ERSA Policy Bulletin
July 2020

Macroeconomic policy options for a savings constrained economy: the case of South Africa

Chris Loewald, David Faulkner and Konstantin Makrelov[1]

Abstract

The many diagnostic studies that exist for South Africa typically focus on microeconomic constraints to growth. Higher potential growth certainly requires structural reforms to boost productivity growth. But these will be more effective if macroeconomic policy no longer impedes the needed relative price adjustments and consequential factor allocations to achieve higher productivity and job creation. We assess the performance of macroeconomic policy over the last 10 years. Our conclusion is that a different policy mix could have generated higher growth outcomes since the global financial crisis, raised potential growth, and provided the fiscal space to respond to the current Covid-19 crisis more effectively.

Diagnosing macroeconomic misalignment

Since 2013, South Africa's macroeconomic imbalances and structural impediments to growth have become even more challenging.[2] Growth slowed to a standstill in 2019, registering just 0.2%, unemployment has reached 30%, educational outcomes remain poor, and export volumes have been largely unchanged over the last 10 years. An important source of low-skilled job creation, manufacturing continues to languish relative to services sectors. Government debt reached 63% of GDP in 2019, and may increase to more than 100% within five years. Electricity supply is unreliable and operating subsidies to and debt of the supplier are major fiscal costs and contingent liabilities. One of the few positive developments has been a decline in inflation, helped by more effective monetary policy and lower inflation globally.

The Covid-19 pandemic and lockdown response has deepened the economic problem facing the country, inflicting major supply and demand shocks to the domestic economy. Fiscal resources need to be found and applied effectively to mitigate the health and economic costs of the pandemic, in a time consistent way: near-term fiscal and monetary policy needs to remain consistent with longer-term macroeconomic stability and growth.

[1] Christopher Loewald is the Head of the Economic Research Department of the South African Reserve Bank, David Faulkner is an economist at HSBC Securities (South Africa) (Pty) Ltd, , and Konstantin Makrelov is a Lead Economist at the South African Reserve Bank. The views in this paper are solely those of the authors and can in no way be attributed to HSBC Securities (South Africa) (Pty) Ltd or the South African Reserve Bank.

[2] See Faulkner, Loewald, and Makrelov (2013).

The argument in brief

Since the global financial crisis, South African macroeconomic policy has been firmly expansionary. Fiscal deficits, examined below, have been large and public debt has roughly tripled, while real policy interest rates have been generally low and for much of the period negative. Public spending has increased significantly as a percentage of GDP. While there have been spending constraints in some areas to try to manage the size of fiscal deficits, policy has not been austere.

These post-crisis expansionary macroeconomic policies failed to ignite growth, however, because they did not address South Africa's underlying growth problems. There was also less room to grow than often thought: ex-post estimates of potential growth showed much lower outcomes than did the real-time estimates (and output gaps) that guided policy. As a result external and internal imbalances were evident over the whole period. Inflation was relatively high (around 5.5 to 6%) up to 2018, and well above inflation rates in either advanced or other emerging economies, directly reducing export competitiveness, productivity, and job creation in tradables industries.

South Africa now has to address the pandemic from a position of profound fiscal weakness. Somewhat softer inflation outcomes over the remainder of 2020 creates some monetary policy space, but does not allow macroeconomic policy to sidestep the need for fiscal policy to be sustainable, now and after the crisis. Moreover, short-term currency weakness, potentially higher future inflation and more public borrowing point to *increasing* public debt service costs.

The current, pandemic-driven, circumstances require an increase in health-related spending as well as support to address the near-term shock to household and business incomes. But financing this over time and at lower cost now *also* requires delivering clear and credible fiscal consolidation plans that also support long-run economic growth. A determined shift in spending towards investment in infrastructure and human capital accumulation, and moderating the tax burden, would reverse the decay in fiscal multipliers. Financing could be improved with macroprudential regulatory reforms that push marginal financing toward climate change adaptation and mitigation and health needs that have positive short and long-run growth externalities.

A sustainable fiscal position would avert a macroeconomic-level sudden stop in funding, prevent a large-scale fiscal retrenchment and protect the income and savings of public employees. It would also support external balance, a greater proportion of domestically-produced tradable goods and services. Less fiscal pressure on capital markets and the currency results in real depreciation, in turn helping to rebalance the economy as imports moderate relative to rising exports, and generating investment and attracting creditors to finance the economy. In the wake of *real* depreciation, attaining and keeping lasting economic benefits requires stable and comparatively-low inflation that in turn keeps interest rates low. This in turn further moves the economy toward internal balance (more employment across sectors).

While productivity growth requires structural reform, such reforms will be more effective if macroeconomic policy facilitates relative price adjustments and consequential factor (capital and labour) allocations. Policies that increase inflation, either through too expansionary fiscal and monetary policies or deeper nominal currency depreciation, work against those factor price movements, increase inequality and poverty, and will certainly impede sustainable job creation.

If policy has been systematically expansionary and yet ineffective in either creating jobs or reducing poverty and inequality, what can we make of the critique that more of the same is needed? In general, and given the policy settings actually achieved, this view is grounded in the idea that there are really no

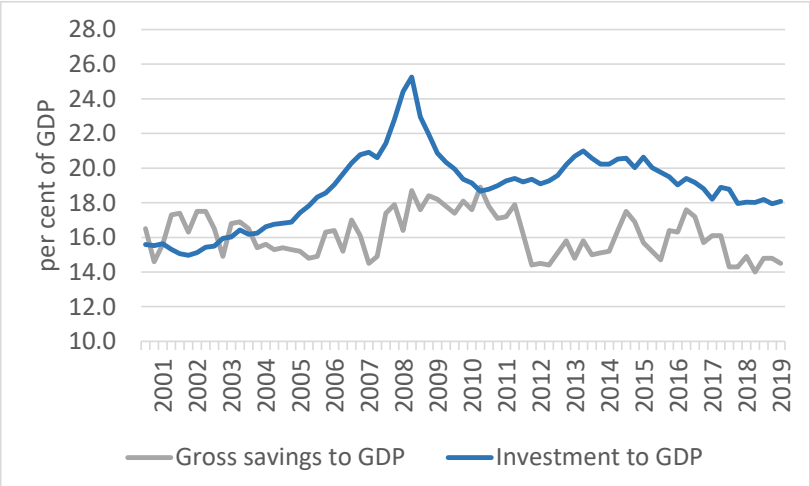
binding financing constraints, either to financing or to supply. But if there are limits to finance or supply, then more expansion will deepen imbalances already evident. Without relief of supply constraints in the short-term, then the costs of excess expansion appear elsewhere (either more imports, rising taxes, or inflation). In turn, these effects carry additional costs in the form of extended periods of declining competitiveness and deteriorating potential growth.

