). Elsewhere in Europe, yield curves are pinned down by negative rates at the short end, but even here long rates have fallen, such that the German, Danish and Swedish yield curves are now entirely below zero. With investors looking for safety, the universe of negative yielding debt has expanded to US\$15 trillion, while gold prices have reached six-year highs, above US\$1 500 per fine ounce. At the same time, low or negative returns on safe assets have prompted a search for yield. In emerging markets, investors have been particularly attracted to foreign currency government bonds, with the Bloomberg Barclays Emerging Markets Hard Currency Index gaining 9% over the year. The EMBI+ spread¹³ has nonetheless widened, showing that US Treasuries have performed better than the dollar bonds of emerging market sovereigns. Corporate dollar bonds have achieved better returns still, for both investment grade and sub-investment grade instruments, fuelling a further rise in corporate non-financial debt levels.¹⁴ Variations between these asset classes highlight how even risk assets are being subject to differentiation.

¹³ The EMBI+ spread reflects the difference in yields between emerging market US-dollar denominated sovereign debt and US equivalents.

¹⁴ A Barura and P Buckley, ‘Rising corporate debt: should we worry?’, Deloitte Insights: issues by the numbers, April 2019. <https://www2.deloitte.com/insights/us/en/economy/issues-by-the-numbers/rising-corporate-debt-levels.html> (accessed 5 September 2019).

Equity markets have steadied after sharp declines in May, at the peak of US–China trade tensions. Major bourses are still up year to date, with the US S&P 500 and NASDAQ both reaching record highs at the end of July. Volatility has nonetheless been more marked in 2019 than in previous years, with the Chicago Board Options Exchange Volatility Index (VIX) trending above its long-term average for most of 2019.

The US dollar has appreciated modestly this year (up 1.6% in nominal effective terms). Its starting point was already elevated, however, so even a slight uptick has been sufficient to take the Fed’s broad dollar index to its highest level on record (i.e. since 1995). Dollar strength reflects a mix of safety and high interest rates, relative to other hard-currency jurisdictions. In Europe, by contrast, expectations of additional ECB easing have caused the euro to weaken, by 3.9% against the dollar. Sterling has also fallen, down 2.2% against the dollar, reaching a three-year low, given levels of political risk normally associated with emerging markets. Indeed, over the year to date sterling has underperformed emerging market currencies, although this category has also been quite weak. The third quarter of the year was especially difficult for emerging markets, with the JPMorgan Emerging Market Currency Index falling to four-year lows in September.

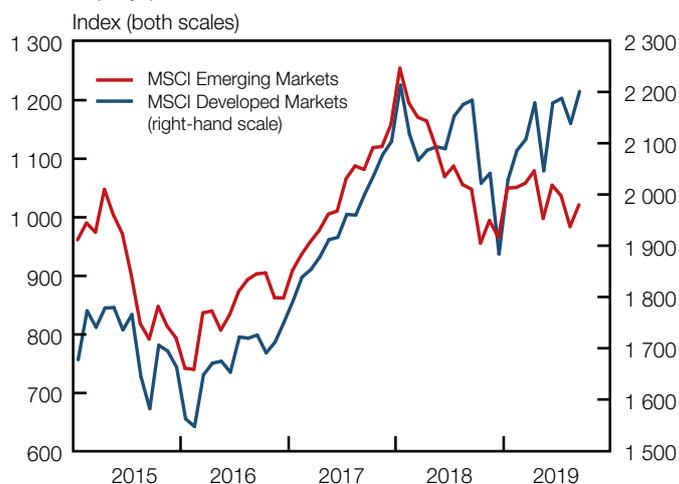
Domestic financial market developments

Domestic asset prices have been volatile due to a confluence of external and domestic factors. The rand in particular has moved sharply over the past six months, depreciating past R15 to the US dollar on two separate occasions, with a price recovery in between. The first depreciation episode was driven primarily by domestic factors (including the ‘quantity easing’ debate of early June), and was followed by a rebound which took the rand to R13.25 per dollar. The second weakness phase was largely related to the global emerging market sell-off, and has been more persistent, with the rand averaging R14.65 for the third quarter of the year, comparable to lows last seen during the emerging market contagion scare of late-2018.

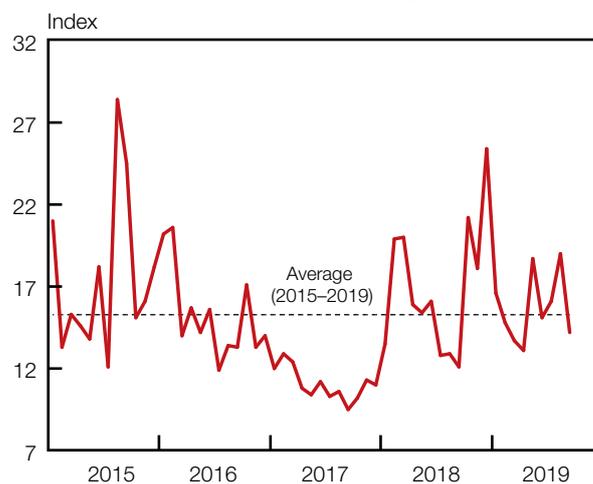
The JSE Limited (JSE) All-Share Index reached a high for the year in April, but has fallen back since, with its year-to-date advance now in low single digits, and negative in US dollar terms. On a sectoral basis, higher precious metals prices have been supportive of mining shares. Industrials have also achieved gains, supported by rand-hedge stocks, denoting companies with limited domestic exposure. By contrast, banks and retailers have underperformed, reflecting difficult local operating conditions.

Domestic bonds strengthened through to June, but subsequently lost most of their gains as the risk of negative credit rating action intensified. Given greater fiscal risks, South African bonds have underperformed relative to emerging

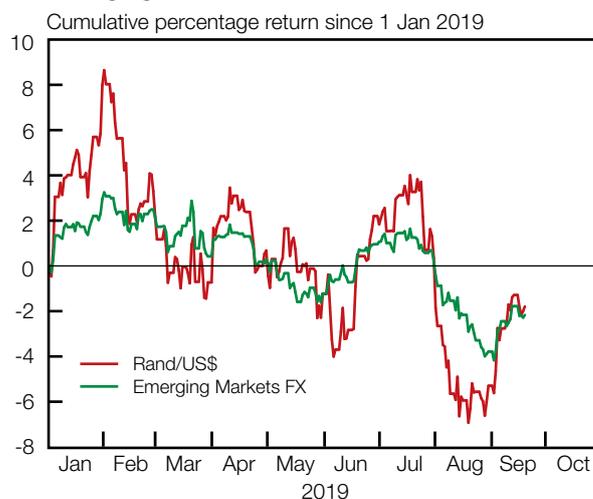
Equity performance



Chicago Board Options Exchange Volatility Index

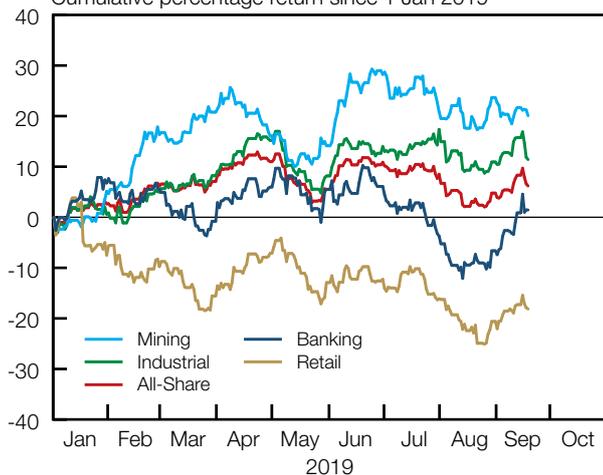


Emerging market currencies



JSE share prices

Cumulative percentage return since 1 Jan 2019



Sources: Bloomberg and SARB

South African bond yield less swap yield

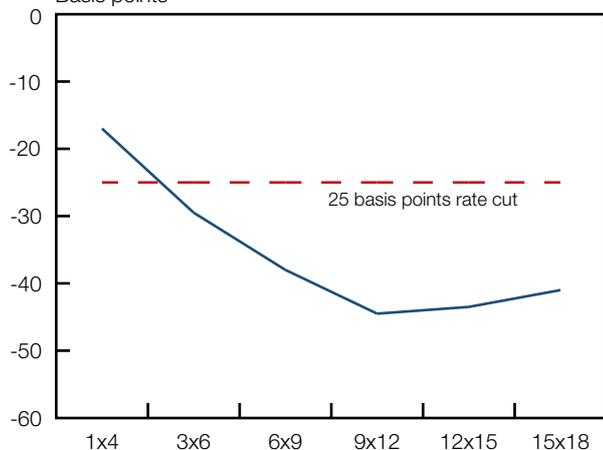
Basis points



Source: Bloomberg

Forward rate agreement less three-month Jibar

Basis points



Source: Bloomberg

market peers. The costs of insuring for sovereign default have also risen, with South African credit default swaps (CDS) trading at levels associated with sub-investment grade sovereigns. (For instance, South Africa's CDS spread has been above Brazil's spread for about a year, even though Moody's rates Brazil as Ba2, one notch below South Africa's Baa3.) Furthermore, the South African yield curve has steepened sharply (as discussed in Box 5), while the domestic swap-bond spread for longer-dated instruments has widened to record levels, providing further evidence of fiscal pressure.¹⁵

At the short end of the yield curve, rates have declined. Markets anticipated the July repo rate cut, given lower inflation, a stronger rand and a disappointing first quarter growth outcome. The forward rate agreements (FRA) curve continues to price a probability of over 50% for an additional 25 basis point repo rate reduction by year-end, although the likelihood of this move declined somewhat as the rand depreciated in the third quarter, while growth surprised on the upside again.

Conclusion

Overall, it has been a mixed performance in domestic financial markets. Global investors have been incentivised to stretch further for yield, given expectations of easing by major central banks, which should be supporting risk assets. However, this effect is being offset by heightened risks both internationally (especially around trade) and domestically (concerning the fiscus in particular). The rand has come under pressure, while the JSE has been only modestly firmer, and bond yields have stayed unusually high despite lower inflation expectations. As usual in financial markets, there are elements of both signal and noise in recent outcomes. Perhaps the clearest message in the data is that investors are cautious of fiscal dynamics, with long-run sustainability coming in to question.

¹⁵ Interest rate swaps are over-the-counter derivative contracts in which a fixed payment is exchanged for a stream of Jibar-linked payments. These create some counterparty risk, but not default risk, as no principal is exchanged. Swap rates have fallen in the context of lower inflation and lower rate expectations (in part because global rate expectations have fallen), but bonds have stayed high because of strong bond issuance and sovereign risk. Typically, swap yields are higher than bond yields, because no counterparty should be safer than the sovereign, but this is not the case in South Africa now.



Box 4 The impact of idiosyncratic shocks on the rand

In recent years, the rand has been buffeted by domestic political risks and policy uncertainty. These shocks have deflected the exchange rate from its usual course, of following global trends as well as a few domestic fundamentals. This box attempts to quantify the size and duration of these idiosyncratic shocks. The results show their effects on the exchange rate have been substantial and persistent, if not permanent.

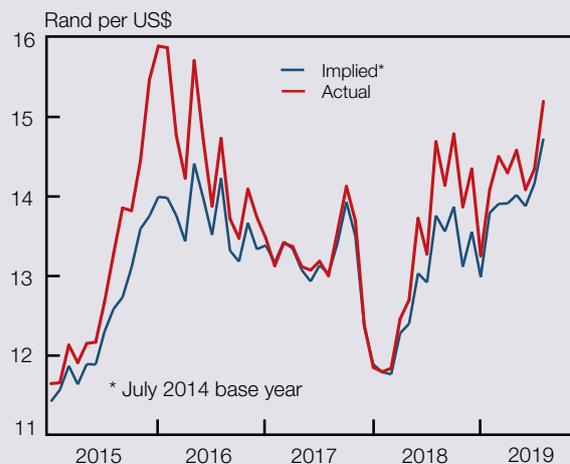
The rand often functions as a proxy for emerging markets, given South Africa's comparatively sophisticated financial system. For this reason, the rand exchange rate typically reflects and magnifies broader emerging market currency trends. (In financial jargon, the rand has a high beta.) In addition, the rand is responsive to domestic economic fundamentals, including inflation, the terms of trade and growth. Finally, from time to time the rand moves because of domestic risk factors, which can be measured via credit default swap spreads (in other words, the cost of insuring South African government debt less the cost of comparable insurance for emerging markets more broadly).

A model combining these factors clearly identifies risk-driven rand underperformance culminating in 'Nenegate', the late-2015 removal of the incumbent finance minister, Nhlanelhla Nene. It also shows a second, smaller period of idiosyncratic weakness between mid-2018 and mid-2019, an episode that appears to have commenced with the 'expropriation without compensation' announcement of July 2018, and which has persisted through to the 'quantity easing' debate of June 2019. This period also included a significant fiscal deterioration.

The Nenegate phase lasted about a year-and-a-half, and the rand averaged R14.20 per dollar during this period, instead of a predicted value of R13.40 (an undervaluation of 6%). The second phase covers around a year, with an average exchange rate of R14.15, instead of a model-implied R13.61 (an undervaluation of 4%). Perhaps unexpectedly, the 'Ramaphoria' of late-2017 and early-2018 does not show up as a period of rand over-performance, with South Africa's risk spread re-aligning with the emerging market average in the context of a global risk-on phase. The sharp depreciation of the rand in August 2019 is also consistent with predicted rand values: it mostly reflected emerging market-wide developments.

Although political shocks wear off, meaning the rand eventually returns to trend, they are nonetheless costly. Of particular concern for monetary policy is the inflation pressure produced by the weaker rand, which constrains monetary policy. Higher risk also tends to disincentivise investment. This is further evidence that political shocks and policy uncertainty have worsened South Africa's growth-inflation nexus, contributing to the country's adverse macroeconomic profile.

Actual exchange rate versus implied value without political uncertainty



Sources: Bloomberg and SARB

Box 5 Why is South Africa's yield curve so steep?

South African yield curves



Source: Bloomberg

10-year yield decomposition



* Year to date

Sources: Bloomberg and SARB

South Africa's yield curve is unusually steep. The two-year yield has averaged 6.7% so far this year, while 10-year bonds have yielded 9.1%. This 2.4 percentage points gap is large relative to history: since 2000, the average distance between the two rates has been only 1.1 percentage points. It is also large relative to peers: so far this year, for example, Brazil, Russia and India have had short rates at an average of 0.9 percentage points below long rates. Why is South Africa's yield curve so steep? As this box shows, much of the steepening over the past year has come from lower short-term rates, reflecting lower inflation and weaker growth. Meanwhile, the longer end of the curve has stayed high, due to fiscal risks.

One year ago, markets expected the South African Reserve Bank to raise rates, in the context of increased pressure on emerging markets and a deteriorating inflation outlook. A year later, global financial conditions have loosened again, while domestic inflation has been well contained. The disappointing first-quarter growth outcome further bolstered the case for a looser policy stance. Because the short end of the yield curve is heavily influenced by monetary policy, these factors prompted two-year rates to decline, by 1.3 percentage points from September 2018 to date.

Meanwhile, long rates have increased slightly over the past year,¹ in the context of disappointing fiscal news (as discussed in the real economy chapter of this *Monetary Policy Review*). In this context, the term premium embedded in long rates has risen by an estimated 50 basis points over the past year. The observed total increase in long rates has been smaller, about 20 basis points, because of a simultaneous decline in expectations for future short rates.² In other words, investors expect the repurchase rate to stay somewhat lower in future, but they now also require more compensation for locking money down in long-term loans.

It is possible technical factors are contributing to yield curve steepness, particularly Treasury's switch auctions, which roll short-dated debt into longer-term instruments. However, while switch auction announcements have visibly moved the very short and the very long ends of the curve (6 months and 30 years), they have not had comparable effects on the 2-year or 10-year instruments, the tenors where yield curve steepness is most marked. The total amount of debt switched has also been quite small relative to the stock – less than 2% of the total, for 2018. This suggests technical factors are not the main drivers of the steep yield curve.

Perhaps the main takeaway from these findings is that the sovereign's borrowing cost problem is not due to monetary policy. The usual sign of a tight policy stance – a flat curve, as in 2007/08 – is nowhere in sight. Furthermore, inflation expectations, which monetary policy can address and which do feed into long rates, have declined, which should have reduced long-term rates. Unfortunately, the benefits for the fiscus of a lower short-term rate and lower inflation expectations have been offset by other factors, which have kept long-term rates high.

1 As estimated following the method developed by T Adrian, R K Crump and E Moench. 'Pricing the term structure with linear regressions', *Journal of Financial Economics* 110(1), 2013, pp 110–138. <https://ideas.repec.org/a/eee/jfinec/v110y2013i1p110-138.html> (accessed 28 August 2019).

2 These estimates are drawn from L Soobyah and D Steenkamp, 'Term premium and rate expectation estimates from the South African yield curve', *SARB Economic Note No. EN/19/18*, Pretoria: South African Reserve Bank, August 2019. <http://sarbhub.departments.resbank.co.za/sites/Research/ResearchPapers/Lists/Economic%20Notes/Attachments/175/EN%201918.pdf> (accessed 20 September 2019).

Overview of the real economy: supply shocks, demand shocks and uncertainty

South African growth outcomes continue to display high levels of volatility around a low trend. Over the past six months, demand appears to have weakened, widening the output gap. The economy's potential growth rate remains very low, however, around 1% for this year, which speaks to growth constraints beyond the demand side of the economy. South Africa's fiscal metrics are deteriorating again due to bailouts for state-owned enterprises. In turn, fiscal policy has become the main driver of relatively large current account deficits.

The first half of 2019 has delivered volatile growth outcomes: -3.1% in the first quarter, followed by 3.1% in the second quarter. This volatility extends a trend of unusually large variations in quarterly numbers. In the primary sector in particular, the standard deviation of growth has increased sharply, from 4.6 percentage points pre-crisis to 11.7 percentage points post-crisis, and 12.2 percentage points from 2016 to date. Although the primary sector is relatively small, accounting for about 10% of overall output directly, these levels of volatility have been high enough to shape overall GDP outcomes. Accordingly, the standard deviation of GDP growth has also risen, from 1.7 percentage points pre-crisis to 2.1 percentage points post-crisis. This volatility has made it more challenging to assess the economy's underlying growth direction.

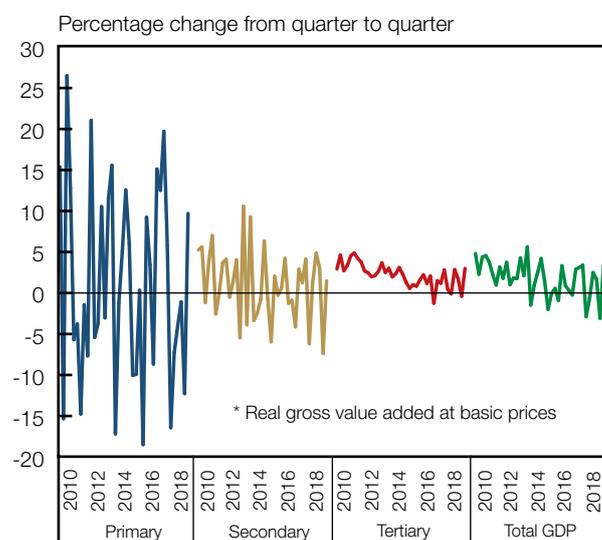
The first quarter of 2019 was blighted by supply shocks. Both the primary and secondary sectors contracted, by more than anticipated in previous forecasts.¹⁶ Drier weather conditions reduced yields and delayed planting of summer grains and oil seeds. In mining, a strike that started in the gold sector spread to other sectors, while manufacturing was disrupted by maintenance at two major oil refineries. In addition, electricity shortages affected output in both the primary and secondary sectors. Together, mining, agriculture and manufacturing contributed -2.3 percentage points to the overall contraction of -3.1% observed in the quarter. Given these shocks, potential growth for the quarter was marked down to just 0.2%, in line with the forecast practice of adjusting potential growth for supply-side disruptions.¹⁷

Despite supply problems, the first quarter contraction also showed signs of additional demand weakness. The tertiary sector unexpectedly contracted, by -0.4%, its worst performance since the start of 2017. Household consumption – which is the largest component of output, at 60% – contracted by 0.5%. Compensation growth (including wages and bonuses) declined in real terms, sustaining a weakening trend dating from 2010.

¹⁶ Prior to the GDP release, the primary and secondary sectors were expected to contract by 9.1% and 7.0% respectively; actual outcomes were -11.4% and -7.4%.

