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COVID-19, ECONOMIC GROWTH AND SOUTH AFRICAN FISCAL POLICY

Philippe Burger¹ and Estian Calitz²

Even before Covid-19 South African fiscal policy was unsustainable, following years of fast-rising debt levels. We show this estimating a fiscal reaction function in a Markov-switching model. However, the effects of the Covid-19 crisis worsened the fiscal position further. To restore fiscal sustainability in the aftermath of the crisis some commentators argue that higher government expenditure will grow GDP sufficiently to stabilise the debt/GDP ratio. We reject this, showing that although a real increase in expenditure stimulates economic growth (a short-run, once-off effect), the public expenditure/GDP ratio exceeds the level at which an increase in the ratio positively impacts growth.

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1. Introduction: The loss of fiscal sustainability

For a decade South Africa's public debt/GDP ratio had been on the rise, from 26% in 2008/09 to 63.5% in 2019/20. Then the Covid-19 crisis struck. The government imposed a societal lockdown in March 2020 to slow the spread of the virus and prepare the health system to absorb the ill. The lockdown and closure of industries resulted in a large supply shock, possibly better characterised as a sudden stop event. To provide additional sources to the health system and alleviation to individuals and businesses negatively affected by the crisis, the government announced a R500 billion package (almost 10% of GDP) in April 2020. Table 1 contains the broad outlines of this package (National Treasury 2020a). R200 billion of the package was not strictly speaking fiscal, and pertained to a credit guarantee scheme in terms of which banks would extend credit to businesses with a turnover of less than R300 million a year.³ The banks, in turn, would borrow the funds from the South African Reserve Bank. Only in the case of default by businesses would the government guarantee be activated. Of the remaining R300 billion, revenue measures in the form of deferrals and tax holidays represented R70 billion, while wage protection financed from the Unemployment Insurance Fund, and therefore not originating from the main budget, represented R40 billion. Not all of the additional expenditure was supposed to be extra expenditure, with the government planning at the time to finance R130 billion through a reallocation of expenditure compared to the February 2020 budget. To allow it to deal with the Covid-19 crisis and finance its swollen deficit the government also planned to access credit from the International Monetary Fund (IMF), the African Development Bank, the World Bank, and the New Development (BRICS) Bank. The biggest of these loans is \$4.3 billion from the IMF, concluded on 27 July 2020 (National Treasury 2020c). At 5.3% of GDP the fiscal response package the South African government announced exceeded the average package of 3% announced by emerging market governments, and almost equalled the average package announced by the G20 countries – see Figure 1 (IMF 2020).

By the time Finance Minister Mboweni presented his special adjustment budget in June, the allocation as set out in Table 1 had changed. Compared to the budget Minister Mboweni presented to parliament in February 2020, the adjustment budget he presented in June projected

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³ From 26 July 2020 the government loosened the requirements for business to take up the loans, as the take-up rate was very low (only R12 billion at the time). The cap of R300 million on business turnover was dropped and replaced by a cap on the size of the loan, set at R100 million (National Treasury, SARB and Banking Association of South Africa 2020).

a net increase in total government expenditure of only R36 billion in the 2020/21 fiscal year. However, there has also been a large reallocation of expenditure compared to the February budget, resulting in R145 billion expenditure in the main budget set aside for Covid-related expenditure. The R109 billion difference between the R36 billion net increase and the R145 billion allocation set aside, was reallocated from allocations made in the February 2020 budget.

Table 1: Covid-19 fiscal response package

	R million
Credit Guarantee Scheme	200 000
SME and informal business support job creation and protection	100 000
Measures for income support (further tax deferrals, SDL holiday and ETI extension)	70 000
Support to vulnerable households for 6 months	50 000
Wage protection (UIF)	40 000
Health and other frontline services	20 000
Support to municipalities	20 000
Total	500 000

Source: National Treasury

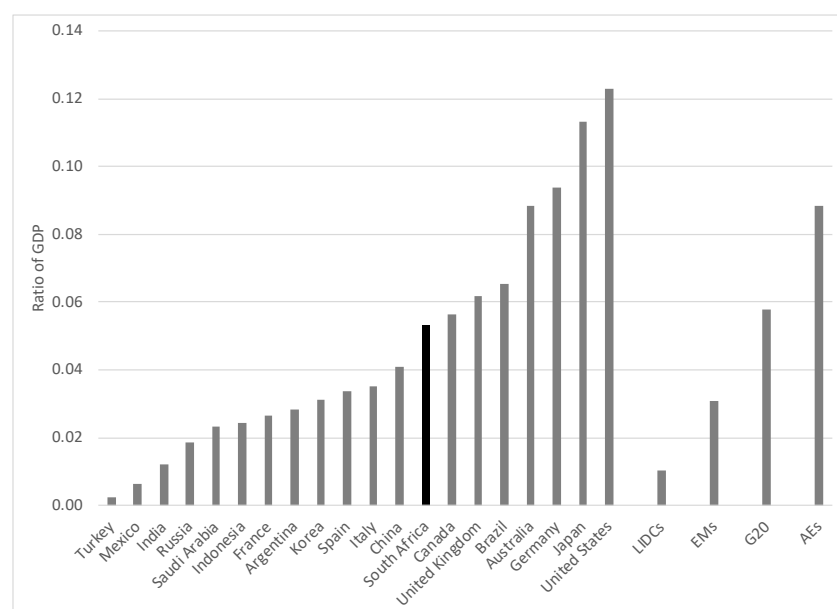


Figure 1: Additional spending and forgone revenue in selected countries

Source: IMF 2020

The special adjustment budget also projected a large revenue shortfall of R304 billion, mostly as a result of depressed economic activity, with the government projecting economic growth at -7.2% for the year. The February 2020 budget projected a consolidated budget deficit of 6.8% for 2020/21, while the special adjustment budget in June foresaw a deficit of 15.7% (see Figure 2). Instead of the debt/GDP burden increasing to 65.7% in 2020/21 as foreseen in the February 2020 budget (National Treasury 2020b), the adjustment budget foresaw the ratio increasing from 63.5% at the end of the 2019/20 fiscal year to 81.8% (see Figure 3). The government also committed itself to a so-called active scenario that sees government succeeding in limiting the increase in the debt burden to 87.4% by 2023/24, where after the ratio falls to 73.5% in 2028/29.

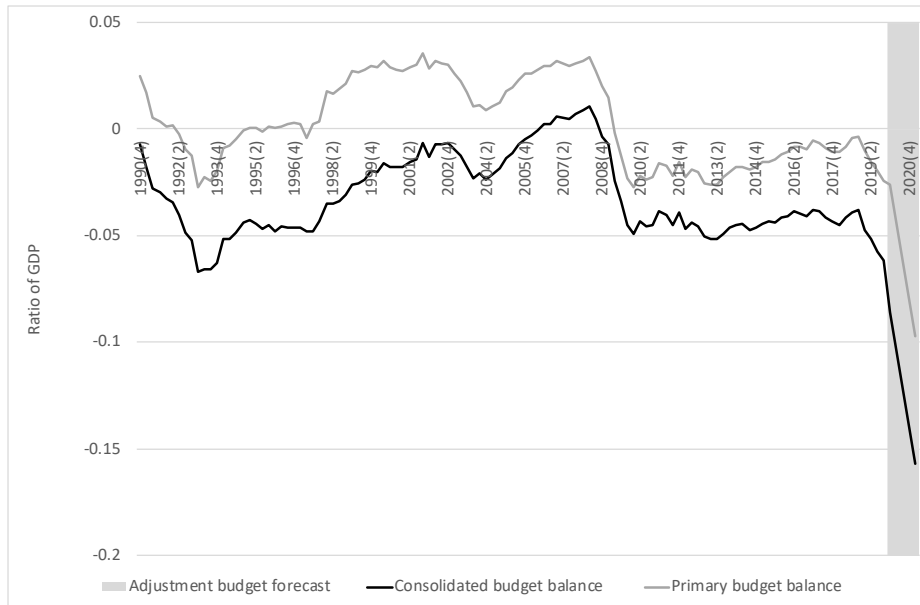


Figure 2: Conventional and Primary Balances
 Source: SARB Quarterly Bulletin and authors' own calculations

