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A fiscal impact measure for South Africa

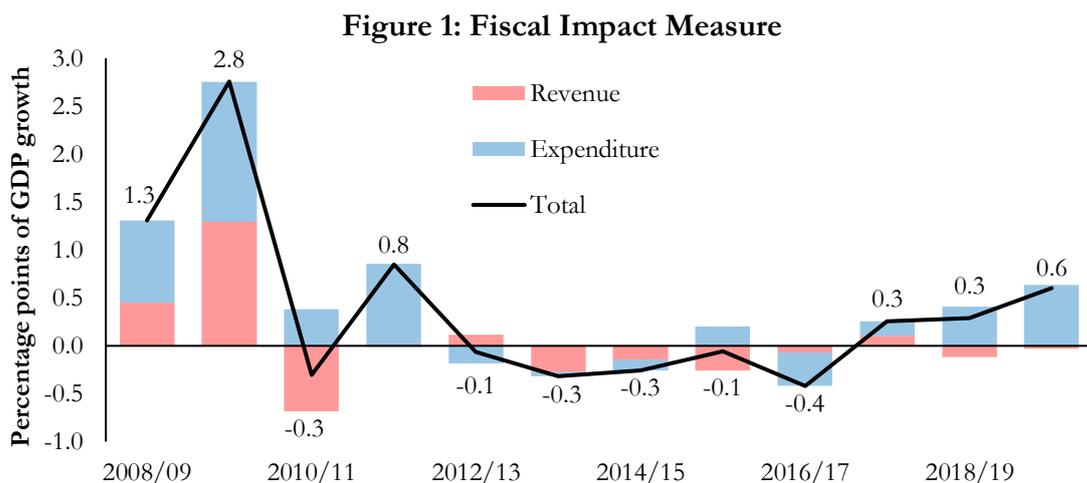
Thulisile Radebe¹

Abstract

The FIM described in this note provides a nuanced and intuitive summary of the fiscal stance. Our estimates show three distinct phases of fiscal policy over the 2010s: strong stimulus in the years immediately after the Global Financial Crisis, mild, tax-heavy consolidation through the middle of the decade, and moderate stimulus more recently. The fact that this recent period of stimulus was accompanied by slowing GDP growth suggests either that other factors cancelled out the stimulus, or that it was overall negative for the economy, given adverse indirect consequences such as higher long-term borrowing costs.

Introduction

Popular assessments of fiscal policy typically rely on an austerity/stimulus dichotomy. However, these labels do not convey the extent of the policy impetus, in either direction. This economic note offers an alternative in the form of a Fiscal Impact Measure (FIM), which permits a more nuanced, but still intuitive, summary of the fiscal stance. The FIM shows three distinct phases of fiscal policy during the 2010s: an initial period of substantial stimulus after the 2009 global financial crisis, a period of mild consolidation in the middle of the decade, and then a new phase of moderate stimulus more recently. While these estimates do not capture all aspects of fiscal policy, including the quality of spending or indirect effects such as long-term interest rate changes, they provide a useful summary of the fiscal stance. In particular, they make it clear that South Africa’s pre-COVID-19 growth slowdown should not be attributed to tight fiscal policy, although loose fiscal policy may have weakened growth indirectly.



¹ The author would like to thank David Fowkes, Konstantin Makrelov and Theo Janse van Rensburg for many useful comments.

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Methodology

The Fiscal Impact Measure used here was developed by the Hutchins Center at the Brookings Institute, for application to the United States.² Its core intuition is nonetheless more widely applicable: fiscal policy is growth-neutral where taxation and spending³ rise in line with an economy's potential growth rate, plus inflation.⁴ Fiscal policy has a positive contribution to GDP growth when policy is expanding faster than this neutral rate (more spending or reduced taxes), and negative when it is slower (less spending, higher taxes). In any given year, the fiscal impact is the change in actual fiscal policy, less the hypothetical 'neutral' rate.