¹⁷ B Botha, F Ruch and R Steinbach, 'Short-lived supply shocks to potential growth', *South African Reserve Bank Working Paper Series WP/18/02*, Pretoria: South African Reserve Bank, June 2018. <https://www.resbank.co.za/Lists/News%20and%20Publications/Attachments/8605/WP1802a.pdf> (accessed 5 September 2019) and Box 6, *MPR* October 2017.

Economic growth by sector*



Seasonally adjusted annualised rates

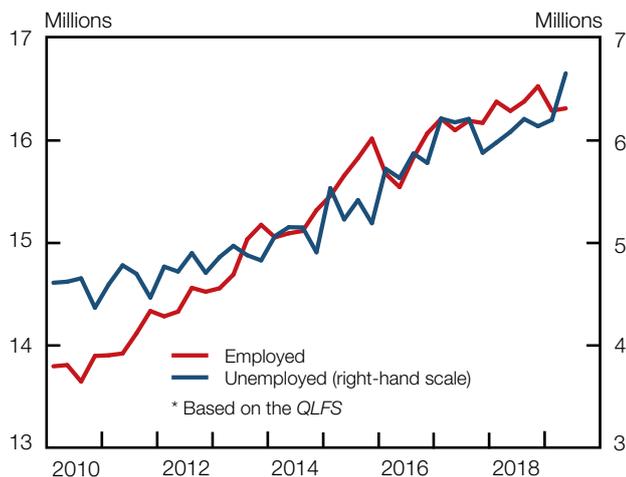
Sources: Stats SA and SARB

Wage trends



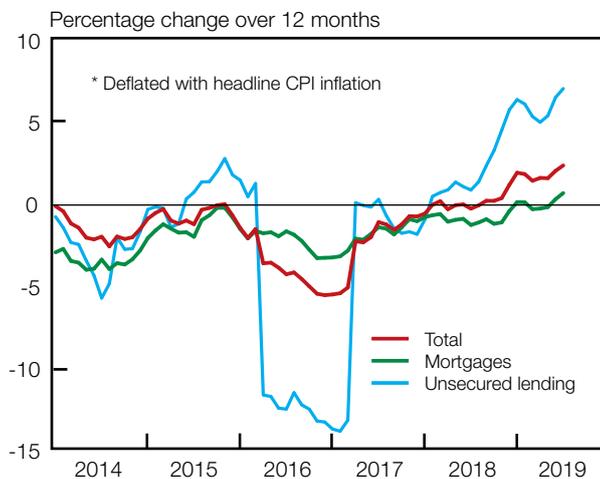
* Four-quarter moving average
Sources: Stats SA and SARB

Employment trends*



Sources: Stats SA and SARB

Real credit extended to households*



Sources: Stats SA and SARB

The second quarter rebound showed the economy had not shifted to a markedly lower trend in the first half of the year. The tertiary sector recovered, as did household consumption. Agriculture contracted further, in line with worse rainfall conditions, but supply-side volatility is typical of that sector. Total output nonetheless remained below levels reached in the second half of 2018, in seasonally-adjusted terms, demonstrating that the second-quarter number was high because of a base effect rather than new-found economic strength.

The output gap widened in the first quarter to -2.1% of potential GDP, a 25-year low. Some of this decline was reversed by the second-quarter rebound. However, the potential growth estimate for the quarter was also higher, in the absence of supply shocks, at 1.1%. The output gap therefore remained quite large, at -1.7% in the second quarter.

Not all data points have unambiguously signalled weaker demand. Unemployment rose to 29% in the second quarter of 2019, an 11-year high, but this was entirely driven by higher labour force participation. The total number of employed people increased, both in year-on-year and quarter-on-quarter, seasonally-adjusted terms, a trend corroborated by both the *Quarterly Labour Force Survey (QLFS)* (from which the official unemployment rate is taken) and the *Quarterly Employment Statistics (QES)* survey.

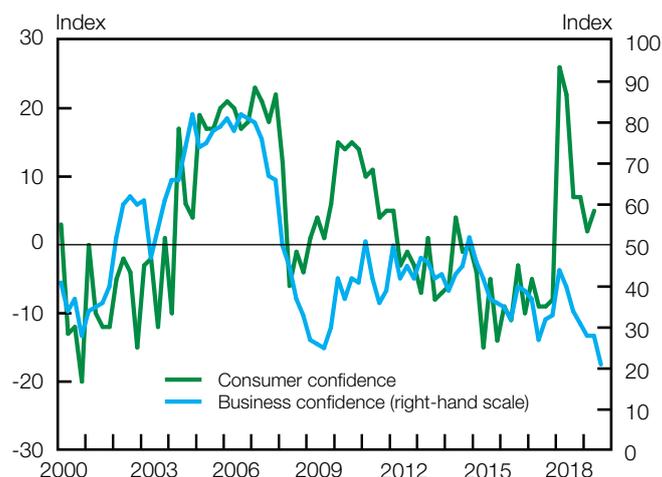
A second contrarian data point has been credit extension. For monetary policy, credit growth is an important gauge of demand. Contrary to a weak-demand diagnosis, credit to households has been recovering over the past year, with credit growth turning positive in inflation-adjusted terms in late 2018 and expanding further since then. A disaggregation of the credit data shows that mortgage lending has stopped contracting, in real terms, with fractionally positive real growth as of August. Most of the acceleration in credit growth, however, has come from unsecured lending. Rather than rising demand, this likely points to two other factors: first, increased competition in the unsecured lending space, which is pushing up supply, and second, households resorting to borrowing to supplement income shortfalls.

Finally, there are some challenges in deciphering confidence surveys. The BER's household confidence indicator surged in early 2018, reaching levels last seen during the 2000s boom, apparently following domestic political developments. It quickly subsided again, but has nonetheless remained in positive territory, comfortably above its five-year average rate. This is not an outcome easily reconcilable with strained consumer finances and deteriorating demand. That said, the sub-index that asks whether this is a good time to buy durable goods remains low, providing at least some evidence of consumer caution.

The message from the BER's business confidence survey has been more straightforward. Like its consumer sibling, this index recorded an early-2018 improvement and then deteriorated again. However, for businesses, the net balance of sentiment did not turn positive, even at its 2018 peak. The subsequent decline in confidence has therefore taken firms deeper into pessimistic territory; the latest readings are comparable to historic lows.

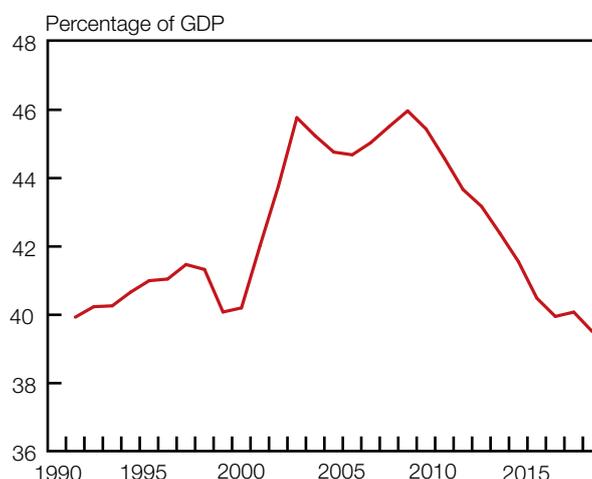
These negative responses appear to reflect a mix of weak demand and policy uncertainty. Conceptually, the two are distinct. Weak demand should be responsive to interest rate adjustments. Policy uncertainty, however, is a problem larger than monetary policy. The evidence suggests that these are both significant factors, but policy uncertainty is likely the larger problem. Looking at the BER manufacturing survey, a majority of businesses cite 'insufficient demand' and the 'political climate' as constraints, with both series on a rising trend in recent years. (By contrast, only a minority of respondents say interest rates are a constraint, and the trend in this series has been stable since 2016.) The political climate is a problem for a larger majority of businesses, and the indicator is also near record highs, whereas the demand indicator is closer to its post-crisis average. The evidence for weak demand is nonetheless substantial. In particular, gross operating surplus – a measure of profitability – has been declining throughout the past decade, and is now at lows last seen in the early 1990s.

Business and consumer confidence



Sources: BER, FNB and RMB

Gross operating surplus



Sources: Stats SA and SARB

GDP growth, potential GDP and output gap

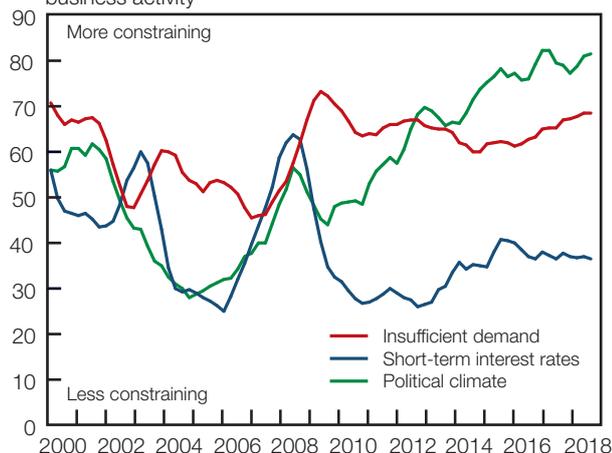
	Actual		Forecast									
	2019Q1	2019Q2	2019Q3	2019Q4	2020Q1	2020Q2	2020Q3	2020Q4	2021Q1	2021Q2	2021Q3	2021Q4
GDP (quarter-to-quarter percentage change*)	-3.1	3.1	1.5	1.8	1.1	1.2	1.3	1.7	2.1	2.1	2.1	1.6
GDP (year-on-year percentage change)	0.1	1.0	0.7	0.8	1.9	1.4	1.4	1.3	1.6	1.8	2.0	2.0
Potential (year-on-year percentage change)	1.0	1.1	1.0	0.9	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2
Potential (quarter-to-quarter percentage change*)	0.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2
Output gap (percentage of potential)	-2.1	-1.7	-1.6	-1.4	-1.4	-1.4	-1.3	-1.2	-0.9	-0.7	-0.5	-0.4

* Seasonally adjusted annualised rates

Sources: Stats SA and SARB

Constraints in the manufacturing sector

Percentage of firms listing constraint to current business activity*

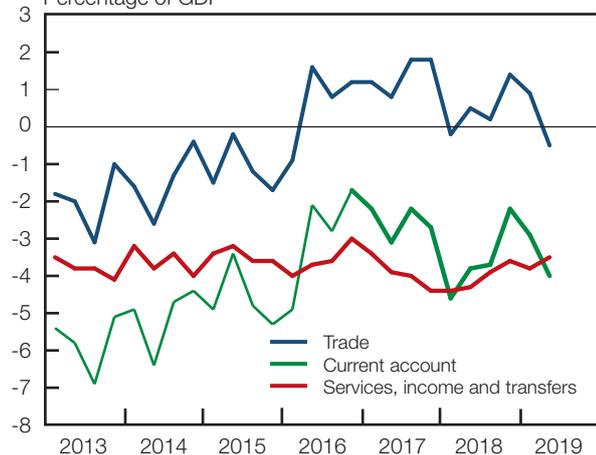


* Four-quarter moving average

Sources: BER and SARB

Balance of payments

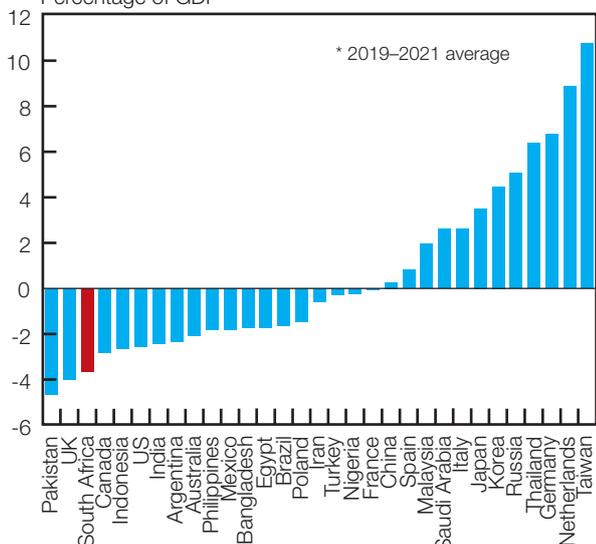
Percentage of GDP



Source: SARB

Current account balance forecast*

Percentage of GDP



Sources: IMF and SARB

Over the forecast period, growth is expected to improve modestly, nearing 2% in 2021. The output gap nonetheless stays negative throughout the forecast period. This reflects an intervention in the model to prevent the gap from closing sooner, which would require implausibly high growth. The projected annual growth rates for 2020 and 2021, at 1.5% and 1.8% respectively, are still higher than the 0.8% average of the 2016–2019 period.

An important (if technical) reason for higher annual growth rates over the forecast period is that the outlook does not include first-quarter contractions, which have large consequences for annual growth rates. For instance, had the economy followed up the -3.1% contraction that opened 2019 with three consecutive quarters of 3% growth, annual growth would still have been only 1%. Over the period 2016 to date, first-quarter growth has been persistently negative, contributing to disappointing annual growth rates. However, as there is no good economic reason why first quarters should continue to disappoint, this pattern is not replicated in the forecast, and the annual growth projections are correspondingly better than recent outcomes.

The balance of payments

South Africa has been running a trade surplus averaging 0.8% GDP since 2016 (albeit with some quarterly dips into deficits). However, the broader current account – which comprises the services, income and current transfers (SIT) account alongside the trade balance – continues to record substantial deficits (an average of -3.1% of GDP from 2016 to date). The gap between the two is one of the most telling indicators of South Africa's complex and difficult macroeconomic situation.

South Africa's trade surplus shows exports are larger than imports, which has been achieved mainly by cutting back on import volumes rather than exporting more. South Africa is nonetheless a net borrower from the world, in order to fund a substantial SIT account deficit (close to 4% of GDP). In turn, a large and growing portion of these funds is being used to cover interest payments on government debt held by non-residents. The external accounts therefore tell a weak demand story, but also speak to problems in the composition of growth (not enough exports), as well as too much borrowing and heightened external vulnerability (with South Africa's current account deficit one of the largest among major economies, counting both advanced economies and emerging markets).

Movements in South Africa's trade balance are closely related to the domestic business cycle. The trade balance has become more negative in every business cycle upswing in history; it has also become more positive in every downswing. In principle, both exports and imports can drive a trade balance adjustment. However, in South Africa, adjustments typically rely more on import compression than export growth, which has once again been the case now. This also has the

implication that improvements in growth will cause the current account to deteriorate, with heightened external vulnerability then becoming a constraint on growth.

Since its 2013 trough, South Africa's trade balance has improved by roughly 2.5 percentage points. The bulk of the adjustment – about 60% – has come from reduced imports of machinery and equipment, paralleling a decline in overall investment. The terms of trade have also contributed to current account rebalancing, but this has reflected a normalisation of commodity prices rather than windfall gains.

As discussed in previous *MPRs*, an important driver of South Africa's trade balance deterioration between 2011 and 2013 was a mismatch between falling export commodity prices and stubbornly high oil prices (oil being South Africa's most important import commodity). Normally South Africa's commodity exports are significantly larger than commodity imports, but this gap¹⁸ fell to unusually low levels in 2013. It recovered with the oil price collapse of late 2014, helping the broader current account to rebalance. In subsequent years, the gap between the two has shifted back to longer-term average levels, and the latest data are close to the longer-term average, suggesting the terms of trade are neither flattering nor weakening the trade balance. For this reason, South Africa's sustained trade surplus appears to be a relatively pure case of import compression, rather than an artefact of global commodity price movements.

South Africa's SIT account continues to record large deficits (-4.0% of GDP in 2018, for example), ensuring the current account remains in deficit despite a trade surplus. The largest deterioration in this account has been in the interest category, with government payments to non-residents having nearly quadrupled between 2010 and 2018, from 0.4% of GDP to 1.5% of GDP. This shift has offset improvements elsewhere in the SIT balance, with the services balance having narrowed on the back of reduced imports, and the dividends portion of the current account also contracting as the economy slowed.¹⁹

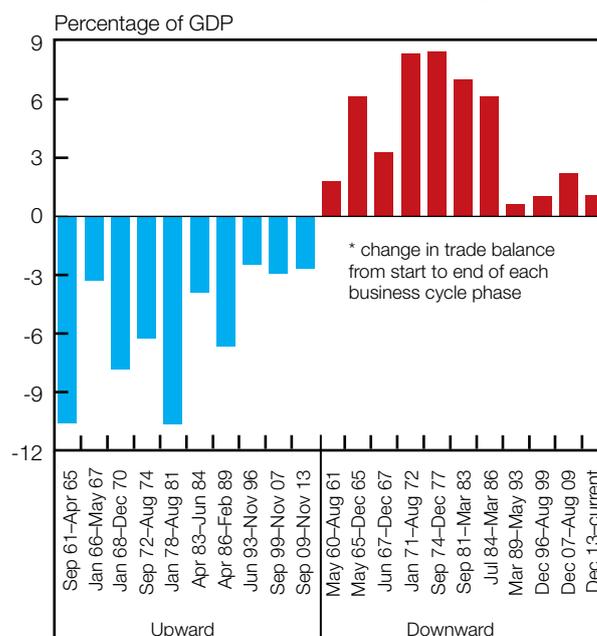
Implications of fiscal developments

South Africa has run persistent budget deficits since the global financial crisis. Between 2013 and 2018, the size of these deficits moderated marginally, while the primary deficits (excluding interest payments) shrank substantially. This adjustment was achieved mainly through higher taxes; spending continued to increase throughout this period, especially spending on interest payments. However, since the previous *MPR*, the fiscal

18 Defined as exports of gold, iron ore, coal and platinum group metals less imports of oil.

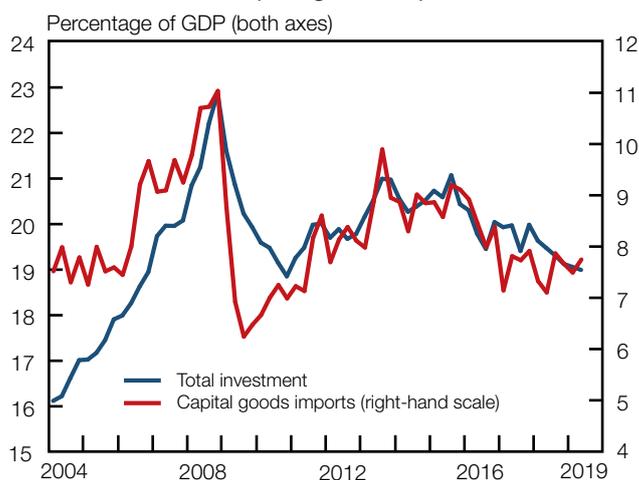
19 The change in net services is not large, relative to GDP: this deficit has narrowed by 0.2% of GDP since 2013. Net dividends have averaged -1.3% of GDP since 2014, less than half their boom-era peak (3% of GDP in 2007), and also somewhat smaller than they were in the 2010–2013 period (an average of 1.6% of GDP). Not discussed here is the transfers portion of the SIT account, which is chiefly explained by payments to SACU partners. These have averaged 0.8% of GDP over the past five years, without a clear trend higher or lower.

The trade balance and the business cycle*



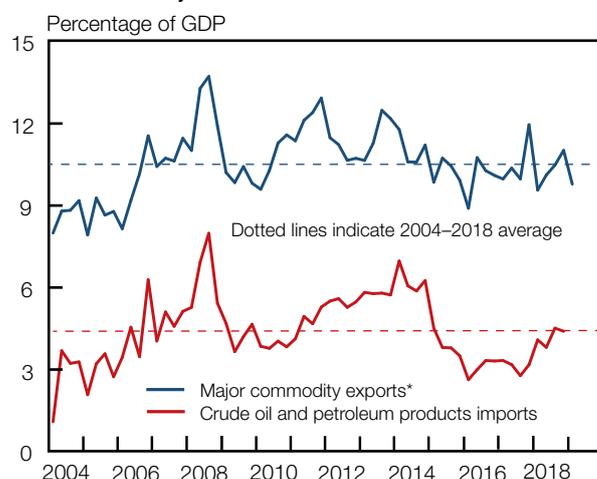
Source: SARB

Investment and capital goods imports



Sources: SARS, Stats SA and SARB

Trade in major commodities



* Gold; coal; iron ore and steel; chrome; platinum group metals

Sources: SARS, Stats SA and SARB

situation has deteriorated sharply. The deficit is now expanding again, mainly due to bailouts for Eskom. The ratings agency Moody's anticipates debt levels will reach 68% of GDP by 2021.

This *MPR* is published at the start of October, before the *Medium Term Budget Policy Statement (MTBPS)*, which is due later in the month. The *MTBPS* will set out government's approach to tackling heightened fiscal challenges, leaving fiscal analysis based on older policy statements outdated. Furthermore, as a principle, the SARB avoids commenting on fiscal policy, and government reciprocates by leaving monetary policy adjustments to the SARB.²⁰ Accordingly, the analysis offered throughout this document, including this chapter, is necessarily tentative, and restricted to factors that are directly relevant to monetary policy, particularly fiscal effects on the structure of interest rates (as detailed in the financial markets chapter) and implications for inflation, potential growth and aggregate demand (discussed here and in the prices chapter).

