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Will history repeat itself?

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Fiscal sustainability in South Africa: Will history repeat itself?

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ABSTRACT

Several empirical studies have found that fiscal policy has been sustainable in South Africa since 1960. This paper complements these studies by providing perspective on the manner in which fiscal sustainability was maintained. It discusses two episodes of significant increases and one period of substantial reduction in the public debt burden to show that periods of rising deficits and government debt in South Africa were followed by returns to sustainable levels, thereby preventing major domestic economic crises and external interventions. The paper also provides a projection of the fiscal outlook for South Africa based on a structural VAR model. The results suggest that the discretionary fiscal decisions of 2007 to 2010 might pose a serious threat to the sustainability of fiscal policy unless the authorities respond as they did in the past by checking large budget deficits and concomitant rapid increases in the public debt burden promptly.

Keywords: fiscal policy, fiscal sustainability, South Africa
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1. INTRODUCTION

Recent decades have brought mounting evidence of the harmful effects of excessive fiscal deficits on macroeconomic performance. Empirical studies have linked excessive budget deficits to slow economic growth (Fischer, 1993; Adam and Bevan, 2005), high inflation (Easterly and Schmidt-Hebbel, 1993; Catão and Terrones, 2005), and general macroeconomic volatility (Schmidt-Hebbel, 1996). After some two decades of widespread fiscal austerity and the absence of fiscal activism (or at least of official acknowledgement thereof), the international financial crisis of 2007-2009 resulted in large increases in budget deficits and government debt, especially in some OECD countries (see Cecchetti, Mohanty and Zampolli, 2010).² Fiscal activism returned to favour but the extent of the policy interventions also required renewed focus on the balance between short-term fiscal stimulation and longer-term fiscal sustainability. Indeed the fiscal sustainability of governments such as those of Greece and Ireland has already been threatened. Although the fiscal consequences for developing countries were less severe, substantial fiscal deteriorations did occur in a number of cases. These events have placed fiscal sustainability back on the policy agenda.

This paper discusses the South African fiscal experience since 1961 and provides a projection relevant to the future sustainability of fiscal policy. South Africa is an interesting case to study because of the country's long record of relatively good fiscal outcomes. During the period under review, government debt averaged 39 percent of GDP and peaked at 51 percent.³ Crucially, South Africa avoided the fiscal policy-rooted macroeconomic crises that plagued many other developing countries during the seventies and eighties. Furthermore, during the mid-1990s, the fiscal authorities defied expectations and achieved a significant fiscal consolidation amidst a political transition from apartheid to full democracy despite the pressure such a transition was expected to entail for the fiscus and the unfavourable debt dynamics at that point in time.

Section 2 summarises the international evolution of views about the role of fiscal policy from the 1960s onwards. Against this background, Section 3 outlines salient fiscal trends and reviews empirical research on the sustainability of fiscal policy in South Africa since 1960. By and large, these trends and the findings of other studies show that South African fiscal policy was sustainable in this period. Section 4 provides perspective on the manner in which fiscal sustainability was maintained by discussing two episodes of significant increases and one period of a substantial reduction in the public debt burden. It transpires that periods of rising deficits and government debt in South Africa were followed by returns to sustainable levels, thereby preventing major domestic economic crises and external interventions. Section 5 contains a projection of the fiscal outlook for South Africa. It shows that the discretionary fiscal decisions of 2007 to 2010 might pose a serious threat to the sustainability of fiscal policy unless the

² For example, the following fiscal balances for general government were recorded in 2009 (all expressed as percentages of GDP): Germany (-3.0 percent), France (-7.6 percent), and the United Kingdom (-11.0 percent). Other European Union countries with very large deficits were Greece (-13.7 percent), Ireland (-14.2 percent) and Spain (-11.1 percent). The US deficit was 11.3 percent. See International Monetary Fund (2010: 191).

³ Except where stated differently, government debt refers to the marketable and non-marketable debt of the national government.

authorities respond as they did in the past by checking large budget deficits and concomitant rapid increases in the public debt burden promptly. Section 6 concludes the paper.

2. CHANGING INTERNATIONAL VIEWS ABOUT FISCAL POLICY

During the period under review, the world experienced arguably the most extensive round of globalisation in history. After World War II (and especially since the mid-1970s) the world witnessed a gradual policy convergence on a set of policies that envisioned a limited role for government in the economy, with fiscal policy largely passive, monetary policy focussed on long-run price stability and industrial policy focussed on a smooth integration with the international economy. Boughton (2001) called this evolution of policy the “silent revolution”. Others have called it the “Washington consensus” (Williamson, 1990), while critics have preferred the term “neoliberal economics” (Harvey, 2005). This trend gained momentum with the demise of the command economies of Eastern Europe and the poor records of interventionist, populist and corrupt governments in the developing world. It was strengthened by one of the longest phases of economic expansion in decades in most industrial and some developing countries since the early 1990s and disrupted only by the financial crisis from 2007 to 2009.

The collapse in 1971 of gold as monetary anchor under the Bretton Woods system ushered in a period of market flexibility – some would prefer “instability” – with major new opportunities as well as much higher risk. The soaring magnitude and increased volatility of international capital flows added to instability in the financial accounts of countries’ balance of payments and in exchange rates. Central banks experienced increasing difficulties in controlling the money supply and in maintaining the external value of their respective currencies and in time inflation targeting (with interest rates as operational policy instruments) emerged as a popular monetary anchor compared with alternative targets for the nominal exchange rate or the money supply.

Fiscal discipline – almost as a systemic imperative – became the order of the day. In industrial countries this was reflected in norms of good fiscal behaviour such as the Maastricht Treaty’s fiscal requirements for those countries aspiring to EMU membership, namely a government debt-to-GDP norm of 60 percent and budget deficit-to-GDP norm of 3 percent. Since the launch of the Euro, these norms became part of the EMU’s Stability and Growth Pact. In developing countries fiscal policy changes in this direction were prompted by experience: previous fiscal mismanagement had become associated with not only macroeconomic instability but also economic decline, while economies seemed to recover as prudent fiscal policy returned since about the middle of the 1980s. The member countries of the Southern African Development Community (SADC), for example, agreed to a target of 60 percent for the debt-to-GDP ratios of member countries to be attained by 2008 and then sustained through 2018 as a part of the Regional Indicative Strategic Development Plan (RISDP) (SADC, 2011).

The recent global financial crisis raised fundamental questions about this fiscal consensus. Some recent studies have even argued that fiscal activism had been practiced for quite some time prior to the financial crisis (see, for example, Auerbach, 2009, in respect of the United States, and Cecchetti et al,

2010, for measurement of structural deficits in OECD countries prior to the crisis). To reduce longer-run fiscal risks, an increasing number of developed and developing countries have adopted formal fiscal rules in one form or another and a few countries have established independent fiscal councils tasked with the responsibility to analyse and comment publicly on the stance of fiscal policy.⁴ Because many countries were in breach of their own rules after (and some even before) the financial crisis, the jury is still out as to the actual commitment to and enforceability of fiscal rules as well as the optimal forms of escape clauses allowed for under these arrangements.