The public sector could probably expand somewhat in size relative to the private sector over time but this should occur through productivity-enhancing public services and infrastructure that accelerate economy-wide growth. But if this is not possible, then negative growth and macroeconomic effects are likely, as recent experience shows. The collapse in fiscal multipliers suggests that post-crisis policy has not increased productivity of the public sector or of the economy as a whole. There are various reasons for this, including corruption, inefficient spending, and sustained above-productivity increases in the public wage bill. The macroeconomic effects are adverse and act to limit present and future fiscal and monetary policy space.

Fiscal expansion with low savings rates

South Africa's savings rate is too low to finance even a relatively low domestic investment rate without borrowing from foreign savers (Figure 1). The resulting savings-investment gap, which is the current account balance, has been negative for most of the period since 2003, even with growth slowing below 1 per cent in recent years.[3] Non-residents own almost one-third of rand-denominated debt, down by 10 percentage points from its peak but still well above the emerging market average.[4] Cheap foreign financing has been one of the key ingredients of the post-GFC global recovery, driven by loose monetary policy in advanced economies and increased risk appetite.[5] South Africa has taken advantage of this abundance of capital.

Figure 1 : Gross Savings and Investment to GDP

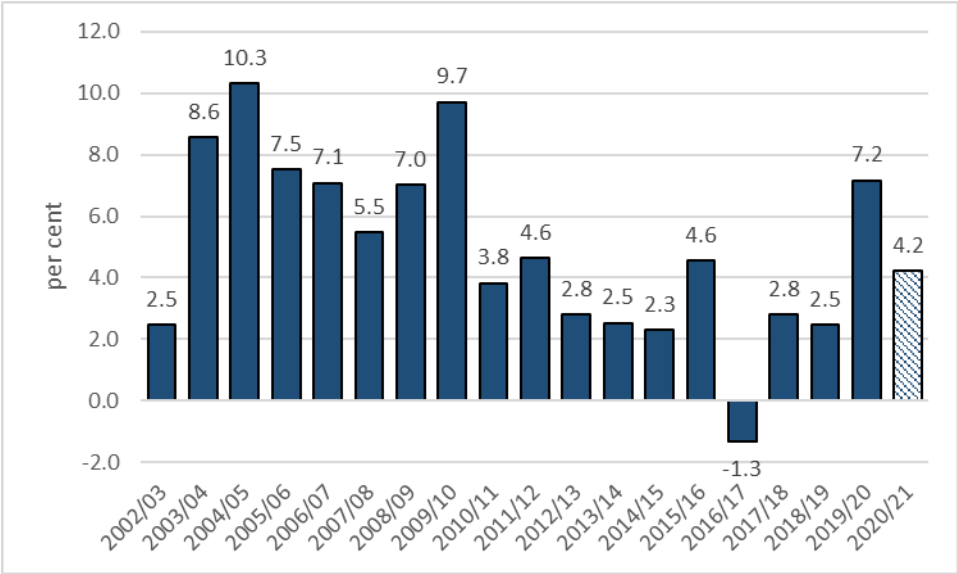


However, occasional global crises and ongoing domestic factors will continue to push real interest rates higher to attract foreign savings and encourage more domestic savings. The only real solution to this problem (and the associated risk of a sudden stop in financing) is to set fiscal policy on a sustainable path.

[3] The experience of the Growth Commission's 13 examples of "economic miracles" finds overall investment rates equal to 25 per cent of GDP or higher are needed to achieve and sustain high growth, and that "there is no case of a sustained high investment path not backed up by high domestic savings" (Commission for Growth and Development 2008).
[4] Over the past decade, non-resident holdings of ZAR government bonds has increased by more than ten-fold, to ZAR742bn (15% of GDP).
[5] See Ahmed and Zlate (2014), Forbes and Warnock (2012) and Rey (2015b)

In the post-GFC era, however, fiscal policy exhibited strong real growth in spending, averaging almost 4% per year over the entire period, and increasing by more than 7% in the past year alone (Figure 2). As a result of that growth, public spending constitutes about 33% of GDP, up from 25% in just over ten years (Figure 3).[6]

Figure 2: Government expenditure in real terms



Source: National Treasury

Initially, some of the increase in spending was financed by higher tax revenues, which increased by 2 percentage points of GDP, from 23.9% in 2010/11 to 25.9% in 2016/17, outpacing the move in the spending to GDP ratio and generating some improvement in the fiscal deficit over this period (Figure 3).[7] But much of that rise in revenue to GDP came about through a large increase in the effective real personal income tax rate, above-inflation increases in consumption taxes, and the withholding of refunds by the revenue service.[8] As growth faltered and tax buoyancy declined below projections, these tax increases were insufficient to keep the revenue ratio to GDP up. Instead, the ratio stabilised at about 26% of GDP, and fiscal deficits worsened, in part because tax increases were having a contractionary effect on private economic activity.[9]