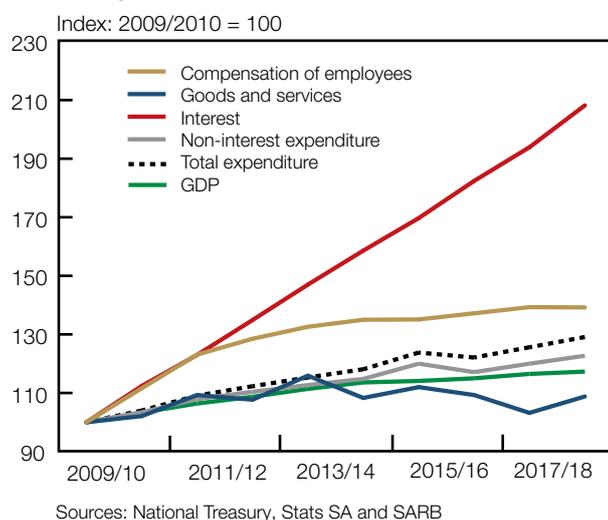
Over the past few years, fiscal policy has had both expansionary and contractionary effects on output (a mix previously characterised in this document as one foot on the brake and one foot on the accelerator). By running persistent budget deficits – even after adjusting for interest payments as well as the economic cycle – policy has consistently contributed to demand. Some components of spending have slowed or even fallen, given targeted budget cuts. However, the aggregate has grown steadily, faster than GDP in most years. Considering accumulated differences, whereas real GDP has grown by a total of 17% since the 2009/10 fiscal year, government interest payments have grown by 109%; the government wage bill is up by 39%; and transfers to provinces and municipalities have increased by 28%.

At the same time, both direct and indirect taxes have increased. Personal income taxes have risen through a new top income bracket and, more significantly, through incomplete or zero²¹ adjustment of tax brackets for inflation. As a result, direct taxes on household income and wealth have reached an all-time high of 15.6% of gross income as of the latest data (2018), 1.3 percentage points above the post-crisis average of 14.3%.

20 See National Treasury, 'Joint statement by the Minister of Finance, Tito Mboweni, and the Governor of the South African Reserve Bank, Lesetja Kganyago'. Media release, 4 July, Pretoria: National Treasury, 2019.

21 As in Budget 2019.

Real growth in selected expenditure items



Real growth in selected expenditure items

Annual percentage change

	Average weight*	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Compensation of employees	11.2	11.6	10.3	4.4	3.2	1.8	0.1	1.6	1.5	-0.1
Goods and services	5.2	2.1	7.1	-1.5	7.6	-6.5	3.4	-2.4	-5.6	5.5
Interest	10.1	12.4	9.5	9.7	9.0	7.9	7.0	7.5	6.3	7.4
Non-interest expenditure		3.4	4.4	2.3	2.1	1.8	4.5	-2.4	2.5	2.2
Total expenditure		4.0	4.9	2.9	2.7	2.4	4.8	-1.4	2.9	2.8
GDP		3.3	3.0	2.2	2.5	2.0	0.5	0.8	1.3	0.6

* Average proportion of total expenditure over the 2010/11 to 2018/19 period in percentage.

Sources: Stats SA, National Treasury and SARB

Indirect taxes have also increased, including through a higher VAT rate (15% as of April 2018, from 14% previously), higher taxes and levies on fuel, and sin tax on sugar, alcohol and tobacco. The total South African tax to GDP ratio reached 25.3% in 2018, its highest level since 1990 (the average rate from 1990 is 22.9%). Tax revenues have nonetheless disappointed, falling R57 billion below target in 2018/19, and another target undershoot of about R35 billion expected in 2019/20.

Higher taxes affect demand by reducing the disposable income of households. Where tax revenue is then spent by government, there is no immediate reduction in aggregate demand. Nonetheless, higher taxation causes deadweight losses by reducing incentives to work and consume (indeed, this is the primary rationale of sin taxes). These effects are exacerbated where tax increases raise expectations of additional taxation in future, which is plausible where higher taxes are rationalised by the need to stabilise debt, and debt levels repeatedly fail to stabilise. In addition, where tax revenue is paid to non-residents, it represents a direct drain on demand. For these reasons, a heavier tax burden has contributed to South Africa's demand problems.²²

Fiscal problems have also contributed to South Africa's mediocre investment growth, which is a problem for near-term demand (given investment's substantial share in GDP) as well as longer-term potential growth. Investment spending tends to suffer during periods of fiscal strain because it lacks vested supporters.²³ Loose fiscal policy has also raised longer-term interest rates, crowding out marginal borrowers and investment projects.

Conclusion

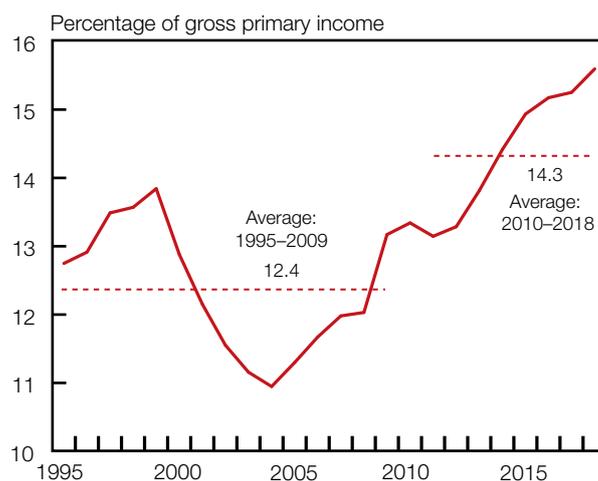
South Africa's growth problem has several dimensions. In some respects demand is too weak. But the economy has also been buffeted by supply shocks and sentiment is suffering from ongoing policy uncertainty. Where monetary policy enjoys margin for manoeuvre, weak demand is a problem that can be addressed with interest rates. Supply shocks and policy uncertainty, however, are beyond the reach of the SARB. Unfortunately, these factors have reduced potential growth to extremely low levels, around 1%, a challenge which requires a range of non-monetary interventions.²⁴ The forecast therefore indicates subdued levels of growth over the medium term, which ultimately close the output gap in 2022. There are risks to this forecast, however, both on the upside and the downside, given attractive options for reform as well as high costs to staying on an unsustainable path.

²² This analysis is consistent with the broader literature on the effects of tax increases. See for instance C D Romer and D H Romer, 'The macroeconomic effects of tax changes: estimates based on a new measure of fiscal shocks'. *American Economic Review* 100 (3), 2010, pp 763–801 (accessed 15 August 2019).

²³ C Breunig and M R Bussemeyer, 'Fiscal austerity and the trade-off between public investment and social spending', *Journal of European Public Policy* 19(6), 2012, pp 921–938. https://www.researchgate.net/publication/263193814_Fiscal_Austerity_and_the_Trade-Off_between_Public_Investment_and_Social_Spending (accessed 28 August 2019).

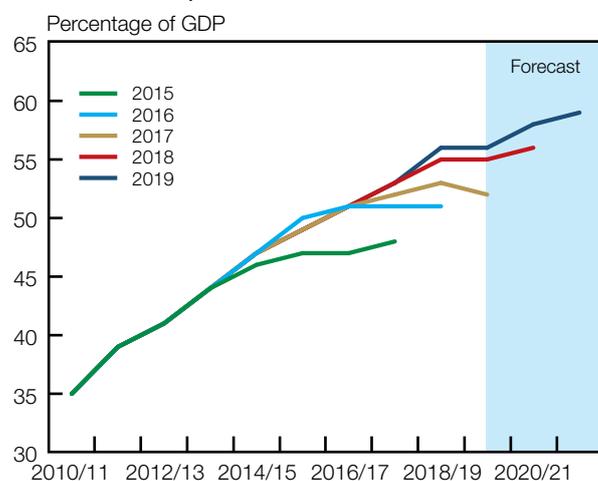
²⁴ As detailed in National Treasury, 'Economic transformation, inclusive growth and competitiveness: towards an economic strategy for South Africa', 27 August 2019, http://www.treasury.gov.za/comm_media/press/2019/Towards%20an%20Economic%20Strategy%20for%20SA.pdf (accessed 28 August 2019).

Household tax on income and wealth



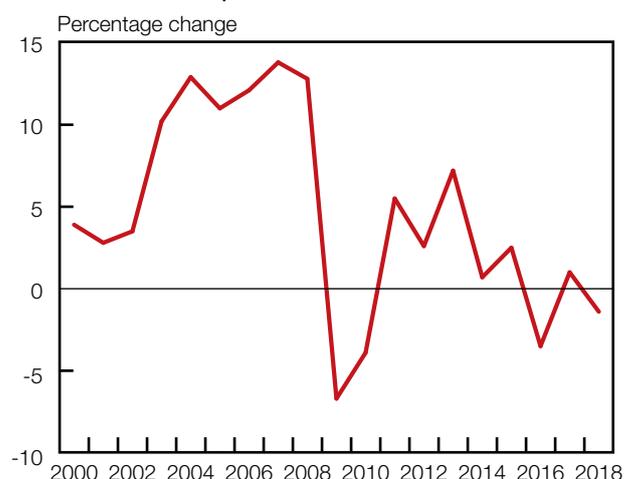
Sources: Stats SA and SARB

Evolution of public debt forecasts



Source: National Treasury *Budget Reviews*

Gross fixed capital formation



Sources: Stats SA and SARB

Price developments: volatility around 4.5%

Headline inflation has been close to the middle of the target band for about two years. Fluctuations in food and fuel prices have pushed some recent monthly outcomes below 4.5%, with the result that inflation is likely to average 4.2% for 2019. In 2020, by contrast, temporary factors are expected to raise inflation, lifting the annual average rate to 5.1%. Core inflation nonetheless remains in a narrow range of 4.2% to 4.8% across the forecast horizon, supported by moderate wage increases, lower inflation expectations and an exchange rate close to fair value. Accordingly, headline inflation stabilises at 4.5% over the medium term, in line with the model target.

Starting point

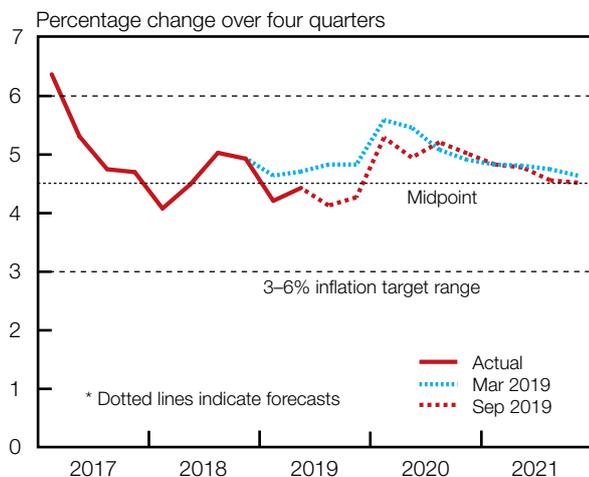
Inflation outcomes have been largely favourable in 2019. Headline inflation has fluctuated around the target midpoint. Food price inflation has stayed unusually low, averaging 3.3% since the start of the year. Fuel price inflation has been higher, averaging 4.8%, but with very low or sometimes negative rates in the second half of the year. (Both July and August outcomes were -0.5%.) Core inflation has been persistently close to the midpoint, with core goods below it (averaging 2.6% since the beginning of 2018) and services generally slightly higher (at 5% over the same period); the latest data show some acceleration in core goods, but offsetting deceleration in services. Inflation expectations have moderated further, although most measures are still above 4.5%. The highest inflation category has been administered prices, with water, rates and taxes, and electricity all outside the inflation target range. (Their year-to-date averages are 11.8%, 12.7% and 8.3% respectively).

Between the three MPC meetings covered in this *MPR*, there have been relatively limited inflation forecast changes. The core themes of each forecast have remained the same: inflation close to 4.5% in 2019; a temporary acceleration past 5% in 2020, based on a fuel price base effect; and a reversion to 4.5% over the course of 2021. Over the past six months, the near-term inflation outlook has moderated, given downside surprises in the data. The projections for late 2020 and early 2021, by contrast, have risen marginally, due to a more depreciated exchange rate. The end-point for the inflation forecast has remained 4.5%, with the repo rate path required to achieve this goal lower than it was as of the previous *MPR*.

Oil prices and fuel inflation

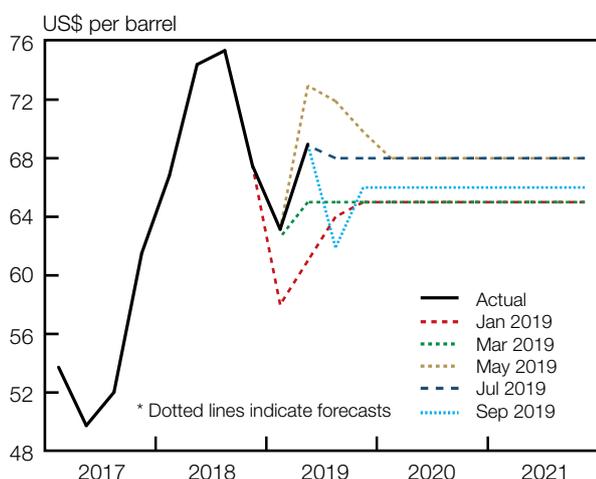
Over the course of 2019, the SARB's near-term oil price assumptions have fluctuated between US\$58 and US\$73 per barrel, on a quarterly basis. The assumptions for 2020 and 2021 have been much more stable, between US\$65 and US\$68 per barrel. The main factors generating volatility have been geopolitical problems (Venezuela's collapse, ship

Headline inflation forecast*



Sources: Stats SA and SARB

Evolution of crude oil price forecasts*



Source: SARB

seizures in the Gulf of Hormuz, attacks on Saudi oil facilities), which have pushed prices up, as high as US\$74 per barrel in May, and weakening global demand, which has pushed them down again, to a low of US\$56 per barrel in August.

Fuel price inflation was unusually low in the first quarter of 2019, due to a dip in world oil prices in late 2018. This means fuel prices are likely to appear higher in 2020, especially in the first quarter of 2020, with a year-on-year inflation rate close to 12%. This is the main reason headline inflation is also projected to be higher next year. This statistical anomaly aside, the fuel price inflation outlook is quite benign, with average fuel inflation of around 4% from mid-2020 to the end of 2021.

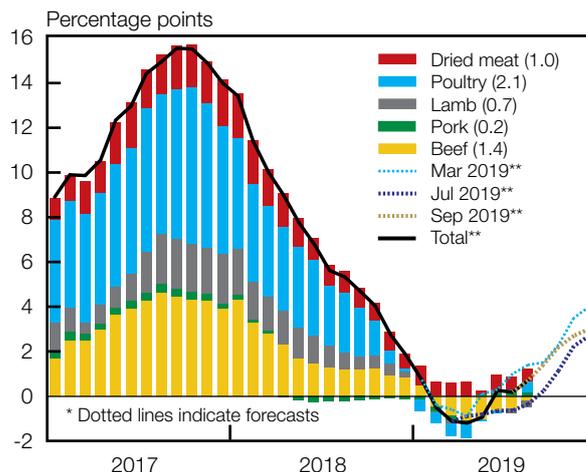
Food inflation

Throughout 2018 and the first half of 2019, the MPC forecasts showed inflation for food and non-alcoholic beverages (NAB) reaching a turning point. Food and NAB inflation outcomes nonetheless kept surprising on the downside, dipping to lows of 2.9% in both February and April (well below a longer-run average of 6.5%). In May and June, food inflation finally trended higher – only for it to dip again unexpectedly in July. (It moved up again in August, although the data appeared only after the forecast had been finalised.) Relative to six months ago, the food forecast trajectory has been lowered somewhat, although it still has an upward slope. Food inflation is now projected to peak at 6% in the third quarter of 2020, before moderating towards the middle of the target by the end of 2021.

This pick-up in food inflation is consistent with meat prices normalising, after an extraordinary two-year period in which meat price inflation first rose to double digits (in the context of herd-rebuilding, following the drought) and then fell into deflation (aided by an outbreak of foot-and-mouth disease, which blocked exports) – a 17 percentage point swing, from peak to trough. The recovery in meat price inflation is now well entrenched, and is expected to persist at least into 2020. There is also an upside risk to this forecast, given a mooted 82% tariff on chicken imports from suppliers outside the Southern African Development Community or the European Union, which would raise local prices.

Maize prices rose by about a third between July 2018 and July 2019. Over the next 18 months futures prices are fairly flat, however, suggesting bread and cereals inflation will moderate from a peak of 8.5% in the fourth quarter of 2019 – up from a trough of -5.0% in the first quarter of 2018. This outlook is supported by favourable crop estimates for 2019, at 11.0 million tons for the season, compared to 10.5 million tons projected in April 2019.

Meat inflation contributions and forecasts*

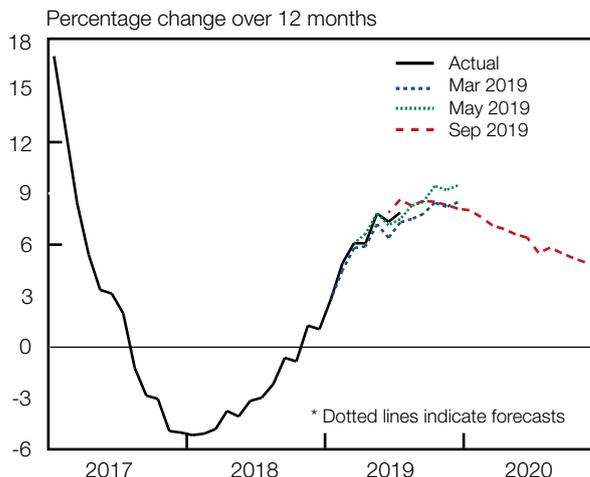


** Percentage change over 12 months

Numbers in brackets indicate weight in headline CPI basket. Total excludes other meat.

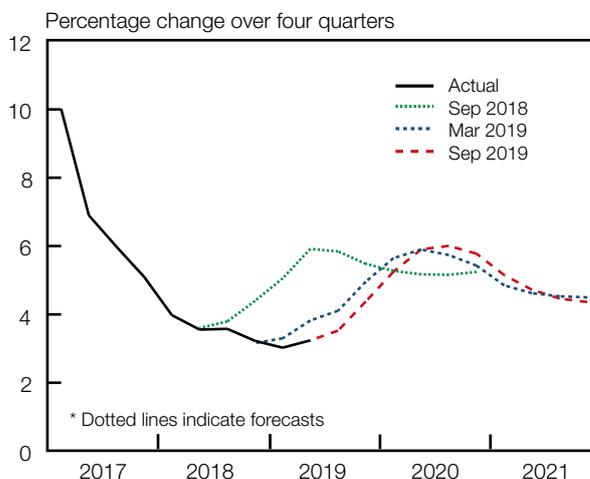
Sources: Stats SA and SARB

Evolution of bread and cereals inflation forecasts*



Sources: Stats SA and SARB

Evolution of food and NAB inflation forecasts*



Sources: Stats SA and SARB



Consumer food price inflation (September 2019 forecasts)

Percentage change over four quarters, March 2019 forecasts in brackets

	Actual			Forecast	Actual		Forecast			
	Weight	2009–18*	2018*	2019*	2019Q1	2019Q2	2019Q3	2019Q4	2020Q1	2020Q2
Food and non-alcoholic beverages	17.24	6.5	3.6	3.6 (4.0)	3.0 (3.3)	3.3 (3.8)	3.5 (4.1)	4.4 (5.0)	5.2	5.9
Bread and cereals.....	3.21	5.4	-2.6	7.1 (6.7)	4.6 (4.4)	7.1 (6.5)	8.3 (7.5)	8.5 (8.4)	7.9	6.9
Meat	5.46	6.8	6.8	0.6 (1.1)	-0.3 (-0.1)	-0.6 (-0.2)	0.7 (1.3)	2.8 (3.3)	5.0	5.6
Beef.....	1.44	7.3	6.7	-1.1 (0.6)	-1.0 (-0.5)	-3.3 (-0.6)	-1.0 (1.0)	1.1 (2.4)	5.7	6.3
Poultry.....	2.12	6.1	7.1	0.8 (1.1)	-1.4 (-0.1)	-0.7 (-0.2)	1.2 (1.2)	4.1 (3.6)	6.0	5.8
Vegetables	1.30	6.8	5.6	6.2 (7.5)	9.8 (9.7)	7.9 (8.0)	4.4 (6.5)	2.9 (6.0)	3.4	5.9

* Annual average percentage change

Sources: Stats SA and SARB

Administered price inflation

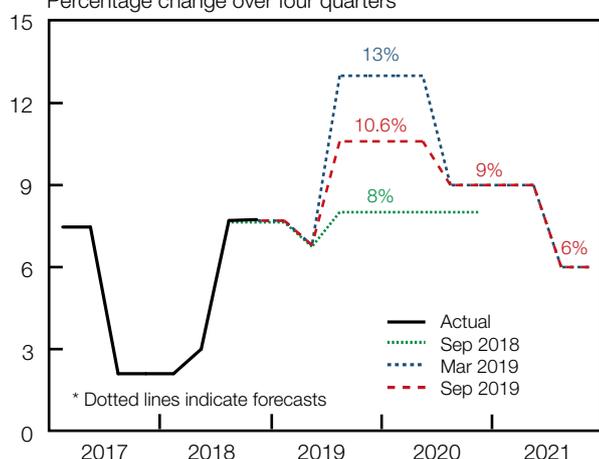
Electricity inflation, at the consumer level, recorded 10.6% in July 2019, 2.4 percentage points below the 13% assumed six months ago, which was based on National Energy Regulator of South Africa (NERSA) allowances. The gap was due to two factors. First, electricity is sold to consumers via municipalities, at different price tiers for different usage volumes. The NERSA rulings put an upper cap on price increases, but Statistics South Africa (Stats SA) surveys all the usage price bands across municipalities, leaving the average price increase facing consumers somewhat lower than the maximum permissible increase determined by NERSA. Second, more idiosyncratically, not all municipalities implemented their annual increases in July, with the City of Tshwane delaying its increase by a month in the context of a court challenge. (Electricity inflation therefore moved higher in August.)