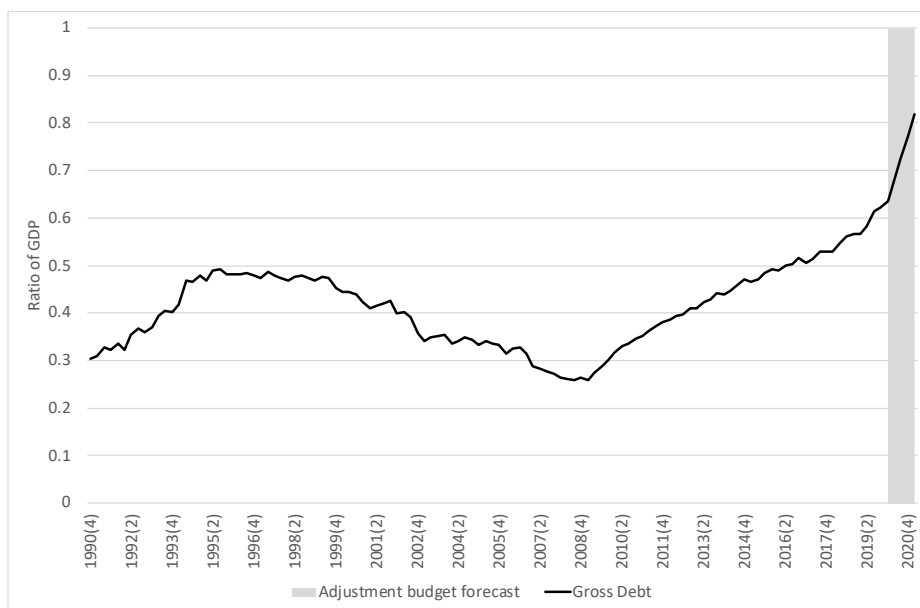


Figure 3: Public Debt-to-GDP ratio
 Source: SARB Quarterly Bulletin

Taking the large increase in the deficit in 2020/21 as largely unavoidable, especially following the disruptive impact of the Covid-19 crisis, means our fiscal gaze can turn to the future. The questions the government faces and which this article seeks to answer, is how can fiscal policy regain its sustainability once the Covid-19 crisis has been brought under control, and what will be the impact on economic growth? Some commentators fear that cutting expenditure will undermine growth and fail to restore fiscal sustainability. Instead, and particularly since the onset of the Covid crisis, they have argued in favour of *increased* government expenditure, believing that through the expenditure multiplier, such expenditure will cause a sufficient increase in economic growth to stabilise the debt/GDP ratio (cf. GroundUp 2020a, 2020b; ENCA 2020; Coleman 2020; Mboweni 2020). Thus, even though the expenditure will add to debt, it also causes GDP to increase sufficiently to stabilise or even improve the debt/GDP ratio. We argue that such stabilisation

through higher expenditure is not possible. To do so we estimate the impact of a real change in government expenditure, as well as the impact of the size of government (as measured using the total expenditure/GDP ratio) on real economic growth. At a low level of the government expenditure/GDP ratio an increase in expenditure might represent a necessary increase in government's service delivery and infrastructure development, thereby contributing to higher economic growth. However, at higher levels of the government expenditure/GDP ratio, an increase in government expenditure might represent a less efficient allocation of economic resources and contribute increasingly less to economic growth. This article explores the possibility of such a non-linear relationship between the size of government and real GDP growth. The analysis shows that although a real increase in government expenditure stimulates economic growth (a short-run, once-off effect), since 2011 the government expenditure/GDP ratio exceeds the level at which an increase in the ratio positively impacts growth. Thus, increasing government expenditure might have a positive short-run effect, but a longer-lasting negative effect on growth.

If economic growth cannot simply be increased by spending more, and interest rates are set to achieve monetary policy targets and align with international interest rates to attract foreign capital, cutting non-interest expenditure or increasing revenue remain as the only options to achieve fiscal sustainability. What has the government done in the past to regain fiscal sustainability? And what should it do in the future? With regard to the past the article presents an estimate of a fiscal reaction function for the primary balance. It shows that although the government did make efforts in the last decade to regain fiscal sustainability, the size of those efforts fell short of what was needed. With respect to the future, the article presents international evidence on what constitutes successful fiscal consolidations and subsequently makes a number of proposals to stabilise the public debt/GDP ratio and regain fiscal sustainability in the aftermath of the Covid-19 crisis.

2. The optimal level of government expenditure

Asimakopulos and Karavias (2016), Hajamini and Falahi (2018), as well as Forte and Maggazzino (2016) suggest that an increase in the level of government expenditure relative to GDP is often associated with higher economic growth, but only up to a point. Beyond that point, at higher levels of the government expenditure/GDP ratio, the opportunity cost of higher levels of government expenditure increases and contributes to a less optimal allocation of resources in the economy, meaning the relationship between the government expenditure/GDP ratio and GDP growth turns negative. This article presents the estimation of such a model. Following Forte and Maggazzino (2016:159), Equation (1) shows the quarterly real GDP growth rate as a function of the level of the government expenditure/GDP ratio and the square of the government expenditure/GDP ratio (lagged by four quarters to allow for the policy impact lag). Equation (1) also includes the fourth lag of the quarterly real growth rate in government expenditure (also lagged to allow for the policy impact lag). The real growth rate in government expenditure is calculated first by deflating total government expenditure by the GDP deflator, before calculating the quarterly growth rate. It measures the short-run impact of an increase in government expenditure on economic growth. Equation (1) also includes a number of control variables.⁴

⁴ As control variables Equation (1) includes openness (defined as exports plus imports to GDP – in terms of expected sign, openness can be either positive if openness improves competitiveness, or negative if foreign industry proves more competitive than local industry, a distinct possibility keeping in mind that South African manufacturing sector shrunk from almost 25% of GDP in the mid-1990s to 13% in the late 2020s), the quarterly rate of change in the GDP deflator (on the *a priori* assumption that inflation negatively affects economic growth), and labour's share in income (as an indicator of labour power and profitability in the economy, on the *a priori* assumption that higher profitability (and thus a falling labour share) is associated with an expansion in output).

$$g_{qt} = \beta_0 + \beta_1(E_{t-4}/Y_{t-4}) + \beta_2(E_{t-4}/Y_{t-4})^2 + \beta_3x_{t-4} + \beta_4Z_{t-i} + \varepsilon_t \quad (1)$$

Where:

- g_{qt} is the quarterly real economic growth rate,
- E_t/Y_t is the total expenditure/GDP ratio,
- x_t is the quarterly real growth rate in government expenditure,
- Z_t represents control variables (openness, the GDP deflator rate, and labour's share in income)

To estimate the model, we used a Markov-switching model that allows for two behavioural regimes for economic growth. The changing behaviour was captured by allowing the intercept, β_0 , to take on different values depending on the regime. Regime 0 is a higher economic growth regime, while Regime 1 is the lower growth regime. All data comes from the South African Reserve Bank (SARB) Quarterly Bulletin. The expenditure data originates from the National Revenue Fund monthly data table, summed over 12 months to capture the full budget effect, while GDP data, seasonally adjusted and annualised, can be found in the National Accounts data. The period covered is 1995Q2 to 2019Q4 to ensure that only budgets of the democratic era are included.

