

**NATIONAL ASSEMBLY
QUESTION FOR WRITTEN REPLY
QUESTION NUMBER: 966 [NW1124E]
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966. Mr D C Ross (DA) to ask the Minister of Finance:

- (1) What forecasting model was used with regard to the 2% growth forecast in 2015 and 3% in 2016;
- (2) whether the implication of the forecasted growth not being actualised has been considered; if not, why not; if so, what are the relevant details?

NW1124E

REPLY:

(1) The core model underlying the National Treasury's forecasts is the National Treasury Quarterly Forecasting Model (QFM). It is a demand-side econometric model that reflects the small, open nature of the South African economy. The QFM is centered on the national accounts identity and entails estimating the different components of demand.¹ The supply side is represented by a measure of potential output which is calculated based on the stock of labour and capital in the economy. The main real expenditure categories include:

- Consumption – based on wages, employment and interest rates
- Private investment – based on domestic and world growth, commodity prices, capacity utilization and the user cost of capital. Government and public corporation investment are determined exogenously.
- Exports – based on foreign demand, relative export price competitiveness, the real effective exchange rate, and commodity prices.
- Imports – based on domestic demand, import prices and the effective exchange rate.

The repo rate is determined via a Taylor-type monetary policy rule and interest rates feed through all of the significant expenditure categories. The rand-US dollar exchange rate is determined by interest rate and inflation differentials and is also influenced by commodity prices. This exchange rate provides the base for the movement of the rand against other major currencies (euro, pound, yen and renminbi). The estimation of headline inflation is the main driver of prices, which determines nominal outcomes in the model. Nominal expenditure components form the base for tax revenue estimates. The model provides estimates for all of the major tax bases. QFM consists of 279 variables, of which 139 are

¹ $Y = C + I + G + (NX)$ where C = consumption, I = investment, G = government spending, NX = net exports and Y = GDP

determined endogenously (i.e. by the model). 21 of the endogenous variables are determined by behavioral equations. Behavioral equations estimate South African specific short-run and long-run economic relationships simultaneously based on the relevant economic theory. This is a similar model structure used at central banks and other national treasuries. The South African Reserve Bank and the Bureau of Economic Research at Stellenbosch University use similar models as their core macroeconomic model.

The model forecast requires a set of assumptions, which generally describe the global economic environment over the medium term. Some of the key assumptions are for global growth and commodity prices. These are based on analysis conducted by the National Treasury as well as other research institutions such as the World Gold Council, the World Platinum Investment Council, The Economist Intelligence Unit, The World Bank, the International Monetary Fund, etc. The assumption for global demand is based on the forecast published by the IMF in the World Economic Outlook. The continuous revisions of global growth by the IMF have been a major source of forecast error in the National Treasury projections.

In addition the forecast produced by the core model is supplemented by the outputs of smaller models, which provide short-term forecasts of specific variables such as inflation, potential growth and the terms of trade.

- (2) As part of each forecast, the National Treasury's Economic Modelling and Forecasting unit produces a set of alternative scenarios, which highlight the main risk to the forecast. These were presented in the last Budget in Chapter 2 on page 20.

The forecast scenarios feed into the fiscal risk report, which highlights their impact on the fiscal framework.