Higher interest rates and government debt

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It is widely expected that Moody's will maintain its credit rating on South African government debt on Friday, in part due to signs of improved fiscal responsibility. One such a sign is the primary budget surpluses for the next few years, as provided for in the Budget Speech. These primary surpluses are necessary to limit government borrowing and, hence, to stabilize the growth in government debt. But the dynamics of government debt do not depend on budget surpluses alone. The interest rate on the debt stock matters greatly. This note shows how rising interest rates may adversely affect the South African government's debt position. While interest rates may decline slightly in the near term, the international trend in interest rates is upward. This should tell investors and businesses to expect a longer period of subdued government expenditure (especially investment expenditure) and a diminished role, over the next five years, for the fiscus in absorbing any unwelcome economic developments.

Measuring the sustainability of government debt

The key question when evaluating government debt – or indeed any debt – is whether it can be repaid. In theory, GDP represents the revenue source available to government for taxation, and debt is therefore usually expressed as a ratio of GDP. This implies that, for a fast-growing economy, a large stock of government debt may well be affordable. In fact, it is not necessary for government to ever reduce its debt to zero: as long as government can maintain a stable debt ratio, where debt grows as fast as the economy, the fiscus may be considered reasonably healthy. The key to assessing government finance lies with a comparison of economic growth rates and interest rates.

Interest rate outlook

Let us consider the interest rates underlying the National Treasury's calculations in the Budget Speech. These interest rates are not published – because they are market-sensitive – but one can infer the average interest rate using the economic 'law of motion of government debt', which captures the relationship between economic growth, interest rates, budget surpluses and the debt position (see Appendix for technical details). Put differently, given forecasts of economic growth and of future (primary) budget surpluses as well as data on government debt, we can calculate the average interest rate on South African government debt.

The table below shows that the average nominal interest rates assumed by Treasury for next year onwards is around 7%-9%. Such rates appear relatively low considering that long-run bond yields are currently at 9% (for 10-year bonds).

Table: Debt ratios, surpluses, economic growth and interest rates, 2018-2023

	2018/19	2019/20	2020/21	2021/22	2022/23
Debt to GDP	55.1%	55.3%	56.0%	56.2%	56.2%
Primary budget surplus to GDP*	0.1%	0.2%	0.3%		
Real GDP growth rate (own**)	1.5%	2.1%	2.1%	2.5%	2.5%
Estimated interest rate* **	**10.2%**	**7.9%**	**8.8%**	**8.0%**	**7.5%**

* Calculations based on 0% primary surpluses (i.e. a balanced budget) for 2021/22 and 2022/23; primary surplus refers to the budget surplus before interest payments

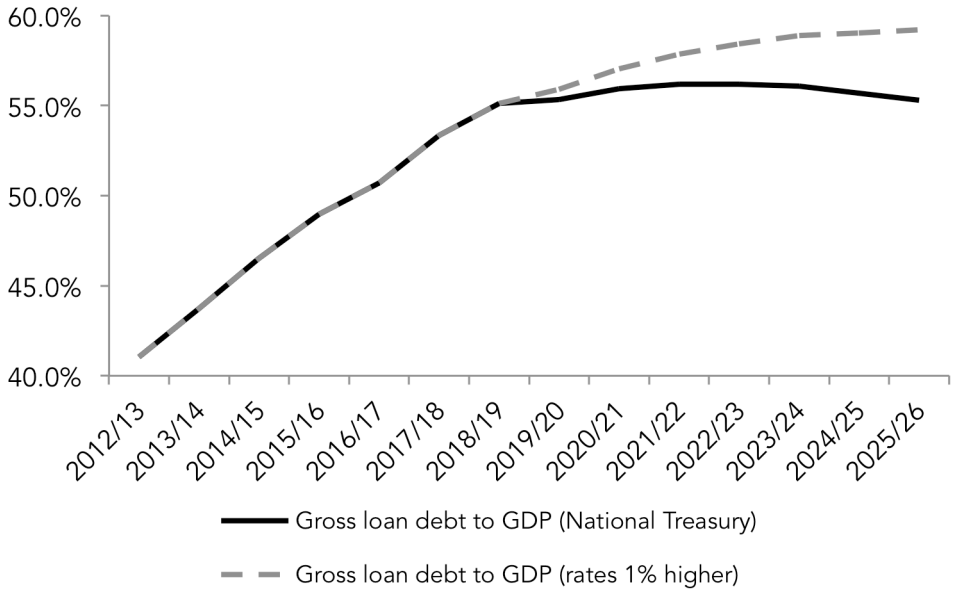
** Forecasts beyond 2020/21 based on potential GDP growth rate

*** Nominal interest rate calculated assuming inflation of 5% per annum

Of course, the composition of debt is important when calculating the average interest rate. Firstly, a part of government debt is in foreign currency, which attracts lower rates. But this proportion is small: Treasury projections are for 10% of gross loan debt to be foreign by 2020/21, up from 8.8% currently. Secondly, a portion of government debt is held in shorter term bonds, which also attract lower rates (for a normal yield curve). But this proportion is small too: long-term government bonds constitute 87% of domestic gross marketable debt. It is therefore not too far-fetched to be guided by long-term government bond yields when assessing the interest rate on government debt.

South African debt-to-GDP ratios and the impact of higher interest rates

If 7%-9% is relatively low, what happens if we lift rates by 1%? The graph below shows the path of government debt-to-GDP based on Treasury's forecasts in the February budget statement (solid line) and another path, assuming 1% higher long-term interest rates (broken line).



The solid line shows debt stabilizing by 2020/21. But the message from the broken line is quite sobering: if interest rates rise only moderately, debt-to-GDP ratios return to levels projected in the disastrous October medium-term budget statement. In particular, debt does not stabilize in 2020/21 as projected: for a 1% higher interest rate assumption from 2019/20 onwards, the graph shows the debt-to-GDP ratio already at 60% by 2025/26.

But how likely is a higher interest rate scenario? Adding 1% to the prevailing interest rate assumption may well be conservative. The Federal Reserve Board has signalled – again yesterday – that US interest rates may rise by around 1.5% in the coming two years, which would have a direct impact on local rates. While it is expected that the SARB may reverse its hiking cycle next week, interest rates are unlikely to decline by more than 0.25% in the face of rising international rates. This indicates potential for at least a 1% rise from 2019 onwards.

Implications

The credit rating of South African sovereign debt will come under close scrutiny, in the near future, despite more responsible fiscal management and a likely reprieve from Moody's. Higher interest rates may compel government to maintain even higher surpluses, which will squeeze public (including infrastructure) investment further, given other spending priorities. This will make a prolonged upswing in economic activity difficult to sustain. Growth beyond the current 'potential' level of 2.5% is needed.

Technical Appendix

The law of motion of debt can be stated as:

$$d_t = \frac{1 + r_t}{1 + g_t} d_{t-1} + b_t$$

where d_t is ratio of government debt to GDP at the end of year t, b_t is the primary (i.e. non-interest) budget deficit, r_t is the (average) real interest rate on debt in year t and g_t is the real growth rate of GDP in year t. The debt used in the calculations in this note refers to gross loan debt, as reported by National Treasury.

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