Table 2: Impact of total expenditure on economic growth

Total Expenditure/GDP(-4)		1.545 (0.010)
Total Expenditure/GDP squared(-4)		-2.773 (0.016)
dTotal Expenditure(-4)		0.137 (0.000)
Openness(-1)		-0.016 (0.041)
Labour share(-1)		-0.061 (0.039)
GDP deflator rate(-3)		-0.083 (0.025)
Constant(0)		-0.160 (0.030)
Constant(1)		-0.170 (0.021)
Transition probabilities	Regime 0,t	Regime 1,t
Regime 0,t+1	0.948	0.037
Regime 1,t+1	0.052	0.963
Regime classification based on smoothed probabilities		
Regime 0	quarters	avg.prob.
1996(1) - 1996(4)	4	0.886
1999(1) - 2008(2)	38	0.993
Regime 1		
1995(2) - 1995(4)	3	0.918
1997(1) - 1998(4)	8	0.999
2008(3) - 2019(4)	46	0.997
Descriptive statistics:		
Linearity LR-test	Chi-sq (4)	27.502 [0.000]
Vector Normality test:	Chi-sq(2)	1.480 [0.477]
Vector ARCH 1-1 test:	F(1,85)	0.036 [0.849]
Vector Portmanteau(12):	Chi-sq(12)	7.662 [0.811]

Other coefficients [Std Error]: $\sigma(0)$: 0.003 [0.000]; $\sigma(1)$: 0.005 [0.001]; $p\{0|0\}$: 0.948 [0.036]; $p\{1|1\}$: 0.963 [0.026]

Probabilities (); Sample: 1995(2) - 2019(4)

Regime 0: Total: 42 quarters (42.42%) with average duration of 21 quarters.

Regime 1: Total: 57 quarters (57.58%) with average duration of 19 quarters.

Table 2 and Figure 4 present the results. It shows that real growth in government expenditure has a positive impact on real economic growth, with a coefficient of 0.137, which indicates that a one percent increase in real government expenditure leads to a 0.137% increase in real economic

growth.⁵ However, unless that growth rate is maintained quarter after quarter, the effect of an increase in the real growth rate in government expenditure is once-off in nature.

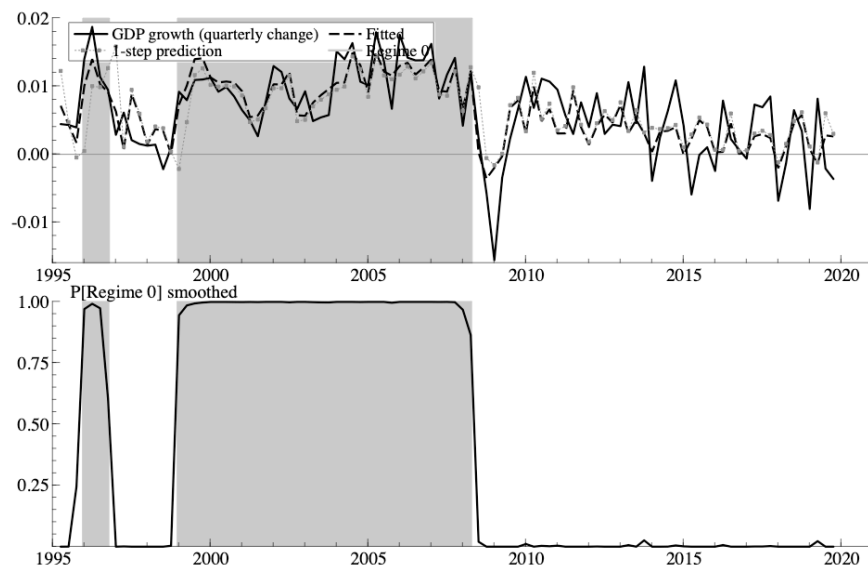


Figure 4: Regime-switching behaviour of economic growth model estimated using the expenditure/GDP ratio and the growth rate of expenditure

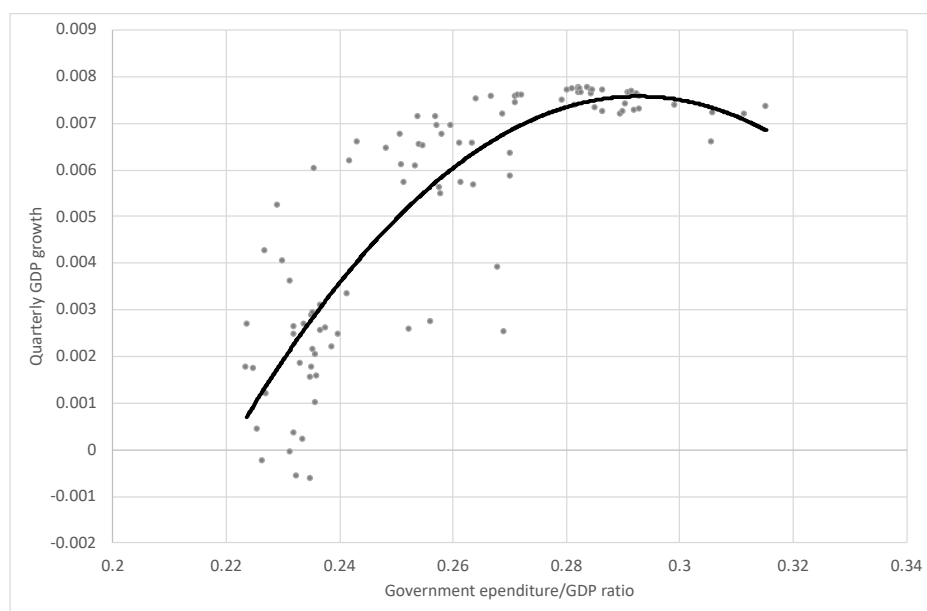


Figure 5: The relationship between the government expenditure/GDP ratio and economic growth

The effect of the level of government expenditure/GDP ratio is captured by β_1 and β_2 in Equation (1). If β_1 is positive and β_2 is negative, which is indeed the case as Table 2 shows, there will be a typical inverted-U-shaped relationship, with the relationship being positive below the optimal level of the government expenditure/GDP ratio, and negative above it. Figure 5 shows the relationship between the actual values of the total expenditure/GDP ratio and the associated

⁵ The government expenditure/GDP ratio varied between 22% and 32% over the sample period (with an average of 0.26%), meaning a one percent change in the Rand value of real government expenditure was between 0.22% and 0.32% of GDP, and gave rise to a change of 0.137% in real GDP. Thus, the short-run multiplier is between 0.623 (when the change in expenditure is 0.22% of GDP) and 0.428 (when the change in expenditure is 0.32% of GDP). A multiplier smaller than one was also found by Kemp and Hollander (2020).

economic growth rate. The growth rates were calculated setting the contribution to economic growth of all other variables, $(\beta_0 + \beta_3 x_{t-4} + \beta_4 Z_{t-i})$, equal to their average over the sample period, and then add the contribution of the government expenditure/GDP ratio, $\beta_1(E_{t-4}/Y_{t-4}) + \beta_2(E_{t-4}/Y_{t-4})^2$, at each value of the ratio. Figure 5 shows that the optimal level of the government expenditure/GDP ratio is 0.29 (where it is associated with a 0.9% economic growth rate), while Figure 6 shows that since 2015 the total expenditure/GDP ratio has been above 0.29, and therefore contributing to lower economic growth. The analysis therefore suggests that reducing the ratio, and thus the size of government, will enhance economic growth.