3. FISCAL OUTCOMES IN SOUTH AFRICA SINCE 1960

Several developments have affected the sustainability of fiscal policy in South Africa since 1960. Firstly, consistent fiscal pressures were encountered, reflecting socioeconomic development needs and the imperative to eliminate racial disparities in the supply of public services. Such pressures intensified after the establishment of full democracy in 1994 and the adoption in 1996 of the final constitution, which provides for the progressive realisation of various socio-economic rights (RSA, 1996a). Secondly, a number of factors contributed to substantial volatility in fiscal variables, including fluctuations in commodity prices; business cycles; and political instability with concomitant armed conflict, internal unrest and international financial and trade sanctions. Thirdly, fiscal institutions evolved considerably. A dual-budget system, which was in force from 1910 until 1976 and had the purpose of ensuring compliance with the golden rule, could not prevent the gradual emergence of Keynesian fiscal activism from the late 1950s until the mid-1970s. In turn, the Keynesian approach was gradually abandoned in favour of a longer-term fiscal orientation from the late-1970s onwards (Calitz and Siebrits, 2003). This signified a structural approach to fiscal policy that entailed the adoption of annual and medium-term targets by the fiscal authorities. These targets, however, never achieved the status of formal numerical rules (Siebrits and Calitz, 2004: 767). After 1994, goal setting was coupled with much increased fiscal transparency, especially after the adoption of the Public Finance Management Act (Act 1 of 1999) (RSA, 1999). This reflected a shift towards a dispensation that Siebrits and Calitz (2004: 768) label transparency-enhancing fiscal discretion.

From 1961 to 2008, South Africa's structural budget balance fluctuated between -6 percent and +2 percent of GDP, while public debt fluctuated between 23.8 percent and 50.4 percent of GDP (Calitz, Du Plessis and Siebrits, 2009: 19).⁵ Taken at face value, these balances and debt burdens were modest. The peak value and the period average (39 percent of GDP) of the debt-to-GDP ratio, for example, were well below the Maastricht norm of 60 percent of GDP. Underlying economic considerations (especially the level of interest rates and the sustainable long-run GDP growth rate), however, may well have indicated

⁴ For an overview of fiscal councils, see Debrun, Hauner and Kumar (2009).

⁵ Du Plessis, Smit and Sturzenegger's (2008) estimates of the output gap as well as Du Plessis and Boshoff's (2007) method for calculating cyclical elasticities for the components of government revenue were used to calculate the structural balances. Du Plessis and Boshoff's quarterly data series for the period 1990-2006 was extended backwards to 1960.

different norms of fiscal prudence for South Africa. Moreover, proper evaluation of fiscal performance requires formal assessment of the sustainability of outcomes.

A government is solvent if the present value of the flow of all future revenues exceeds the value of outstanding debt plus the discounted value of all future government expenditure spending. This is a necessary though not a sufficient condition for fiscal sustainability.⁶ The concept of “fiscal sustainability” adds the requirement of a track record regarding the generation of revenue and the management of expenditure (see Perotti, 2007: 13). It is difficult to judge fiscal solvency and sustainability as described here in practice. The concept of fiscal sustainability can be made more operational by arguing that states maintain fiscal sustainability when the government is regarded as solvent without the need for any changes to the present stance of fiscal policy. Attempts to judge the sustainability of fiscal policy in individual countries (e.g. Greiner, Koeller and Semmler, 2006) or groups of countries (e.g. Mendoza and Ostry, 2008) often employ primary surplus trends as predictor of the intent to restore a sustainable fiscal stance when rising fiscal deficits threaten macroeconomic stability. A widely used rule-of-thumb states that primary deficits are consistent with stable government debt-to-GDP ratios only if and for so long as the real rate of economic growth exceeds the real rate of interest. Applications of this rule-of-thumb usually rely on the following equation for calculating changes in the ratio of government debt to GDP:

$$\text{Change in the ratio of debt to GDP} = \frac{B_t}{Y_t} - \frac{B_{t-1}}{Y_{t-1}} = (r - g) \frac{B_{t-1}}{Y_{t-1}} + \frac{G_t - T_t}{Y_t} + \frac{M_t - M_{t-1}}{Y_t}$$

where $(r - g)$ = difference between real rates of interest and economic growth;

$\frac{B_{t-1}}{Y_{t-1}}$ = previous year’s debt-to-GDP ratio;

$\frac{G_t - T_t}{Y_t}$ = primary balance as ratio of GDP; and

$\frac{M_t - M_{t-1}}{Y_t}$ = seigniorage as ratio of GDP.

Analysis of fiscal sustainability evolved considerably over the past twenty years. During the 1990s and early 2000s studies on OECD countries focused on whether or not and how successful and sustainable debt-to-GDP ratio reductions were achieved within seemingly arbitrary time frames, for example two years (McDermott and Wescott, 1996; Von Hagen and Strauch, 2001) or three years (Alesina and Perotti, 1997; Alesina, Perotti and Tavares, 1998) after the conclusion of the contraction episode.⁷ More recent studies focus on other indicators of fiscal sustainability. These studies typically develop algorithms to determine the requirements for fiscal sustainability at some future date in the context of macroeconomic models.⁸ Various stress tests are undertaken to determine the robustness of the results and compare the outcome of alternative scenarios. An example is Hauner, Leigh and Skaarup’s (2008: 734) calculation of a

⁶ For an outline of different concepts and definitions of fiscal sustainability, see Baldacci and Fletcher (2004: 130-161).

⁷ The full definitions of successful fiscal adjustments are provided in Alesina and Perotti (1997: 221), Alesina, Perotti and Tavares (1998: 200-201), McDermott and Wescott (1996: 732) and Von Hagen and Strauch (2001: 329).

⁸ Generally, on the assumption of a continuation of existing policies and the maintenance of the government’s record with regard to the generation of revenue and the management of expenditure.

debt target primary gap, an indicator that measures the difference between the current primary balance and the primary balance required to reach a target level of gross government debt-to-GDP ratio in a certain future year. The value-at-risk method is an alternative approach to scenario analysis in which ranges are estimated within which government debt may be at risk given variations in major variables such as economic growth rates, interest rates and exchange rates (e.g. Budina and Van Wijnbergen, 2010).

The methods described above use forecasts and scenarios to judge sustainability. Other studies analyse the in-sample information in fiscal data by using stationary tests for the level of government debt and cointegration tests between government revenue and expenditures. This method is used by Bohn (1995, 1998) and the European Central Bank (cf. Afonso, 2005), among others. Recently, however, Bohn (2007) himself argued that cointegration tests are incapable of rejecting sustainability and suggested alternative, albeit related, statistical tests.

The sustainability of fiscal policy in South Africa has been the subject of much research. Earlier papers (e.g. Cronje, 1998) used the “accounting” approach. Fourie and Burger (2000) and Burger (2004) focused on conceptualising issues. More recently, time-series econometrics have been used to test aspects of the present value constraint (e.g. Ghatak and Sanchez-Fung, 2007; Jibao, Schoeman and Naraidoo, 2010; Lusinga and Thornton, 2009; Thiswaka-Kashala, 2006). Celasum, Debrun and Ostry (2007), while Burger, Stuart, Jooste and Cuevas (2012) estimate fiscal reaction functions and use various methods (OLS, VAR, TAR, GMM, state-space modelling and a VECM) to check the robustness of the results. These stochastic methods suggest that the South African government had run a sustainable fiscal policy since 1946 by reducing the primary deficit or increasing the surplus in response to rising debt levels.

