# Understanding OG-ZAF and Reform Scenarios

## A Demonstration of the Overlapping Generations Model for South Africa

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*Disclaimer: This presentation does not necessarily represent the views of the National Treasury.*

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# Overview

# Introduction

- Motivation: Studying a gradual reduction of expenditure reductions and VAT increases in South Africa will help curb rising debt, boost revenue collection
- Expected Outcome: Identify feasible policy options for fiscal sustainability, balancing growth, debt reduction, and social welfare. and targeting spending inefficiencies like transfers to SOE.
- Implementation framework: The study will utilize OG-Core models to evaluate policy scenarios of spending cuts and VAT increases in South Africa, leveraging this overlapping generations framework to analyze impacts on debt, growth, and interest rates trajectory.
- Expected Outcome: The study will provide valuable insights for policymakers and the public as a whole.

# Background

- South Africa faces mounting fiscal pressure as debt levels exceed 70 per cent of the GDP, driven by high borrowing costs and weak revenue collection.
- Economic stagnation, SARS inefficiencies, and declining corporate tax inflows further strain public finances. Meanwhile, excessive government spending—particularly on wages and struggling SOEs—worsens the deficit.
- Structural challenges like energy shortages and logistics constraints hinder growth, limiting the tax base.
- Fiscal consolidation in South Africa is urgent due to rising debt, weak growth, and limited fiscal space. If delayed, it risks a deeper crisis.

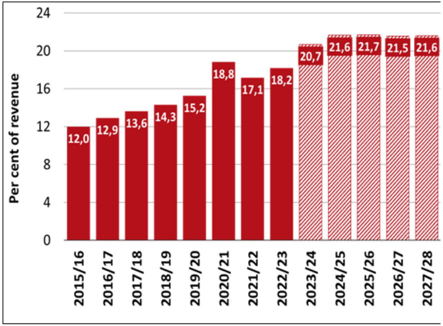



Figure: Interest payments as a share of revenue

# Research Question

**How can the OG-ZAF model inform fiscal policy decisions to ensure debt sustainability, enhance economic growth, and improve social outcomes in South Africa?**

- What are the key drivers of fiscal sustainability within the OG-ZAF framework?
- Does our fiscal consolidation improve scenarios impact public debt, economic growth, and household welfare?
- What are the trade-offs between stabilising debt and maintaining critical public services?

# Policy reform: A front loaded fiscal consolidation

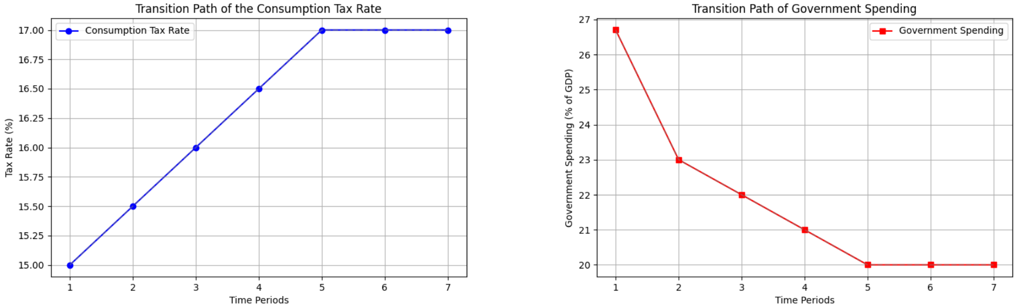



Figure: Transition paths

We propose a gradual fiscal adjustment over 5 years with the tax doing heavy lifting

# Multi-Pronged Fiscal Strategy

| Objective | Description |
|---|---|
| **Fiscal Sustainability** | Maintain sufficiently large primary surpluses over the decade to stabilise government debt. |
| **Capital Investment** | Stabilise and reduce borrowing costs, increase public spending on infrastructure, and initiate infrastructure reforms. |
| **Social Services** | Protect critical services; the social wage will average 59.9% of consolidated non-interest spending over the medium term. |
| **Public-Sector Wage Bill** | Ensure fair compensation for public servants while implementing cost containment measures. |
| **State-Owned Companies** | Limit further financial support to SOEs, while resolving Eskom and SANRAL debt obligations. |