Despite the July downside surprise in electricity inflation, electricity inflation remains high, well outside the SARB's target range. This situation is expected to persist over the forecast period, with the annual averages for electricity inflation at 9.0%, 9.7% and 7.4% for the years 2019, 2020 and 2021 respectively. These projections include both NERSA's tariff rulings and the regulatory clawback account increases.

Administered prices have also exerted sustained upward pressure on headline inflation via two other categories, rates and taxes, and water. Like electricity, rates and taxes inflation has also been in double digits, at 14.8% from July 2018 through June 2019, up from 5.8% the year before, with the jump due to a property re-valuation exercise by the City of Johannesburg. Inflation for this category has fallen back now that this price shock has passed, although it remains outside the upper end of the target range, at 6.7%. Water tariff inflation has also been

Evolution of electricity price forecast*

Percentage change over four quarters



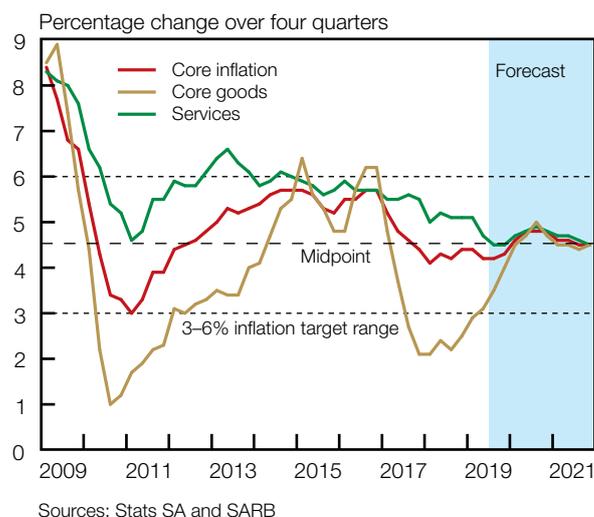
Sources: Stats SA and SARB

high, although in this case double-digit inflation has been more sustained, with price gains averaging 11% since 2012, and remaining high this year (at 12.8% in the first quarter, and 11.8% in the second).

Core inflation

Over the past two years, core inflation has been slightly below 4.5%, with core goods well below the midpoint and services somewhat above it.²⁵ Core goods inflation has ticked up, averaging 3.1% so far this year, compared with an average of 2.3% in 2018. Services inflation has slowed further, however, reaching 4.6% in April and May, an eight-year low. (Subsequent readings have been slightly higher: 4.8% for June, and 4.7% for both July and August.) These offsetting trends have permitted core inflation to remain slightly below the inflation target midpoint.

Core inflation and its components



Headline inflation (September 2019 forecasts)

Percentage change over four quarters; March 2019 forecasts in brackets

	Weight	Actual		Forecast	Actual		Forecast			
		2009–18*	2018*	2019*	2019Q1	2019Q2	2019Q3	2019Q4	2020Q1	2020Q2
Headline inflation	100.00	5.5	4.6	4.2 (4.8)	4.2 (4.4)	4.4 (4.7)	4.1 (4.9)	4.3 (4.9)	5.3	4.9
Core inflation**	74.43	5.0	4.3	4.3 (4.8)	4.4 (4.6)	4.2 (4.7)	4.2 (4.9)	4.3 (4.9)	4.6	4.8
Rentals***	16.84	4.6	4.1	3.3 (4.2)	3.5 (3.8)	3.0 (4.0)	3.3 (4.5)	3.2 (4.4)	3.5	3.7
Insurance	10.06	7.7	7.1	6.7 (6.5)	6.6 (6.6)	6.6 (6.5)	6.9 (6.5)	6.9 (6.6)	6.9	6.8
Education	2.53	8.2	6.8	6.7 (7.0)	6.7 (6.8)	6.7 (7.0)	6.7 (7.0)	6.7 (7.0)	6.7	6.9
Vehicles	6.12	2.9	3.1	3.5 (4.0)	3.6 (3.6)	3.2 (3.5)	3.9 (4.0)	3.4 (4.7)	3.4	3.6
Fuel	4.58	6.2	14.4	2.4 (1.3)	2.5 (2.9)	10.6 (5.7)	-0.1 (-0.2)	-2.6 (-3.1)	11.8	-0.7
Electricity	3.75	12.9	5.2	9.0 (10.2)	7.7 (7.7)	6.8 (6.8)	10.6 (13.0)	10.6 (13.0)	10.6	10.6

* Annual average percentage change

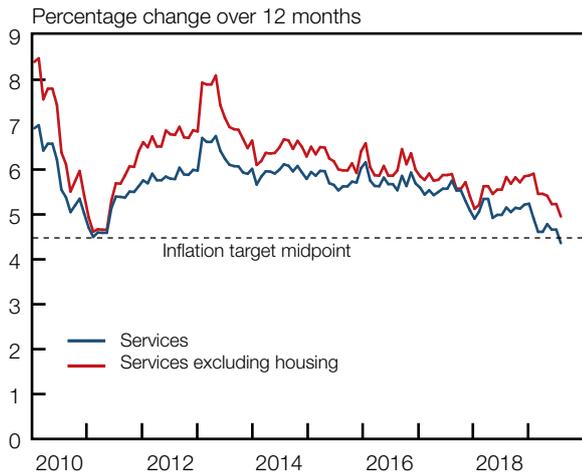
** CPI excluding food, non-alcoholic beverages, fuel and electricity

*** Combines actual rentals and owners' equivalent rent

Sources: Stats SA and SARB

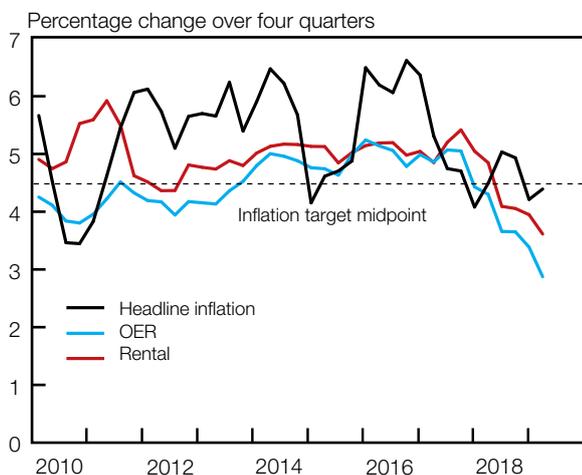
²⁵ Services represent about two-thirds of the core basket, with core goods filling the remaining third. This explains why small changes in services can shift core as much as larger movements in core goods.

Services inflation



Sources: Stats SA and SARB

Housing inflation



Sources: Stats SA and SARB

Lower inflation in the services category reflects much weaker price pressures in the housing sub-component. Excluding housing, services inflation would still be around 1 percentage point above the 4.5% midpoint. This gap with headline reflects sustained real increases in some service components, such as medical insurance and education, a relative price shift also observable in many other economies. Interestingly, the size of the gap has remained fairly steady during the disinflation period, at about 1 percentage point over headline, which indicates relative prices are still rising but at a lower nominal inflation rate.

Housing accounts for nearly a third of services (32.8%) and 16.8% of the entire CPI basket, with a split of 13.3% for owners' equivalent rent (OER) and 3.5% for actual rentals, making it the single biggest expenditure item for South African households. Its second-quarter inflation reading of 3% was the lowest on record (with OER having been added to the CPI a decade ago). The third quarter outcome is projected at 3.3%, slightly higher than the second quarter, but not high: average inflation for this category has been 4.6% since January 2009.

As discussed in previous *MPRs*, one important driver of housing disinflation has been the end of the Western Cape property boom. As dynamics in the Western Cape market came to more closely resemble those elsewhere in the country, from 2017, the underlying weakness of the broader property market became clearer in the inflation data.

That weakness also appears to have intensified over the past two years, with lower income growth, greater political uncertainty and new housing supply combining to suppress prices. In particular, survey evidence shows clear upticks in 'downscaling for financial reasons' and 'emigrating' as reasons for selling homes. Vacancy rates for rental properties have edged higher, most clearly in the high-price (R12 000+) category. Data on new residential projects also shows a strong

Reasons for selling residential properties*

Per cent of total sales

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019**
Downscaling for financial pressure.....	28.0	20.5	21.8	19.5	15.8	13.8	12.6	12.9	13.6	15.6	17.4
Downscaling with life stage	17.5	17.8	21.3	21.8	22.0	23.8	25.8	27.0	25.8	24.2	23.0
Emigrating	8.0	7.4	4.1	3.5	2.6	3.3	3.8	5.2	6.8	8.4	13.8
Relocating within South Africa	6.5	7.5	7.5	8.0	8.3	8.0	8.5	9.0	9.5	8.0	7.9
Upgrading	9.8	12.3	16.0	15.5	18.0	18.0	15.8	12.5	11.8	10.7	9.4
Moving for safety and security reasons.....	11.0	12.0	10.5	10.8	11.3	10.5	10.8	11.0	11.0	11.2	9.1
Change in family structure	13.8	14.5	11.8	13.5	13.0	13.5	14.5	15.5	14.3	15.1	12.4
Moving to be closer to work or amenities..	5.8	8.5	7.0	7.5	9.0	9.0	8.0	7.3	6.5	6.4	7.1

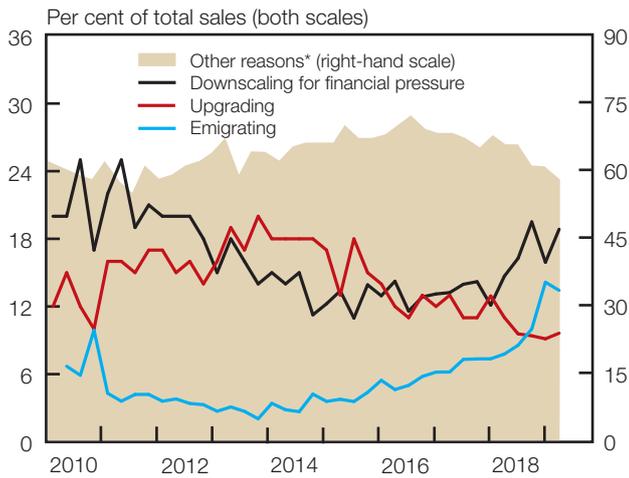
* In the FNB property market survey, owners are requested to pick the reasons for selling their houses.

** Year to date

Source: FNB



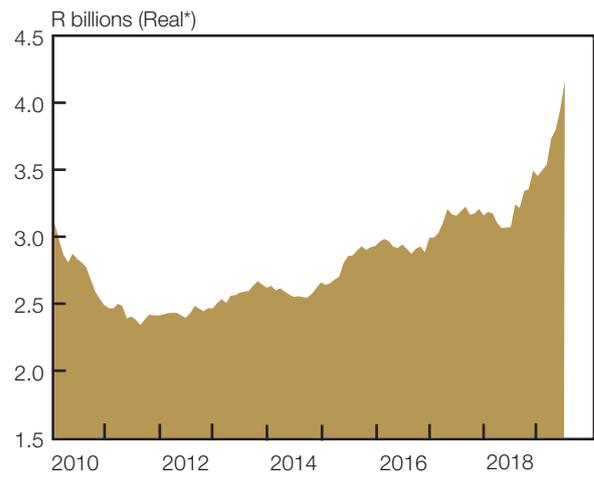
Reasons for selling houses



* Includes life stage, relocating within South Africa, safety and change in family structure

Sources: FNB and SARB

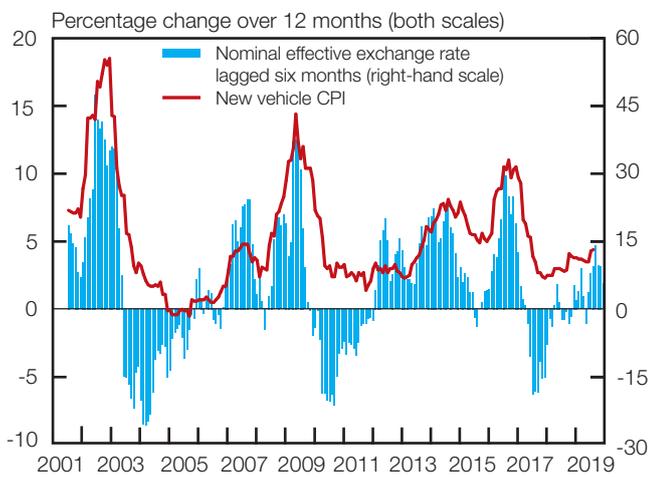
Residential buildings completed



* 12-month moving average

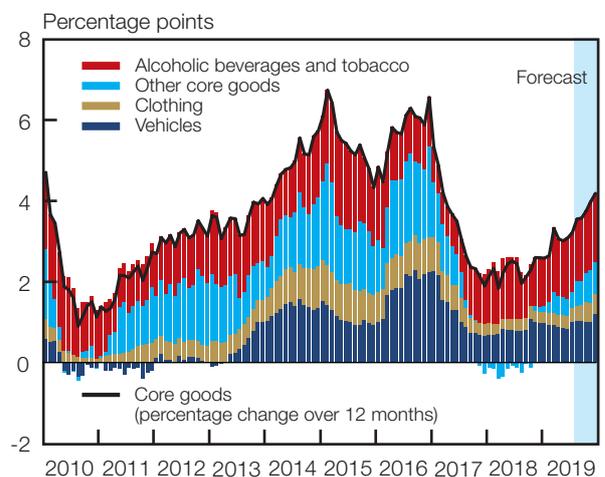
Sources: Stats SA and SARB

New vehicle inflation and the exchange rate



Sources: Stats SA and SARB

Contributions to core goods inflation

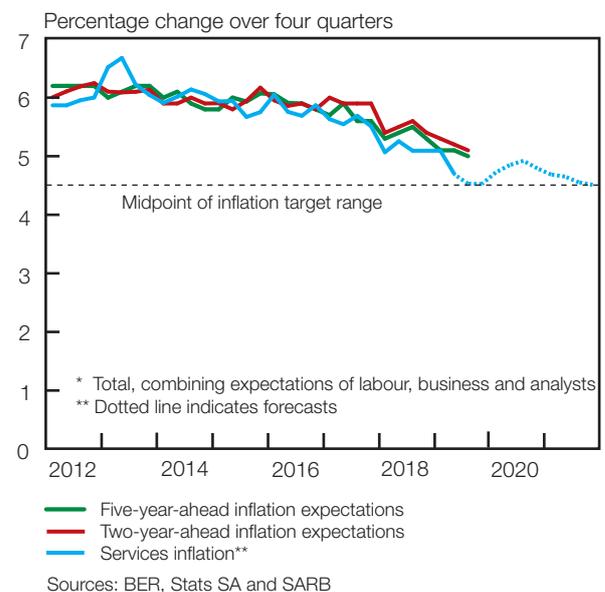


Sources: Stats SA and SARB

increase in completion rates, with a marked acceleration in 2019, illustrating how robust price increases in previous years generated a supply response.

In the core goods category, the single biggest source of higher prices remains alcoholic beverages and tobacco, where inflation is primarily a consequence of higher sin taxes. Inflation pressures elsewhere in this category are subdued, a pattern closely related to the exchange rate. Much of the core goods category is traded items (such as cars, clothes and appliances), and import penetration is generally high. With the exchange rate trend quite stable over the past four years, averaging R14.28 per US dollar so far this year, compared with R14.68 per US dollar in 2016, firms have had leeway to minimise price increases. This benign situation contrasts with the 2011–2016 period of sustained rand depreciation, during which core goods accelerated, ultimately peaking above 6%.

Services inflation and inflation expectations*



Sources: BER, Stats SA and SARB

Medium term inflation drivers

Over the medium term, the model interprets inflation as a function of an exchange rate gap, a unit labour cost gap, an output gap (discussed in the real economy chapter), inflation expectations, and ultimately the repo rate, which adjusts to deliver on the inflation target.

Exchange rate

The forecast challenge in interpreting rand movements is two-fold: seeing through volatility, and gauging the extent of pass-through from the exchange rate to consumer prices. In forecasting the exchange rate, the QPM uses an estimated equilibrium exchange rate based on fundamentals, with the expectation that deviations from the equilibrium rate will close over time, aided by the interest rate. The exchange rate affects inflation through two channels. It is captured directly for prices of imported, finished products like petrol. In other respects, the exchange rate affects input costs, with the degree of inflation pressure proxied by the size of the real exchange rate gap (that is, the distance from equilibrium). Pass-through to inflation is around 0.13 percentage points²⁶ for a 1 percentage point shock to the real exchange rate, with that number reflecting the peak addition to inflation, which occurs four quarters after the shock. (It is not the cumulative pass-through to the price level.)

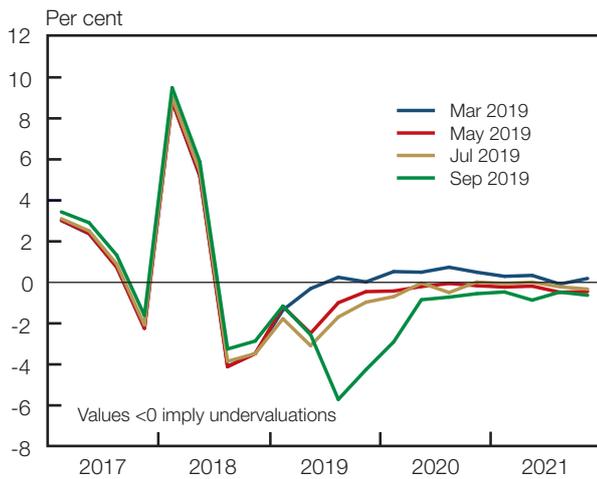
The estimated real exchange rate gap was -2.6% for the second quarter of 2019, implying a rand exchange rate fair value of R14.39. It widened to -5.7% in the third quarter (with an estimated fair value of R14.88 per dollar in that quarter) as the rand depreciated. The gap would have widened further but for some simultaneous depreciation in the estimated real equilibrium, based on a higher country risk level. This gap is projected to narrow over the forecast period, to -1.3% in 2020 and -0.6% in 2021, meaning that the rand settles at a nominal fair value of R15.12. The persistence of a negative gap entails additional inflation pressure over the forecast period, which helps to explain why the September MPC inflation forecast was somewhat higher than that for July.

Employee compensation

The QPM incorporates price pressures from the labour market through a real unit labour cost (ULC) gap, which measures compensation relative to productivity. The simple intuition is that with a positive gap, pay is increasing faster than output, which raises firms' costs and generates inflation. Where pay matches productivity, there is no inflationary impulse.