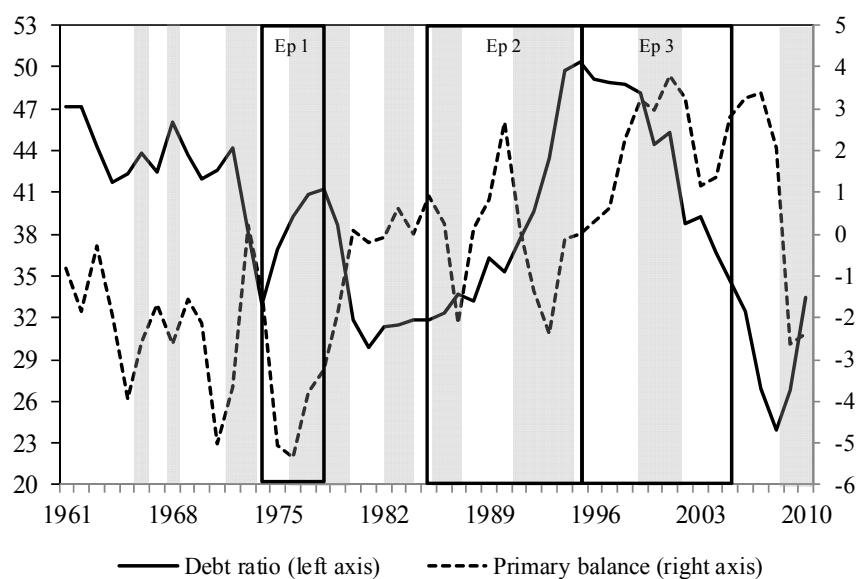
4 THREE ILLUSTRATIVE EPISODES

The primary-balance rule-of-thumb referred to above provides a useful analytical framework for reviewing historical developments in South African fiscal policy. The rule suggests that a government is committed to fiscal sustainability if the primary balance is improved during or in anticipation of periods of rising debt and of high real interest rates relative to real economic growth.

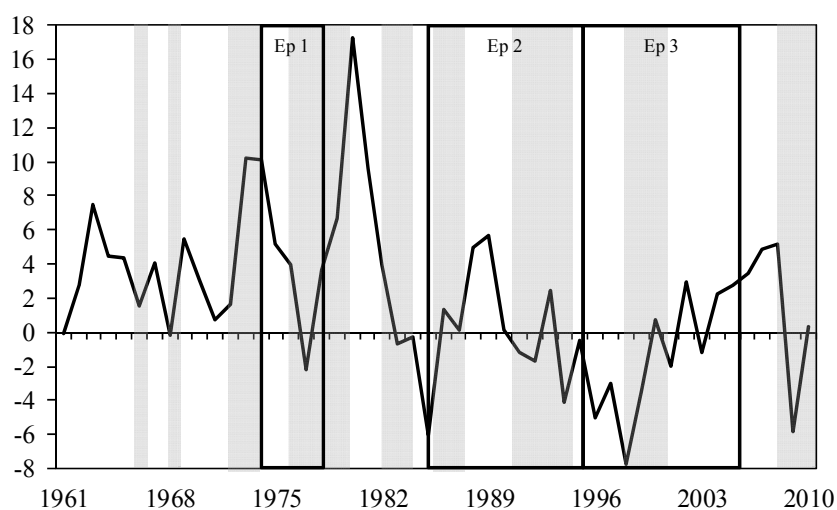
In what follows, we confine ourselves to studying fiscal sustainability with reference to the national budget and national government debt, that is, we do not take assets into account and consider other types of government debt (e.g. of provincial governments or public enterprises) only as and when the national government incurs a real debt obligation. Hence, we exclude contingent liabilities. The only exception is our use of an accrual-adjusted debt series to account for the two sets of liabilities assumed ex post.

Figure 1(a) shows trends in government debt and the primary balance (both expressed as percentages of GDP) from 1961 to 2010 against the backdrop of business cycle phases (downturns shaded). Figure 1(b) depicts the difference between the real growth rate of GDP and the real interest rate (proxied by the real rate on government bonds with maturities of ten years and longer, with expected inflation proxied for by the GDE deflator). We focus on two clear episodes of substantial increases in government debt in

South Africa (1974-1978 and 1985-1995) and one episode of a substantial decrease (1995-2008). These episodes are indicated as Ep 1, Ep 2 and Ep 3 in Figure 1.



(a) Government debt ratios and primary balances (% of GDP)



(b) Real GDP growth minus real government bond rate (10 years and longer)

Figure 1. Government debt and primary balances in South Africa, 1960-2008

Note: Shaded areas indicate economic downswings.

Source: South African Reserve Bank data (available at <http://www.resbank.co.za>).

First episode (1974-1978)

The first episode occurred between 1974 and 1978, when the debt-to-GDP ratio increased from 32.9 percent to 41.2 percent, partly coinciding with and following a period of fiscal expansion that lasted from 1968 to 1975 (Browne, 1983: 154-162). During these years the South African economy experienced a major stock exchange boom and crash (note the two short downturns during this period), the start of the

meteoric gold price increase from the long-standing fixed level of \$35 per ounce⁹ after the collapse of the Bretton Woods system, the oil price crisis of 1973 and a domestic inflation surge in line with rapid world-wide inflation.¹⁰

Apart from the surge in defence expenditure (especially during the second half of the 1970s), most of the increase in debt can be attributed to cyclical factors and external conditions. In retrospect, none of these factors was allowed to threaten sustainability in the longer run. In fact, the years 1976-1983 have been described as years of fiscal restraint (Browne, 1983: 162-165), indicating that the fiscal authorities were alert to the risks of rising budget deficits and debt. Between 1976 and 1983, the primary balance improved from a deficit of 5.3 percent of GDP to a surplus of 0.6 percent. This fiscal behaviour, together with the fact that real economic growth exceeded the real interest rate between 1978 and 1982, resulted in a fall in the debt-to-GDP ratio from 41.2 percent in 1978 to 31.8 percent in 1985. Because of the lagged fiscal response, these developments do not correspond exactly to the rule-of-thumb prescription for fiscal sustainability, but the increased debt-to-GDP ratio was nonetheless arrested and turned around. By 1980, the debt ratio was 31.9 percent of GDP, which was well below the long-term average.

Second episode (1985-1995)

The second episode of rising debt occurred between 1985 and 1995. During this period the ratio increased from 31.8 percent to 50.4 percent, before falling to 23.8 percent at the end of 2008 (which we discuss below as episode 3). A number of factors contributed to the rising government debt. Firstly, the standstill in and rescheduled repayment of foreign debt in 1985, which related to short-term private sector debt and not government debt, necessitated relatively strict monetary and exchange rate policy aimed at generating current account surpluses sufficient to meet the rescheduled debt repayments. As a counterbalance, an expansionary fiscal policy manifesting in high budget deficits and rising government debt ensued, especially during the long recession from March 1989 to May 1993. Depressed tax revenue due to the business cycle exacerbated the higher deficits, but other factors also added to pressure on the budget, including several extraordinary transfer payments and the expansion of social services.¹¹ The budget deficit ballooned from 1.4 percent of GDP in 1989/90 to 7.3 percent in 1992/93, which contributed to a sharp increase in national government debt from 36.4 percent in March 1989 to 49.5 percent in March 1996 (Calitz and Siebrits, 2008: 255). Thus, the 1994 Budget Review (RSA, 1994: 2.1) reports that “the general government *borrowing requirement* has reached levels in recent years which *cannot be sustained*” (italics added). Already by 1992/93 fears were voiced of a looming debt trap (see Van der Merwe, 1993).

⁹ Gold hit a (then) record price of \$850 per ounce in January 1980.

¹⁰ Inflation in South Africa exceeded 10 percent for the first time in 1973 (Browne, 1983: 154).

¹¹ During the decade before the 1994 constitutional change, pressures were already building up for an expansion of public services – especially social services – to the majority of the population who had generally experienced poor access. The reduction of racial disparities in the per capita spending on such services, which to a certain extent preceded the political change of 1994 (cf. Van der Berg, 2011: 132-133), also exerted pressure on the fiscus and was therefore part and parcel of the budgetary outcome of rising deficits.