# Policy reform

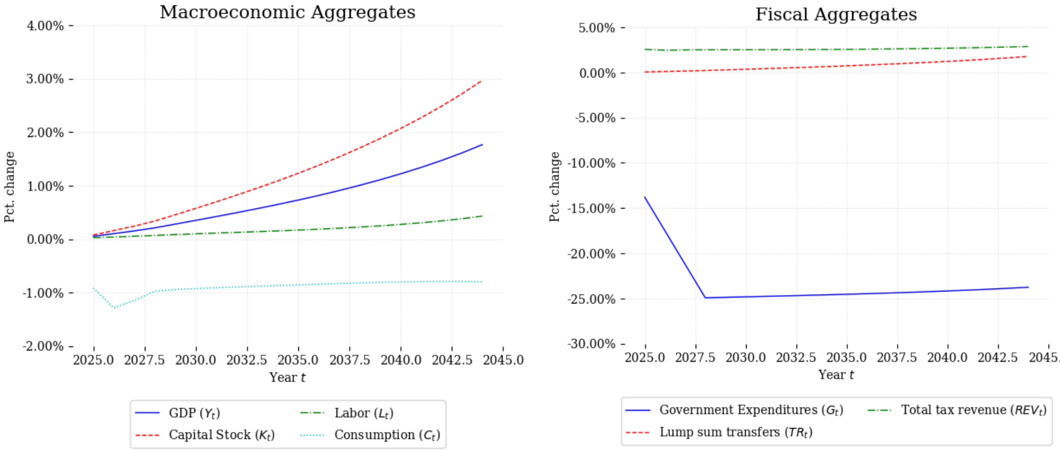



Figure: Percentage deviation for macro-fiscal variables

After a short-term decline in consumption, the economy benefits from an improvement in slower accumulation of debt.

# Theory underlying the policy reform

## Government spending falls over time

$$G_t = g_{g,t}\,\alpha_g\;Y_t \quad \forall t \tau^c_{i,t} \quad \forall$$

## Consumption tax increases for all goods

$$c_{i,j,s,t} = \alpha_i \left(\frac{[1+\tau^c_{i,t}]\tilde{p}_{i,t}}{\tilde{p}_{j,s,t}}\right)^{-1} c_{j,s,t} + c_{min,i} \quad \forall i,j,s,t \quad \forall t$$

## Debt accumulates slower

$$D_{t+1} + Rev_t = (1 + r_{gov,t})D_t + G_t + I_{g,t} + Pensions_t + TR_t + UBI_t \quad \forall t$$

## Less debt helps out firms

$$PR_{m,t} = \left(1 - \tau^{corp}_{m,t}\right)\left[p_{m,t}F(K_{m,t}, K_{g,m,t}, L_{m,t}) - w_t L_{m,t}\right] - \left(r_t + \delta_{M,t}\right)K_{m,t} + \tau^{corp}_{m,t}\delta^{\tau}_{m,t}K_{m,t} + \tau^{inv}_{m,t}\delta_{M,t}K_{m,t} \quad \forall m,t$$

# Wages and interest rates

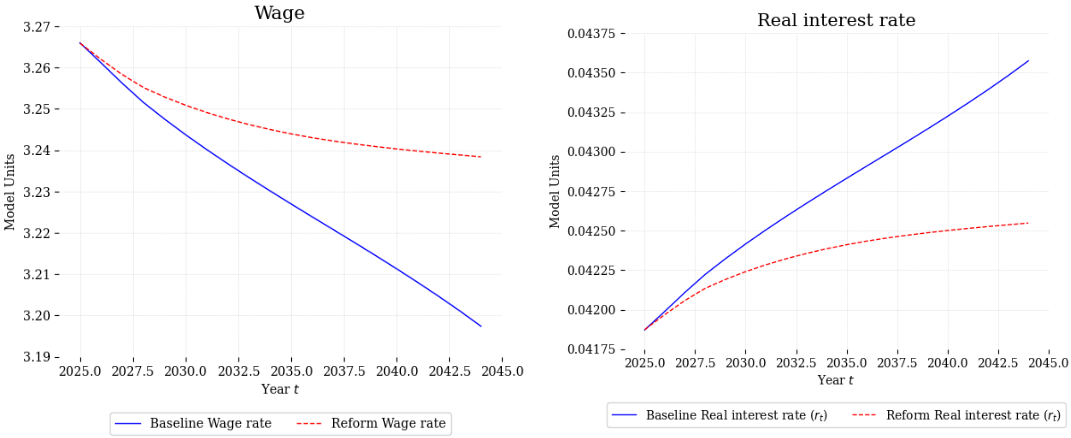



Figure: Changes in the wages and real interest rates

Interest rates benefit from less government borrowing while wages decline less than the baseline.

