

Policy memo: The macro team
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The macro team has undertaken a careful study of South Africa's macroeconomic situation. It has focused on understanding from a macro perspective the challenges posed by the ASGISA (Accelerated and Shared Growth Initiative – South Africa). This work is contained in six papers on different aspects of the South African macroeconomics, as well as in numerous presentations and short briefs.

Macroeconomic policy versus microeconomic policy

The difference between macro policy and micro policy can be illustrated with the metaphor of the automobile. “Accelerated and Shared Growth” is the car's destination. ASGISA did a good job of setting priorities, the road map. And the economy has indeed been growing rapidly. The car is speeding down the roadway. But it is running into obstacles in its path.

If the road is good quality, the tires and breaks and other equipment on the car are well-maintained, and the driver is capable, then the car can safely travel at a relatively high speed. Analogously, if goods markets are competitive, labor markets function well, the economy is open to trade and investment, and the infrastructure is up-to-date, then the economy can grow rapidly without overheating. Economists call the economy's safe-speed limit its “rate of growth of potential output.” Recently the South African economy has been in danger of growing more rapidly than its speed limit. In the longer run, the goal must be to improve microeconomic policies to raise the speed limit (reduce distortions and supply public goods). In the short run, the rate of growth of demand needs to be slowed to the rate of growth of potential output. The economy is already beginning to overheat. The current account deficit and inflation are the steam that can be seen coming out from under the hood on both sides.

The macro team leaves micro policy to the other teams. We focus on how policy keeps the car within the speed limit. Our major policy conclusion is not so much a worry that the economy will overheat, as what is the mix of policies used to deal with this. A skilled driver strikes the appropriate balance between use of the accelerator, brake, and gears, whatever the speed. If fiscal policy eased up on the spending accelerator, then monetary policy would have less need to apply the brakes of high interest rates and a high rand. This change in policy mix would shift the composition of output toward tradables, which is the direction the economy needs to go.

Potential output

One of our papers uses a complex statistical technique to provide a new measure of potential output – the economy's given speed limit -- and business cycles. The business cycle measure matches very well SARB's description of output fluctuations. In turn our measure of potential output suggests that potential output is currently growing in a range of between 3 and 4.5% (depending on the sample estimates) somewhat below the government's objectives and certainly below the current growth rate of the economy. The model also allows to identify the contribution of monetary and fiscal shocks to output. We find that fiscal policy has typically been procyclical, whereas monetary policy has been mostly countercyclical. A warning sign is

given by the fact that macro policies evidently became significantly more procyclical starting in 2004. At a time of boom, “overly procyclical” means “overly expansionary.”

Overheating

As a result of this significant demand push, the team feels that demand in the economy is growing too fast for its capabilities. This currently shows up in several ways. First is the current account deficit, one of the highest in the world (excluding small European countries). The current account imbalance is a point of concern, particularly in that the ASGISA program suggests that investment needs to increase significantly. If saving does not increase correspondingly -- and there is no reason to think the private sector will respond in this way; indeed the middle class is enjoying a consumption boom -- then the current account is bound to deteriorate even further. This would leave South Africa vulnerable to turbulence in international financial markets. If the weather turns nasty, some emerging markets will hit a pile-up collision, while those that were driving defensively are less likely to.

The second manifestation of overheating is the inflation rate, currently running above the upper end of the SARB’s official target range. Other indicators include high real estate prices, skill shortages, and an overloaded electric power grid and transportation infrastructure. Given these constraints, macroeconomic policy must take care to obey the speed limit.

It would be best if the burden of bringing the car back to the speed limit fell primarily on fiscal policy. Assigning fiscal policy to this task would allow monetary policy to loosen up without risking the inflation targets. In one of our papers we show that a lower real interest rate tends to lead to a weaker rand. Thus, this alternative configuration or mix of fiscal and monetary policy allows for a more competitive rand, as in the famous Mundell-Fleming model.¹ In the long run, if fiscal policy is less procyclical on both upswings and downswings, the real exchange rate should not vary as much. Business cycles should come with more moderate shifts in the demand for non tradables relative to tradables. In short, it provides a way to achieve a more stable and competitive rand, one of the objectives of ASGISA.

Structural fiscal balance

Our main recommendation is then to move fiscal policy to a more countercyclical pattern. Concretely, this entails running surpluses in good years – such as now -- and deficits in bad years. The government’s balanced budget is a great achievement. But the current surplus is small, given the economic growth rate. There is still insufficient countercyclicity to fiscal policy, countercyclicity that may be required to stabilize some key macro variables. Specifically we propose to gauge fiscal policy on the basis of a structural balance rather than from the observed fiscal balance. As explained below, this change would imply under current circumstances a tightening of fiscal policy.