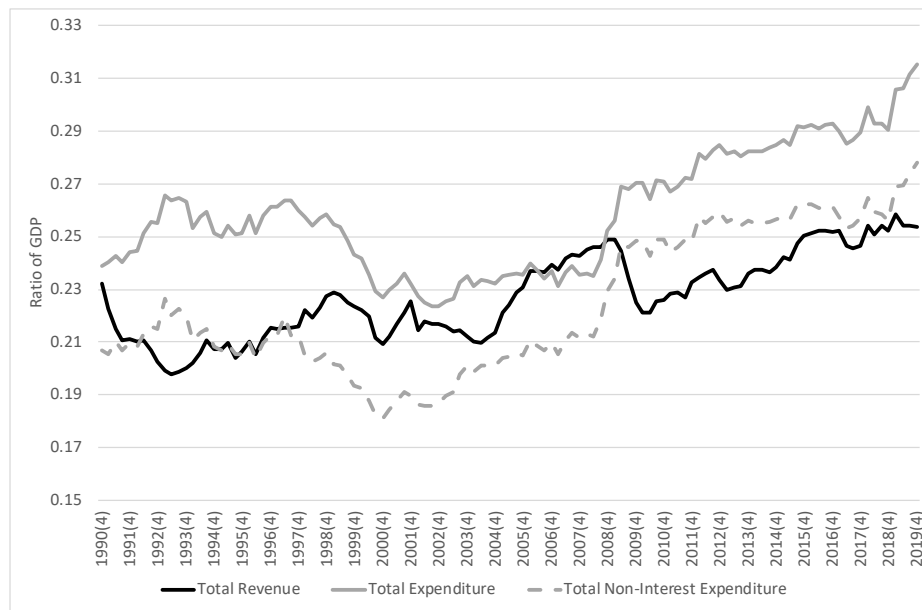


Figure 6: Total expenditure/GDP, Total non-interest expenditure/GDP and Total Revenue/GDP ratios

3. The sustainability of fiscal policy: what does past behaviour tell us?

What has been the past behaviour of fiscal policy in South Africa? Did the government take steps to re-establish fiscal sustainability and arrest the increase in the debt/GDP ratio by increasing⁶ the primary balance in reaction to an increase in the debt/GDP ratio? To explore these questions, we estimated a fiscal reaction function. Fiscal reaction functions have their origin in the work of Henning Bohn (1995; 1998; 2007; 2010). To establish whether or not fiscal policy reacts to an increase in the debt/GDP ratio, the primary balance/GDP ratio (B_t/Y_t in Equation 1) is regressed on a lag of the debt/GDP ratio (D_{t-1}/Y_{t-1} in Equation (2)). The question is whether β_1 in Equation (2) is positive, i.e. if (D_{t-1}/Y_{t-1}) increases, does the primary balance increase in period t to arrest further increases in the debt/GDP ratio:

$$B_t/Y_t = \beta_0 + \beta_1(D_{t-1}/Y_{t-1}) + \beta_2 g_{t-1} + \beta_3 B_{t-1}/Y_{t-1} + \varepsilon_t \quad (2)$$

Where:

- B_t/Y_t is the primary balance (surplus (+)/deficit (-))
- D_t/Y_t is the debt/GDP ratio
- g_{at} is the annual economic growth rate, its inclusion measures a business cycle reaction, i.e. if β_2 is negative, lower growth leads to a more stimulating fiscal policy

⁶ Recall that the primary balance is defined as total revenue minus non-interest expenditure. Thus increasing means either a higher primary surplus or a smaller primary deficit.

- B_t/Y_t is included to allow for inertia in government's behaviour.

The expenditure and revenue data to calculate the primary balance originate from the National Revenue Fund monthly data table, summed over 12 months to capture the full budget effect. The debt and GDP data were also obtained from the SARB's Quarterly Bulletin. The period covered again is 1995Q2 to 2019Q4.

Table 3: Primary balance to debt reaction function

Gross Debt(-4)		0.018 (0.005)
Primary Balance(-1)		0.810 (0.000)
GDP growth(-1)		0.082 (0.000)
Constant(0)		-0.005 (0.064)
Constant(1)		-0.012 (0.000)
Transition probabilities	Regime 0,t	Regime 1,t
Regime 0,t+1	0.977	0.019
Regime 1,t+1	0.023	0.981
Regime classification based on smoothed probabilities		
Regime 0	quarters	avg.prob.
1997(3) - 2008(3)	45	0.979
Regime 1		
1995(2) - 1997(2)	9	0.999
2008(4) - 2019(4)	45	0.984
Descriptive statistics:		
Linearity LR-test	Chi-sq(3)	9.992 [0.019]
Vector Normality test:	Chi-sq(2)	1.436 [0.488]
Vector ARCH 1-1 test:	F(1,89)	0.698 [0.406]
Vector Portmanteau(12):	Chi-sq(11)	13.566 [0.258]

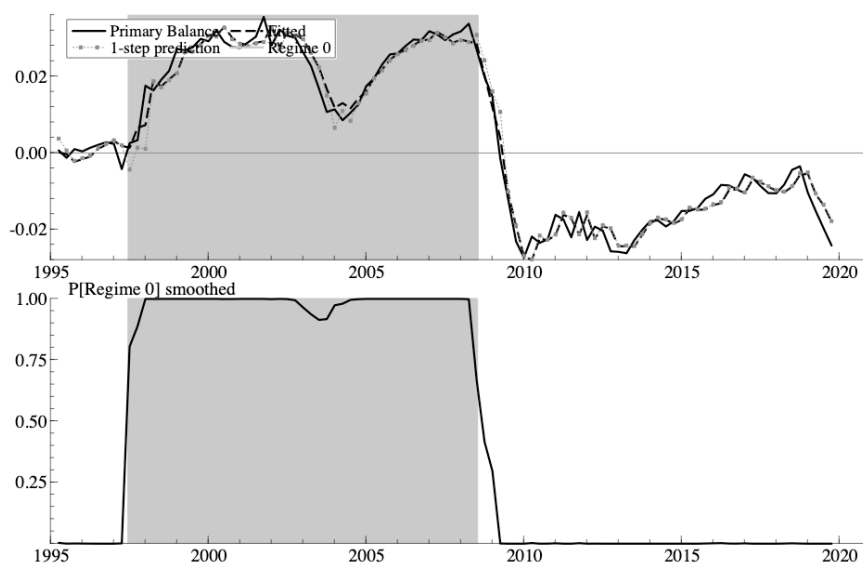
Other coefficients [Std Error]: sigma: 0.003 [0.000]; $p\{0|0\}$: 0.977 [0.024]; $p\{1|1\}$: 0.981 [0.019]

Probabilities (); Sample: 1995(2) - 2019(4)

Regime 0: Total: 45 quarters (45.45%) with average duration of 45.00 quarters.

Regime 1: Total: 54 quarters (54.55%) with average duration of 27.00 quarters.

The primary balance/GDP ratio reacts to an increase in the debt/GDP ratio (see Table 3). The reaction has the appropriate sign. A one percentage point increase in the debt/GDP ratio leads to a 0.018 percentage point increase in the primary balance/GDP ratio. Although the regression shows that the primary balance/GDP ratio reacted throughout the sample period, the constant of -0.012 in Regime 1, in place since 2008Q4, is lower (and statistically significant) than the constant value of -0.005 in Regime 0, in place from 1997Q3 to 2008Q3 (and statistically only significant at a 7% level). The lower constant, β_0 , means that even though the primary balance reacted to an increase in the debt/GDP ratio during Regime 1 (as captured by β_1), the level of the primary balance at no time during Regime 1 was sufficient to prevent the debt/GDP from increasing. Figure 7 presents the graphical representations of the regimes.