The fiscal data for the FIM reported here are drawn from National Treasury's consolidated budget documents. The counterfactual scenarios for revenue and spending are both dependant on a 'neutral' level of growth, which is the sum of inflation and potential growth. Inflation is defined as changes in the consumer price index⁵, while potential GDP growth is the supply-side shock-adjusted measure used in both the SARB's Core and Quarterly Projections Models.⁶

The contribution of government spending to overall GDP growth is calculated as the actual contribution to growth less the contribution had real spending increased in line with potential GDP growth. We note that by not assigning a propensity to consume for direct transfers to households, we implicitly assume that all direct transfers to households are spent in full i.e. there is a 1:1 transfer of households to the rest of the economy.⁷

For our headline measure, we exclude two spending items: interest payments and bailouts. The rationale for this adjustment is primarily that these items are usually excluded from assessments of the fiscal stance, and including them might cause readers to (mis)attribute the results of the FIM to bailouts and interest costs. Conceptually, it may be appropriate to exclude interest payments inasmuch as they are paid to non-residents, although the majority of government debt is held domestically. Bailouts cannot be thought of as new spending, but they do replace spending that would otherwise disappear, which is the basic purpose of stimulus policies. The Brookings estimates for the US do not exclude these items. We report a FIM estimate which includes these items later in this note.

Estimating the contribution from taxes is calculated in a similar vein to the spending component. Here, we calculate the contribution of private consumption to real GDP growth given actual taxes, minus the contribution that would have occurred had taxes risen with potential GDP. Calculating the counterfactual case requires certain assumptions about the magnitude of the effects taxes have on consumption, as well as the timing of these effects. Over short time frames, at least, tax measures rarely change spending on a 1:1

² See Sheiner, L. & S. Belz (July 2019) "The Hutchins Center's Fiscal Impact Measure", *Brookings Institute*. Available at: <https://www.brookings.edu/research/the-hutchins-centers-fiscal-impact-measure/>

³ With some exclusions, as detailed below.

⁴ The FIM is similar to the fiscal impulse in that they both assess whether policy is more expansionary or contractionary than the previous year. However, while the standard fiscal impulse assesses changes in the cyclically adjusted primary balance in its entirety, the FIM has the added benefit of being able to distinguish between changes in discretionary and revenue items, which provides a more nuanced analysis on how fiscal policy is affecting demand. For more on the two measures, see S. K. Chand (1991), 'Fiscal Impulse Measures and their Fiscal Impact', in M. Bléjer, and A. Cheasty "How to Measure the Fiscal Deficit", *International Monetary Fund*, pp. 85-99 Available at: https://www.elibrary.imf.org/doc/IMF071/03172-9781557751928/03172-9781557751928/Other_formats/Source_PDF/03172-9781455246663.pdf

⁵ Various alternative measures of prices could be used, including the GDP deflator (which capture terms of trade effects) or the government consumption deflator (for spending) and the household consumption deflator (for taxes), each of which may yield different results. For simplicity, we use the commonly used and inflation-targeting consistent measure, but we note an alternative measure later in this note.

⁶ See B Botha, F Ruch, and R Steinbach (2017), "Short-lived supply shocks to potential growth", WP/18/02, *South African Reserve Bank*. Available at: <http://www.resbank.co.za/Lists/News%20and%20Publications/Attachments/8605/WP1802a.pdf>

⁷ We think this is a valid assumption given that transfers to households, primarily through the grant payment system, are designed for the most vulnerable South Africans and account for almost three-quarters of household income in the lowest income decile. Indeed, estimates show that the marginal propensity to consume for grant recipients is effectively 1. For more, see M Sachs, "Macro-fiscal considerations in response to the COVID-19 crisis", Policy Brief, *Covid19 Economy Group*, pp 12, available at: https://covid19economicideas.org/wp-content/uploads/2020/04/MacroFiscalStrategy_in_Covid19_Sachs_07042020-1.pdf and B Niklas (2010), "The marginal propensity to earn, consume and save out of unearned income in South Africa," Working Paper Series 2010:4, *Uppsala University*, Department of Economics, available at: https://ideas.repec.org/p/hhs/uunewp/2010_004.html