¹ Exposed, e.g., in Caves, Frankel and Jones (2007, Chapters 22-24.1)

The pattern of pro-cyclical fiscal policies has been noted in many other developing countries², particularly commodity-exporters. Indeed – together with real appreciation – excessive government spending in commodity booms is a major channel of the Dutch Disease. South Africa fits the pattern. “To the extent that tax revenues are boosted by the commodity boom, there may be a need to smooth expenditure and not read the revenue increase as permanent” (Mboweni, 2007, p.3).

One way to do this is to define fiscal policy objectives on the basis of a “structural fiscal balance” rather than on the basis of the actual fiscal result. The structural fiscal balance (SFB) is defined as the budget that would have prevailed if the real economy had been at its long run trajectory. The calculation requires netting out the effect of transitory and cyclical components.

The SFB is defined as: $SFB_t = FB_t - RT_t + \left[RT_t \times \frac{Y_t^*}{Y_t} \right]^\epsilon - ST_t + SST_t$

where SFB is the structural fiscal balance, FB is the actual fiscal balance, RT are regular taxes, Y* is potential or trend output, Y is real output, ST are special taxes, and SST are structural special taxes. The symbol ϵ stands for the elasticity of tax revenues with respect to income (for every 1% growth in real income, tax revenue goes up ϵ percent).

We distinguish regular taxes from special taxes which may warrant an independent treatment (such as revenues from copper production in Chile), and for which the structural level of taxes cannot simply be computed by an adjustment from trend GDP.

From an operational point of view the level of expenditure for a given year is determined as follows:

1. The government starts with a level of expected income (this includes the best available forecast of income resulting from the economic situation, changes in taxes, etc.). Income from capital changes is excluded.
2. An estimate is undertaken on the cyclical components of tax collection. This has two parts, an estimate of how much output deviates from trend GDP and an estimate of the permanent component of special taxes. Statistical procedures or appointing one or two independent committees can be used to estimate these cyclical components.
3. Using the sustainable level of special taxes and correcting for cyclical level of output a new resource level is estimated. This would correspond to the level of resources if GDP were at its trend and special taxes would be at their permanent level.
4. Having estimated structural income, the level of expenditure is determined to achieve the structural balance objective that we suggest should be a balanced structural budget.³

² E.g., Kaminsky, Reinhart, and Vegh (2004).

³ In commodity-producing countries prone to the Dutch Disease, it is desirable to subject fiscal policy to a rule that take into account not only temporary increases in output above potential, but also temporary increases in commodity prices above their long-run average. In both cases, the goal is to avoid mistaking temporary booms for permanent riches and thereby over-expanding spending. Chile’s fiscal policy is guided by two panels of experts: one to compute the extent to which output lies above or below potential, and another to compute the extent to which the price of copper (which is half of exports) lies above or below its long run level.

Caveats

The methodologies for estimating the structural balance differ⁴. Two standard differences are that some apply output elasticities not only to revenues (as above) but also to expenditures; this would reduce the countercyclicality of the resulting fiscal policy rule. Alternatively some authors exclude capital expenditures. This is a key issue in South Africa, which faces a large increase in investment. We recommend including them, to ensure more substantial countercyclicality. Note that given the current boom, it is likely that application of the rule will lead to an increase in the surplus relative to current levels. If increased spending is deemed truly necessary, for example on infrastructure or social goals, then the government must be prepared to raise taxes to pay for it.

The exchange rate

An additional issue discussed in our papers has focused on the benefits of a competitive real exchange rate for the South African economy. Not only is a competitive exchange rate key to bringing more unskilled Africans into the labor force, but there is also evidence that growth strategies based on undervalued exchange rates have sometimes worked well, both in the developed world as well as in the emerging markets as shown by the development experience of East Asia. One way to contribute toward this objective is to further liberalize capital outflows, or even potentially to force pension programs to invest abroad.

We found that the Rand has remained close to what could be considered its normal levels from a historical perspective. The appreciation of 2003 to 2005 can be explained by economic fundamentals, particularly the large increase in the world prices of South Africa's mineral exports. One channel is speculative inflows responding to enhanced expected profitability of the mineral sector. Another influence is the higher real interest rates that result from government spending. This definition of the "equilibrium level" takes as given the procyclicality of capital inflows and government spending. It does not imply necessarily the appropriate level from a development perspective. That the "Dutch Disease" is a common phenomenon does not mean that real appreciation should not or cannot be dampened.