Note: Primary Balance = Primary Balance/GDP ratio

Figure 7: Regime-switching behaviour in the primary balance/GDP ratio

The analysis also shows that GDP growth had a positive effect on the primary balance, and that a one percentage point increase in the growth rate translated into a 0.08 percentage point improvement in the primary balance. With economic growth during Regime 1 (i.e. after 2008) significantly lower than during Regime 0, the contribution of economic growth to the sustainability of fiscal policy was much more muted during Regime 1.

4. Empirical evidence on successful fiscal consolidation

International literature considers the question ‘what constitutes a durable consolidation?’, with ‘durable’ meaning less likely to have been reversed within a few years after satisfying the chosen criteria for a successful consolidation. Most of the earlier literature show that in OECD countries cuts in transfer payments and the government wage bill were more likely to have achieved significant and durable reductions in fiscal deficits than those based mainly on tax increases (Alesina and Ardagna, 1998; 2010; 2013; Alesina and Perotti, 1997; Von Hagen and Strauch, 2001; Ardagna, 2004; Guichard, Kennedy, Wurzel and André, 2007). In emerging market countries, older empirical literature also links the success and persistence of fiscal consolidations to the extent that the government cuts back current expenditure (cf. Adam and Bevan, 2003; Baldacci, Clements, Gupta and Mulas-Granados, 2004; 2006; Gupta et al., 2003; Gupta, Clements, Baldacci and Mulas-Granados, 2004). However, it also recognises the role of revenue adjustments in successful fiscal consolidation. For Sub-Saharan African countries, Arizala, Gonzalez-Garcia, Tsangarides, and Yenice (2017) found that although fiscal consolidation has negative short- and medium-run impacts on output, the impact is less severe if the consolidation is done through cuts in public consumption and tax increases than through cuts in public investment. Végh, Vuletin, Riera-Crichton, Friedheim, Morano, and Camarena (2018) have a similar result for Latin America and the Caribbean in the short run, but also find that fiscal consolidation leads to higher economic growth in the longer run. They also found that if taxes are low, increasing taxes might have less of a negative impact than cutting public investment and social transfers.

Kickert, Randma-Liiv and Savi (2015) argue that cutbacks on operational costs (hiring and pay freeze, wage reduction, staff reduction) followed a similar pattern across Europe. Virtually no country undergoing a successful fiscal adjustment could escape a freeze on hiring and pay, or capping replacements. Still, in most countries, governments introduced politically sensitive

measures such as reducing wages and employment only in the later stages of the crisis. The exception were European countries receiving bail-outs on condition of cuts to their public sector wage bill, in which case cuts in salaries and employment were made immediately. The IMF (2011:88) found that in Europe only 10 of 66 adjustment plans it studied were characterised by revenue increases, and in some countries, governments, in efforts to stimulate economies, even planned to lower taxes (thus requiring even larger expenditure cutbacks). Nevertheless, the IMF (2011:91) also found that plans did not materialise as envisaged, with actual expenditure cuts being significantly smaller than planned, and revenue increasing by more than planned as a result of rebounding growth. In line with this, Kickert and Randma-Liiv (2017) in a study of European countries, rejected earlier empirical findings that cuts in expenditure are more successful in reducing deficits than tax increases.

Hardiman, Dellepiane and Hardiman (2015:28) investigated fiscal consolidation in Ireland, Greece, Britain and Spain (in the period 1980 to 2012) and found that older literature on fiscal consolidation from the 1990s and 2000s overlooked core issues in the domestic political economy, including the role of interest group representation, political legitimacy, and policy contestation. Without bringing in politics – including the new politics of multi-level economic governance – the analysis of credibility and efficacy in fiscal consolidation policies is unlikely to deliver plausible policy advice. (Also see Figari & Fiori, 2015:15). Kaplanoglou, Rapanos, and Bardakas (2015) found that fiscal consolidation in OECD countries stands a better probability of succeeding if accompanied by improvements in the targeting of social transfers and the effectiveness of poverty alleviation programmes, while Wiese, Jong-A-Pin and De Haan (2018) found that a fiscal adjustment's success improves if a left-wing government relies on spending cuts and a right-wing government relies on tax increases. Haffert and Mehrtens (2015) found that in the six countries they studied (Australia, Canada, Denmark, Finland, New Zealand and Sweden), consolidation through expenditure cuts were followed by tax cuts, leading to a smaller role for government in the economy. Furthermore, Baldacci, Clements, Gupta and Mulas-Granados (2004) and Gupta, Baldacci, Clements and Tiongson (2003) found that protecting or increasing the share of capital spending in total government expenditure during consolidation episodes increased the probabilities of success and persistence.

Regarding the impact of fiscal adjustment on economic growth after the 2008 financial crisis, Fatás and Summers (2018) found that fiscal consolidation is self-defeating, as efforts to consolidate lowers growth, thus leading to higher and not lower debt/GDP ratios. In studies of fiscal adjustment, particularly when it is a large adjustment, authors often delineate their studies by focusing on adjustments made under IMF programmes. Earlier literature offers contradictory conclusions about the impact of IMF programmes on GDP growth. For instance, Barro and Lee (2005), as well as Przeworski and Vreeland (2000) conclude that IMF programmes have a negative effect on output growth, while Dicks-Mireaux, Mecagni and Schadler (2000) as well as Bas and Stone (2014) conclude that IMF programmes have a positive effect on growth. However, in a recent study, Binder and Bluhm (2017) show that the effects of IMF programmes on economic growth is positive only if it is accompanied by a sufficient improvement of the country's institutional record. Using the World Bank's Country Policy and Institutional Assessment Index (CPIA) as an indicator in their empirical work, Binder and Bluhm (2017) show that when countries under IMF programmes improve public sector governance, institutions, and social inclusion before and during the programme period, the IMF programme has a positive impact on economic growth. Binder and Bluhm (2017) also show that the positive effects can last up to six years after the IMF programme started and three years after the programme's conclusion.

5. What size of fiscal adjustment is required?

What should be the adjustment path of fiscal policy in South Africa? The public debt/GDP ratio is budgeted to reach 81.8% in 2020/21, which, because of the Covid-19 crisis, is almost 15 percentage points higher than anticipated in the February 2020 budget. Finance Minister Mboweni in the special adjustment budget also presented two scenarios for the public debt/GDP ratio, called the active and passive scenarios. The passive scenario is largely a continuation of the unsustainable path of fiscal policy in 2020. It projects the public debt/GDP ratio increasing to 140.7% by 2028/29. By contrast, the active scenario projects the debt burden peaking at 87.4% in 2023/24, and thereafter falling to 73.5% in 2028/29. Figure 8 presents these two scenarios. The special adjustment budget also projects primary deficits of 4.4% and 2.6% in 2021/22 and 2022/23. These primary deficits, however, are *not reconcilable with the active scenario's debt/GDP projections of 82% and 86% for 2021/22 and 2022/23*.