# Distributional impact

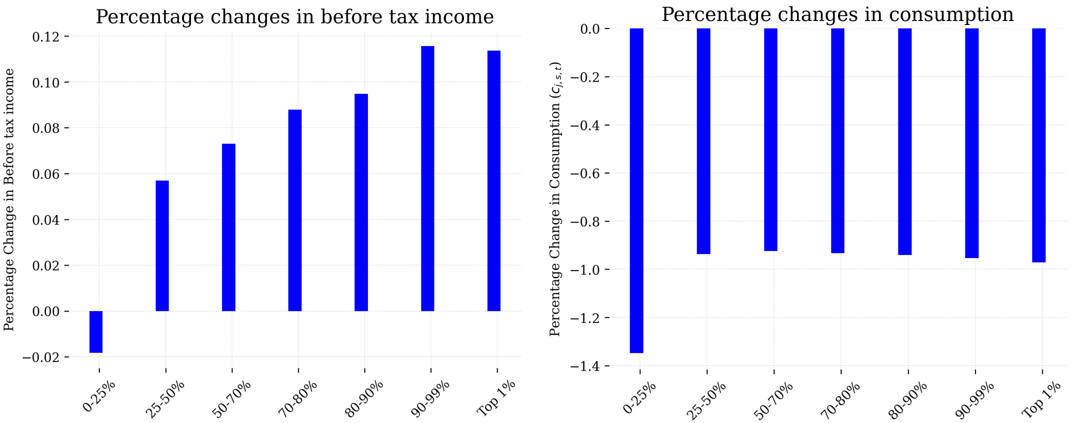
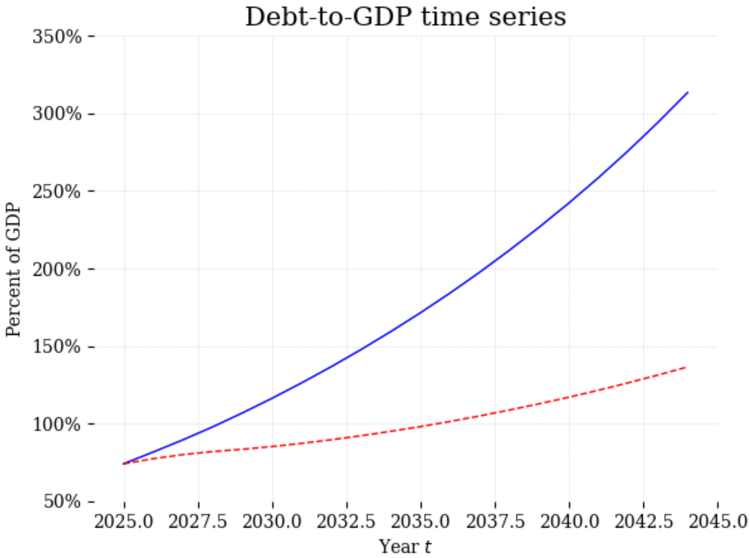



Figure: Distributional changes to income and consumption

Income improves for most while consumption remains subdued due to price changes

# Debt-to-GDP ratio



# Recommendation and conclusion

- To restore fiscal stability, South Africa should gradually increase VAT to 15-17 per cent, with targeted relief for low-income groups, while broadening the tax base.
- Public sector wages must be controlled through a wage freeze or below-inflation increases alongside a reduction in the government workforce via natural attrition.
- Bailouts to SOEs should be limited, with a stronger push for private sector involvement to ease the fiscal burden.
- Strengthening SARS to improve tax compliance and close loopholes can boost revenue collection.
- Additionally, structural reforms in energy and logistics are crucial to driving economic growth, expanding the tax base, and rebuilding investor confidence.