The Government also accepted responsibility for two major obligations between 1989 and 1994, namely the improved actuarial funding of the Government Employees Pension Fund (GEPF)¹² and the accumulated debts of the so-called TBVC¹³ states and self-governing territories (SGTs) of the apartheid era. An amount of R11.45 billion was transferred to the pension funds for government employees between 1989 and 1993, either as budgetary allocations or as extra-budgetary stock transfers (Calitz, Du Plessis and Siebrits, 2011: 163, Table 1). TBVC and SGT debt to the tune of R14.09 billion (representing 3.1 percent of the 1994 GDP) was taken over by the national government and formally added to the national government debt in 1994 (Calitz et al, 2011: 163, Table 1).

While the funding of these liabilities contributed to the surge in government debt during this (second) episode, the funding obligations were incurred over a much longer period. Calitz et al. (2011: 163-164) argue that an accurate assessment of “aggregate fiscal discipline” should take account of the evolution of these liabilities. We return to this point in Section 4 when we present future scenarios based on the accrual-adjusted debt figures generated by Calitz et al. (2011).

Furthermore, forward exchange cover was provided by the central bank during the period of financial sanctions (1985-1993) as a means of alleviating the country’s foreign exchange shortages. For a number of years this facility was de facto financed in an inflationary way, that is, by increasing the net claims on government, which amounted to increasing the money supply. Following this, the Government financed it up front through the national budget. The Government also funded historically accumulated forward exchange cover debt through stock transfers.¹⁴ This was always recorded as a liability of the Government and therefore was not new or undisclosed debt, but represented an ex post facto change of the method of financing. The funding of the accumulated foreign exchange losses through stock transfers was deemed important for creditworthiness, especially in the light of the international sovereign credit rating that the Government was to acquire for the first time in 1994.

How did fiscal policy perform with reference to the sustainability rule-of-thumb? From Figure 1 it is clear that real economic growth exceeded the real interest rate only for a short time around 1989. Hence, this combination of factors provided markedly less support for fiscal sustainability than during the first episode. In fact, the difference between the real growth and interest rates turned negative in 1991 and remained negative until 2003, except in 1993 and 2000. Given these economic realities, the pressure was squarely on fiscal policy to effect a reduction in debt as a percentage of GDP. The improvement in the primary balance that began in 1994 and the positive primary balance maintained from 1995 until 2008 signify the kind of fiscal responsibility required for fiscal sustainability in terms of the derived rule-of-thumb. The government debt-to-GDP ratio reached its highest level of 50.4 percent in 1995, after which

¹² These were not the only pension fund obligations, but the impact of the others was not as large. A closed pension fund (amounting to about R1bn) was established for retiring politicians in the apartheid political system. The pension fund for associated institutions was also underfunded and various institutions (e.g. universities) opted to establish their own pension funds; thus relieving government of the funding obligation. The pension fund for temporary workers was also underfunded.

¹³ Transkei, Bophuthatswana, Venda and Ciskei.

¹⁴ Between 1989 and 1994, government stock to the amount of R11.5 billion was transferred to the foreign exchange contingency reserve account, which also benefited from net upward revaluations of gold stock.

a consistent and remarkable downward trend followed.

The above findings regarding sustainability are vindicated when the trends are investigated using the accrual-adjusted debt figures published by Calitz et al. (2011). The deviation from the historical trend line of government debt during the second episode was less dramatic than the official figures showed, thus implying a smaller threat to fiscal sustainability. This is particularly relevant because the sharp increase in the government debt-to-GDP ratio between 31 March 1989 and 31 March 1996 has been interpreted as evidence of “weak” fiscal discipline (Ajam and Aron, 2007: 746).

Third episode (1995-2008)

Fiscal policy during the third episode (the period of a drop in the debt-to-GDP ratio) is also important for understanding the authorities’ commitment to fiscal sustainability. The debt-to-GDP ratio was reduced from 50.4 percent to 23.9 percent from 1995 to 2008 (i.e. more than halved within a period of 13 years).

Table 1 compares South Africa’s ratio in 2010 with that of a selection of OECD countries and emerging market economies (EMEs), showing South Africa to be in a much better position than leading developed countries and prominent EMEs. What makes the South African position more remarkable is the fact that the Government had no unfunded liabilities regarding the pension fund of government employees. This makes the government debt ratios comparable to that of countries in similar positions, like Australia, Hungary and Mexico (see Ponds, Severinson and Yermo, 2011: 8-10). However, when comparing South Africa to countries whose governments face the implicit liabilities of unfunded defined benefit pension plans for public servants, such as Austria, Belgium, France, Greece and Japan, the debt ratios of such countries have to be appropriately adjusted upwards.

A number of developments underpinned the South African achievement. Control over inflation was achieved gradually after 1994 and the inflation rate was kept mostly within the target range of 3-6 percent after the introduction of inflation targeting on 23 February 2000. The lower nominal interest rates that accompanied the downward trend in inflation reduced the government debt service cost and enabled a reallocation of government resources to socioeconomic services, thus relieving the pressures on public expenditure arising from the demands exercised by the newly enfranchised through the political process. The ability to reprioritise government spending was further strengthened by the reduced defence expenditure and the reallocation of expenditure within social spending categories by more accurate targeting of the needy. The privatisation of higher cost services formerly supplied by government, for example in health, also released sources for reallocation. In combination, all of the aforementioned factors enabled the government to increase the supply of social services without an increase in the share of public expenditure in the South African economy. This reflects the policy aim in the Government’s growth, employment and redistribution strategy (GEAR), namely to effect some of the fiscal redistribution on the expenditure side of the national budget (RSA, 1996b: 10).

Table 1. Government debt-to-GDP ratios in South Africa and selected OECD and other emerging market economies (EMEs), 2010

| Country | Type | Government debt (% of GDP) | Country | Type | Government debt (% of GDP) |
|----------------|------|----------------------------|---------------------|------|----------------------------|
| Japan | OECD | 220 | Argentina | EME | 48 |
| Greece | OECD | 143 | Thailand | EME | 43 |
| Italy | OECD | 119 | Mexico | EME | 43 |
| Belgium | OECD | 97 | Turkey | EME | 42 |
| United States | OECD | 93 | Sweden | OECD | 40 |
| Germany | OECD | 83 | Czech Republic | EME | 40 |
| France | OECD | 82 | South Africa | EME | 36 |
| Hungary | EME | 80 | Korea, Republic of | EME | 33 |
| United Kingdom | OECD | 76 | Indonesia | EME | 27 |
| Egypt | EME | 74 | Peru | EME | 25 |
| India | EME | 68 | Australia | OECD | 21 |
| Brazil | EME | 66 | China | EME | 17 |
| Poland | EME | 55 | Botswana | EME | 14 |
| Malaysia | EME | 54 | Chile | EME | 9 |

Note: In the IMF's database the target variable is gross general government debt. In many cases, though, only central government data are available and reported. The South African figure corresponds to the official national government debt.

Source: IMF (2011).

In addition, three other factors relieved the pressure on the fiscus. The South African Revenue Service Act 34 of 1997 established the South African Revenue Service as an administratively autonomous organ of the state. This new organisation effected a major improvement in revenue collection. National government tax revenue as a percentage of GDP increased from 24.0 percent in 1998 to 27.4 percent in 2007 despite no increase in income tax rates or value-added tax rates and major reductions in import duties.¹⁵ The fact that the actual tax revenue exceeded the budgeted revenue for many years meant that actual debt financing was lower than budgeted, notwithstanding expenditure overruns. In seven of the eleven years from 1997/98 to 2007/08, the actual budget deficit turned out to be lower than the budgeted deficit, thus resulting in a lower-than-budgeted borrowing requirement. The total amount of budget-related debt incurred over the period was consequently R138.5 billion less than originally budgeted.