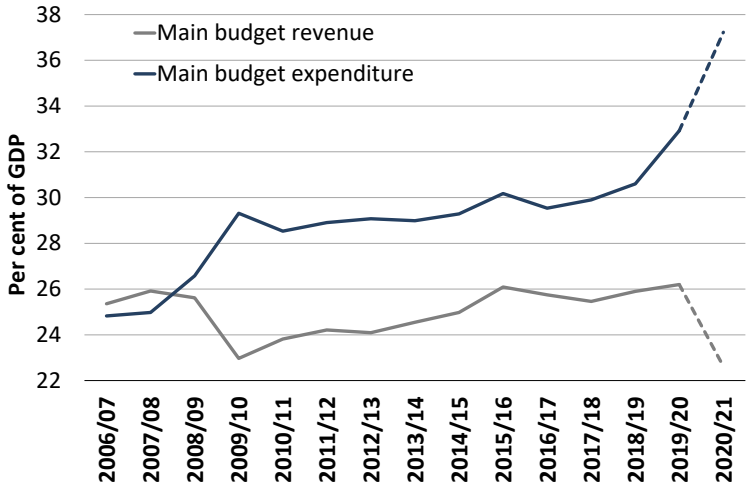
[6] The 2020 Supplementary Budget projects the ratio to jump to 37.2 % in 2020/2, due to an increase in expenditure related to the Covid-19 crisis and a large contraction in nominal GDP. The ratio is expected to return to 33.1 % in 2021/22.

[7] The government expenditure to GDP ratio increased by 1 percentage point over this period to 29.5 per cent.

[8] In the absence of these tax changes, we estimate that the tax to GDP ratio would have been about 24.3 per cent, and probably lower due to stronger growth.

[9] The decline in tax buoyancy reflects several factors including slower economic growth (partly a function of tax increases); the reduction in accumulated PIT, VAT and CIT refunds; recovery in the exchange rate in FY16/17, compositional changes such as weaker durable goods spending that are subject to VAT, increased allowances for retirement savings, higher levels of tax evasion associated with corruption and state capture within the revenue service, and a declining capacity to collect revenue.

Figure 3: Ratio of tax and expenditure to GDP



Source: National Treasury

From a compositional perspective, much of the pressure on available resources came from the public sector wage bill which grew by 40% in real terms over a 12 year period, although transfers to provinces (health and education expenditure) and social grants also increased strongly. Within the basic education and health spending envelope, non-wage spending has slowed sharply. Operational subsidies for state-owned firms has become a large additional part of public spending (NT 2019).

The rise in debt and the steady rise in interest costs has become the fastest growing spending component, rising at more than 12% per year, with debt service costs increasing to 4% of GDP and absorbing almost 15% of tax revenues. By contrast investment spending has declined, with the public sector investment ratio falling to just 5.4% of GDP.

The 2020 Budget finally concentrated on slowing the pace of wage growth, although spending on social, economic and community development as well as health continued to rise in real terms.[10] Lower tax revenue and higher transfers to state owned companies, however, more than made up for the expected slower wage bill growth, resulting in a rise in the estimated main budget deficit to 6.8% of GDP in 2020/21.

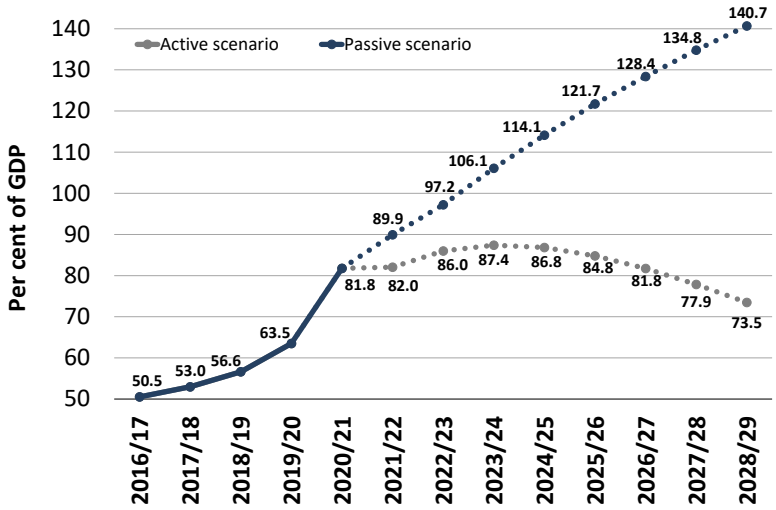
The persistent budget deficits have led to a large increase in debt, which increased from 26% of GDP in 2008/09 to 63% in 2019/20, a more rapid debt build-up than in most emerging markets. The Budget 2020 projections showed the debt to GDP ratio expected to reach 72% within three years. The supplementary budget presented in June showed a significantly worse picture with the Covid-19 crisis rapidly deteriorating the fiscal framework and likely pushing debt above 100% of GDP by 2023/24 (Figure 4).[11]

In response to the rapid deterioration in the fiscal framework, the National Treasury has proposed an 'active scenario', which relies on cuts to expenditure and again on substantial tax increases to stabilise and reduce debt. While bold it is also clear that this is an indicative and non-binding scenario, which will be discussed further in the Medium Term Budget Policy Statement in October.

[10] National Treasury outlined a plan to cut the government wage bill over the next three years by R160bn, which if achieved would mark a real decline in spending on public sector wages.

[11] These projections assume nominal GDP contracts by 4.3% in 2020/21 before growing by 8% in 2021/22. They assume a revenue buoyancy of 2.5 for 2020/21 and 0.8 for 2021/22. Revenue is expected to contract by more than nominal GDP in the current fiscal year and rebound more slowly. We use the Budget 2020 assumptions for 2022/23 to 2024/25.