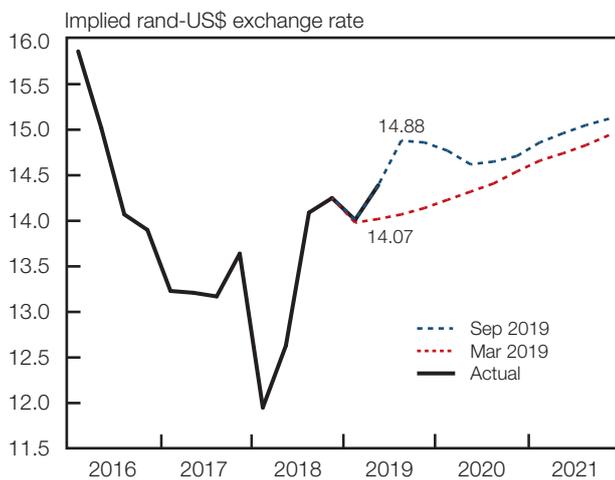
Over the past six months, nominal compensation growth has trended lower, by more than had been expected six months ago. However, volatility in the data has complicated

Real effective exchange rate gap forecast



Source: SARB

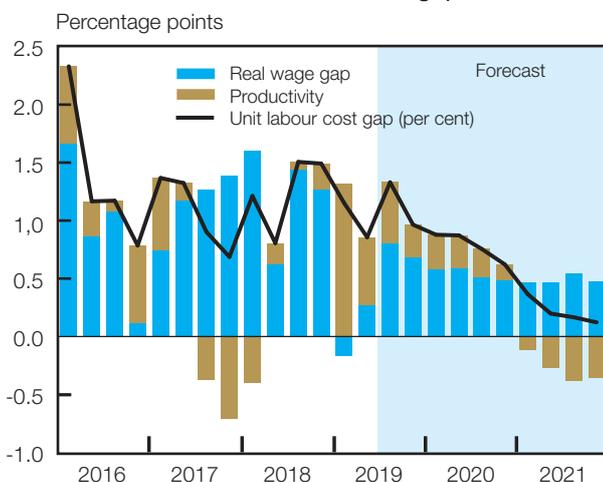
Exchange rate projections*



* Dotted lines indicate projections

Source: SARB

Contribution to unit labour cost gap



Source: SARB

²⁶ This number is lower than the 0.2 percentage points pass-through in the Core Model, which was the number historically cited as the pass-through coefficient. The Core Model pass-through estimate is actually around 0.15 percentage points, which rounds to 0.2 percentage points, but is actually very close to the QPM estimate.

efforts to understand the trend. In July in particular, the forecast used a smoothed wage series to adjust for an abrupt shift in first-quarter compensation. To address this issue more permanently, the September forecast switched over to using only QES data, having previously relied on national accounts data for employee compensation, and QES data for headcounts. Both the QES and national accounts versions of employee compensation provide a broadly similar account of wage trends, with average wage growth roughly halving from where it was in the 2010–2017 period. The QES data are less volatile, however.

On its own, slower wage growth would reduce inflation. However, GDP growth has also been marked down over this period, which raises ULC growth because productivity is lower. As a result, the overall real ULC gap has not changed significantly over the past few forecasts. It continues to reach zero by the end of 2021, implying inflationary pressure from the labour market will finally cease, for the first time in over a decade.

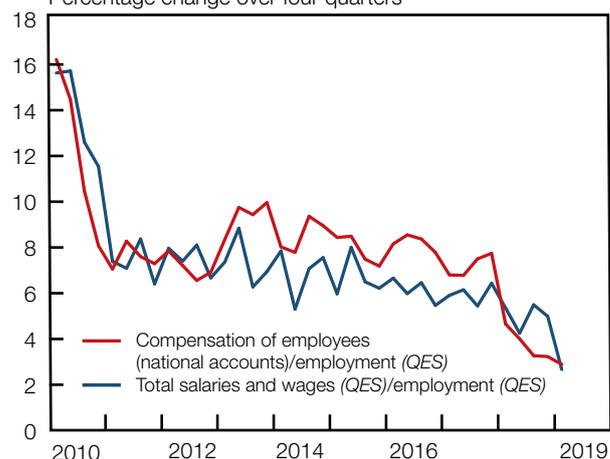
Inflation expectations

Inflation expectations play an important role in policy transmission, especially in the stylised world of the QPM. Different theories of expectations make different claims about how flexible and forward-looking expectations can be. For the purposes of the SARB forecasts, inflation expectations are treated as a blend of backward- and forward-looking elements, with the forward-looking component based on the model's own inflation forecasts (i.e. the best guess of future inflation) and the backward-looking portion derived from the BER survey (or more precisely, how the BER survey is likely to evolve in future). This treatment ensures expectations do not rapidly converge on 4.5%, but also permits them to converge on the SARB's preferred inflation outcome over time, as agents come to notice and believe the MPC's 4.5% messaging.

Since the previous *MPR*, inflation expectations have moderated, if slightly less than expected six months ago. Specifically, two-year ahead expectations have fallen to 5.1%, as of the third quarter, relative to a level of 5.0% anticipated in March 2019. The forecast still projects that expectations will reach the target midpoint by the end of 2021, which will require expectations to fall another 0.6 percentage points in just over two years. This compares with the 0.8 percentage point adjustment realised since 2017, a comparable period. The challenge, however, will be lowering inflation expectations in the context of actual inflation somewhat above 4.5% – over 5% on average in 2020 – even if this inflationary pressure is temporary. Historically, inflation expectations have 'looked through' single-year events, following longer-term average outcomes than the latest year's inflation rate. If this persists, expectations will end the forecast period at or very close to the 4.5% midpoint, as projected.

Average nominal wage growth

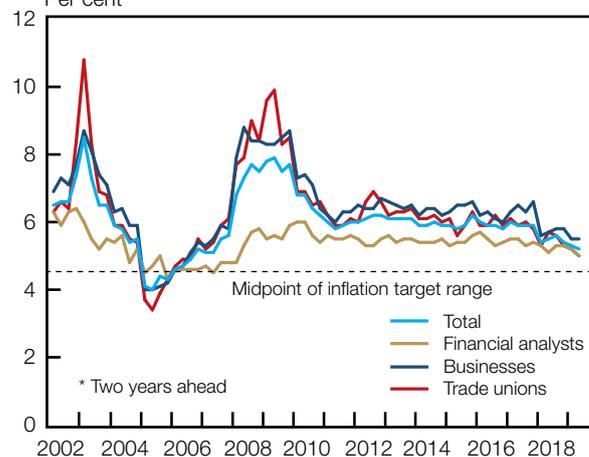
Percentage change over four quarters



Sources: Stats SA and SARB

Surveyed inflation expectations*

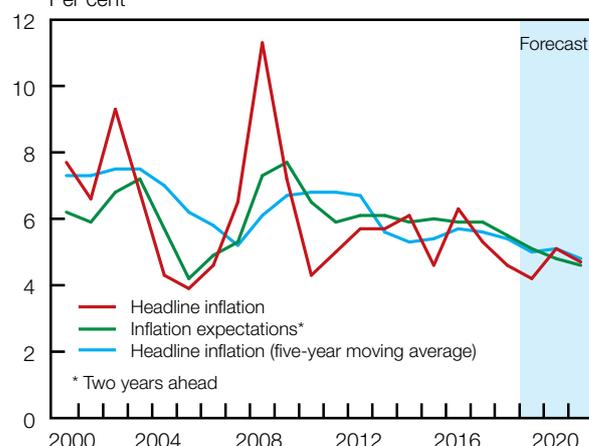
Per cent



Source: BER

Inflation and inflation expectations

Per cent



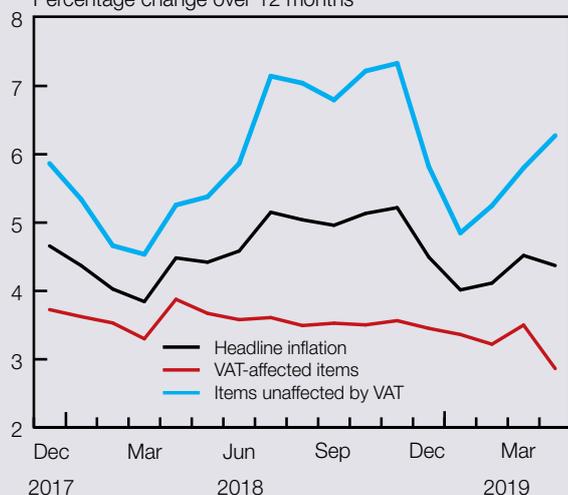
Sources: BER, Stats SA and SARB

Conclusion

The MPC has had tangible success in shifting inflation close to the centre of the 3–6% inflation target. This has been achieved through a mix of communication, fortuitous supply-side shocks and weak demand. Inflation expectations remain above 4.5%, suggesting inflation has not yet been securely anchored in the centre of the target range. Nonetheless, inflation expectations have clearly come down, and the risk of target breaches is low. The SARB's baseline expectation is that inflation will stabilise at 4.5% at the end of 2021, completing the transition to a lower-inflation economy.

Headline, VAT and non-VAT inflation

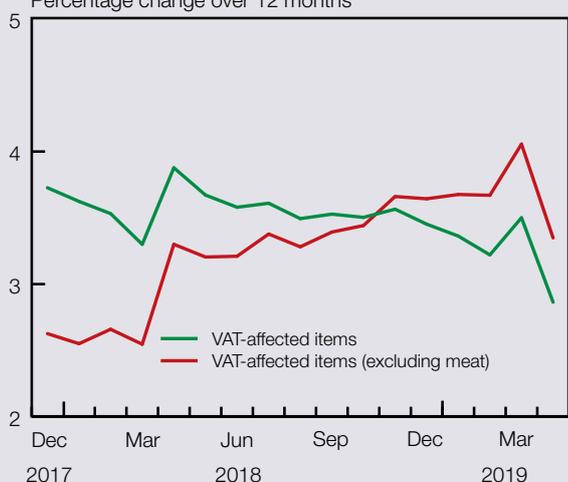
Percentage change over 12 months



Sources: Stats SA and SARB

Trends in VAT-affected CPI items

Percentage change over 12 months



Sources: Stats SA and SARB

Box 6 What did the VAT increase do to inflation?

On 1 April 2018, South Africa's value-added tax (VAT) increased from 14% to 15%. Typically, in international experience, VAT increases have straightforward effects: inflation is higher for a 12-month period, then slows again when the base effect kicks in.¹ The local experience, however, was less clear-cut. Inflation did shift higher in April 2018, from 3.8% to 4.5%, but much of the increase came through petrol prices, which were unaffected by VAT. Twelve months later, headline inflation moderated by just 0.1 percentage points, from 4.5% to 4.4%. This suggests the higher VAT rate was a non-event for inflation. A close look at the data, however, shows a clearer, substantial VAT impact.

To identify VAT effects, this box draws on disaggregated consumer price index (CPI) data, broken down to 99 discrete components, of which 57 are subject to VAT. At this level of disaggregation, it is possible to distinguish individual items that are VAT exempt (like potatoes) from those that are subject to VAT (such as potato chips) – distinctions that are not visible using broad categories like 'food'. The 57 items in the VAT basket cover VAT-affected goods comprehensively.

For this VAT basket only, inflation was 0.58 percentage points higher in April 2018, and 0.64 percentage points lower in April 2019. During this period, meat inflation was collapsing, which masked some of the VAT effect (as discussed in Box 4 of the October 2018 *Monetary Policy Review*, p. 29). Excluding meat, the inflation rate for the VAT series was higher, up 0.75 percentage points in April 2018, with a fall of 0.71 percentage points in April 2019.

These changes are relatively substantial. The fact that headline barely moved when the VAT dropped out of the base therefore requires some explanation. In fact, the 2019 base effect was concealed by a simultaneous uptick in fuel prices. Had fuel inflation not accelerated, the VAT base effect would have lowered headline inflation to 4.2% in April 2019, rather than the 4.4% actual outcome.

The changes observed in the data are roughly proportional to a 1 percentage point VAT increase. Controlling for the previous trends in the series, it appears roughly three-quarters of the higher VAT rate was passed on to consumers. (By contrast, the South African Reserve Bank's initial forecasts anticipated 100% pass-through.) It is plausible that firms absorbed some of the increase given weak consumer demand, but this absorption effect is not very large. Ultimately, the verdict on South Africa's VAT increase is in line with international experience: the VAT increase raised costs for consumers, but did not shift inflation persistently higher.

¹ A base effect occurs when the rate of change between two time periods moves because of a difference in the earlier number. For instance, the year-on-year inflation rate between March 2018 and March 2019 involved comparing a data point with a 14% VAT rate with another with a 15% VAT. In the April 2018/April 2019 comparison, however, both data points featured a 15% VAT rate. This would have produced a lower year-on-year inflation rate, everything else being equal.

Box 7 Forecast accuracy in a disinflation period

This box reviews the Monetary Policy Committee (MPC) inflation forecasts for the period 2017–2019. During this time, inflation decelerated from over 6% to around 4.5%, falling further and faster than anticipated. One surprise was food price inflation, which slowed to unusually low levels in the aftermath of the 2016 drought. However, the core inflation forecasts were also too high, owing to a mix of factors, including the exchange rate, wages and housing prices. A major additional challenge was gauging how fast the MPC intended to achieve 4.5%, and therefore how rapidly inflation expectations would moderate. This was a particularly difficult problem in the context of the Quarterly Projection Model (QPM), introduced in November 2017, given how that framework pins medium-term inflation to the model target through an inflation expectations channel.

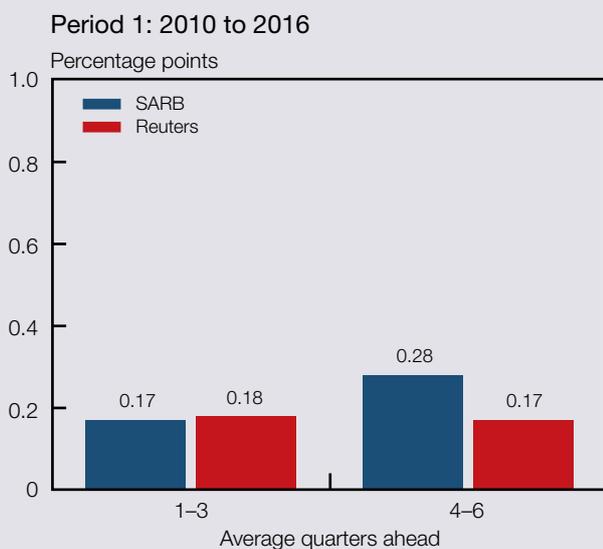
Context

Final consumer price index (CPI) data are available for 2017 and 2018, and sufficient data are available for 2019 to estimate the annual outcome with confidence. The earliest 2017 forecast was published in January 2016, projecting inflation at 7%; the outcome was 5.3%. For 2018, the initial forecast was 5.5%, and the outcome was 4.6%. For 2019, the earliest projection had inflation at 5.5%; subsequent forecasts first rose to 5.7%, then moderated steadily, to 4.2%. Core inflation projections for these three years were similarly overstated.

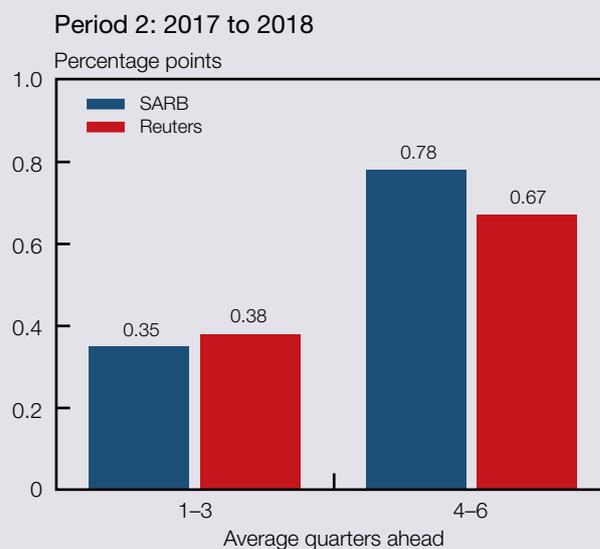
Compared to earlier forecasts, for the period 2010–2016, the accuracy of the South African Reserve Bank’s (SARB) forecasts for 2017 and 2018 has been materially unchanged, with an *absolute* error of 0.4 percentage points for 1–3 quarters ahead, and 0.9 percentage points for 4–6 quarters ahead (based on root mean square errors (RMSE)). However, the average forecast errors have been higher, meaning that the mistakes skewed more clearly in one direction during 2017–2018 than they had previously.¹

Compared with private sector analysts, as represented by the median projection of the Reuter’s survey, the SARB was not alone in a larger upward bias for the 2017–2018 period, compared with 2010–2016. The upward skew is marginally larger for the SARB, but it is also substantial for the Reuters median. As for accuracy, the analyst forecasts have also been largely consistent over the two periods, with the same RMSE score at 4–6 quarters ahead, and some improvement in the shorter-term. As with the bias measures, accuracy differences between the SARB and analysts are relatively small.

CPI: average forecast error



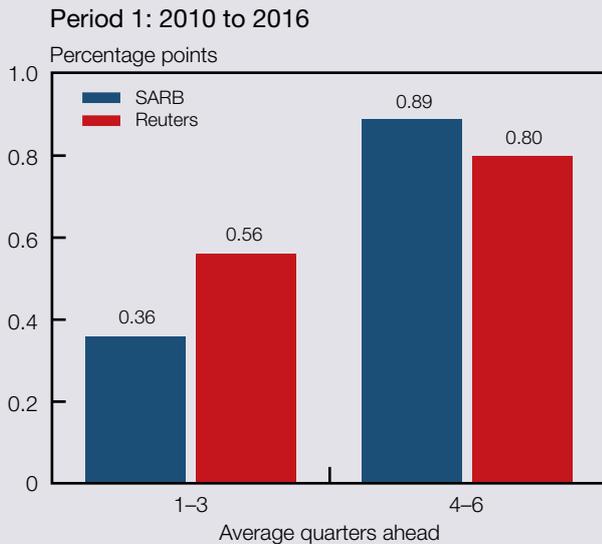
Sources: Reuters and SARB



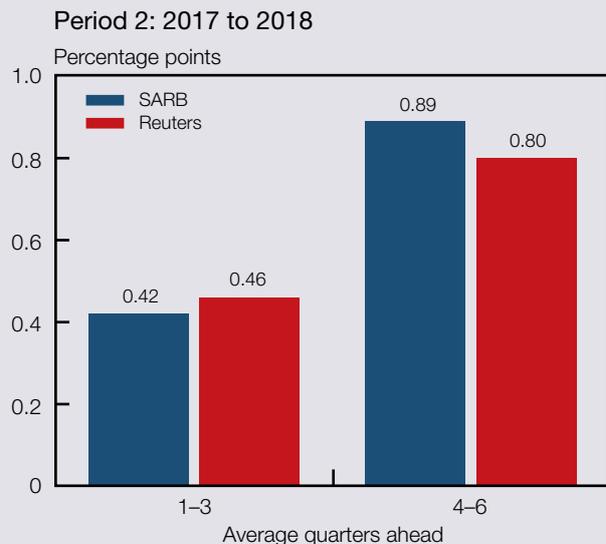
Sources: Reuters and SARB

¹ These inflation projections are matched to actual outcomes. The errors that are made are assessed based on both accuracy (RMSE) and bias (average errors). Bias reveals persistent mistakes in a particular direction and accuracy ensures errors in opposite directions do not cancel each other out.

CPI: root mean square error



Sources: Reuters and SARB



Sources: Reuters and SARB

Surprises

The similarity of errors between the SARB and analysts' forecasts points to surprises in data outcomes, rather than some problem unique to the SARB. Four such surprises stand out. First, the exchange rate did not depreciate as first expected. The initial rand/dollar projections were set at R17.10 and R17.59, for 2017 and 2018 respectively, compared with actual outcomes were R13.31 and R13.23. Much of this error reflects the old Core Model convention of taking the last actual data point and keeping it constant in real terms over the forecast period, thereby assuming away any exchange rate rebounds. Since the adoption of the QPM, which treats the exchange rate differently, these projections have typically been revised by smaller amounts. The rand has also been less unstable recently.

Second, food price inflation was also overstated, a problem discussed in a previous *Monetary Policy Review (MPR)* box.² As food price inflation slowed in the wake of the 2016 drought, the forecasts consistently projected a near-term turning point, which did not actually materialise until mid-2019. (Indeed, even this turning point has been less steep than anticipated.) Ultimately, food inflation has been unusually low for an extended period of time, averaging 3.4% between January 2018 and August 2019, compared with an average of 6.8% for the preceding nine years.

Compensation growth has also slowed markedly, from 8.4% during 2016 to 4.2% in 2018. Although wage gains have remained above productivity improvements throughout this period, and have therefore been an ongoing source of inflation pressure, the degree of pressure has faded faster than anticipated.

Finally, housing inflation fell to record lows, in the context of buoyant supply and weak demand (as discussed in the prices chapter). This created weakness in services prices, for reasons not well captured by the usual services drivers, especially inflation expectations. Services inflation was therefore revised lower for 2018 and 2019. (It was not forecast separately before the introduction of the QPM.)