Furthermore, economic growth was much stronger and more sustained after the political transition. Whereas the average real economic growth between 1985 and 1992 was 0.5 percent per annum, a much higher average annual rate of 3.5 percent was recorded between 1993 and 2008. From September 1999 to November 2007, South Africa experienced an economic upswing lasting 99 months – the longest in recorded history. The higher economic growth rate, along with the control over inflation towards the end of the 1990s, resulted in a positive difference between the economic growth rate and the real rate of interest for seven of the nine years from 2000 to 2008.

¹⁵ We do the comparison up to 2007, the year before the international financial crisis and the ensuing great recession adversely affected government revenue in South Africa. There has been no change in the VAT rates since 1996, but a few zero-ratings were added. Individual and corporate income tax rates were reduced, and a lower (differentiated) tax rate for small and medium-sized enterprises as well as a capital gains tax was introduced. In total, the periodic adjustments in the fuel levy were less than the increase in GDP and the general price level between 1996 and 2007 and the fuel levy's contribution to total current revenue declined from 7.0 percent in 1996 to 4.4 percent in 2007.

The third factor that alleviated the government debt burden relative to GDP was that privatisation proceeds were used to reduce the fiscal impact on government debt. Between 1993 and 2008, the sale of public assets amounted to R53.7 billion in nominal terms. Had the sales been done at the beginning of each year and the proceeds invested at the yield rate on ten-year government stock, the value would have been R114.9 billion at the end of 2008 or 21 percent of government debt. Put differently, government debt would have been higher by 21 percent: the government debt-to-GDP ratio at the end of 2008 would have been 34.2 percent instead of 28.3 percent.

The above factors in combination were the main contributors to the reduced debt-to-GDP ratio shown in respect of episode 3 in Figure 1(a). How did the fiscal authorities perform in terms of the rule-of-thumb regarding fiscal sustainability? Figure 1 points to two aspects. First, a primary surplus was maintained until 2008. Second, the difference between the real growth rate and interest rate, after having reached a negative low of 7.7 percentage points in 1998, began to improve and was positive from 2004 to 2008. These two developments testify to strong commitment to fiscal sustainability. It might even be argued that fiscal policy became excessively stringent, given the historic levels of the debt-to-GDP ratio. Of course, such a judgement depends on the debt-GDP target, which the fiscal authorities did not disclose (that is, if they had one). Soon after the international financial crisis of 2007-2009 started spreading, however, the South African Finance Minister did justify the conventional budget surpluses of 0.3 and 0.7 per cent of GDP in 2006 and 2007, respectively, as necessary cushions against international financial volatility.¹⁶ Indeed, South Africa was in a better position to implement expansionary fiscal policy than OECD countries when the financial crisis started to affect emerging market economies, and recorded a budget deficit of 5 percent of GDP in 2009 and an increase in the debt-to-GDP ratio to 33.5 percent of GDP in 2010. It is particularly impressive that these results were achieved without numerical fiscal rules (see Siebrits and Calitz, 2004), thus showing the merits of fiscal discretion when there is commitment to prudence.

It is clear from the above discussion that government debt never got out of hand in the period from 1960 to 2008. In fact, both episodes of significantly increased government debt were followed by reductions to levels below those that applied before the increases. In particular, the sharp reduction in the budget deficit and government debt as a percentage of GDP after 1994, together with the containment of government expenditure growth, appears to contradict predictions from economic theory. Black, Siebrits and Van der Merwe (2011: 114) point out that a major increase in the share of government expenditure in the economy (with possible adverse consequences for the budget deficit) was to be expected in terms of the Meltzer-Richard hypothesis (1981: 916), on account of the extension of suffrage which accompanied the constitutional change in 1994. This did not happen.

¹⁶ In his Budget Speech on 28 February 2008, Finance Minister Trevor Manuel identified the prudent fiscal stance as one of the factors cushioning the economy against external shocks (Minister of Finance, 2008: 2).

5. THE FUTURE SUSTAINABILITY OF FISCAL POLICY IN SOUTH AFRICA

The following analysis of fiscal policy in South Africa relies on the structural VAR method, as outlined below. In view of the much more prominent potential risk to fiscal sustainability during the second episode of rising government debt described in Section 3 and the apparently good fiscal track record after the constitutional change in 1994 (episode 3), we focus our sustainability analysis on the period from 1984 to 2010 and beyond.

We use annual data from 1984 to 2010 from the National Government's Budget Reviews, the Reserve Bank Quarterly Bulletins and the accrual-adjusted debt figures generated by Calitz, Du Plessis & Siebrits (2011). Interest payments from Budget Reviews are used to calculate an implied annual interest rate and the budget identity is used to calculate the primary surplus, given interest payments and the debt stock. The ratio of government debt to GDP and the primary balance are shown in Figure 1(a) while the interest bill and implied real annual interest rate on government debt are shown in Figures 2 and 3 (the accrual-adjusted series are provided in full in Appendix 1).

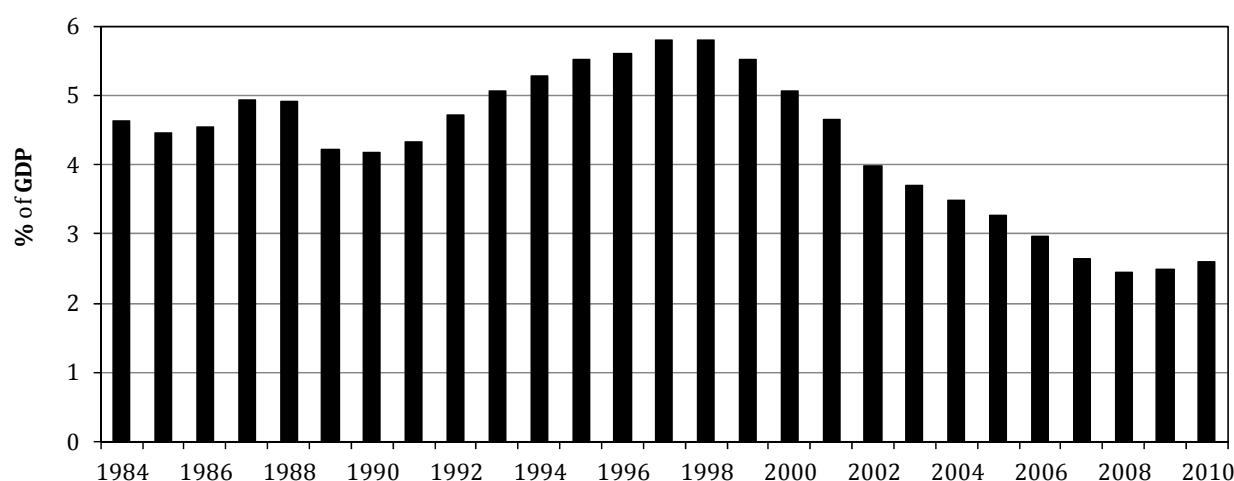


Figure 2. Government's interest bill as a proportion of GDP, 1984-2010

Sources: See text.

To estimate scenarios for the future debt burden of South Africa a useful starting point is to model the components of debt dynamics, i.e. the primary surplus, real interest rate, and real GDP growth, jointly. Such a model could be used to project forward the likely consequences for debt of particular shocks to the three modelled variables.¹⁷ But an identification strategy is needed to identify the distinct contributions of the three elements of debt dynamics. The identification strategy implemented here was built around a set of long-run structural restrictions in the structural VAR tradition of Blanchard and Quah (1989); specifically, we assumed that fiscal and monetary shocks have zero long-run impact on real output growth, and real interest rate shocks have zero long-run impact on the primary surplus. The econometric technique and identification strategy is explained more fully in Appendix 2.