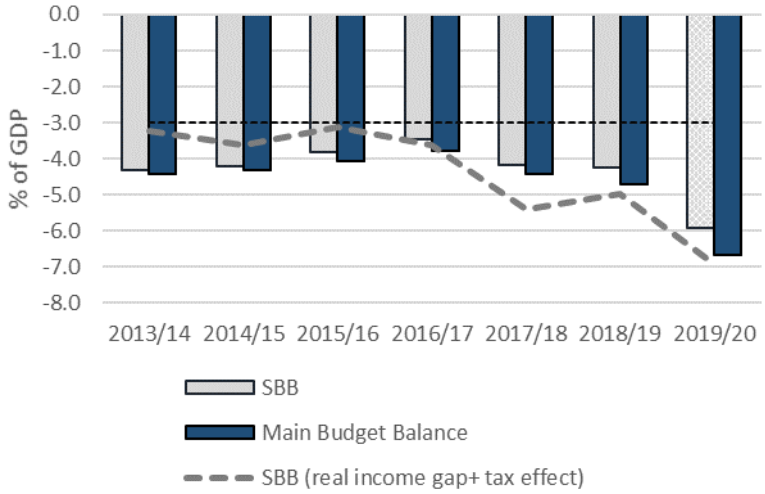
Figure 4: Debt to GDP projections



Source: National Treasury

Going back to recent fiscal policy, the cyclically adjusted main budget deficit has been stable and large, and widens further on a structural basis.[12] Short-term cyclical factors appear to have had little impact on deficits (Figures 5 and Figure 6).[13] The fiscal impulse – the change in the cyclically adjusted primary and main budget balances – shows that the fiscal stance shifted from mild contraction (of about one-third of a percentage point each year) between 2013/14 to 2016/17 to robust expansion (nearly two percentage points) subsequently.[14]

Figure 5: Main budget balance and structural budget balance



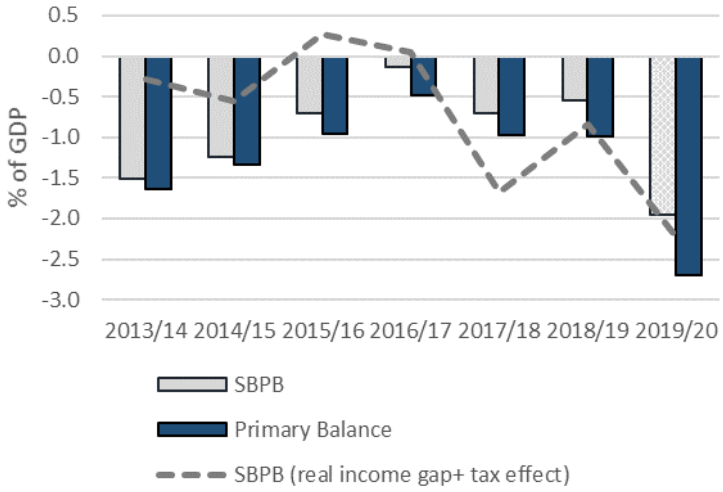
Source: National Treasury, SARB, authors' own calculation

[12] The cyclically-adjusted main budget deficit accounts for the output gap. We calculate the structural budget balance using the approach of Braconier and Forsfält (2004), accounting for terms of trade and revenue effects (prices and tax composition).

[13] Adjusting for the terms of trade captures temporary price effects on revenue collection, while tax effects adjust for compositional changes in revenue. Our results are in line with those presented by Mercier (2017) and Amra, Hanusch, and Jooste (2019), who find that the structural budget balance was narrowing until 2015/16.

[14] Amra, Hanusch, and Jooste (2019) provide assessment of fiscal policy prior to 2013/14. Fiscal policy was countercyclical just before and after the global financial crisis. Counter cyclicality was not strong enough prior to the financial crisis as a larger share of commodity linked revenues should have been saved. The fiscal stimulus in the immediate period after the global financial crisis was based on permanent increases to expenditure, which made them difficult to be reversed at a later stage.

Figure 6: Primary balance and primary structural budget balance (adjusted for output gap, real income and tax effects)



Source: National Treasury, SARB, authors' own calculation

Given these stimulatory fiscal deficits, why wasn't growth stronger? An extensive literature finds South Africa's fiscal multipliers to be small.[15] Makrelov et al. (2020) additionally show that positive fiscal multipliers are state-contingent, depending on sustainable debt, a large negative output gap, positive capital inflows and a healthy financial sector. Without these conditions, the financial channel and high debt can sharply *lower* the fiscal expenditure multiplier or turn it negative, even where growth is below potential.[16] In these conditions, neutral interest rates increase and higher levels of risk aversion drive up sovereign risk premia and bond yields.[17] As growth falls below the level of real interest rates, and fiscal authorities continue to run primary deficits, the debt to GDP ratio rises unabated (see Blanchard (1990)).[18] Such adverse starting conditions are clearly evident in South Africa.

Moderating private sector growth has, alongside decreasing exogenous prices, helped core and consumer price inflation shift lower. As these fed into inflation expectations from about 2018 onward, the inflation premium should have supported lower bond yields. And yet sovereign risk has risen and real bond yields have increased by more than two percentage points. This has been enough to draw in the capital needed to finance the fiscal shortfall, but has driven up debt service costs and steepened the yield curve as short-term rates have fallen with the repurchase rate.

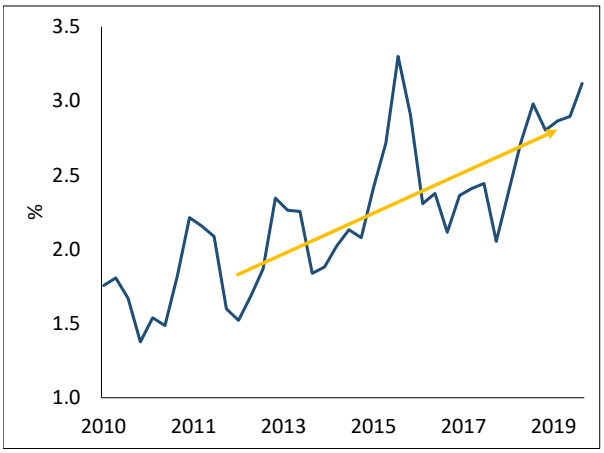
[15] Jooste, Liu, and Naraidoo (2013) estimate a short-term multiplier that varies over time but is often less than one, with no impact on GDP in the long term. Jooste and Naraidoo (2017) also find small multipliers. Mabugu et al. (2013), employing an inter-temporal CGE model, find a small positive impact from government expenditure on capital when it also boosts productivity. Akanbi (2013) finds multipliers just below 1 even where the output gap is negative, and that the multipliers decline to zero within three years.

[16] See Bayoumi, Goldstein, and Woglom (1995) and Haugh, Ollivaud, and Turner (2009). See for example Blanchard and Leigh (2014) and Christiano, Eichenbaum, and Rebelo (2011). See Carrillo and Poilly (2010) and Fernández-Villaverde (2010).

