South Africa’s long-term fiscal choices

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Background to public sector sustainability
Gross national debt over 100 years

Source: Rogoff and Reinhart dataset
Defining sustainability: which liabilities?

- Due to accounting conventions, some liabilities are included, while others are ignored.
- In South Africa, the government employees pension fund has R1.4 trillion in assets under management.
- According to the fund’s actuaries, it is more than fully funded on a best-estimate basis.

<table>
<thead>
<tr>
<th>Per cent of GDP</th>
<th>2006</th>
<th>2008</th>
<th>2010</th>
<th>2012</th>
<th>2014 (est)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEPF assets (fair market value)</td>
<td>30.9</td>
<td>31.3</td>
<td>30.1</td>
<td>32.9</td>
<td>37.4</td>
</tr>
<tr>
<td>GEPF liabilities (actuarial)</td>
<td>24.1</td>
<td>27.2</td>
<td>27.7</td>
<td>32.1</td>
<td>32.3</td>
</tr>
<tr>
<td>Net position</td>
<td>6.8</td>
<td>4.1</td>
<td>2.4</td>
<td>0.9</td>
<td>5.0</td>
</tr>
</tbody>
</table>
Many other countries have large unfunded pension liabilities.

Australia has an unfunded pension liability of over 24 per cent of GDP.

Australia’s gross debt is lower than South Africa’s. But once unfunded pension liabilities are included it is higher.

Source: IMF Fiscal Monitor (April 2014)
Defining sustainability: which assets?

- Social security funds hold large surpluses, with the UIF projecting an accumulated surplus of R73 billion for 2013/14.
- In total, social security funds have assets that far exceed their liabilities, although the Road Accident Fund still has a negative net asset position.

<table>
<thead>
<tr>
<th>Social security funds, 2010/11 – 2016/17</th>
</tr>
</thead>
<tbody>
<tr>
<td>R million</td>
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<tr>
<td></td>
</tr>
<tr>
<td>Unemployment Insurance Fund</td>
</tr>
<tr>
<td>Revenue</td>
</tr>
<tr>
<td>Expenditure</td>
</tr>
<tr>
<td>Compensation funds</td>
</tr>
<tr>
<td>Revenue</td>
</tr>
<tr>
<td>Expenditure</td>
</tr>
<tr>
<td>Road Accident Fund</td>
</tr>
<tr>
<td>Revenue</td>
</tr>
<tr>
<td>Expenditure</td>
</tr>
<tr>
<td>Total revenue</td>
</tr>
<tr>
<td>Total expenditure</td>
</tr>
<tr>
<td>Budget balance¹</td>
</tr>
</tbody>
</table>

1. A positive number reflects a surplus and a negative number a deficit
State-owned company assets

- State-owned company liabilities are of concern, but they are financing asset growth.
- Infrastructure investments have led to a steady increase in the asset base of state-owned companies, from R450.1 billion in 2008/09 to R793.9 billion in 2012/13.

### Consolidated balance sheets of state-owned companies, \(^1\)
2008/09 – 2012/13

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Total assets</td>
<td></td>
<td>450.1</td>
<td>517.8</td>
<td>639.4</td>
<td>708.1</td>
<td>793.9</td>
</tr>
<tr>
<td>% growth in assets</td>
<td></td>
<td>17.7</td>
<td>15.0</td>
<td>23.5</td>
<td>10.7</td>
<td>12.1</td>
</tr>
<tr>
<td>Total liabilities</td>
<td></td>
<td>290.6</td>
<td>341.6</td>
<td>442.9</td>
<td>470.6</td>
<td>541.7</td>
</tr>
<tr>
<td>% growth in liabilities</td>
<td></td>
<td>26.9</td>
<td>17.6</td>
<td>23.8</td>
<td>11.1</td>
<td>15.1</td>
</tr>
<tr>
<td>Net asset value</td>
<td></td>
<td>159.5</td>
<td>176.2</td>
<td>216.5</td>
<td>237.5</td>
<td>252.2</td>
</tr>
<tr>
<td>% growth in asset value</td>
<td></td>
<td>3.9</td>
<td>10.5</td>
<td>22.9</td>
<td>9.7</td>
<td>6.2</td>
</tr>
<tr>
<td>% return on equity</td>
<td></td>
<td>-4.0</td>
<td>3.8</td>
<td>6.7</td>
<td>7.6</td>
<td>4.0</td>
</tr>
</tbody>
</table>

1. Major state-owned companies listed in Schedule 2 of the PFMA
Financial sector remains well capitalised

- Fiscal risks often involve the transfer of liabilities from the private sector (e.g. Spain after 2009).
- In South Africa, the private financial sector is well capitalised, and remains profitable and well regulated.
- In January 2014, South Africa’s total capital adequacy stood at 14.9 per cent.
Long term fiscal outlook
“Since the eighteenth century, the rise of tax-based social spending has been at the heart of government growth.

It was social spending, not national defence, public transportation, or government enterprises that accounted for most of the rise in government’s taxing and spending as a share of GDP over the last two centuries.