basis, whether taxes are being raised or lowered. By using the impulse responses detailed in the Core Model Handbook (2017), the implied marginal propensity to consume after four quarters is 0.38 for private consumption and 0.84 for investment. We apply those values to our estimates for the personal income and corporate income taxes respectively. For all other revenue measures, we apply a marginal propensity to consume of 0.61 – a simple average of the two.⁸ Over the longer-run, as consumption adjusts to a new equilibrium, the marginal propensities to consume for households, corporates and other taxes rise to 1.03, 1.05, and 1.04 (again, averaging the former two). These longer-run estimates, however, are not relevant for our FIM, which seeks to measure the effects of change policy on aggregate demand for one fiscal year only.

Finally, we adjust gross tax revenues to exclude SACU transfers. These payments compensate the partner countries for imports into the customs union. They also act as a developmental transfer, a form of foreign aid, because South Africa compensates for more than simple trade-diversion effects. Cutting back on these transfers would show up as a contraction in our FIM because fiscal spending is lower, but reducing these transfers actually reduces foreign aid which could be redirected to the local economy, which would boost domestic demand. We therefore omit this item to avoid a misleading estimate.

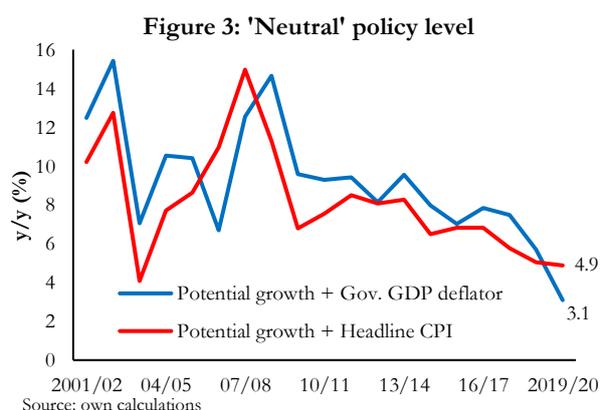
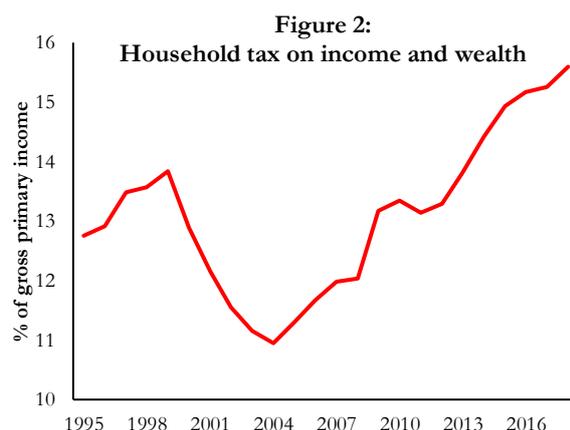
Overview of the results

As expected, significant stimulus is visible for the period following the global financial crisis. Figure 1 shows a fiscal impact of 1.3pp for 2008/09 and another 2.8pp for 2009/10. This stimulus comprised additional spending, which cumulatively added about 2.3pp to growth, as well as reduced tax collection, which added a further 1.7pp.

From about 2013/14, National Treasury attempted fiscal consolidation. The FIM shows that between 2013/14 and 2016/17, the fiscal impact was marginally negative, at about -0.2pp each year.⁹ The consolidation effort relied primarily on taxes: Over the period, revenue expenditures cumulatively reduced growth by 0.8pp, while expenditure measures detracted 0.2pp. Real expenditure rose throughout this period, but marginally less than the overall increase in potential growth. Taxes, by contrast, rose 2pp as a share of household income, to 15.3%, the highest level since at least 1995 (figure 2).