[17] See Summers and Rachel (2019) and Jaramillo and Weber (2013).

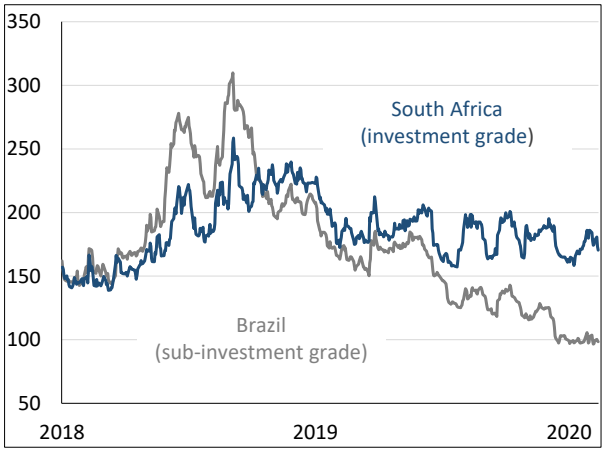
[18] See Alesina, Favero, and Giavazzi (2019).

Figure 7: SA risk measure (EMBI+ spread)



Source: JP Morgan

Figure 8: CDS spreads (Brazil vs South Africa)



Source: Bloomberg

Achieving low inflation, at last?

While the past decade has seen a marked deterioration in fiscal metrics, there have been some improvements in inflation dynamics. Headline inflation was at the top of the target for a considerable part of the post-GFC era, but has mostly remained within the 3 to 6 per cent target band. Since 2016 inflation expectations have steadily declined. Several factors have supported this trend, including the recent period of benign food price inflation, a moderation in core price pressures, low global inflation, weaker exchange rate pass-through, and improved monetary policy credibility.

Implicit in South Africa's inflation outcomes are the monetary policy decisions made over this period. Between the third quarter of 2008 and the fourth quarter of 2009, the policy rate was lowered by 500 basis points as domestic economic conditions deteriorated, reaching 5% in 2012. As a result, the real repo rate declined from 3.5% in 2009 to below zero over the period 2011 to 2014, a period that saw inflation average close to the top of the target range. Policy was tightened in 2014 in response to this and increased risk premia exacerbated by tighter global monetary policy and the Federal Reserve's tapering of its of asset purchases. This domestic tightening was however gradual and the nominal repo rate peaked at 7% in 2016, far below the pre financial crisis levels of 12%. Inflation rates, however, remained relatively sticky up to 2018 despite weak economic growth outcomes.

The approach to policy shifted in 2017, with a more concerted communications, emphasizing the 4.5% mid-point of the target band as the preferred level of inflation (SARB 2019). This effort coincided with a series of exogenous disinflation shocks, to oil, food prices, and eventually global growth and producer prices. With a relatively stable nominal repo rate, this moderation in inflation pulled up the real interest rate to a level more consistent (than it had been) with the Reserve Bank's estimate for the neutral rate.

The improved effectiveness of monetary policy rested, in our view, on enhancing communication and being clearer about the role of inflation in keeping interest rates up. This was an inversion of commonly-held views in South Africa, which tend to reflect a traditional Philips curve relationship running from low rates to higher inflation and stronger economic growth.[19] The 2013 to 2017 period, however, showed higher inflation contributing to a stagflationary malaise, rather than faster growth. Not only was potential growth much lower than conventionally thought (revealed by the lack of output response to

[19] Phillips curve estimates for South Africa using wage and headline inflation routinely find little positive relationship between inflation and the output gap (Dadam and Viegi 2015; Kabundi, Schaling, and Some 2016).

expansionary policies), but stagflation itself demonstrated the degree of indexation of wages and prices generally.[20] With indexation, policy responses to negative economic shocks fail to gain traction because these shocks do little to lower inflation in the first place. Instead, inflation expectations stay high and exogenous shocks to inflation transmit into domestic price determination.

Considering fiscal and monetary policy together, it is hard to avoid the conclusion that between 2016 and 2019, policies were working at cross-purposes. Fiscal policy ran bigger deficits despite falling fiscal multipliers, by definition supporting a higher inflation rate than was warranted and directly driving up debt levels and the country risk premium. This, in turn, increased estimates of the neutral real interest rate – calculated as a function of sovereign risk premium and a global rate – and put upward pressure on policy rates. Monetary policy communications engineered lower inflation expectations, by contrast, and with the advent of the pandemic, the policy space to be more counter-cyclical has opened up. Monetary policy has eased by 300 basis points in less than a year, taking the repo rate to a historic low of 3.75% in May 2020.

Monetary policy transmission into real output, however, also appears to have been low, but, unlike fiscal policy, there are clearer reasons for why this was the case. Credit demand from households was dampened in a clear shift post-GFC to reduce debt, while that from firms seemed focused on, or limited to, particular kinds of investment (primarily commercial property or renewables projects). Implementation of Basel III after the global financial crisis may also have impeded credit supply and demand. South African banks raised their capital ratios over the period 2008 to 2018, with regulatory capital to risk-weighted assets ratio increasing from 13 to 16.6%, the tier 1 ratio increased from 11.2 to 15%, and the leverage ratio went from 5.7 to 8.5%, well above Basel III requirements. [21] Part of this rise in capital reflected South Africa's tougher regulatory regime, but it also may have highlighted expected difficulties with raising equity in the future, higher economic volatility and risks, and a more competitive business environment.[22]

It seems clear that lending spreads on household mortgages increased after 2008, and also reversed the squeezed spreads evident in the 2000s (Figure 9).[23] And, over time, banks have faced higher liquidity costs, with the premium on liquidity rising by close to 1 percentage point from 2008 (Rapapali and Steenkamp (2019)). This points to transition costs of moving from one regulatory benchmark to another, with the shift to higher standards imposing a short-term cost on the economy. To the extent that the new standards demanded less maturity mismatch (a key objective of the Net Stable Funding Ratio), then it would also have temporarily at least lowered funds available for long-term lending.