In contrast to these four factors, neither oil nor the output gap played clear roles in driving the upside forecast errors. The oil price assumptions were generally revised *higher* over the 2017–2019 period, which would have pushed inflation above previous projections, so this factor cannot explain persistently high forecasts. Similarly, the output gap estimates have not become more negative over time, with the exception of 2019, meaning that weak demand was not providing an additional disinflationary impulse missed in earlier forecasts, for the years 2016, 2017 or 2018.

Disinflation and the QPM

The QPM is premised on a 4.5% inflation target. However, when the QPM was introduced, the timeline for getting to 4.5% was not clear. This posed a problem for the QPM framework, in which the inflation target is immediately credible – with the implication that inflation expectations converge on the target rapidly. However, when the QPM was adopted, surveyed inflation expectations were around 6%, and had been sticky there for several years – suggesting forceful monetary policy would be required to lower them. With the shift to 4.5% not an immediate priority, the first year of QPM forecasts did not show inflation expectations stepping down to 4.5%, and did not have inflation hitting the 4.5% target within the published forecast horizon. The objective of projecting the most probable inflation outcome trumped the model objective of getting to the target within two or three years.

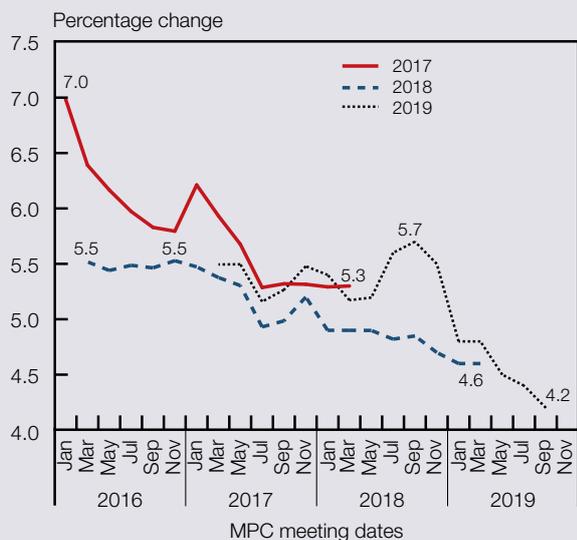
² See Box 3 'Unpacking food inflation' in the October 2018 *MPR*, p. 15.

Ironically, interventions in the QPM to make it more ‘realistic’ probably made the headline forecasts worse. Actual inflation ended up close to 4.5% throughout 2018 and 2019, which is where the QPM wanted it. In part, it was a coincidence that inflation outcomes matched the model target, given unanticipated shocks like lower food price inflation. However, intervening to keep inflation expectations elevated meant projecting a relatively high path for core inflation, and especially its services component. This overstatement of services inflation had to be unwound later, with the 2019 services forecasts moderating from an annual rate of 6% inflation down to 4.8%.

To address these challenges, the QPM has been modified so its treatment of inflation expectations includes a backward-looking factor, allowing expectations to evolve more realistically.³ Furthermore, from January 2018 the forecasts have been tethered to 4.5% at the end of the forecast horizon, meaning the model proposes whatever is needed to hit the target over the medium term. This shift was facilitated by actual outcomes close to the midpoint, and greater clarity from the MPC that the 4.5% objective is live, not just a future aspiration, which helped close the gap between the most-likely inflation outcome and the inflation outcome determined by the model’s structure. Strikingly, as a result of this shift, the SARB inflation forecasts are now lower for 2021 than those of most private analysts. This suggests the upside bias of recent SARB forecasts will not be a feature of future inflation forecast assessments.

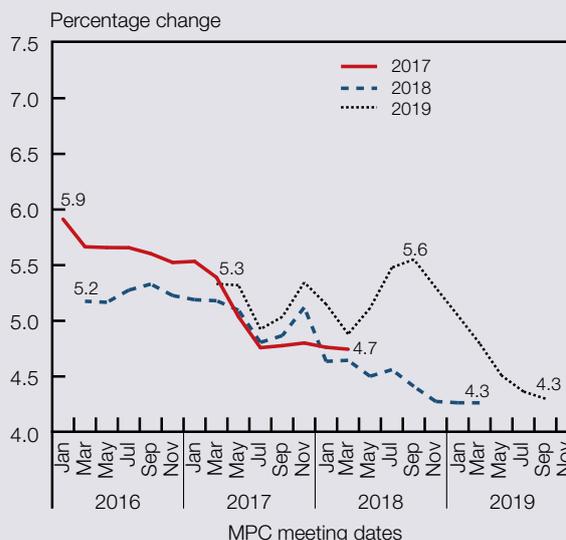
The SARB’s inflation forecasts have been revised lower from meeting to meeting, for headline inflation as well as core:

Targeted inflation



Source: SARB

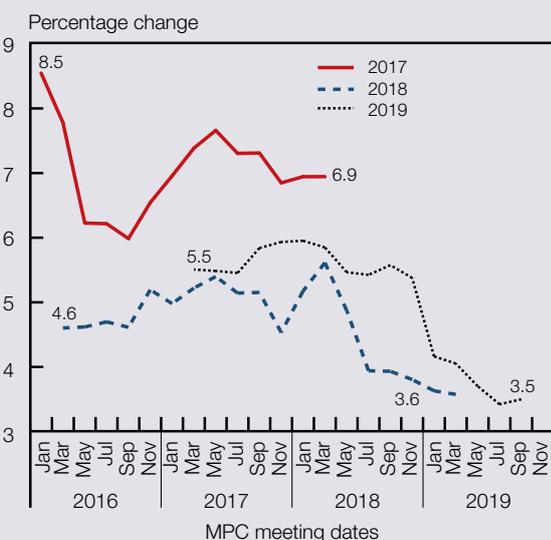
Core inflation



Source: SARB

Downside inflation surprises have come from food, the exchange rate, unit labor costs and housing. Adjustments to projected inflation expectations also helped lower services inflation for 2019:

Food and NAB inflation



Source: SARB

Unit labour cost*

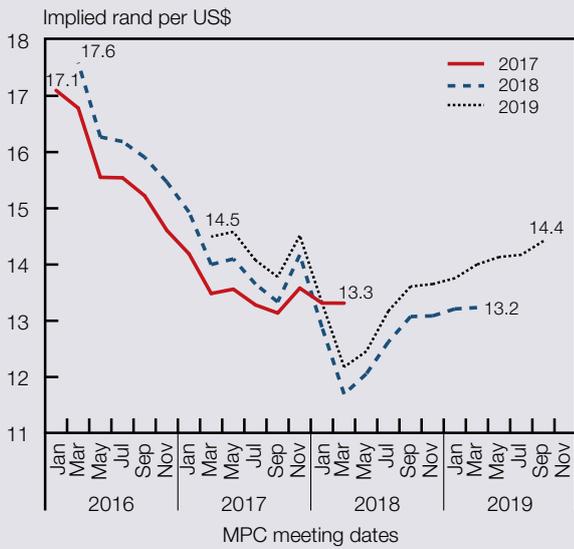


* As the QPM used a non-comparable wage measure for Nov 2017 to May 2018, those data are not shown.

Source: SARB

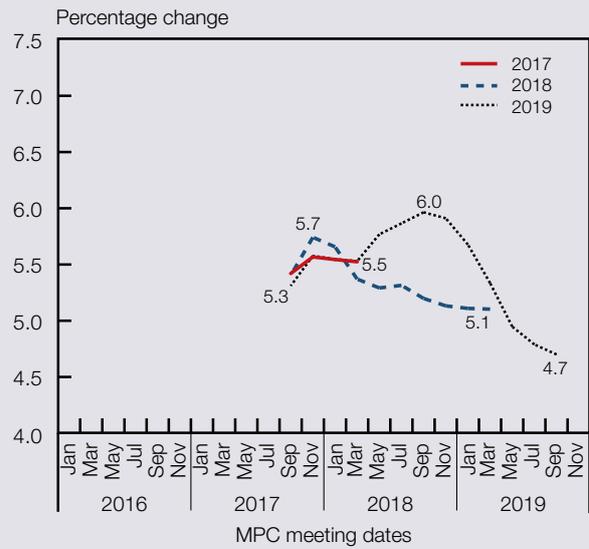
3 As discussed in the prices chapter, as well as in Box 6 of the October 2018 MPR, p. 37.

Exchange rate



Source: SARB

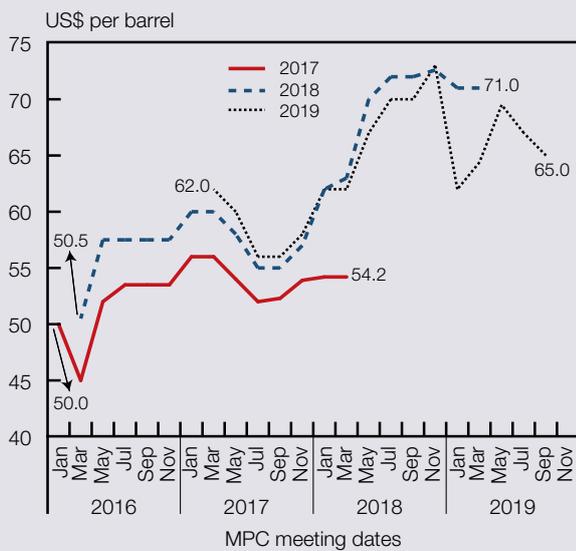
Services inflation



Source: SARB

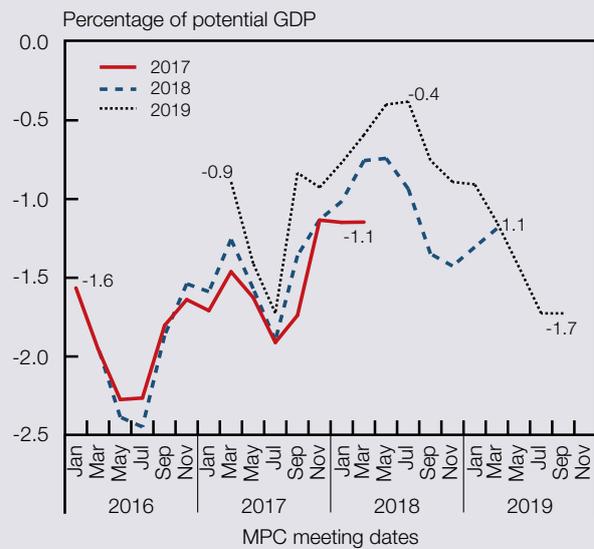
Neither oil prices nor the output gap explain downside inflation surprises, except for 2019:

Brent crude oil



Source: SARB

Output gap



Source: SARB

Conclusion

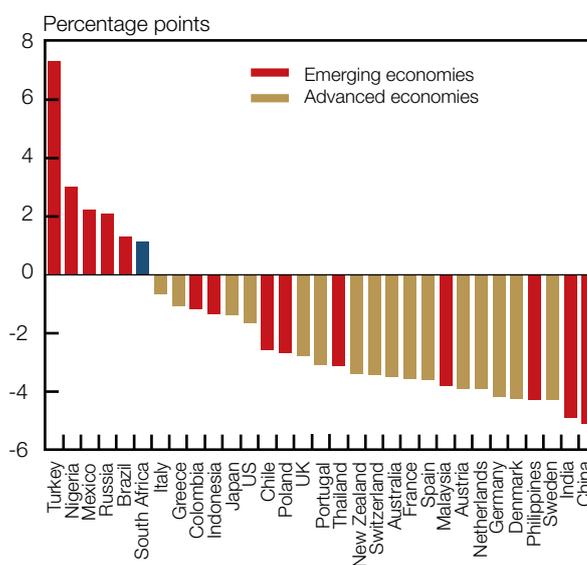
Global macroeconomic conditions are highly unusual. Around 40% of government bonds worldwide are trading at negative interest rates. A number of sovereign yield curves have inverted, including those for Germany, Switzerland, the US, and the UK, meaning these governments can borrow more cheaply for the long term than the short term. Advanced economy inflation rates have been stubbornly low, generally below inflation targets, despite large declines in unemployment and exceptionally loose monetary policies.

These circumstances pose acute challenges for conventional macroeconomic theory.²⁷ If advanced economy Phillips Curves have flattened out, so that even tight labour markets do not generate much price pressure, central banks are deprived of their main tool for raising inflation.²⁸ With interest rates near the zero lower bound most of the time, central banks will also struggle to manage business cycle fluctuations, because they will have limited space to cut during downturns. As for fiscal policy, if interest rates remain persistently below GDP growth rates ($r < g$, in the jargon), then budget deficits can be sustained indefinitely – undoing the usual truism that deficits now will have to be repaid with surpluses later.²⁹

South Africa also faces challenging macroeconomic circumstances, but the character of those challenges is far less novel. Inflation has remained within the 3–6% target range, and generally in the top half of the range. Interest rates are positive, with the repo at 6.5% currently, leaving the zero lower bound constraint irrelevant for practical purposes. Furthermore, the yield curve, far from being inverted, is unusually steep. In turn, high long-term yields reflect sovereign risk, a product of rapid debt growth. With interest rates higher than GDP growth rates, the $r < g$ debate is moot: deficits cannot be sustained indefinitely.

Through history, overspending and excess debt are common phenomena. The problem, for economists, is how to restore debt sustainability. This is difficult because budget consolidation efforts can hurt growth, so attempts to narrow fiscal deficits may not improve the debt-to-GDP ratio. However, where sustainability is in question, it may also become very expensive to borrow, which is similarly growth damaging.

Gap between 5-year bond yields and 2020–2024 nominal GDP growth forecasts



Sources: Bloomberg, IMF and SARB

27 For a broad review, see O Blanchard and L H Summers (eds), *Evolution or revolution? Rethinking macroeconomic policy after the great recession*, 2019.

28 As discussed by J Powell, 'Monetary policy and risk management at a time of low inflation and low unemployment'. Speech by Jerome Powell, Chairman of the US Fed, at the 60th Annual Meeting of the National Association for Business Economics, Boston, Massachusetts, 2 October 2018. <https://www.federalreserve.gov/newsevents/speech/powell20181002a.htm> (accessed 14 September 2019).

29 O Blanchard, 'Public debt and low interest rates', *PIIE Working Paper Series No. 19-4*, Washington: Peterson Institute for International Economics, February 2019. <https://www.piie.com/publications/working-papers/public-debt-and-low-interest-rates> (accessed 16 September 2019).

Moderating fiscal deficits may therefore be necessary to contain risk and prevent worse growth outcomes in future.³⁰

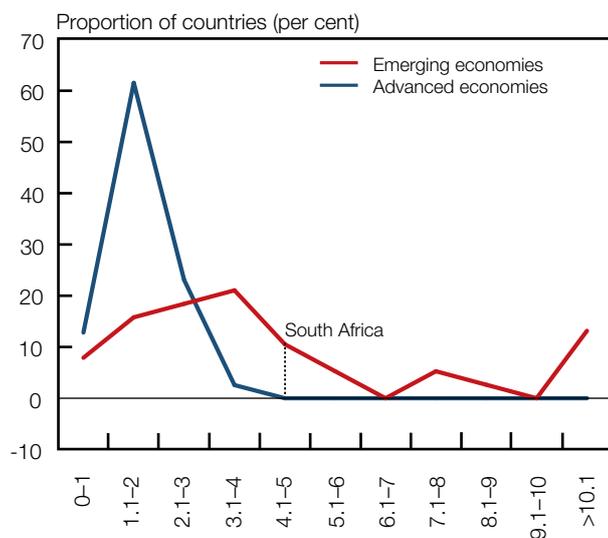
Turning to monetary policy, there is little in the policy stance that is difficult to explain using standard theory. The repo rate is being calibrated to close the output gap and stabilise inflation, in the middle of the target, in line with a conventional Taylor-type rule. By focusing expectations around a clearly defined objective – the 4.5% midpoint of the 3–6% range – policymakers have contributed to bringing inflation down. But even with lower inflation, the risks of falling into deflation or hitting the zero lower bound appear very remote. Indeed, if there is a puzzle to be solved, it is why inflation has not fallen further given weak growth rates: South Africa continues to have higher inflation than most other countries.

This *MPR* sets out a case for inflation remaining within the target range for the foreseeable future, and ending the forecast period at 4.5%. There will be a temporary spike in inflation in early 2020, to over 5%, which is mainly due to a fuel price base effect. Beyond that, inflation will stabilise in the middle of the target range, the same place it has been for the past two and a half years.

The projected repo rate remains below the estimated neutral level throughout this period, in recognition of weak growth. Were inflation lower, the repo outlook could be more accommodative still. Similarly, if the sovereign risk premium were to come down, the neutral rate would moderate and monetary policy would enjoy more space. However, even a significantly more expansionary repo stance would very likely not deliver growth rates adequate to South Africa’s challenges, given acute constraints elsewhere in the economy. With potential growth rates of little more than 1%, and business confidence subdued, demand stimulus would likely raise imports and inflation more than investment and growth.

Given the scale of South Africa’s economic challenges, as well as global risks, monetary policy will do well to maintain the current mix of a benign inflation outlook and below-neutral interest rates. There are risks a change in the environment could force an outright-tight policy stance. To control these risks, South Africa needs reforms. These are likely to entail some short-term pain. The cost of postponing reforms further, however, is rising at an accelerating rate.

Distribution of inflation (annual, 2019)



Sources: IMF and SARB

30 A Alesina, C Favero and F Giavazzi, *Austerity: when it works and when it doesn't*, 2019; J Bianchi, P Ottonello and I Presno, 'Fiscal stimulus under sovereign risk', *Federal Reserve Bank of Minneapolis Working Paper Series No. 762*, Minneapolis: Federal Reserve Bank of Minneapolis, September 2019. <https://www.minneapolisfed.org/research/working-papers/fiscal-stimulus-under-sovereign-risk> (accessed 15 September 2019).

Statement of the Monetary Policy Committee

23 May 2019

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

Over the past few months, global growth has rebounded somewhat, but significant downside risks remain, in particular from threats to the global trade regime. Domestically, electricity supply constraints and a protracted strike in a major gold mine contributed to a weak first-quarter performance. Business and consumer confidence continues to weigh on the near-term growth forecast. Recent monthly inflation outcomes have remained around the midpoint of the inflation target range, in part due to weak demand and positive inflation data surprises. The medium-term inflation outlook has moderated slightly.

The year-on-year inflation rate, as measured by the consumer price index (CPI) for all urban areas, was 4.4% in April (down from 4.5% in March). Goods price inflation was 4.2% (up from 4.1% in March), while services price inflation was 4.6% (down from 4.9% in March). The South African Reserve Bank's (SARB) measure of core inflation (which excludes food, fuel and electricity) was 4.1% in April (down from 4.4% in March). Producer price inflation for final manufactured goods increased to 6.2% in March (from 4.7% in February).

The inflation forecast generated by the SARB's Quarterly Projection Model (QPM) has improved since the previous meeting of the Monetary Policy Committee (MPC). Headline inflation is now expected to average 4.5% in 2019 (down from 4.8%), increasing to 5.1% in 2020 (down from 5.3%) and moderating to 4.6% in 2021 (down from 4.7%). Headline CPI inflation is now expected to peak at 5.5% in the first quarter of 2020 and settle at 4.5% in the last two quarters of 2021.

The main drivers of the forecast are a lower starting point for food and services inflation and the revised oil price assumptions. Food price inflation is now expected to average 3.7% in 2019 (down from 4.1%). The assumptions for Brent crude oil in the QPM were revised up from US\$64 to US\$69.50 for 2019. The assumptions for 2020 and 2021 were also revised up from US\$65 to US\$68.

Moderation in rental prices, unit labour costs and inflation expectations also contribute to lower core inflation over the medium term. The forecast for core inflation is lower at 4.5% in 2019 (down from 4.8%), 4.8% in 2020 (down from 4.9%) and 4.5% in 2021.

Average inflation expectations have been declining slowly since the end of 2017. The inflation expectations of market analysts in the May 2019 Reuters Econometer survey were unchanged at 4.7% for 2019, while expectations edged down to 5.2% for 2020 (from 5.3%) and 5.0% for 2021

(from 5.1%). Market-based expectations implicit in the break-even inflation rates (i.e. the yield differential between conventional and inflation-linked government bonds) remain sensitive to exchange rate movements. Since our last meeting, five-year break-even rates increased to 5.1% and ten-year break-even rates were unchanged at 5.8%. The next Bureau for Economic Research (BER) inflation expectations survey will be published in July.

Global gross domestic product (GDP) is expected to average 3.3% in 2019 and then stabilise around 3.5% from 2020. While global economic activity remains moderate overall, growth momentum has slowed somewhat, and there are many risks. Trade tensions have escalated between the United States (US) and China, weighing on market confidence. Further tariff increases could disrupt global value chains and further reduce global trade. The International Monetary Fund's (IMF) April 2019 *World Economic Outlook* estimates that tariff increases could subtract as much as 0.8 percentage points from global growth. Much uncertainty remains around Brexit, alongside other geopolitical developments. In some countries, there also remain significant financial vulnerabilities associated with elevated private and public debt.