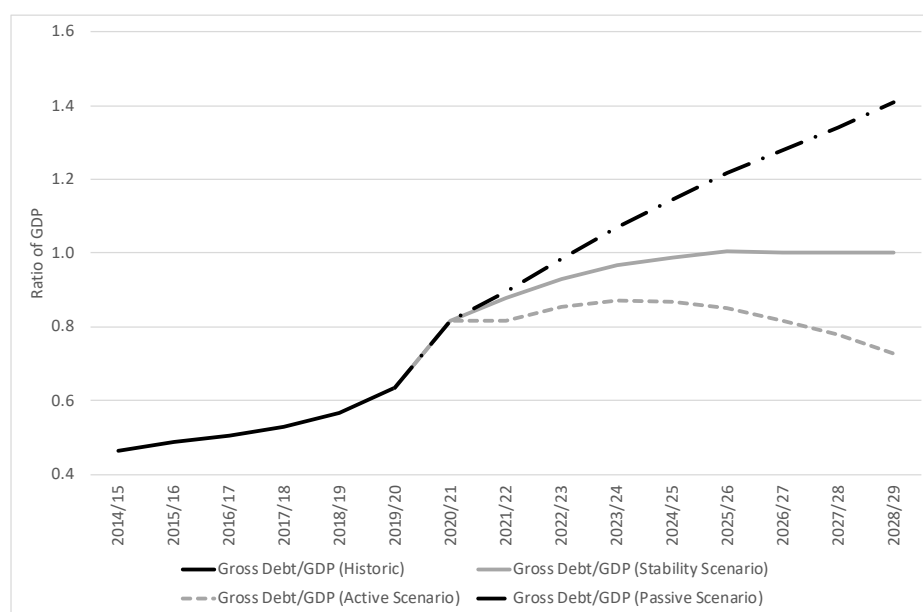


Figure 8: Gross debt/GDP under stabilising, passive and active scenarios

Source: SARB Quarterly Bulletin and authors' calculations

To calculate the primary balances implied by the active and passive scenarios requires a number of assumptions (given that the budget documentation does not provide all the assumptions). Assume a real interest rate of 5% and an inflation rate of 4%. The real interest rate is roughly one percentage point higher than during the past decade. However, 5% was roughly the level it approached at the end of 2019, reflecting an increasing risk premium. Both scenarios use the adjustment budget's economic growth forecasts for 2020/21, 2021/22 and 2022/23 of -7.2%, 2.6% and 1.5% (therefore both scenarios assume that the worst of the Covid-19 crisis will be limited to 2020, with the economy returning to normal in 2021). The passive scenario assumes growth subsequently remains stuck at 1.5% for the remainder of the period, while the active scenario assumes that growth remains at 1.5% in 2023/24, improves to 2% in the following two fiscal years, and then to 2.5% for the remainder of the period until 2028/29. Note that the latter improvements in economic growth will only be possible if the government implements policies that will facilitate the expansion of the country's electricity generation capacity (cf. Wright and Calitz (2020) on the limitation South Africa's electricity system).

Under these assumptions, Figure 9 presents the required primary balance/GDP ratios to accompany the active and passive scenarios. The passive scenario shows a primary balance that slightly improves, and then stabilises at a primary deficit of 2% of GDP (see Figure 9). The active

scenario shows a primary balance that improves to a surplus of 2% and then gradually improves to 7% of GDP.

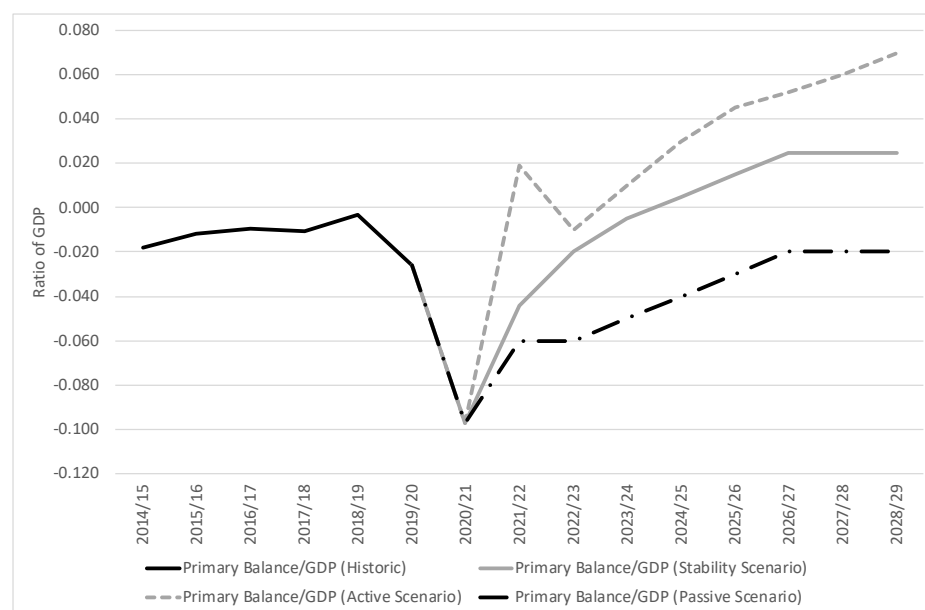


Figure 9: Primary balance/GDP under stabilising, passive and active scenarios

Source: SARB Quarterly Bulletin and authors' calculations

How does this adjustment compare internationally and is it feasible? The International Institute of Finance (IIF) found that in 38 episodes of fiscal adjustment in emerging market economies where countries adjusted more than 3% in a two-year period as part of their IMF programmes, the average adjustment was 4% of GDP (Lanau, Castellano, and Khan 2019). In South Africa the average actual primary *deficit* for the period 2010/11 to 2019/20 was 1.6%, though in 2019/20 it was 2.6%. Ignoring the exceptional impact of the Covid-19 crisis on the primary balance, and thus only comparing the 1.6% average primary deficit for the past decade, with the 7% primary surplus of the active scenario, shows that the adjustment presented in the active scenario is more than double that of the average IMF programme. It is highly unlikely that such a large adjustment will be politically palatable. Thus, a more realistic adjustment, somewhere between the active and passive scenarios must be sought.

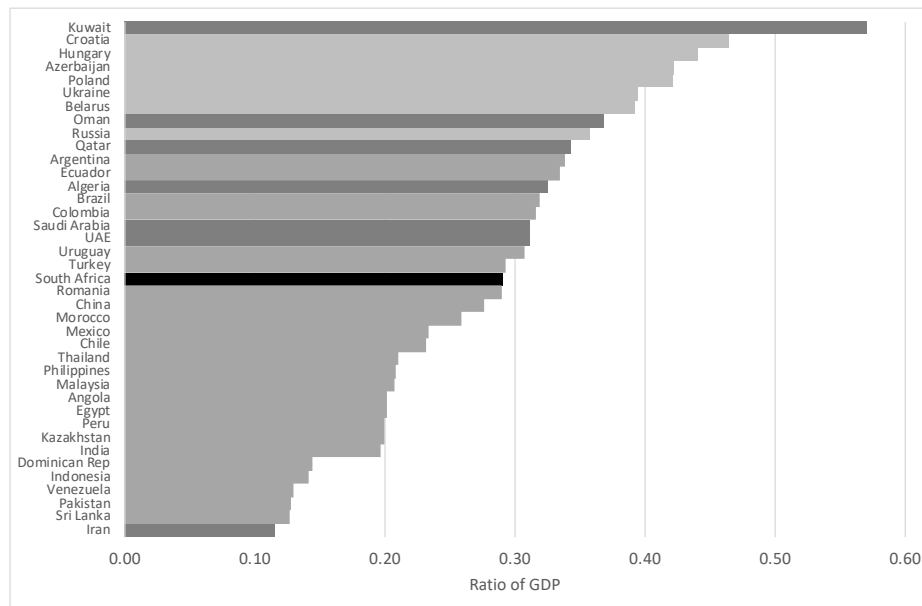
Using the average adjustment of 4% in the primary balance in IMF programmes as cue and using the same assumptions on economic growth, interest rates and inflation as in the active scenario above, yields the stability scenario in Figure 8, where the debt/GDP ratio stabilises at 100% by 2025/26. Note that this 4% adjustment in the primary balance is compared to the average primary deficit of 1.6% for the period 2010/11 to 2019/20. Thus, one should add a percentage point to the adjustment if it is compared to the primary deficit of 2.6% for 2019/20. The 4% to 5% adjustment also compares the pre-Covid years to what will be necessary in the post-Covid years, and accept that 2020 as Covid year is an outlier and exception. Figure 9 shows that the primary balance in such a stability-seeking scenario will move to a surplus of 2.5%. Though still a steep adjustment in the primary balance, a 4% to 5% of GDP adjustment will be more politically palatable than the 8% to 9% implied in the active scenario.