Finally, regulations may have incentivized greater purchases of sovereign debt by domestic banks to meet high quality liquid asset requirements. Government stock comprised 7.8% of bank assets at the end of 2019, up from 3.2% in 2008.

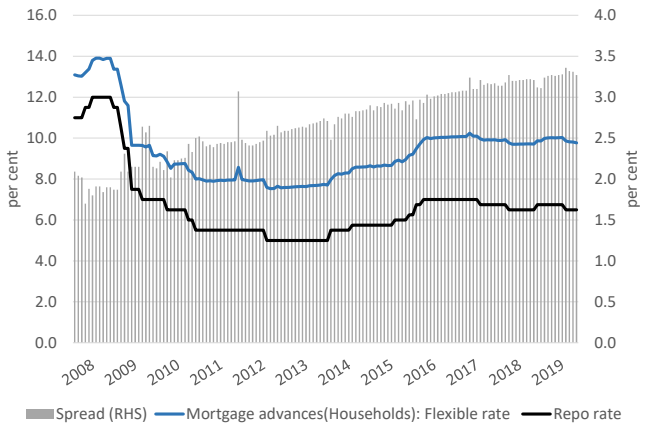
[20] Potential growth estimates have been revised down continuously. See estimates by Anvari, Ehlers, and Rudi (2014), Ehlers, Mboji, and Smal (2013) and Fedderke and Mengisteab (2017)

[21] Regulatory tier 1 capital to risk-weighted assets is the ratio of equity capital and retained earnings (core capital) to risk-weighted assets. Regulatory capital to risk-weighted assets includes tier 1 and tier 2 capital (revaluation reserves, undisclosed reserves, hybrid instruments and subordinated term debt). Tier 2 capital is considered less secure. The minimum required ratio is 7% for regulatory tier 1 capital and 9.5% for regulatory capital. The current required leverage ratio minimum ratio is 4%.

[22] See Borio and Zhu (2012) and Repullo and Suarez (2013).

[23] A 1 per cent increase in the capital adequacy ratio is estimated to cause bank lending rates to increase by 0.4 percentage points (Havemann (2014)), and is found to be equivalent to a 0.4 percentage points increase in the repo rate (Grobler and Smit (2014)). Both studies estimate that GDP falls by about 0.07 percentage points.

Figure 9: Lending spread



Source: South African Reserve Bank

Aligning macroeconomic policy through coordination

Much of the fiscal effort of the post-GFC years has centred on counter-cyclical efforts to boost economic growth, but without the critical requirements that might have made it successful being in place. Optimistic assumptions, both conceptual and empiric, gave rise to unrealistic expectations, particularly about policy efficacy. These included, among others, that factor markets clear, full domestic financing is available, the real exchange rate doesn't matter, and that any public spending constitutes future growth. Most pernicious has been the idea that there are always macroeconomic levers to pull that will cause growth to occur.

These notions, however, are inconsistent with real-world experience. Gaspar et al. (2016), for instance, argue that macroeconomic and structural reform policies need to be *comprehensive*, *consistent* and *coordinated*, especially when some of the policy tools are facing constraints.[24] And yet, pro-growth micro or macro policy interventions have been limited, and have lagged structural reforms in other emerging markets, while fiscal outcomes have rapidly worsened. The policy focus has almost exclusively been on stimulating demand for non-tradables and imports by appreciating the real exchange rate rather than increasing saving and investment.[25] Persisting with this approach will exacerbate South Africa's internal and external imbalances.

In short, South Africa has conducted a *contractionary fiscal expansion* in recent years. It is under these conditions that a commitment to debt sustainability and a policy of fiscal consolidation becomes expansionary (Bonam and Lukkezen 2019). We suggest reversing the prevailing dynamic, setting fiscal policy to explicitly lower South Africa's risk premium, lower yields and crowd-in private borrowing. The positive growth effects would be strengthened if fiscal policy focused on reducing spending on consumption and wage growth, and enhancing investment. Extending the logic of the tax literature, commitments to reverse earlier tax increases could further bolster growth prospects.

The Covid-19 pandemic demands financing, but the financing of a larger deficit today implies that it must be time consistent, sustainable now and in the future. The composition of spending can also be more growth-enhancing, with transparent targets for public investment and maintenance in education, health,

[24] Comprehensive refers to policy interventions across macro and micro policies in a way that these interventions reinforce each other. Policies are consistent when government sticks to its promises and policies are coordinated when they internalize the global economic environment.
[25] See Loewald (2017).

and infrastructure. Similarly, tax policy can be reconfigured to boost productivity.[26] Nominal spending needs to be adjusted to achieve a primary surplus and ensure that the debt trajectory stabilises. A rules-based approach using a clear fiscal target that combines both a stock variable – debt to GDP – and a flow variable such as a primary deficit target would help (IMF 2016). Getting this right will help improve confidence and lower bond yields, as the risk premia falls and the associated downward shift in the yield curve starts the critical crowding-in of private investment.

In this particular macroeconomic coordination game, fiscal policy has to move first, reducing risk premia and the neutral real rate, and thereby allowing monetary policy to respond (beyond what has been enabled by the pandemic-related global easing of rates). This improved coordination would enable the exchange rate channel to better contribute to growth, and indeed assist the economy to achieve macroeconomic stability. An inflation rate closer to that of its peer countries could more reliably and permanently bolster South Africa's competitiveness. In dampening inflation, this recalibration of fiscal policy could also enable a more relaxed monetary policy stance.

Macroprudential policy should work more actively to support private long-term investment. The definition of High Quality Assets should be reviewed and more financial instruments should be included. Longer and less liquid investment, particularly those directed at climate change adaptation and mitigation or public health, should not be penalised relative to sovereign bonds. Capital requirements should be calibrated so that lending rates do not dull the efficacy of monetary policy.

Those macroeconomic and macroprudential policy shifts should be supplemented by private and public investment and structural reforms to unlock job creation. There is no shortage of evidence that South Africa is far from a well-understood best practice that is growth-positive, creates jobs, and can unwind high levels of poverty and inequality (Duval and Furceri 2018). Public investment that boosts labour supply and productivity, focusing on South Africa's health care, education and skills base are especially critical, even if long-term in their real growth and income pay-off. Other areas for investment that would promote a virtuous cycle of growth and investment include deregulating the network sectors dominated by state monopolies, leveraging the agglomeration gains from urbanisation, and targeting the country's institutional quality generally.