Our FIM measure indicates that fiscal policy has loosened since 2016/17, reaching 0.6pp during the 2019/20 fiscal year.¹⁰ The main reason for this is that government spending growth remained sticky, while potential growth and inflation both slowed, implying a widening gap between the actual fiscal path and the neutral trajectory. This also helps to explain why nominal expenditure ceilings, which were introduced in 2012, failed to narrow the fiscal deficit. Specifically, the neutral fiscal growth rate was 4.9% for 2019, based on potential GDP growth of 0.6% and inflation of 4.3%. By contrast, spending and revenue together grew by about 6%.

The stance would have appeared more stimulatory had we used the government consumption deflator



⁸ These estimates are similar to Brookings' estimates, which found that the marginal propensity to consume for US after four quarters is 0.36 for consumers, but only 0.132 for corporates. Assuming larger propensities to consume magnifies the tax effect on aggregate demand.

⁹ Indeed the primary balance began to narrow from -1.3% of GDP in 2012/13 to 0% by 2016/17.

¹⁰ These results do not take into account the scale of decline in potential growth in the first quarter of 2020Q1.

instead, as this measure rose just 2.5% in 2019. Replacing the headline CPI inflation with this measure would raise the FIM for 2019/20 to as much as +1pp.

The fact that GDP growth slowed to a post-crisis low in 2019, despite the larger FIM, suggests either that other headwinds to growth were stronger than the fiscal stimulus effects, or that the negative, indirect effects of a deteriorated fiscal position cancelled out the positive, direct effects. Crucially, the FIM only captures direct effects on output, excluding any indirect effects such as the productivity of expenditure, offsetting effects on interest rates, credit ratings or confidence more broadly, or expectations for future taxes. This is a limitation of this methodology. It should not be assumed that a positive FIM is always and everywhere good for growth.

Finally, as a point of interest, we also consider a cumulative FIM for the 2010s. The overall trend is similar, with an initial stimulus phase, followed by consolidation, followed by further stimulus. Considering the decomposition, the trend in the tax impact is sensitive to the starting point used – it is overall positive starting at 2007/08, but it turns negative from 2010/11 if the starting point is 2009/10, instead. On spending, by contrast, the cumulative impact is large and positive regardless of the starting point. Based on these estimates, expenditure is now R237bn above where it would have been had it grown only at its neutral rate. Revenue is R13bn lower than this counterfactual. (Both cases assume 2007/08 as the base year). Of course, these calculations assume that inflation and growth would have been the same despite different government tax and spending decisions, which is unlikely.

A FIM with bailouts and interest payments

The original Brookings FIM did not exclude interest payments or bailouts. Applying the same methodology to the South African estimates yields an overall more stimulatory fiscal stance, albeit one with similar trends to the headline version reported above. One prominent difference is a positive fiscal impact in 2015/16, due to a large Eskom bailout. Policy then appears tighter the next year, because the bailout is not repeated. (Technically, the FIM would require it to be scaled up by at least potential growth plus inflation to maintain a neutral fiscal impact.) From the 2017/18 fiscal year, fiscal policy is once again slightly expansionary. Large bailouts for Eskom during the 2019/20 fiscal year show the FIM rise to as much as 1.8pp, compared to the baseline FIM estimate of 0.6pp.¹¹

Figure 4: Cumulative FIM

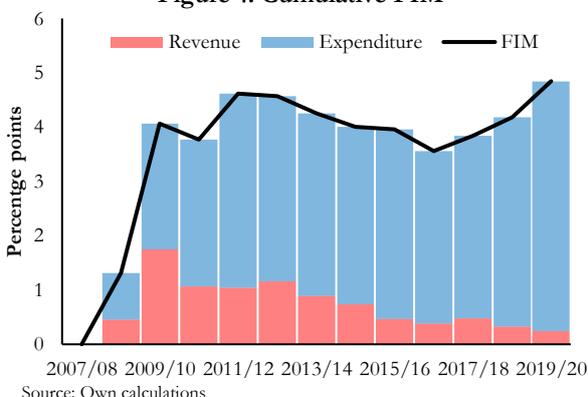
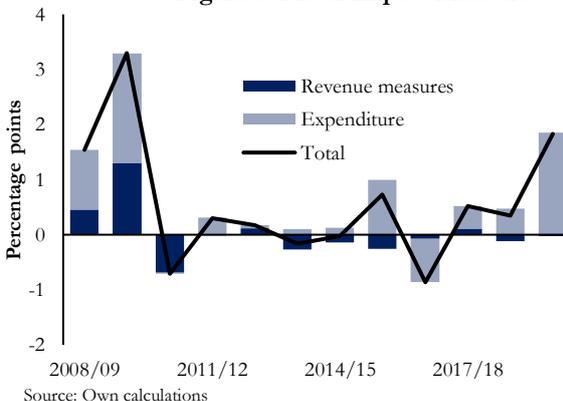