6. What needs to adjust? Expenditure or revenue?

To obtain the right size for the primary balance the government needs to either reduce total non-interest expenditure or increase total revenue (or both).

6.1 Revenue adjustment

In South Africa total revenue/GDP of general government is 29% in 2019 (IMF 2020). This places South Africa, together with Turkey, in 19th place, out of 39 Emerging Market countries in the IMF data base (see Figure 10). Seven of the 17 countries with higher revenue/GDP ratios are European transition economies with more than twice, almost three times the per capita GDP of South Africa (i.e. they can afford higher revenue/GDP ratios to pay for higher expenditure – the revenue implication of Wagner’s Law), while another six are Middle East and North African (MENA) oil exporters. Thus, when excluding transition economies and oil-rich Emerging Markets in the MENA region, only five Emerging Market countries have larger revenue/GDP ratios, with another 19 having smaller ratios. The remaining countries with larger revenue/GDP ratios are all Latin American (Argentina, Ecuador, Brazil, Colombia, Uruguay) with ratios ranging from 31% to 34% of GDP. Of these both Argentina and Brazil had to turn to the IMF for support in recent years and therefore do not represent examples of exemplary fiscal management.



Note: Dark grey: Middle East and North African (MENA) oil exporters; light grey: Transition economies; Mid grey: others. Libya was excluded as its revenue exceeds 100% of GDP, and thus represents a possible anomalous outlier

Figure 10: General government total revenue as ratio of GDP in Emerging Market economies

Source: IMF

Given South Africa’s relatively high revenue burden compared to other Emerging Market economies, there is little scope for South Africa to increase tax rates in future if it is to remain competitive with other Emerging Markets. Doing so will serve as a disincentive for individuals and companies to earn their income and be taxed in South Africa. Moreover, as the discussion above has shown, the size of the government is inhibiting economic growth. Thus, cutting expenditure likely contributes not only to a smaller budget deficit, but also enhances economic growth.

6.2 Expenditure adjustment

Figure 11 presents three categories of non-interest expenditure: remuneration of employees, purchases of goods and services, and investment. The data is Government Finance Statistics (GFS) and sums central and provincial government (unlike local government, central and provincial governments depend primarily on tax revenues collected through the South African Revenue Services to fund their activities). Figure 11 shows that both compensation of employees and purchases of goods and services increased sharply in 2008/09, the former from roughly 9% of

GDP to 11% and the latter from 5% to 6%. Whereas the purchases of goods and service thereafter remained more or less constant, compensation of employees continued to display a slow upward creep and reached 12.5% of GDP by 2019/20. Altbeker, Boraine, and Engela (2019) have shown that especially the ranks of senior officials have swollen since 2009, contributing to the large increase in the government’s salary bill. The combined increase in the percentage of GDP of compensation of employees and purchases of goods and services almost equals the adjustment required in the primary balance to ensure the stabilisation of the debt/GDP ratio at 100% discussed above.

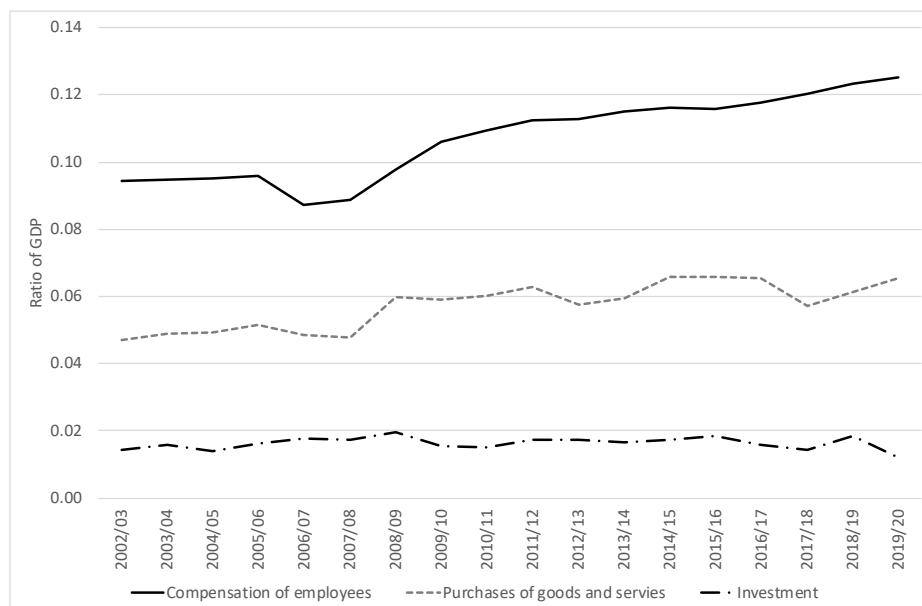


Figure 11: Categories of government expenditure (central and provincial government)

Source: GFS data in SARB Quarterly Bulletin (fiscal years) and authors’ own calculations

From a political perspective, reducing the government’s wage bill will be difficult. This emphasises the importance of improving economic growth. Nevertheless, even with better economic growth, the primary balance must still improve and that improvement will to a large extent have to come from reducing the salary bill. As the literature review above has shown, in many countries reducing the salary bill is often an inescapable part of restoring fiscal sustainability. For more on these options, see the conclusion and recommendation section below.

There also needs to be a reduction in the purchases of goods and services. This ratio can probably be reduced by improving efficiency, eradicating corruption as well as fruitless and wasteful expenditure in government procurement by, among other, review of existing contracts to identify overpriced goods and services.

Figure 11 also presents the investment/GDP ratio of central and provincial government. The ratio has been below 2% for almost two decades. Given that the required adjustment in the primary balance is between 4% and 5%, there is little scope for investment to contribute substantially to such an adjustment. On the contrary, to improve economic growth might require more and better infrastructure, which means that remuneration of employees and purchases of goods and services might have to be cut further to create room in the budget to expand government investment.

Lastly, to limit government’s assistance to state-owned enterprises (SOEs) the government has to limit the financial risks stemming from their balance sheets by restructuring these institutions and putting them on a healthy financial footing. However, the balance sheet restructuring should be accompanied by the restructuring of SOE operational models to return them to profitability. This will, in cases such as Eskom, require the implementation of cost-cutting

measures. There might also be a number of SOEs that are insolvent with little prospect of revival. These should be liquidated to prevent further wastage of tax-funded bailouts.

7. Introducing a debt ceiling

In the government's letter of intent accompanying its application for the \$4.3 billion IMF loan (a.k.a. the IMF Rapid Financing Instrument) to deal with the negative economic impact of Covid-19, the government expressed a willingness to explore the introduction of a debt ceiling (National Treasury and SARB 2020). Two questions follow: First, is this an appropriate step and secondly, if it is, at what level of the debt/GDP ratio should it be imposed? Introducing a debt ceiling is, in essence, a credibility-building mechanism, i.e. should the government succeed in limiting the debt/GDP ratio to below the ceiling, it demonstrates the government's commitment to fiscal discipline. Thus, a debt ceiling might also be quite helpful to focus attention on measures needed to reign in expenditure.