Inflation in most advanced economies remains below targeted levels, allowing major central banks space to put monetary policy normalisation on hold. However, the risk of a renewed tightening of financial conditions should not be underestimated.

The performance of emerging market currencies was mixed, reflecting a combination of changes in investor sentiment, easier monetary conditions in major economies, and country-specific factors. Currencies of countries with stronger macroeconomic fundamentals remain better placed to benefit from these developments. The rand has benefited from improved sentiment towards riskier assets but will continue to be affected by idiosyncratic factors such as domestic growth prospects and policy settings.

Since the March MPC meeting, the rand has appreciated by 1.5% against the US dollar, by 2.5% against the euro, and by 3.1% on a trade-weighted basis. The implied starting point for the rand is R14.40 against the US dollar, compared with R14.00 at the time of the previous meeting. At these levels, the QPM assesses the rand to be slightly undervalued.

Based on recent short-term indicators and negative growth in mining and manufacturing, GDP is expected to contract in the first quarter of 2019. The disappointing data outcomes

partly reflect supply-side constraints due to load-shedding and a strike at a major gold mine. Fixed capital formation and household consumption expenditure also remain weak.

The Absa Purchasing Managers' Index (PMI) has recovered to 47.2 index points, remaining below the neutral level. The SARB's composite leading business cycle indicator has trended lower since March 2018 and decreased further, by 0.4%, in March 2019.

The SARB now expects GDP growth for 2019 to average 1.0% (down from 1.3% in March). The forecast for 2020 and 2021 is unchanged at 1.8% and 2.0% respectively. The near-term growth outlook is limited by the larger-than-expected slowdown in the first quarter, weak business and consumer confidence, as well as growing pressure on households' disposable income. Real fixed investment is now forecast to contract by 0.3% in 2019, while household consumption expenditure will rise by a modest 1.0%.

The MPC assesses the risks to the growth forecast to be on the downside. Weak business confidence, possible electricity supply constraints and high debt levels in certain state-owned enterprises will continue to limit investment prospects. An escalation of trade tensions could significantly impact global trade with likely negative impacts for South Africa as a small open economy. The MPC remains of the view that current challenges facing the economy are primarily structural in nature and cannot be resolved by monetary policy alone. It is now even more urgent to have a combination of prudent macroeconomic policies and structural reforms that raise potential growth and lower the cost structure of the economy.

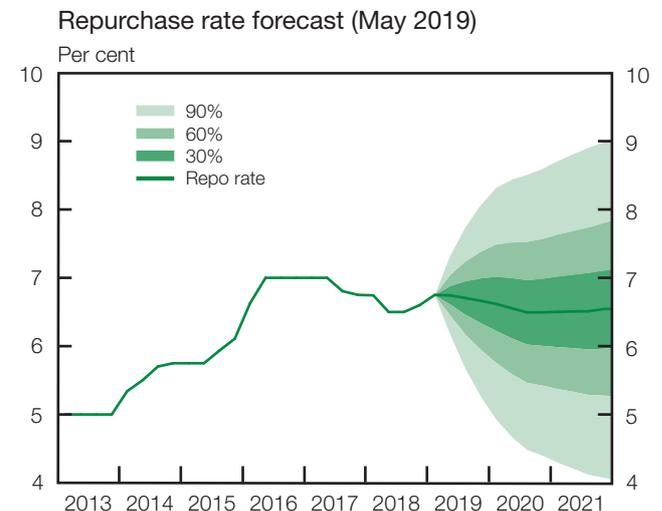
The MPC welcomes the continued downward trend in recent inflation outcomes and the moderation in inflation expectations. These are positive developments, as the MPC would like to see inflation remain close to the midpoint of the inflation target range on a more sustained basis.

The overall risks to the inflation outlook are assessed to be more or less evenly balanced. While there is scope for further moderation in meat and services prices, oil prices are expected to remain elevated and global food prices appear to have bottomed out. Electricity and water prices, among other administered prices, present additional upside risks.

Against this backdrop, the MPC has decided to keep the repurchase rate unchanged at 6.75% per year. Three members preferred to keep the rate on hold and two members preferred a cut of 25 basis points. The MPC assesses the stance of monetary policy to be broadly accommodative over the forecast period. Any future policy adjustments will continue to be data-dependent.

The implied path of policy rates generated by the QPM is for one cut of 25 basis points to the repurchase rate by the

end of the first quarter of 2020. The endogenous interest rate path is built into the growth and inflation forecast. As emphasised previously, the implied path remains a broad policy guide which could change in either direction from meeting to meeting in response to new developments and changing risks.



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

Summary of assumptions: Monetary Policy Committee meeting on 23 May 2019*

1. Foreign sector assumptions

	Actual			Forecast		
	2016	2017	2018	2019	2020	2021
1. Real GDP growth in South Africa's major trading-partner countries	3.0%	3.2%	3.2%	2.9%	3.0%	3.1%
	(3.1%)	(3.6%)	(3.4%)	(2.9%)	(3.1%)	(3.1%)
2. Output gap in South Africa's major trading-partner countries (ratio to potential GDP).....	-0.4%	-0.3%	0.0%	0.0%	0.2%	0.4%
	(-0.6%)	(-0.2%)	(0.0%)	(0.0%)	(0.2%)	(0.3%)
3. Change in international commodity prices in US\$ (excluding oil).....	4.3%	18.1%	10.9%	-0.5%	1.0%	1.5%
	(4.3%)	(18.1%)	(10.9%)	(-0.5%)	(1.0%)	(1.5%)
4. Brent crude (US\$/barrel)	43.6	54.2	71.0	69.5	68.0	68.0
	(43.6)	(54.2)	(71.0)	(64.4)	(65.0)	(65.0)
5. Change in world food prices (US\$)	-1.5%	8.1%	-3.5%	0.9%	2.6%	1.0%
	(-1.5%)	(8.1%)	(-3.5%)	(-0.1%)	(3.5%)	(1.0%)
6. Change in international consumer prices	0.6%	1.8%	1.9%	1.5%	2.2%	1.9%
	(0.6%)	(1.8%)	(1.9%)	(1.8%)	(2.0%)	(2.1%)
7. International policy interest rate.....	0.2%	0.5%	0.9%	1.2%	1.3%	1.6%
	(0.2%)	(0.5%)	(0.9%)	(1.2%)	(1.3%)	(1.6%)

2. Domestic sector assumptions

	Actual			Forecast		
	2016	2017	2018	2019	2020	2021
1. Change in electricity price	9.3%	4.7%	5.2%	10.2%	10.9%	7.4%
	(9.3%)	(4.7%)	(5.2%)	(10.2%)	(10.9%)	(7.4%)
2. Change in fuel taxes and levies.....	9.0%	8.3%	8.9%	5.5%	6.2%	5.6%
	(9.0%)	(8.3%)	(8.9%)	(5.5%)	(6.2%)	(5.6%)
3. Potential growth.....	1.0%	1.3%	1.0%	1.2%	1.3%	1.5%
	(1.0%)	(1.3%)	(1.0%)	(1.3%)	(1.3%)	(1.5%)
4. Inflation target midpoint.....	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
	(4.5%)	(4.5%)	(4.5%)	(4.5%)	(4.5%)	(4.5%)
5. Neutral real interest rate.....	1.6%	1.7%	1.9%	2.2%	2.3%	2.3%
	(1.6%)	(1.7%)	(2.0%)	(2.2%)	(2.3%)	(2.3%)

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 55 and 56.

Summary of selected forecast results: Monetary Policy Committee meeting on 23 May 2019*

Selected forecast results (quarterly)

Year-on-year percentage change

	2017	2018				2019				2020				2021			
	5.3 (5.3)	4.6 (4.6)				4.5 (4.8)				5.1 (5.3)				4.6 (4.7)			
1. Headline inflation		Q1	Q2	Q3	Q4												
		4.1	4.5	5.0	4.8	4.2	4.6	4.7	4.7	5.5	5.1	5.0	4.9	4.8	4.7	4.5	4.5
		(4.1)	(4.5)	(5.0)	(4.8)	(4.4)	(4.7)	(4.9)	(4.9)	(5.7)	(5.4)	(5.1)	(5.0)	(4.8)	(4.7)	(4.6)	(4.5)
2. Core inflation		Q1	Q2	Q3	Q4												
		4.1	4.4	4.2	4.4	4.4	4.4	4.5	4.7	4.8	4.8	4.8	4.7	4.6	4.5	4.5	4.4
		(4.1)	(4.4)	(4.2)	(4.4)	(4.6)	(4.7)	(4.9)	(4.9)	(4.9)	(4.9)	(4.9)	(4.7)	(4.7)	(4.6)	(4.5)	(4.4)

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		
	2015	2016	2017	2018	2019	2020	2021
1. GDP growth.....	1.2%	0.4%	1.4%	0.8%	1.0%	1.8%	2.0%
	(1.2%)	(0.4%)	(1.4%)	(0.8%)	(1.3%)	(1.8%)	(2.0%)
2. Output gap (ratio to potential GDP).....	-0.5%	-1.1%	-1.0%	-1.2%	-1.4%	-0.9%	-0.5%
	(-0.5%)	(-1.1%)	(-1.0%)	(-1.2%)	(-1.1%)	(-0.7%)	(-0.2%)
3. Change in nominal effective exchange rate....	-6.5%	-14.8%	9.9%	-1.0%	-5.2%	-1.7%	-2.7%
	(-6.5%)	(-14.8%)	(9.9%)	(-1.0%)	(-4.3%)	(-2.2%)	(-2.8%)
4. Change in real effective exchange rate.....	-2.3%	-9.7%	13.6%	1.6%	-2.4%	1.1%	-0.1%
	(-2.3%)	(-9.7%)	(13.6%)	(1.6%)	(-1.5%)	(1.0%)	(-0.4%)
5. Real exchange rate gap.....	-3.4%	-12.0%	1.0%	1.6%	-1.3%	-0.2%	-0.3%
	(-3.4%)	(-12.0%)	(1.0%)	(1.6%)	(-0.3%)	(0.6%)	(0.2%)
6. Repurchase rate (end of period).....	6.1%	7.0%	6.8%	6.6%	6.7%	6.5%	6.5%
	(6.1%)	(7.0%)	(6.8%)	(6.6%)	(7.0%)	(6.9%)	(6.9%)
7. Current account balance (ratio to GDP).....	-4.6%	-2.9%	-2.5%	-3.6%	-3.1%	-3.2%	-3.3%
	(-4.6%)	(-2.9%)	(-2.5%)	(-3.6%)	(-3.3%)	(-3.4%)	(-3.5%)

Notes

1. The nominal effective exchange rate is based on the bilateral exchange rates of South Africa's three largest trading partners (the euro area, the US and Japan). The bilateral exchange rates are weighted by export trade weights.
2. The real effective exchange rate is the nominal effective exchange rate deflated by the consumer price differential (between South Africa and the trade-weighted CPI of the euro area, 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

18 July 2019

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

Since the May meeting of the Monetary Policy Committee (MPC), near-term indicators have been pointing to weaker-than-anticipated global economic activity. Global financial conditions have eased, as central banks in advanced economies have signalled a move towards monetary accommodation. However, downside risks remain, and are dominated by escalating trade and geopolitical tensions.

In the domestic economy, gross domestic product (GDP) contracted in the first quarter due to a combination of supply-side and demand-side factors. Monthly inflation outcomes have stayed around the midpoint of the inflation target range, as food and services price inflation remained subdued. The medium-term inflation outlook is unchanged.

The year-on-year inflation rate, as measured by the consumer price index (CPI) for all urban areas, was 4.5% in May (up from 4.4% in April). Goods price inflation was 4.2%, while services price inflation was 4.6%. The South African Reserve Bank's (SARB) measure of core inflation (which excludes food, fuel and electricity) was 4.1%. Producer price inflation for final manufactured goods decreased to 6.4% in May (compared to 6.5% in April).

The inflation forecast generated by the SARB's Quarterly Projection Model (QPM) is for headline inflation to average 4.4% in 2019 (down from 4.5%). The projections for 2020 and 2021 remain unchanged at 5.1% and 4.6% respectively. Headline CPI inflation is expected to peak at 5.4% in the first quarter of 2020 and settle at 4.5% in the last two quarters of 2021. The forecast for core inflation is lower at 4.4% in 2019 (down from 4.5%) and 4.7% in 2020 (down from 4.8%), but is unchanged at 4.5% in 2021.

Electricity, food and fuel price inflation has shaped the trend in headline inflation. The assumptions for Brent crude oil in the QPM have been revised down from US\$69.50 to US\$67 for 2019. The assumptions for 2020 and 2021 remain unchanged at US\$68. Fuel price inflation is expected to average 3.2% in 2019 and to peak at 13.1% in the first quarter of 2020. Although food price inflation has continued to surprise on the downside, it is expected to start rising from the end of 2019 and to peak at 5.6% in the second and third quarters of 2020.

Inflation expectations have continued to moderate. According to the Bureau for Economic Research (BER) second-quarter survey, expectations for headline inflation are for 4.8% in 2019. Inflation expectations for 2020 and 2021 eased to 5.0% and 5.2% respectively. Five-year-ahead inflation expectations remain unchanged at a historical low of 5.1%.

The inflation expectations of market analysts in the July 2019 Reuters Econometer survey have been revised lower to 4.5% (from 4.7%) in 2019 and to 5.0% (from 5.2%) in 2020, and remain unchanged at 5.0% in 2021.

Market-based expectations implicit in the break-even inflation rates (i.e. the yield differential between conventional and inflation-linked government bonds) have declined significantly since our last meeting, reflecting a firmer exchange rate and subdued domestic and global inflation pressures. Five-year break-even rates decreased to 4.5% and ten-year break-even rates decreased to 5.3%, the lowest level since January 2015.

Global GDP is expected to average 3.3% in 2019 and then stabilise at around 3.5% from 2020. While global growth remains relatively healthy overall, recent indicators on trade and manufacturing have deteriorated sharply, and a range of downside risks to growth remains. Growth in world trade volumes contracted for the fifth consecutive month, declining by 2.1% in April 2019. Trade tensions remain heightened, weighing on market confidence and lowering investment. Other downside risks include geopolitical developments and high levels of corporate and sovereign debt. Across most countries, there is limited policy space to respond to shocks.

Inflation outcomes and inflation expectations in most advanced economies remain below targeted levels. Recent communication by the Federal Reserve Bank and the European Central Bank indicates that, in the absence of significant shocks, monetary policy will remain accommodative over the medium term. However, market expectations of the extent of future central bank actions appear high, creating the risk of significant market volatility should these not materialise.

Emerging market currencies are firmer, reflecting a combination of United States (US) dollar weakness and shifting market sentiment. However, country-specific factors remain important, with currencies of countries with stronger macroeconomic fundamentals having fared better.

Since the May MPC, the rand has appreciated by 3.3% against the US dollar, by 2.4% against the euro, and by 2.3% on a trade-weighted basis. The implied starting point for the rand is R14.30 against the US dollar, compared with R14.40 at the time of the previous meeting. At these levels, the QPM assesses the rand to remain slightly undervalued. While the rand has benefited from improved sentiment towards riskier assets, it underperformed its emerging market peers due to idiosyncratic factors. Domestic growth prospects and fiscal risks rate high among investor concerns.

South Africa's GDP contracted by 3.2% in the first quarter, reflecting weakness in most sectors of the economy. The sharp quarterly decline was primarily caused by electricity shortages and strikes that fed into broader weakness in investment, household consumption and employment growth. Based on the recent short-term indicators for the mining and manufacturing sectors, a rebound in GDP is expected in the second quarter of 2019.

Continued low business confidence remains a concern for the MPC. The Absa Purchasing Managers' Index (PMI) averaged 46.3 points in the second quarter, remaining below the neutral level. The Rand Merchant Bank (RMB)/BER Business Confidence Index remains unchanged at 28 points. The SARB's composite leading business cycle indicator continued to trend lower.

The SARB now expects GDP growth for 2019 to average 0.6% (down from 1.0% in May). The forecast for 2020 and 2021 remains unchanged at 1.8% and 2.0% respectively.

The MPC assesses the risks to the growth forecast to be balanced in the near term but remains concerned about the longer-term risks. Investment prospects will continue to be limited in the absence of structural reforms. An escalation of trade tensions could have further negative impacts.

While some cyclical factors constrained recent GDP growth outcomes, the MPC remains of the view that the current challenges facing the economy are primarily structural in nature and cannot be resolved by monetary policy alone. Implementation of prudent macroeconomic policies, together with structural reforms that raise potential growth and lower the cost structure of the economy, remains urgent.

The MPC welcomes the continued downward trend in recent inflation outcomes and the moderation in inflation expectations of about 1 percentage point since 2016. The MPC would like to see inflation remain close to the midpoint of the inflation target range on a more sustained basis, with inflation expectations also anchored around these levels.

The overall risks to the inflation outlook are assessed to be largely balanced. Demand-side pressures are subdued, wages and rental prices are expected to increase at moderate rates, and global inflation should remain low. In the absence of shocks, relative exchange rate stability is expected to continue.

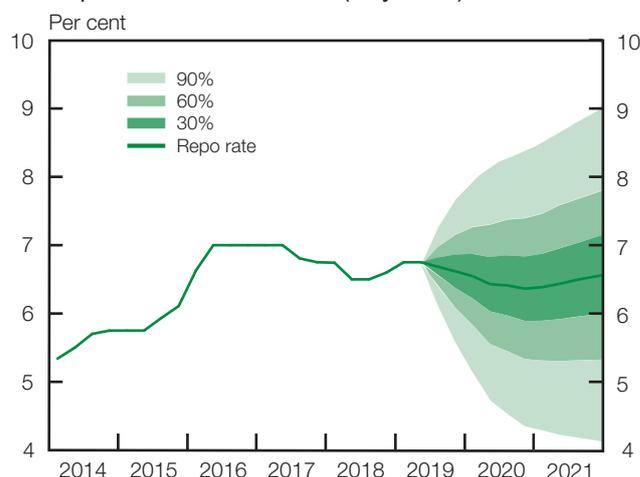
However, the impact of upside risks on the inflation outlook could be significant. Global financial conditions can tighten abruptly due to small shifts in inflation outlooks in advanced economies and changing market sentiment. Domestically, the financing needs of state-owned enterprises (SOEs) could place further upward pressure on the currency and long-term market interest rates for all borrowers. Food, electricity and water prices also remain important risks to the inflation outlook.

Against this backdrop, the MPC has unanimously decided to reduce the repurchase rate by 25 basis points to 6.5% per annum with effect from 19 July 2019.

Monetary policy actions will continue to focus on anchoring inflation expectations near the midpoint of the inflation target range in the interest of balanced and sustainable growth. In this persistently uncertain environment, future policy decisions will continue to be highly data-dependent, sensitive to the assessment of the balance of risks to the outlook, and will seek to look through temporary price shocks.

The implied path of policy rates generated by the QPM is for one cut of 25 basis points to the repurchase rate by the end of the fourth quarter of 2019. The endogenous interest rate path is built into the growth and inflation forecast. The implied path remains a broad policy guide which could change in either direction from meeting to meeting in response to new developments and changing risks.

Repurchase rate forecast (July 2019)



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

Summary of assumptions: Monetary Policy Committee meeting on 18 July 2019*

1. Foreign sector assumptions

	Actual			Forecast		
	2016	2017	2018	2019	2020	2021
1. Real GDP growth in South Africa's major trading-partner countries	3.0%	3.2%	3.3%	2.6%	3.0%	3.2%
	(3.0%)	(3.2%)	(3.2%)	(2.9%)	(3.0%)	(3.1%)
2. Output gap in South Africa's major trading-partner countries (ratio to potential GDP).....	-0.4%	0.0%	0.1%	0.0%	0.0%	0.1%
	(-0.4%)	(-0.3%)	(0.0%)	(0.0%)	(0.2%)	(0.4%)
3. Change in international commodity prices in US\$ (excluding oil).....	4.3%	18.1%	10.9%	-3.0%	0.5%	1.5%
	(4.3%)	(18.1%)	(10.9%)	(-0.5%)	(1.0%)	(1.5%)
4. Brent crude (US\$/barrel)	43.6	54.2	71.0	67.0	68.0	68.0
	(43.6)	(54.2)	(71.0)	(69.5)	(68.0)	(68.0)
5. Change in world food prices (US\$)	-1.5%	8.1%	-3.5%	0.6%	1.6%	1.0%
	(-1.5%)	(8.1%)	(-3.5%)	(0.9%)	(2.6%)	(1.0%)
6. Change in international consumer prices	0.6%	1.8%	1.9%	1.5%	1.8%	1.9%
	(0.6%)	(1.8%)	(1.9%)	(1.5%)	(2.2%)	(1.9%)
7. International policy interest rate.....	0.2%	0.5%	0.9%	1.2%	1.2%	1.4%
	(0.2%)	(0.5%)	(0.9%)	(1.2%)	(1.3%)	(1.6%)

2. Domestic sector assumptions

	Actual			Forecast		
	2016	2017	2018	2019	2020	2021
1. Change in electricity price	9.3%	4.7%	5.2%	9.7%	10.4%	7.4%
	(9.3%)	(4.7%)	(5.2%)	(10.2%)	(10.9%)	(7.4%)
2. Change in fuel taxes and levies.....	9.0%	8.3%	8.9%	5.5%	6.2%	5.6%
	(9.0%)	(8.3%)	(8.9%)	(5.5%)	(6.2%)	(5.6%)
3. Potential growth.....	1.0%	1.4%	1.1%	1.0%	1.3%	1.4%
	(1.0%)	(1.3%)	(1.0%)	(1.2%)	(1.3%)	(1.5%)
4. Inflation target midpoint.....	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
	(4.5%)	(4.5%)	(4.5%)	(4.5%)	(4.5%)	(4.5%)
5. Neutral real interest rate.....	1.6%	1.7%	1.9%	2.1%	2.2%	2.3%
	(1.6%)	(1.7%)	(1.9%)	(2.2%)	(2.3%)	(2.3%)

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 55 and 56.