Figure 5: Fiscal Impact Measure

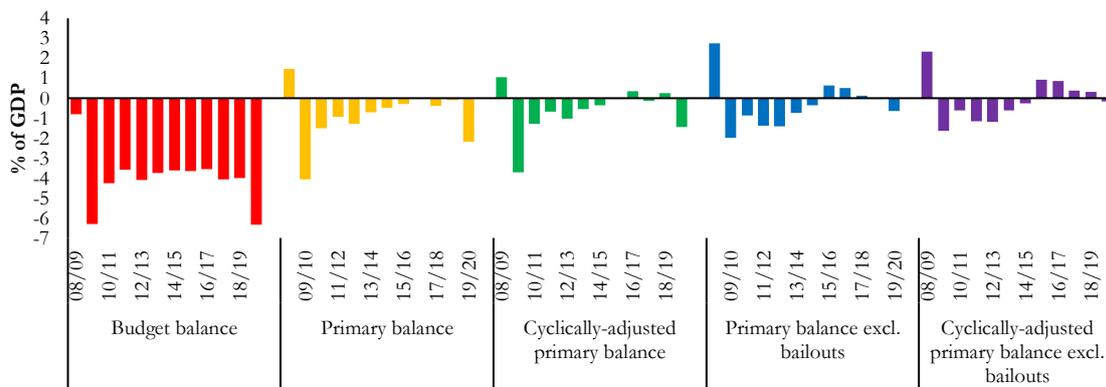


¹¹ We also note that the FIM only takes into account tax revenue, not total revenue. This suggests that tax under collections in a year will be reflected more clearly in our baseline than in this alternative FIM measure, where collections may be offset by non-tax revenue raising initiatives.

Measures of the fiscal stance

The FIM is not a comprehensive measure of the fiscal stance. It should therefore be consulted alongside other fiscal metrics, including different versions of the budget balance (primary balance¹², cyclically adjusted balance, balance ex-bailouts, and various other combinations). Looking at these, it is difficult to find a rubric by which the fiscal stance did not loosen towards the end of the decade. South African’s overall budget balance has been consistently in deficit since the global financial crisis, and became more negative in recent years. The same applies to the primary budget balance, which excludes interest payments, as well as the cyclically adjusted balance. A combination of these adjustments shows some positive readings in the second half of the decade, but the latest values are negative. The same applies if bailouts are also excluded from the calculations. None of these measures imply a contractionary fiscal stance in the past fiscal year; they all have similar dynamics to the FIM.

Figure 6: Fiscal balances



Sources: National Treasury and own calculations

Conclusion

The FIM described in this note provides a nuanced and intuitive summary of the fiscal stance. Our estimates show three distinct phases of fiscal policy over the 2010s: strong stimulus in the years immediately after the Global Financial Crisis, mild, tax-heavy consolidation through the middle of the decade, and moderate stimulus more recently. The fact that this recent period of stimulus was accompanied by slowing GDP growth suggests either that other factors cancelled out the stimulus, or that it was overall negative for the economy, given adverse indirect consequences such as higher long-term borrowing costs. The FIM is likely to be positive again this year, given significantly lower potential growth and inflation, large revenue under collections, and the announcement of an emergency relief programme amounting to R500bn.

¹² In particular, the budgeted primary balance shifted from -0.1% to -2.2% of GDP between 2018/19 and 2019/20. This does not take into account the underperformance of growth during the second half of the fiscal year.