¹⁷ Tanner and Samake (2008) use a similar approach.

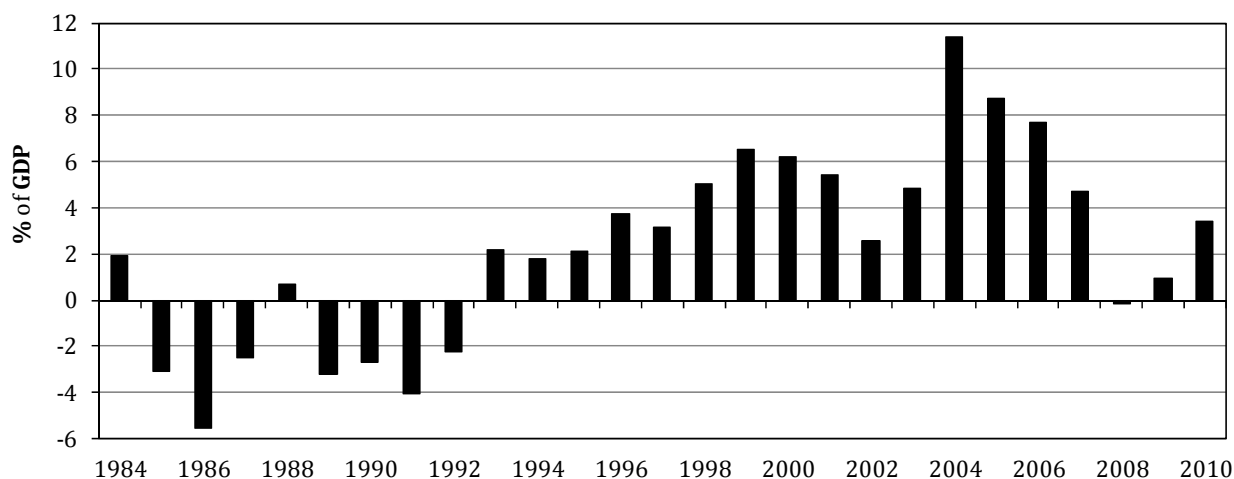


Figure 3. The implied annualised real interest rate paid on government debt, 1984-2010
Sources: See text.

Figure 4 shows the cumulative shocks to the primary balance (the fiscal shock), real interest rate and GDP identified with this model. The most striking trend in this figure is the accumulation of positive fiscal shocks, i.e. positive primary balance shocks, from the mid-nineties until the early 2000s and the subsequent reversal of this trend. Since this model controls for the impact of GDP growth and the real interest rate on debt, the evolution of the cumulative fiscal shock shows a sustained tightening of fiscal policy followed by period of sustained fiscal easing. The structural easing of fiscal policy identified here is not due to the business cycle or to the interest rate cycle; it is in addition to the impact of those variables.

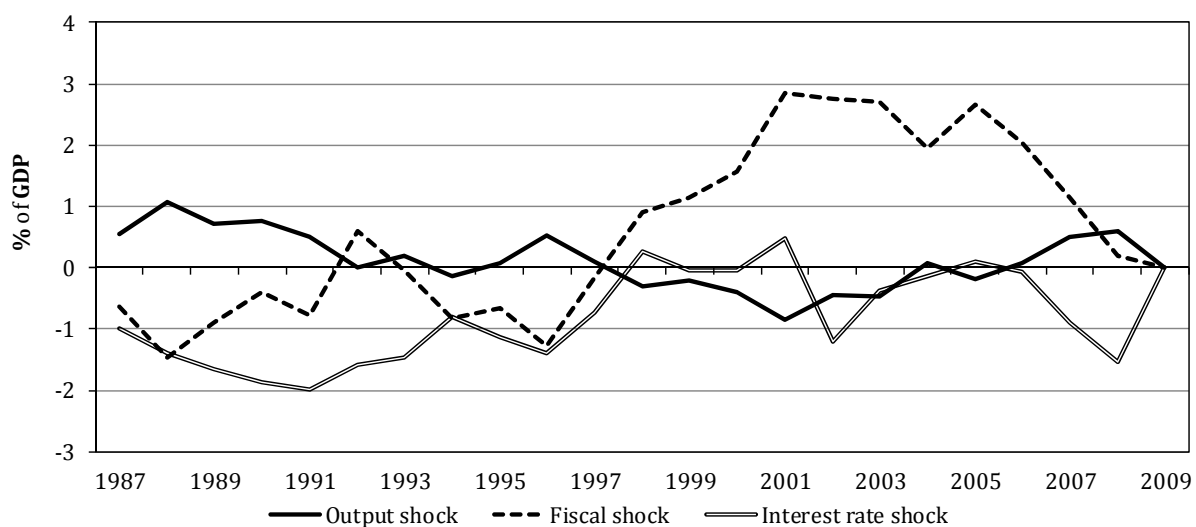


Figure 4. Cumulative fiscal, interest rate and real GDP shocks
Sources: Own calculations (see text).

On the assumption that these shocks offer a plausible decomposition of the disturbances to debt dynamics over this period we use the model to project a set of possible debt outcomes from now until

2030. The projections are based on the following assumptions: the shock to real GDP growth was drawn from a distribution with mean value of 3.2 percent and standard deviation of 1.96. These moments match the historical averages over the modelled period. The fiscal and interest rate shocks were also drawn from normal distributions that match the moments of the shocks identified by the model. 100 different future scenarios were created in this manner and the evolution of the debt ratio calculated for each. Figure 5 shows the median, 25th and 75th percentiles of the distribution of these scenarios.

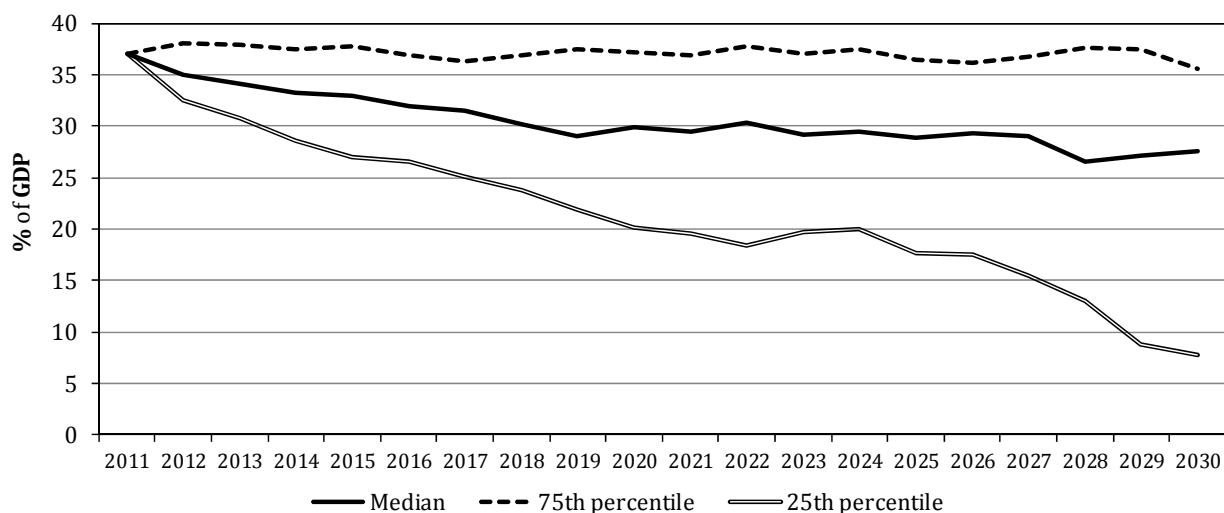


Figure 5. Distribution of debt scenarios based on the historical distribution of shocks, 2010-2030
Sources: Own calculations (see text).