However, selecting an unrealistically low ceiling means the government will certainly breach it and lose credibility, while a too high ceiling will be seen as no commitment at all. The analysis of the active, passive and stability scenarios above shows that if the government uses the active scenario – which sees the ratio peaking at 87.4% in 2023/24 – as guide and sets the ceiling at 90%, it will in all likelihood breach the ceiling and lose credibility. The lowest realistic debt/GDP level, which is in line with the stability scenario, is 100%. But it comes with a proviso and warning. Setting the ceiling in itself is not going to stabilise the debt/GDP ratio. As outlined above, stabilising the debt/GDP ratio is still going to require significant cuts in expenditure. The actual commitment is therefore not so much to the debt ceiling, but to cutting expenditure to remain under the ceiling.

A remaining question is whether the imposition of any such debt ceiling should be statutory- or policy-based. For instance, the Growth, Employment and Redistribution (GEAR) policy's 3% deficit/GDP target of the late 1990s was policy-based and not statutory. Whatever the choice, no fiscal rule or guideline can substitute for a convincing commitment to fiscal discipline. Institutionally, this requires the existence of the proverbial umbilical cord between the Finance Minister and the President that is not severed by in-fighting in cabinet, political faction fighting or rent-seeking self-interest.

8. Conclusion and recommendations

To stabilise the debt/GDP ratio once South Africa exits the Covid-19 crisis requires a 4% to 5% of GDP improvement in the primary balance/GDP ratio to a surplus of roughly 2.5% (and at least a 2.5% economic growth rate by 2023). The discussion above showed there is little scope to raise taxes. Thus, the adjustment will largely require the reversal of the significant growth in the salary bill and goods-and-services budget over the past decade. Thus, the salary bill should be cut by 3.5% of GDP and the goods-and-service budget by 1% of GDP. Hence the following recommendations:

- 1) *The government pursues the stability scenario discussed above, stabilising the debt/GDP at 100% by 2025/26. Once real economic growth exceeds 2.5%, it switches to a policy aimed at the reduction of the public debt/GDP ratio. This of course requires success at improving other determinants of economic growth.*
- 2) *Following from (1) introduce a debt ceiling at a debt/GDP ratio of 100%, but only if the government is committed to points (3) to (5) below.*
- 3) *Government engages with public sector trade unions to reach an agreement on a reduction of 3.5% of government's salary bill as percentage of GDP. In principle such a reduction can be created through a once-off*

nominal reduction in salaries, say in 2021 or 2022 after the worst of the Covid crisis is over, or in a phased-in approach spread over a number of years. However, to reach 3.5% of GDP through a once-off cut in the salary bill, either through lay-offs or a nominal reduction in salaries, requires an almost 30% cut in the salary bill. At 30% the size of this cut renders it politically non-feasible.

Instead of a once-off nominal salary cut, and assuming a 4% inflation rate throughout the period as well as no nominal change in the salary bill in 2020/21 (raising it to 13% of GDP), the government will have to reduce the salary bill by 3% of the salary bill's nominal value per year for the period 2021/22 to 2024/25. Wage freezes, early retirement, natural attrition in combination with a moratorium on filling vacant posts and promotions (with the exception of critical key positions that experience higher-than-average staff turnover), as well as voluntary and involuntary severance should all be considered.

Key to this reduction should also be a right-sizing and fit-for-purpose restructuring of the civil service, largely based on the zero-based budgeting approach Minister Mboweni mooted as part of the National Treasury's future planning. Should the government in this period wish to grant inflation-related salary increases, it will require a further reduction in the number of civil servants employed – at 4% inflation, an inflation-linked salary increase together with a 3% nominal cut in the salary bill will require a 7% average reduction in the number of civil servants per year for five years. If salaries increase at two percentage points less than inflation, the number of civil servants will need to decrease by 5% on average to yield a 3% nominal reduction in the salary bill.

To achieve a 5% to 7% reduction in the number of civil servants employed might be achievable, given the finding by Altbeker *et al* (2019) that nearly 6% of civil servants (or almost 70 000 workers) leave the public service each year. In the past recruitment usually exceeded terminations of contract, but a moratorium on filling vacant posts and promotions (except in critical areas or in posts with above-average turnover) can ensure numbers fall. A 3% nominal decrease in the amount of the salary bill will reduce the remuneration of employees by 3.5% of GDP over the period 2021/22 to 2024/25. However, during this period the government should be weary of developing restructuring fatigue, meaning that restructuring should be done as early as is feasible to ensure that it is done. In addition, wage settlements that are based on predictions of economic variables cannot be cast in stone for three years ahead. An adjustment mechanism is needed to correct for significant deviations between projections and outcomes.

- 4) *To accomplish a total adjustment in the primary balance of between 4% and 5% of GDP the adjustment in the salary bill needs to be accompanied by a further reduction of 1% of GDP in the purchases of goods and services, from 6% to 5% of GDP.* This reduction can be achieved by keeping the nominal value of the goods-and-services budget unchanged over the period 2021/22 to 2024/25. This requires more effective and efficient procurement by national and provincial government departments.
- 5) *The government will also have to reduce and contain its assistance to SOEs, and restructure their balance sheets and operations to restore their solvency.*

In the absence of higher economic growth, running large enough primary surpluses to reduce significantly the debt/GDP ratio will be quite challenging. Thus, the public debt/GDP ratio in South Africa will remain high for a long time and South Africa is therefore likely to join a group of high-debt countries such as Italy, Greece, Japan and Belgium. These are countries with relatively low economic growth, leaving them with high public debt/GDP ratios for years, if not decades. Such a high ratio has longer-term policy implications, especially given the positive interest rate-growth rate differential and thus the need for sufficiently large primary surpluses:

- 1) Fiscal policy will have limited scope in future to act countercyclically. With a public debt/GDP ratio of roughly a 100%, not only is there little scope to run up debt to stabilise the economy,

but the probability of a recession destabilising fiscal policy and causing the debt/GDP ratio to spiral out of control is much higher than at lower debt/GDP ratios.

- 2) There is limited fiscal space to finance the infrastructure-led economic growth strategy the government envisions for the post-Covid economic recovery. In addition, the country's infrastructure is aging and needs replacement to ensure that infrastructure facilitates future economic growth. Given that the government's borrowing capacity will remain severely constrained by the need to consolidate its fiscal position, the government should increasingly look towards a larger role for the private sector in financing, constructing and managing infrastructure. However, when setting up these public-private partnerships (PPPs), the government should take care not to replace direct debt liabilities with indirectly liabilities by committing to large-scale annual fees paid to private partners.⁷
- 3) With fiscal policy limited in scope to act countercyclically, the bulk of the burden for countercyclical policy will in future fall onto monetary policy. However, given the that the high public debt/GDP ratio will cause the risk premium included in interest rates to increase (especially when credit rating agencies downgrade the country further into so-called junk status), the scope of monetary policy to act countercyclically by reducing interest rates will also be limited.

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⁷ If, for instance, the private partner in a PPP builds school buildings or a hospital, the government will typically need to enter a 25-year contract with the private partner. In terms of that contract the government will have to pay the private partner annually a fee that will allow the private partner to maintain the buildings and service the debt that the private partner incurred to construct the buildings. Those annual payments are as much a liability to government as its normal debt would be had the government borrowed money itself to build these buildings. An example where government does not have to pay a fee is a toll road where the road users and not the government constitute the source of income for the private partner.

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