Summary of selected forecast results: Monetary Policy Committee meeting on 18 July 2019*

Selected forecast results (quarterly)

Year-on-year percentage change

	2017				2018				2019				2020				2021			
	5.3 (5.3)				4.6 (4.6)				4.4 (4.5)				5.1 (5.1)				4.6 (4.6)			
1. Headline inflation	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4												
	4.1	4.5	5.0	4.8	4.2	4.4	4.4	4.5	5.4	5.1	5.1	4.9	4.7	4.7	4.5	4.5				
	(4.1)	(4.5)	(5.0)	(4.8)	(4.2)	(4.6)	(4.7)	(4.7)	(5.5)	(5.1)	(5.0)	(4.9)	(4.8)	(4.7)	(4.5)	(4.5)				
2. Core inflation	2017				2018				2019				2020				2021			
	4.7 (4.7)				4.3 (4.3)				4.4 (4.5)				4.7 (4.8)				4.5 (4.5)			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4												
4.1	4.4	4.2	4.4	4.4	4.2	4.3	4.5	4.7	4.8	4.8	4.6	4.5	4.5	4.4	4.4					
(4.1)	(4.4)	(4.2)	(4.4)	(4.4)	(4.4)	(4.5)	(4.7)	(4.8)	(4.8)	(4.8)	(4.7)	(4.6)	(4.5)	(4.5)	(4.4)					

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		
	2015	2016	2017	2018	2019	2020	2021
1. GDP growth.....	1.2%	0.4%	1.4%	0.8%	0.6%	1.8%	2.0%
	(1.2%)	(0.4%)	(1.4%)	(0.8%)	(1.0%)	(1.8%)	(2.0%)
2. Output gap (ratio to potential GDP).....	-0.5%	-1.1%	-1.1%	-1.4%	-1.7%	-1.2%	-0.6%
	(-0.5%)	(-1.1%)	(-1.0%)	(-1.2%)	(-1.4%)	(-0.9%)	(-0.5%)
3. Change in nominal effective exchange rate....	-6.5%	-14.8%	9.9%	-1.0%	-5.7%	-1.5%	-2.4%
	(-6.5%)	(-14.8%)	(9.9%)	(-1.0%)	(-5.2%)	(-1.7%)	(-2.7%)
4. Change in real effective exchange rate.....	-2.3%	-9.7%	13.6%	1.6%	-3.0%	1.7%	0.2%
	(-2.3%)	(-9.7%)	(13.6%)	(1.6%)	(-2.4%)	(1.1%)	(-0.1%)
5. Real exchange rate gap.....	-3.4%	-12.0%	1.1%	1.7%	-1.9%	-0.3%	-0.1%
	(-3.4%)	(-12.0%)	(1.0%)	(1.6%)	(-1.3%)	(-0.2%)	(-0.3%)
6. Repurchase rate (end of period).....	6.1%	7.0%	6.8%	6.6%	6.6%	6.4%	6.5%
	(6.1%)	(7.0%)	(6.8%)	(6.6%)	(6.7%)	(6.5%)	(6.5%)
7. Current account balance (ratio to GDP).....	-4.6%	-2.9%	-2.5%	-3.6%	-2.8%	-3.1%	-3.5%
	(-4.6%)	(-2.9%)	(-2.5%)	(-3.6%)	(-3.1%)	(-3.2%)	(-3.3%)

Notes

1. The nominal effective exchange rate is based on the bilateral exchange rates of South Africa's three largest trading partners (the euro area, the US and Japan). The bilateral exchange rates are weighted by export trade weights.
2. The real effective exchange rate is the nominal effective exchange rate deflated by the consumer price differential (between South Africa and the trade-weighted CPI of the euro area, 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

19 September 2019

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

Since the July meeting of the Monetary Policy Committee (MPC), economic indicators confirm weaker global economic conditions and low inflation. Central banks in advanced economies have provided more monetary accommodation, helping to ease global financial conditions. Downside risks from escalating trade and geopolitical tensions remain pronounced.

In the second quarter of this year, South Africa's gross domestic product (GDP) rebounded from the contraction experienced in the first quarter, but economic activity levels still remain weak. Monthly inflation has been around the midpoint of the inflation target range, as food and services inflation remains subdued.

The year-on-year inflation rate, as measured by the consumer price index (CPI) for all urban areas, was 4.3% in August (up from 4.0% in July). Goods price inflation in August was 3.9% (up from 3.4% in July), while services price inflation remained at 4.7%. Food price inflation rose to 3.9% (up from 3.4%), due to rising cereal and bread prices. The South African Reserve Bank's (SARB) measure of core inflation, which excludes food, fuel and electricity, rose slightly to 4.3%. Producer price inflation for final manufactured goods decreased to 4.9% in July (compared to 5.8% in June).

The medium-term inflation outlook is largely unchanged. The inflation forecast generated by the SARB's Quarterly Projection Model (QPM) is for headline inflation to average 4.2% in 2019 (down from 4.4%). The projection for 2020 is unchanged at 5.1%, and for 2021 slightly up to 4.7% (from 4.6%). Headline CPI inflation is expected to peak at 5.3% in the first quarter of 2020 and settle at 4.5% in the last quarter of 2021. The forecast for core inflation is lower at 4.3% in 2019 (down from 4.4%), is unchanged at 4.7% in 2020 and is slightly higher at 4.6% in 2021 (up from 4.5%).

Electricity, food and fuel price inflation continue to shape the near- and medium-term trajectory of headline inflation. Fuel price inflation is expected to average 2.4% in 2019 and to peak at 11.8% in the first quarter of 2020. While food price inflation has generally surprised on the downside, it is expected to peak at about 6.0% in the third quarter of 2020. Electricity prices came out higher than expected in August, at 11.8%, but remain in line with the forecast.

Inflation expectations have continued to moderate gradually. According to the Bureau for Economic Research (BER) third quarter survey, expectations for headline inflation were down slightly for 2019 to 4.6% (from 4.8%). Expectations for

2020 remain unchanged at 5.0% and eased from 5.2% to 5.1% for 2021, reaching the lowest levels since 2007. Five-year-ahead inflation expectations also declined to 5.0% (from 5.1%).

The inflation expectations of market analysts in the September 2019 Reuters Econometer survey have been revised lower to 4.3% (from 4.4%) for 2019 and remain unchanged at 4.9% and 4.8% in 2020 and 2021 respectively.

Market-based expectations implicit in the break-even inflation rate (the yield differential between conventional and inflation-linked bonds) have remained stable since the previous MPC. Five-year break-even rates are currently at about 4.6% and ten-year break-even rates at 5.4%.

Global GDP is expected to slow to 3.2% in 2019 and rise to around 3.5% in 2020. While global growth remains resilient, recent indicators on trade and manufacturing have deteriorated and a range of downside risks to growth remain. Growth in world trade volumes has continued to decline, with trade tensions weighing on market confidence and lowering investment. Other downside risks include geopolitical developments, further oil price shocks, and high levels of corporate and sovereign debt. Across most countries, there is limited policy space to respond to shocks.

Inflation outcomes and inflation expectations in most advanced economies remain below targeted levels. Barring significant shocks, monetary policy in major advanced economies will remain accommodative over the medium term. However, market expectations of further accommodation appear high, creating ongoing risk of market volatility should these not materialise.

Since the July MPC, the rand has depreciated by 4.6% against the US dollar, and by 3.0% against the euro. The implied starting point for the rand is R14.88 against the US dollar, compared with R14.40 at the time of the previous meeting. At these levels, the QPM assesses the rand to remain slightly undervalued. While the rand has benefited from improvements in global sentiment, investors remain concerned about domestic growth prospects and fiscal risks.

GDP rebounded to 3.1% in the second quarter, following a decline of 3.1% in the first quarter. The sharp quarterly rebound was caused by stronger output in nearly all sectors, including investment and government consumption spending. However, longer-term weakness in most sectors

remains a serious concern. Based on recent short-term economic indicators for the mining and manufacturing sectors, the third-quarter GDP outcome is expected to be muted.

Business confidence has declined further. The Absa Purchasing Managers' Index came out at 45.7 points in August (from 46.3), and the Rand Merchant Bank (RMB)/BER Business Confidence Index fell to 21 points (from 28). The SARB's composite leading business cycle indicator also continued to trend lower, although the coincident indicator remains positive.

The forecast of GDP growth for 2019 remains unchanged at 0.6%. The forecasts for 2020 and 2021 have decreased to 1.5% (from 1.8%) and 1.8% (from 2.0%), respectively due to revisions to global growth and domestic potential growth.

The MPC assesses the risks to the growth forecast to be balanced in the near term, but remains concerned about medium-term growth and weak employment prospects. Escalation in global trade tensions, further domestic supply constraints and sustained higher oil prices could generate headwinds to growth. Public sector financing needs remain high, exerting pressure on the currency and pushing local bond yields higher relative to country peers. Implementation of prudent macroeconomic policies and structural reforms that lower costs, and raise investment and potential growth, remains urgent.

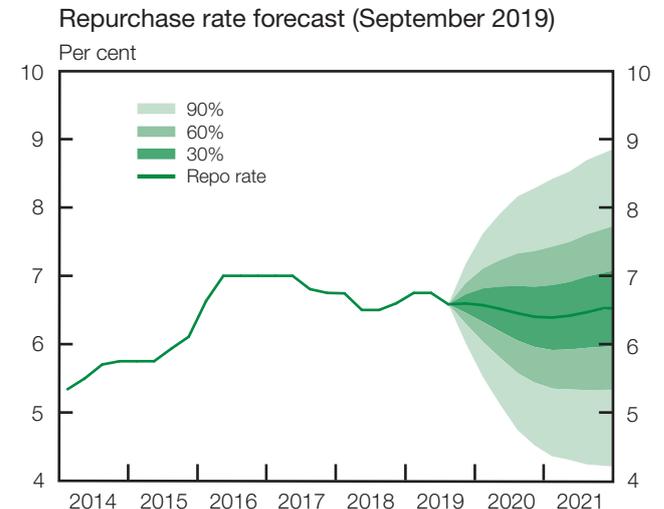
The overall risks to the inflation outlook are assessed to be largely balanced. Demand-side pressures remain subdued and food, wages and rental prices are expected to increase at moderate rates. Global inflation should remain low. In the absence of shocks, relative exchange rate stability is expected to continue. Some upside risks to the inflation outlook remain, in particular from fuel, electricity and water prices.

The MPC welcomes the sustained moderation in inflation outcomes and the fall in inflation expectations of about 1% since 2016. The Committee would like to see inflation expectations also anchored closer to the midpoint of the inflation target range on a sustained basis.

Against this backdrop, the MPC unanimously decided to keep the repurchase rate unchanged at 6.5% per annum.

Monetary policy actions will continue to focus on anchoring inflation expectations near the midpoint of the inflation target range in the interest of balanced and sustainable growth. In this persistently uncertain environment, future policy decisions will continue to be highly data-dependent, sensitive to the assessment of the balance of risks to the outlook, and will seek to look through temporary price shocks.

The implied path of policy rates over the forecast period generated by the QPM indicated no changes to the repurchase rate. This remains a broad policy guide, which could change in either direction from meeting to meeting in response to new developments and changing data and risks.



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

Summary of assumptions: Monetary Policy Committee meeting on 19 September 2019*

1. Foreign sector assumptions

	Actual			Forecast		
	2016	2017	2018	2019	2020	2021
1. Real GDP growth in South Africa's major trading-partner countries	3.0%	3.2%	3.3%	2.5%	2.8%	3.1%
	(3.0%)	(3.2%)	(3.3%)	(2.6%)	(3.0%)	(3.2%)
2. Output gap in South Africa's major trading-partner countries (ratio to potential GDP).....	-0.4%	0.0%	0.1%	-0.1%	-0.2%	-0.1%
	(-0.4%)	(0.0%)	(0.1%)	(0.0%)	(0.0%)	(0.1%)
3. Change in international commodity prices in US\$ (excluding oil).....	4.4%	18.2%	11.0%	-3.0%	0.0%	1.0%
	(4.3%)	(18.1%)	(10.9%)	(-3.0%)	(0.5%)	(1.5%)
4. Brent crude (US\$/barrel)	43.6	54.2	71.0	65.0	66.0	66.0
	(43.6)	(54.2)	(71.0)	(67.0)	(68.0)	(68.0)
5. Change in world food prices (US\$)	-1.5%	8.1%	-3.5%	0.8%	1.5%	1.0%
	(-1.5%)	(8.1%)	(-3.5%)	(0.6%)	(1.6%)	(1.0%)
6. Change in international consumer prices	0.6%	1.8%	1.9%	1.5%	1.8%	1.8%
	(0.6%)	(1.8%)	(1.9%)	(1.5%)	(1.8%)	(1.9%)
7. International policy interest rate.....	0.2%	0.5%	0.9%	1.1%	0.9%	1.0%
	(0.2%)	(0.5%)	(0.9%)	(1.2%)	(1.2%)	(1.4%)

2. Domestic sector assumptions

	Actual			Forecast		
	2016	2017	2018	2019	2020	2021
1. Change in electricity price	9.3%	4.7%	5.2%	9.0%	9.7%	7.4%
	(9.3%)	(4.7%)	(5.2%)	(9.7%)	(10.4%)	(7.4%)
2. Change in fuel taxes and levies.....	9.0%	8.3%	8.9%	5.3%	5.9%	5.6%
	(9.0%)	(8.3%)	(8.9%)	(5.5%)	(6.2%)	(5.6%)
3. Potential growth.....	1.0%	1.4%	1.1%	1.0%	1.1%	1.2%
	(1.0%)	(1.4%)	(1.1%)	(1.0%)	(1.3%)	(1.4%)
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.....	1.6%	1.7%	1.9%	2.2%	2.4%	2.4%
	(1.6%)	(1.7%)	(1.9%)	(2.1%)	(2.2%)	(2.3%)

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 55 and 56.

Summary of selected forecast results: Monetary Policy Committee meeting on 19 September 2019*

Selected forecast results (quarterly)

Year-on-year percentage change

	2017	2018				2019				2020				2021			
	5.3 (5.3)	4.6 (4.6)				4.2 (4.4)				5.1 (5.1)				4.7 (4.6)			
1. Headline inflation		Q1	Q2	Q3	Q4												
		4.1	4.5	5.0	4.8	4.2	4.4	4.1	4.3	5.3	4.9	5.2	5.0	4.8	4.8	4.6	4.5
		(4.1)	(4.5)	(5.0)	(4.8)	(4.2)	(4.4)	(4.4)	(4.5)	(5.4)	(5.1)	(5.1)	(4.9)	(4.7)	(4.7)	(4.5)	(4.5)
2. Core inflation		Q1	Q2	Q3	Q4												
		4.1	4.4	4.2	4.4	4.4	4.2	4.2	4.3	4.6	4.8	4.8	4.8	4.6	4.6	4.5	4.5
		(4.1)	(4.4)	(4.2)	(4.4)	(4.4)	(4.2)	(4.3)	(4.5)	(4.7)	(4.8)	(4.8)	(4.6)	(4.5)	(4.5)	(4.4)	(4.4)

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)

	Forecast					
	2016	2017	2018	2019	2020	2021
1. GDP growth	0.4%	1.4%	0.8%	0.6%	1.5%	1.8%
	(0.4%)	(1.4%)	(0.8%)	(0.6%)	(1.8%)	(2.0%)
2. Output gap (ratio to potential GDP)	-1.1%	-1.1%	-1.4%	-1.7%	-1.3%	-0.6%
	(-1.1%)	(-1.1%)	(-1.4%)	(-1.7%)	(-1.2%)	(-0.6%)
3. Change in nominal effective exchange rate	-14.8%	9.9%	-1.1%	-7.5%	-0.8%	-2.1%
	(-14.8%)	(9.9%)	(-1.1%)	(-5.7%)	(-1.5%)	(-2.4%)
4. Change in real effective exchange rate	-9.7%	13.6%	1.5%	-4.9%	2.4%	0.7%
	(-9.7%)	(13.6%)	(1.5%)	(-3.0%)	(1.7%)	(0.2%)
5. Real exchange rate gap	-11.7%	1.5%	2.3%	-3.4%	-1.3%	-0.6%
	(-12.0%)	(1.1%)	(1.8%)	(-1.9%)	(-0.3%)	(-0.1%)
6. Repurchase rate (end of period)	7.0%	6.8%	6.6%	6.6%	6.4%	6.5%
	(7.0%)	(6.8%)	(6.6%)	(6.6%)	(6.4%)	(6.5%)
7. Current account balance (ratio to GDP)	-2.9%	-2.5%	-3.6%	-3.5%	-3.7%	-3.8%
	(-2.9%)	(-2.5%)	(-3.6%)	(-2.8%)	(-3.1%)	(-3.5%)

Notes

1. The nominal effective exchange rate is based on the bilateral exchange rates of South Africa's three largest trading partners (the euro area, the US and Japan). The bilateral exchange rates are weighted by export trade weights.
2. The real effective exchange rate is the nominal effective exchange rate deflated by the consumer price differential (between South Africa and the trade-weighted CPI of the euro area, 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 (the euro area, United States (US), United Kingdom, 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 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 and Reuters.
5. **World food prices** is the composite food price index of the United Nations Food and Agriculture Organization 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 euro area, 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 euro area, 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 3.75% in the headline consumer price index 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, 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/14/08*).
4. The **inflation target range midpoint** is the middle of the official inflation target range of 3–6%.
5. The **neutral real interest rate** 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, 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 that is released monthly 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 (29.26%), the Chinese yuan (20.54%), the US dollar (13.72%), the Japanese yen (6.03%), and the British pound (5.82%). Index: 2010 = 100. See also 'Real effective exchange rate' on the next page.

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' on the previous page.

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

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

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

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

Abbreviations

BER	Bureau for Economic Research	UIP	uncovered interest parity
CDS	credit default swap	UK	United Kingdom
CPI	consumer price index	ULC	unit labour cost
ECB	European Central Bank	US	United States
EMBI+	JPMorgan Emerging Market Bond Index Plus	VAT	value-added tax
FAO	Food and Agriculture Organization	VIX	Chicago Board Options Exchange Volatility Index
Fed	Federal Reserve		
FRA	forward rate agreements		
GDP	gross domestic product		
GPM	Global Projection Model		
Haver	Haver Analytics		
IIF	Institute of International Finance		
IMF	International Monetary Fund		
JSE	JSE Limited		
MPC	Monetary Policy Committee		
<i>MPR</i>	<i>Monetary Policy Review</i>		
<i>MTBPS</i>	<i>Medium Term Budget Policy Statement</i>		
NAB	non-alcoholic beverages		
NEER	nominal effective exchange rate		
NERSA	National Energy Regulator of South Africa		
NRIR	neutral real interest rate		
OER	owners' equivalent rent		
PMI	Purchasing Managers' Index		
<i>QES</i>	<i>Quarterly Employment Statistics</i>		
<i>QLFS</i>	<i>Quarterly Labour Force Survey</i>		
QPM	Quarterly Projection Model		
RAF	Road Accident Fund		
REER	real effective exchange rate		
repo (rate)	repurchase (rate)		
RMB	Rand Merchant Bank		
RMSE	root mean square errors		
SARB	South African Reserve Bank		
SIT	services, income and current transfers		
SOEs	state-owned enterprises		
SSA	sub-Saharan Africa		
Stats SA	Statistics South Africa		