The commentary on Figure 4 emphasised the important evolution of the fiscal shock. It was the progressive tightening of fiscal policy, shown in Figure 4 and discussed as episode 3 in Section 3, which helped to turn the potentially risky debt dynamics of the early 1990s around. But the influence of the fiscal shock has since reversed and has lately indicated substantially easier fiscal policy. This raises the question about the appropriate distribution for the fiscal shock in the long-run projections. While the scenarios in Figure 5 are based on fiscal shocks drawn from the average distribution over the entire period, one could argue that recent years, as evidenced by rising debt-to-GDP ratios since 2008 (see Figure 1a), indicate different fiscal behaviour. To model the consequences of this potential change in fiscal behaviour we repeated the scenarios of Figure 5, but now drawing the future fiscal shocks from a distribution that matches the performance of two more recent periods, namely 2003-2010 and 2007-2010. The distributions are shown in Figures 6 and 7 and are markedly different from those in Figure 5. This evidence corresponds with another reason for arguing that the entire sample is not the appropriate guide to the current distribution of fiscal shocks, namely that the medium-term budget policy statement projected a rising path for debt that cannot be reconciled with the more likely outcomes in Figure 5, or in alternative simulations such as those offered by Burger et al (2012).

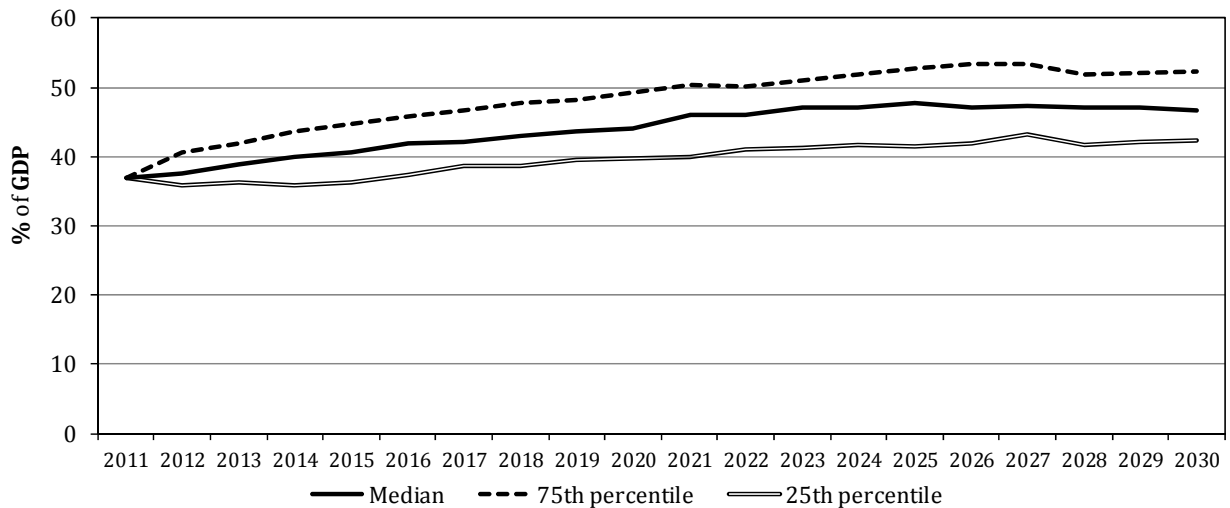


Figure 6. Distribution of debt scenarios based on fiscal shocks consistent with the 2003-2010 period
Sources: Own calculations (see text).

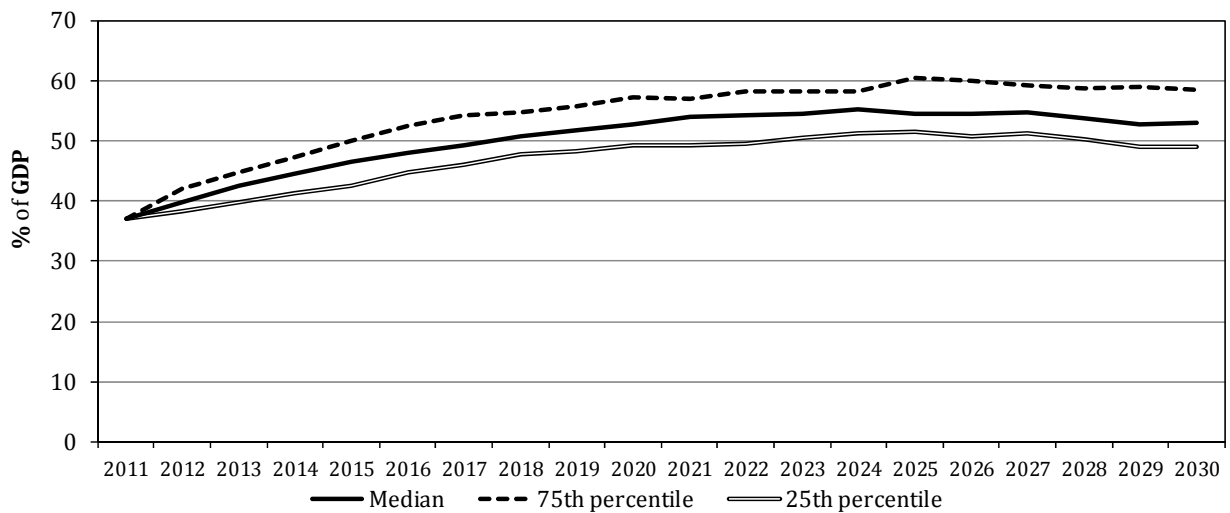


Figure 7. Distribution of debt scenarios based on fiscal shocks consistent with the 2007-2010 period
Sources: Own calculations (see text).

It appears that the closer the future fiscal behaviour resembles the historical pattern between 1984 and 2010, which includes episodes two and three discussed in the previous two sections, the better the likelihood that fiscal sustainability will be maintained. If the shocks experienced between 2007 and 2010 were to describe the future fiscal path, the probability of fiscal sustainability drops substantially. These results are consistent with the earlier mentioned precondition for fiscal sustainability, namely that the government's track record with regard to the generation of revenue and the management of expenditure must project the achievement of solvency in the future. The closer the government is going to keep to its proven record of responsible fiscal management, apparent since the early 1980s, the better the prospects

for future fiscal sustainability. At the same time, the simulations reported in Figures 6 and 7 based on the more recent record are already a cause for concern.

Moreover, various factors pose a threat to the likelihood of a continuation of fiscal responsibility. The government is promoting South Africa as a developmental state. Recent policy documents (e.g. the 2011 Budget Review (RSA 2011a) and the New Growth Path (RSA 2011b)) reveal some of the likely features of the South African version of the development state, namely: an increasing role for government in the economy as reflected in rising government expenditure as a percentage of GDP, concomitant with a higher average tax burden; fiscal activism; more expenditure and tax subsidies; more regulatory intervention in private-sector resource allocation (for instance in the health sector); and greater centralisation in the financial relations between the national, provincial and local spheres of government despite a federalist constitution (see Calitz and Essop, 2012). The 2011 Budget in particular reflected factors that may jeopardise fiscal sustainability. Firstly, the structural approach, which is associated with fiscal activism, entails that the structural budget surpluses and deficits should cancel out over the course of the business cycle. It is a matter of concern that a structural deficit amounting to 3.6 percent of GDP is still projected in 2013/14, about three years into the envisaged upswing in the economy. Secondly, dissaving (i.e. the difference between the budget deficit and capital expenditure) is likely to amount to about 1.5 percentage points of GDP. This signifies the continued use of borrowed money to finance current expenditure such as the salaries of government employees. This is generally regarded as an unsound fiscal practice, particularly if continued for a long time. Thirdly, the cost to the fiscus of the proposed national health insurance (NHI) remains unknown, but best estimates have raised substantial concern.