The increasing role of social spending in our lives has been linked to three other great social transformations: the transition to fuller democracy, the demographic transition towards fewer births and longer life, and the onset of sustained economic growth.

Social spending’s share of national product derives its permanence from the likely permanence (we hope) of these three great transformations – that is, of democracy, of human longevity, and of prosperity.”

Government spending has grown sharply since the turn of the century.
Modelling approach
Forecasts, models and their assumptions

- Any forecast is conditional on its assumptions
- Long term projections (both economic and demographic) are highly uncertain
- The ASSA2008 model has not taken account of Census 2011
- Long-term projections “take off” from medium-term forecasts
- In addition to assumptions about growth, demographic change and policy stances, sustainability can be affected by:
  - Adverse macroeconomic conditions
  - Revenue collection
  - Public-sector wages
  - Feedback effects
  - Local government sustainability
  - Public-sector sustainability
Three economic scenarios

- Low growth
- High growth
- Baseline

Per cent

2005 2010 2015 2020 2025 2030 2035 2040
The model assumes that taxes remain relatively stable as a percentage of GDP over the long term. This is a strong assumption for an economy undergoing structural change.
Social expenditure models

**Basic education**

\[ \text{BasicEd} = (\text{Number of pupils})(\text{average teacher: pupil ratio})(\text{average wage}) + (\text{nonwage component}) \]

- (demographic scenario)
- (wage growth)
- (assumption)
- (excess cost growth)

**Social grants**

\[ \text{Grant expenditure} = (\text{Grant})(\text{Uptake rate})(\text{Grant value}) \]

**Higher education**

\[ \text{HigherEd} = (\text{Number of university students})(\text{Average cost per university student}) + (\text{Number of vocational students})(\text{Average cost per vocational students}) - (\text{Direct charges}) + (\text{Other expenditure}) \]

**Health**

\[ \text{Health expenditure} = (\text{Age cohort by gender} - \text{insured population})(\text{Cost per service})(\text{Utilisation}) \]
## Policy scenarios

<table>
<thead>
<tr>
<th></th>
<th>“No policy change” scenario</th>
<th>Policy change scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social grants</strong></td>
<td>• Take-up rates increase as access improves, and then stabilise.</td>
<td>• Universalisation: raising of means test to tax threshold</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Take-up rates increase further to threshold rates.</td>
</tr>
<tr>
<td><strong>Health</strong></td>
<td>• Utilisation rates per age group grow moderately</td>
<td>• National Health Insurance: significant increases in utilisation rates</td>
</tr>
<tr>
<td><strong>Basic education</strong></td>
<td>• Learner-education ratios decline with falling number of school children</td>
<td>• No major policy changes</td>
</tr>
<tr>
<td><strong>Post school education</strong></td>
<td>• Enrolment ratios increase moderately in line with recent trends from 2012 until 2030</td>
<td>• Green Paper on post-school education and training; significant increase in enrolment rates</td>
</tr>
</tbody>
</table>
Social grants: assumptions

- Current policy: grants have grown at around CPI for the last decade
- Take-up rates of CSG have expanded rapidly, but are stabilising
- In a “universalisation” scenario, take-up rates are assumed to rise even higher
Social grant projection

Projected grant expenditure as a percentage of GDP

Real grant expenditure per capita

Other grants
Child support
Old age
Social grants scenarios

Spending in three economic scenarios

Varying policy on grant increases (in baseline scenario)
Health care with and without NHI

Public health spending as a share of GDP

- NHI (NT model)
- No policy change

NHI under three economic scenarios

- Low growth
- High growth
- Baseline
Basic education

Projected school-age population, 2010 - 2040

Basic education expenditure in three economic scenarios

Average learner-educator ratio, actual and projected
Post-school education

Projected post-school education spending

- Green paper
- No policy change

Drivers in growth in spending in the NDP scenario

- Other
- Vocational training
- Universities
Summary of projections

Projected spending assuming no policy change

- Basic education
- Post-school education
- Social protection
- Health

Projected spending with new policies

- Basic education
- Post-school education
- Social protection
- Health
Sustainability with and without new policies

- Non-interest expenditure (with policy changes)
- Non-interest expenditure (no policy changes)
- Revenue

Percentage of GDP

- 2008
- 2012
- 2016
- 2020
- 2024
- 2028
- 2032
- 2036
- 2040
Primary balance

Primary balance (ASSA 2008)

Primary balance (High population growth scenario)
Key conclusions

- Economic and demographic developments are unlikely to render the current level of social spending unsustainable.

- Assuming that policy practice remains consistent with recent years:
  - Social grants will not place significant pressure on fiscal sustainability; in fact they could diminish in fiscal importance.
  - Declining school-age population implies the resources currently allocated to basic education will become increasingly sufficient.
  - Demographic pressures on health-care spending and high growth of utilisation will require greater resources to sustain the current level of service provision

- This implies that government can sustain the (current) social wage beyond the medium term projection.