[26] The empirical evidence suggest that expenditure-driven consolidations are more effective and have a more positive effect on the economy (Alesina, Favero, and Giavazzi 2019).

REFERENCES

- Ahmed, Shaghil, and Andrei Zlate. 2014. 'Capital flows to emerging market economies: A brave new world?', *Journal of International Money and Finance*, 48, Part B: 221-48.
- Aiyar, Shekhar, Charles W Calomiris, John Hooley, Yevgeniya Korniyenko, and Tomasz Wieladek. 2014. 'The international transmission of bank capital requirements: Evidence from the UK', *Journal of Financial Economics*, 113: 368-82.
- Akanbi, Olusegun Ayodele. 2013. 'Macroeconomic effects of fiscal policy changes: A case of South Africa', *Economic Modelling*, 35: 771-85.
- Alesina, Alberto, Carlo Favero, and Francesco Giavazzi. 2019. *Austerity: When it Works and when it Doesn't* (Princeton University Press).
- Amra, Rashaad, Marek Hanusch, and Charl Jooste. 2019. *When the Cycle Becomes the Trend: The Emerging Market Experience with Fiscal Policy During the Last Commodity Super Cycle* (The World Bank).
- Anvari, Vafa, Neléne Ehlers, and Steinbach Rudi. 2014. 'A semi-structural approach to estimate South Africa's potential output', *South African Reserve Bank Working Paper Series*, No. 8.
- Bayoumi, Tamim, Morris Goldstein, and Geoffrey Woglom. 1995. 'Do credit markets discipline sovereign borrowers? Evidence from US states', *Journal of Money, Credit and Banking*, 27: 1046-59.
- Berger, Allen N, and Christa HS Bouwman. 2013. 'How does capital affect bank performance during financial crises?', *Journal of Financial Economics*, 109: 146-76.
- Blanchard, Olivier J., and Daniel Leigh. 2014. 'Learning about Fiscal Multipliers from Growth Forecast Errors', *IMF Economic Review*, 62: 179-212.
- Blanchard, Olivier Jean. 1990. "Suggestions for a New Set of Fiscal Indicators." In.: OECD Publishing.
- Bonam, Dennis, and Jasper Lukkezen. 2019. 'Fiscal and Monetary Policy Coordination, Macroeconomic Stability, and Sovereign Risk Premia', *Journal of Money, Credit and Banking*, 51: 581-616.
- Borio, Claudio, and Haibin Zhu. 2012. 'Capital regulation, risk-taking and monetary policy: A missing link in the transmission mechanism?', *Journal of Financial Stability*, 8: 236-51.
- Braconier, Henrik, and Tomas Forsfält. 2004. *A new method for constructing a cyclically adjusted budget balance: the case of Sweden* (Citeseer).
- Bridges, Jonathan, David Gregory, Mette Nielsen, Silvia Pezzini, Amar Radia, and Marco Spaltro. 2014. 'The impact of capital requirements on bank lending', *Bank of England Working Paper Series*, No. 486.
- Caggiano, Giovanni, and Pietro Calice. 2011. 'The macroeconomic impact of higher capital ratios on African economies', *African Development Bank Working Paper* No 139.
- Caner, Mehmet, Thomas Grennes, and Fritzi Koehler-Geib. 2010. 'Finding the tipping point--when sovereign debt turns bad', *The World Bank Policy Research Working Paper Series*.
- Carrillo, Julio A, and Céline Poilly. 2010. 'On the recovery path during a liquidity trap: Do financial frictions matter for fiscal multipliers?', *IRES-Institut de Recherches Economiques et Sociales*, 2010034.
- Cavallo, Eduardo, Andrew Powell, Mathieu Pedemonte, and Pilar Tavella. 2015. 'A new taxonomy of Sudden Stops: Which Sudden Stops should countries be most concerned about?', *Journal of International Money and Finance*, 51: 47-70.
- Christiano, Lawrence, Martin Eichenbaum, and Sergio Rebelo. 2011. 'When Is the Government Spending Multiplier Large?', *Journal of Political Economy*, 119: 78-121.
- Cohen, Benjamin H., and Michela Scatigna. 2016. 'Banks and capital requirements: Channels of adjustment', *Journal of Banking & Finance*, 69, Supplement 1: S56-S69.
- Cozzi, Guido, Matthieu Darracq Paries, Peter Karadi, Jenny Körner, Christoffer Kok, Falk Mazelis, Kalin Nikolov, Elena Rancoita, Alejandro Van der Ghote, and Julien Weber. 2020. 'Macroprudential Policy Measures: Macroeconomic Impact and Interaction With Monetary Policy'.