Intervention in foreign exchange markets can be effective in the short and medium run. Yet, we need to keep in mind that moving the exchange rate away from its natural level risks some costs (e.g. inflation) and in the long run can only be sustained by real policy shifts, such as a less expansionary fiscal policy discussed above. With these caveats in mind we propose that the SARB, modestly, attempts to limit the possibility of large appreciations.

Concretely we propose the SARB should:

- Accumulate reserves somewhat more aggressively,
- Convey the notion that it would not view sharp appreciations with indifference, implying that it would be prepared to intervene to dampen them, thereby offering some confidence to those who might contemplate investment in the tradable good sector.

⁴ See Marcel et al (2001), Hagemann (1999) or Giorno et al (1995).

- Continue to interpret Inflation Targeting flexibly. For example, any further increases in world oil prices should not be met with monetary tightening so aggressive as to appreciate the rand and prevent the domestic price of oil from rising, which would be the prescription under a strict interpretation of CPI targeting.⁵
- Allow interest rates to fall in the event that the government is able to increase the structural budget surplus. We are not saying the SARB should do anything to endanger the official inflation objective. We want it to retain its present well-earned credibility. The proposal is, rather, to change the monetary/fiscal mix for a given rate of growth and inflation, and thereby reduce upward pressure on the rand.
- *List of papers by the macro team:*
 - "South Africa: Macroeconomic Challenges after a Decade of Success," J.Frankel, Harvard; B. Smit, U.Stellenbosch; & F. Sturzenegger, Harvard. KSG RWP 07-021.
 - "Through the Pass-Through: Measuring Central Bank Credibility," R. Rigobon, MIT. CID Working Paper No. 143.
 - "On the Rand," J. Frankel, NBER WP no. 13050, April 2007, updated & submitted to *South African Journal of Economics*.
 - "Identifying Aggregate demand and supply shocks in South Africa," S. du Plessis, U. Stellenbosch; B. Smit, U. Stellenbosch; & F. Sturzenegger, Harvard, to be submitted to *Journal of African Economies*.
 - "The procyclicality of fiscal and monetary policies in South Africa," S. du Plessis, U. Stellenbosch; B. Smit, U. Stellenbosch; & F. Sturzenegger, Harvard; to be submitted to *South African Journal of Economics*.
 - "Estimating the Taylor rule for the SARB," A. Ortiz, Boston U.; & F. Sturzenegger, Harvard; to be submitted to *South African Journal of Economics*.

Other references

Caves, Richard, Jeffrey Frankel and Ronald Jones (2007), World Trade and Payments: An Introduction, tenth edition, Addison Wesley Longman: Boston MA, 2007.

Giorno, C., P. Richardson, D. Roseveare and P. van den Noord (1995), "Estimating Potential Output Gaps and Structural Budget Balances", OECD Economics Department Working Papers No. 152.

Hagemann, R. (1999), The Structural Budget Balance. The IMF's methodology, IMF Working Paper 99-95. July.

Kaminsky, Graciela, Reinhart, Carmen M. and Vegh, Carlos A. (2004), "When it Rains, it Pours: Procyclical Capital Flows and Macroeconomic Policies," September, NBER Working Paper No. 10780.

Marcel, M., M. Tokman, R. Valdes, and P. Benavides (2001), "Balance Estructural: La Base de la Nueva Regla de Política Fiscal Chilena", *Economía Chilena*, Vol. 4, No. 3. Diciembre.

Mboweni, T.T. (2007), "The Commodity Price Boom and the South African Economy," address by the Governor of the South African Reserve Bank, at the Regional Business Achievers Awards Dinner of the Businesswomen's Association, Pretoria, 27 June.

⁵ Proponents usually deny that in practice they would follow such a strict form of Inflation Targeting. Yet IT central banks in emerging markets do in fact seem to respond to oil shocks with sufficient tightening that CPI inflation returns to its previous level within three quarters, which would seem to imply that they tighten enough to keep oil prices from rising in terms of domestic currency: Mishkin and Schmidt-Hebbel (2007; Fig. 4).

Mishkin, Frederic, and Schmidt-Hebbel (2007), "Does Inflation Targeting Make a Difference?" NBER working paper no. 12876, January.