- However, without faster growth, the path of debt-reduction will not be ideal and the country will remain vulnerable to shocks for years to come.
Key conclusions

- New social policies proposed in the NDP – including NHI, the expansion of vocation training and significant growth of public works employment – will place significant pressure on the fiscus in the coming decades.

- Fiscal sustainability requires that one (or a combination) of the following factors should accommodate structural increases in spending:
  - Acceleration of economic growth
  - Increases in the structural level of taxation
  - Shifting resources from other priorities

- The age-incidence of fiscal policy combined with demographic trends suggest favourable dynamics. However, new spending pressures are most likely to emerge for the young unemployed. Adjustments currently on the public agenda include:
  - Significant expansion of public works
  - Absorbing youth into vocational training
  - Reforms to social grants to include young unemployed.
An annual growth of 1 percent implies major social change

“In my view, the most important point – more important than the specific growth rate prediction… is that a per capita output growth rate on the order of 1 percent is in fact extremely rapid, much more rapid than most people think.

The right way to look at the problem is ... in generational terms. Over a period of thirty years, a growth rate of 1 percent per year corresponds to cumulative growth of more than 35 per cent...

A society that grows at 1 percent per year, as the most advanced societies have done since the turn of the nineteenth century, is a society that undergoes deep and permanent change.”

Thomas Piketty, Capital in the Twenty First Century (2014)
Thank you
Key drivers of spending projections

- Population growth and demographic structure
- Take-up rates, enrolment, utilisation and access
- Economic growth and per capita income
- Wages, prices and excess cost growth

Difficult issues

- Census, 2011
- Forecasts vs. projections
- Projecting from a time of deep structural change
- Medium-term forecasts and transition to long term projections
- Defining ‘unchanged policy’ assumption
  - Policy intent vs. policy practice
  - Recent growth rates or share of income
- Time horizons: ‘short long-term’ vs. ‘long long-term’
- Feedback effects
- Income distribution and poverty levels
Economic assumptions

Cobb-Douglas production function used to calculate GDP

\[ Y = A \cdot L^\alpha \cdot K^\beta \quad (\alpha = 0.55; \beta = 0.45) \]

Baseline real GDP growth is roughly 3.5%, reflecting historical trends:

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Factor Productivity (TFP) growth</td>
<td>1.3%</td>
<td>1.5%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Private-sector gross investment</td>
<td>13%</td>
<td>20%</td>
<td>11%</td>
</tr>
<tr>
<td>CPI inflation</td>
<td>4.5%</td>
<td>4.5%</td>
<td>4.5%</td>
</tr>
<tr>
<td>GDP inflation</td>
<td>4.5%</td>
<td>4.5%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Real interest rate</td>
<td>3.5%</td>
<td>4.0%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Labour intensity of growth</td>
<td>0.45</td>
<td>0.65</td>
<td>0.4</td>
</tr>
<tr>
<td>Labour force participation rate</td>
<td>58%</td>
<td>65%</td>
<td>58%</td>
</tr>
<tr>
<td>Long-run structural rate of unemployment</td>
<td>7%</td>
<td>3%</td>
<td>7%</td>
</tr>
</tbody>
</table>
Fiscal coverage

- Report covers the **main budget** or expenditure funded from the national revenue fund.

- Excludes local government and entity expenditure not funded from national revenue (small percentage of total).

- State-owned company investment and borrowings are calculated separately.
Main budget revenue

- Taxes are estimated using a ‘bottom up’ approach

\[ \text{Gross tax}_t = \sum (\text{tax base} \times \text{historical effective tax rate})_{i,j} \]

- Tax base forecasts come from simplified national accounts
  - Compensation of employees (PIT)
  - Gross operating surplus (CIT)
  - Household consumption (VAT)
  - Imports (customs duties)

- All other taxes remain constant as a percentage of GDP
Tax bases

- **Compensation of employees (PIT)**
  
  Wage bill = Average wage * number of employed

- **Gross operating surplus (CIT)**
  
  GOS = NOS + depreciation
  
  NOS = GVA – compensation of employees – depreciation

- **Household consumption (VAT)**
  
  Marginal propensity to consume * GDP

- **Imports (customs duties)**
  
  Grown in line with GDP

- **Total tax stabilises at roughly 25.5 per cent of GDP**
Fiscal sustainability

- National debt-to-GDP \((d_t)\) projected using the standard debt dynamics equation:

\[
d_t = \frac{(1+r_t)}{(1+g_t)} d_{(t-1)} - pb(t)
\]

- We will assume that real interest rates \((r)\) are roughly in line with real GDP growth, meaning that the debt trajectory will be driven by changes in the primary balance \((pb)\). The primary balance is calculated by differencing revenue and non-interest expenditure.

- Beyond national debt, we have projections of:
  - Contingent liabilities of state-owned companies
  - Balances of our social security funds
  - Size of the current account balance
Fiscal sustainability: Net debt trajectories under baseline growth

- With new policies*
- No policy change

* NHI, green paper on higher education, EPWP and grant universalisation