6. CONCLUSION

Between 1961 and 2008 South Africa's government debt (as defined) fluctuated between 50.4 percent and 23.8 percent of GDP, whilst the structural budget balance fluctuated between -6 percent and +2 percent of GDP. Despite major changes and shocks in the international and political environment and the policy shifts to and away from Keynesian thinking, the fiscal position never ran into real crises of non-sustainability. Factors which impacted significantly on the fiscus include international changes in economic thinking, globalisation and changes in the international monetary system, major social and military conflicts in and financial and trade sanctions against South Africa and the fundamental change in 1994 in South Africa's political dispensation, coupled with major public expenditure and redistribution pressures. Notwithstanding these disruptive influences, a record of fiscal responsibility emerged. If future fiscal behaviour were to resemble the responsible fiscal management of the past 26 years, fiscal sustainability is likely to be continued: history will repeat itself. But we have identified a deterioration in the development of the primary budget balance since the early 2000s, after controlling for economic growth and real interest rates, and the more the future resembles this more recent period, the harder it may turn out to be to maintain fiscal sustainability.

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APPENDIX A

Table A1. Official and accrual-adjusted public debt ratios and primary balances in South Africa, 1962-1994

| | Public debt as percent of GDP | | Primary balance as percent of GDP | |
|------|-------------------------------|------------------|-----------------------------------|------------------|
| | Official | Accrual-adjusted | Official | Accrual-adjusted |
| 1962 | 47.2 | 48.6 | -1.9 | -2.4 |
| 1963 | 44.3 | 46.0 | -0.3 | -0.8 |
| 1964 | 41.7 | 43.8 | -1.9 | -2.4 |
| 1965 | 42.4 | 44.8 | -3.9 | -4.4 |
| 1966 | 43.8 | 46.7 | -2.6 | -3.1 |
| 1967 | 42.5 | 45.5 | -1.7 | -2.0 |
| 1968 | 46.1 | 49.5 | -2.6 | -3.1 |
| 1969 | 43.7 | 47.4 | -1.6 | -2.0 |
| 1970 | 42.0 | 46.0 | -2.1 | -2.6 |
| 1971 | 42.6 | 47.1 | -5.0 | -5.6 |
| 1972 | 44.2 | 48.7 | -3.7 | -4.2 |
| 1973 | 38.1 | 42.8 | +0.2 | -0.3 |
| 1974 | 32.9 | 37.4 | -1.4 | -1.7 |
| 1975 | 36.9 | 41.6 | -5.1 | -5.2 |
| 1976 | 39.2 | 44.0 | -5.3 | -5.5 |
| 1977 | 40.8 | 45.8 | -3.8 | -4.0 |
| 1978 | 41.2 | 46.3 | -3.2 | -3.6 |
| 1979 | 38.6 | 43.1 | -1.9 | -1.7 |
| 1980 | 31.9 | 35.6 | +0.1 | -0.0 |
| 1981 | 29.9 | 33.5 | -0.2 | -0.3 |
| 1982 | 31.3 | 34.5 | -0.1 | -0.2 |
| 1983 | 31.5 | 35.0 | +0.6 | +0.3 |
| 1984 | 31.8 | 34.7 | 0.0 | -0.4 |
| 1985 | 31.8 | 33.8 | +0.9 | +0.6 |
| 1986 | 32.4 | 34.7 | +0.2 | -0.3 |
| 1987 | 33.7 | 35.9 | -2.1 | -3.4 |
| 1988 | 33.2 | 36.5 | +0.1 | -0.8 |
| 1989 | 36.3 | 36.7 | +0.8 | +0.4 |
| 1990 | 35.3 | 35.7 | +2.7 | +2.4 |
| 1991 | 37.6 | 38.3 | +0.1 | -0.4 |
| 1992 | 39.6 | 40.3 | -1.4 | -1.8 |
| 1993 | 43.5 | 42.4 | -2.4 | -3.3 |
| 1994 | 49.7 | 49.2 | -0.1 | -1.1 |

Source: Calitz et al. (2011: 170).

APPENDIX B

The fiscal, monetary and real output shocks were identified with a structural VAR as applied to South African data by Du Plessis et al. (2008). The following exposition closely follows section 2 of Du Plessis et al. (2008). The starting point is a VAR model that jointly determines the following three variables: real GDP growth, the measure of fiscal policy (in this case the primary budget balance) and the measure of monetary policy (in this case the implied real interest rate on government debt). The moving average representation of this system is shown in equation (B.1).

$$x_t = C(L)\varepsilon_t$$

where

$$x_t = \begin{bmatrix} \Delta y_t \\ g_t \\ r_t \end{bmatrix}, \varepsilon_t = \begin{bmatrix} \varepsilon_{1t} \\ \varepsilon_{2t} \\ \varepsilon_{3t} \end{bmatrix} \tag{B.1}$$

where $\{y_t, g_t, r_t\}$ refers to (log) real GDP, the primary budget balance, and the real interest rate respectively and $\{\varepsilon_t\}$ are the structural shocks identified with each of these variables. Since equation B.1 is not observable we can estimate a reduced form VAR with the MA representation shown in equation B.2:

$$x_t = R(L)u_t$$

where

$$u_t = \begin{bmatrix} u_{1t} \\ u_{2t} \\ u_{3t} \end{bmatrix} \tag{B.2}$$

where $\{u_t\}$ are the reduced form disturbances. The variance covariance matrix is given in equation B.3:

$$\Sigma = E u_t u_t' \tag{B.3}$$

If we assume that a non-singular matrix S exists such that $u_t = S\varepsilon_t$ then it follows that $C(L) = R(L)S$. Since $R(0) = I$ by construction, it follows that $C(0) = S$. Equation B.3 can now be written as in B.4 after normalizing the elements of $\{\varepsilon_t\}$ so that their variance covariance is the identity matrix.

$$\Sigma = E(uu') = E(S\varepsilon\varepsilon'S') = SS' = C_0 C_0' \tag{B.4}$$

In B.4 C_0 is a (3×3) matrix that contains the contemporaneous structural relationships. To identify the nine elements of C_0 we need to impose three restrictions in addition to the six implied by the independent equations in C_0 . The structural shocks $\{\varepsilon_t\}$ are identified once the matrix C_0 has been computed in conjunction with the relationship: $u = C_0\varepsilon_t$.

In the tradition of Blanchard and Quah (1989) we impose long-run restrictions to complete the identification scheme; more specifically, we specify that the fiscal and real interest rate shocks have no long-run effects on real GDP, as expressed in equation B.5:

$$C_{12}(\mathbf{1}) = C_{13}(\mathbf{1}) = 0 \tag{B.5}$$

Finally, the long-run effect of the real interest rate shock on the primary deficit is also restricted to zero as expressed in equation B.6:

$$C_{23}(\mathbf{1}) = 0 \tag{B.6}$$

These restrictions create a lower-triangular matrix $C(\mathbf{1})$, which is sufficient to recover the dynamics of the structural system, C_1, C_2, \dots as well as the structural shocks (Clarida and Galí, 1994).