- Dadam, Vincent, and Nicola Viegi. 2015. 'Labour Market and Monetary Policy in South Africa', *Fourteen Years of Inflation Targeting in South Africa the Challenge of a Changing Mandate*: 113.
- Duval, Romain, and Davide Furceri. 2018. 'The effects of labor and product market reforms: the role of macroeconomic conditions and policies', *IMF Economic Review*, 66: 31-69.
- Ehlers, N, L Mboji, and M Smal. 2013. 'The pace of potential output growth in the South African economy', *South Africa Reserve Bank Working Paper Series*, No. 1.
- Eichengreen, Barry, and Poonam Gupta. 2016. 'Managing sudden stops', *World Bank Policy Research Working Paper Series*, No. 7639.
- Elmeskov, J., and D. Sutherland. 2012. 'Post-crisis debt overhang: growth and implications across countries', *OECD Economics Department mimeo*.
- EU. 2011. *Quarterly Report on the Euro Area* (European Central Bank).
- Faini, Riccardo 2006. 'Fiscal policy and interest rates in Europe', *Economic Policy*, 21: 444-89.
- Faulkner, David, Chris Loewald, and Konstantin Makrelov. 2013. 'Achieving higher growth and employment: Policy options for South Africa', *South Africa Reserve Bank Working Paper Series* No. 13/03.
- Fedderke, Johannes W, and Daniel K Mengisteab. 2017. 'Estimating South Africa's output gap and potential growth rate', *South African Journal of Economics*, 85: 161-77.
- Fernández-Villaverde. 2010. 'Fiscal policy in a model with financial frictions', *American Economic Review*, 100: 35-40.
- Forbes, Kristin J., and Francis E. Warnock. 2012. 'Capital flow waves: Surges, stops, flight, and retrenchment', *Journal of International Economics*, 88: 235-51.
- FSB. 2010. 'Assessing the Macroeconomic Impact of the Transition to Stronger Capital and Liquidity Requirements', *Report prepared by the Basel Committe on Bank Supervision*.
- Gaspar, Vitor, Mr Maurice Obstfeld, Ms Ratna Sahay, and Mr Douglas Laxton. 2016. *Macroeconomic Management When Policy Space is Constrained: The 3-C Approach to Economic Policy* (International Monetary Fund).
- Grobler, Christelle, and Ben Smit. 2014. 'Enhancing the financial sector linkages in the Bureau for Economic Research's core macroeconometric model', *Stellenbosch Economic Working Paper Series*, No. 21/15.
- Haugh, D, P Ollivaud, and D Turner. 2009. 'What drives sovereign risk premiums? An analysis of recent evidence from the euro area. The Organisation for Economic Co-operation and Development (OECD)', *OECD Economic Department Working Papers*.
- Havemann, Roy. 2014. 'Counter-Cyclical Capital Buffers and Interest-Rate Policy as Complements : The Experience of South Africa', *Economic Research Southern Africa Working Paper Series*, No. 476.
- IIF. 2011. 'The Cumulative Impact on the Global Economy of Changes in the Financial Regulatory Framework', *Report compiled by the Institute of International Finance*.
- IMF. 2015. 'Structural Reforms and Macroeconomic Performance: Initial Considerations for the Fund', *IMF Staff Report*.
- ———. 2016. 'Fiscal Monitor: Analyzing and Managing Fiscal Risks—Best Practices', *IMF Policy Paper*.
- Jaramillo, Laura, and Anke Weber. 2013. 'Bond yields in emerging economies: It matters what state you are in', *Emerging Markets Review*, 17: 169-85.
- Jooste, Charl, Guangling Liu, and Ruthira Naraidoo. 2013. 'Analysing the effects of fiscal policy shocks in the South African economy', *Economic Modelling*, 32: 215-24.
- Jooste, Charl, and Ruthira Naraidoo. 2017. 'The Macroeconomics Effects of Government Spending Under Fiscal Foresight', *South African Journal of Economics*, 85: 68-85.
- Kabundi, Alain, Eric Schaling, and Modeste Some. 2016. 'Estimating a time-varying Phillips curve for South Africa', *South African Reserve Bank Working Paper 16/05*.
- Laubach, Thomas 2009. 'New evidence on the interest rate effects of budget deficits and debt', *Journal of the European Economic Association*, 7: 858-85.
- Loewald, Chris. 2017. 'Shaping macroeconomic outcomes', *ERSA Policy Paper Series 23*, Policy Paper No 23.

- Mabugu, Ramos, Veronique Robichaud, Helene Maisonnave, and Margaret Chitiga. 2013. 'Impact of Fiscal Policy in an Intertemporal CGE Model for South Africa', *Economic Modelling*, 31: 775-82.
- MAG. 2010b. 'Assessing the macroeconomic impact of the transition to stronger capital and liquidity requirements', *Macroeconomic Assessment Group established by the Financial Stability Board and the Basel Committee on Banking Supervision, Bank for International Settlements*.
- Makrelov, Konstantin, Channing Arndt, Rob Davies, and Laurence Harris. 2020. 'Balance sheet changes and the impact of financial sector risk-taking on fiscal multipliers', *Economic Modelling*, 87: 322-43.
- Makrelov, Konstantin, Rob Davies, and Laurence Harris. 2019. 'The impact of capital flow reversal shocks in South Africa: a stock-and flow-consistent analysis'.
- Mercier, Jean-François. 2017. 'SA's structural budget balance – some fiscal restraint ', *SARB Economic Notes* No 2017/09.
- Noss, Joseph, and Priscilla Toffano. 2016. 'Estimating the impact of changes in aggregate bank capital requirements on lending and growth during an upswing', *Journal of Banking & Finance*, 62: 15-27.
- NT. 2019. *Medium Term Budget Policy Statement* (Pretoria).
- Rapapali, Mpho, and Daan Steenkamp. 2019. 'Developments in bank funding costs in South
- Africa', *South Africa Reserve Bank Working Paper Series*.
- Reinhart, Carmen M, and Vincent R Reinhart. 2008. 'Capital flow bonanzas: an encompassing view of the past and present', *NBER Working Paper Series*, No. 14321.
- Reinhart, Carmen M., and Kenneth S. Rogoff. 2010. 'Growth in a Time of Debt', *American Economic Review*, 100: 573-78.
- Repullo, Rafael, and Javier Suarez. 2013. 'The procyclical effects of bank capital regulation', *Review of Financial Studies*, 26: 452-90.
- Rey, Hélène. 2015a. 'Dilemma not trilemma: the global financial cycle and monetary policy independence', *NBER Working Paper Series*, No. 21162.
- ———. 2015b. "Dilemma not trilemma: the global financial cycle and monetary policy independence." In.: National Bureau of Economic Research.
- SARB. 2019. *Monetary Policy Review* (Pretoria).
- Slovik, Patrick, and Boris Cournède. 2011. 'Macroeconomic impact of Basel III', *OECD Economics Department Working Papers, No. 844*.
- Summers, Lawrence H, and Łukasz Rachel. 2019. 'On Falling Neutral Real Rates, Fiscal Policy, and the Risk of Secular Stagnation', *Brookings Papers on Economic Activity*.
- Thakor, Anjan V. 2012. 'Incentives to innovate and financial crises', *Journal of Financial Economics*, 103: 130-48.