

## Budget Consolidation In South Africa: A Disaggregated Approach

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### 1.1 Introduction

South Africa's fiscal space<sup>3</sup> is narrowing. Since the 2008/9 global financial crisis, fiscal policy (together with helpful monetary policy that has kept interest rates low) has sought to improve weak demand as well as the country's negative output gap.<sup>4</sup> However, economic recovery has been slow, hampered by an inability to create jobs, as well as industrial unrest and credit downgrades. In addition, renewed slowdowns in global economic growth have created new risks and uncertainties. All these factors, combined with the narrowing fiscal space, point to a need to rebuild the fiscal buffers that helped to moderate the effects of the 2008/9 recession by giving the South African government the necessary fiscal space to act in a countercyclical way.<sup>5</sup> With this in mind, it is clear that a thoughtful debate is warranted on an optimal approach to fiscal consolidation,<sup>6</sup> especially as rising state debt in the medium term could threaten the sustainability of public finances, burdened, among other things, by rising social expenditure needs.

The government is already investigating initiatives aimed at bolstering the credibility of long-term fiscal sustainability. These include fiscal guidelines and long-term fiscal reporting, which the Financial and Fiscal Commission (the Commission) has commented on before. The model described in this paper contributes to debates on fiscal consolidation and the fiscal framework as it considers the role of revenue and expenditure components in reducing the budget deficit while maintaining economic growth.

Sound public finances are a prerequisite for sustainable economic growth and for maintaining welfare. Therefore, "growth-friendly" fiscal consolidation (i.e., a fiscal consolidation path that takes into account economic growth and development trends) can create a solid foundation for future economic growth and development, and even aid a more even distribution of income.<sup>7</sup> Fiscal con-

<sup>3</sup> Fiscal space can be defined as the financial resources available to a government for policy initiatives through the budget and related decisions (Schick, 2009:2).

<sup>4</sup> Output gap is the difference between the actual output and the potential output. When the output gap is negative, actual output is below the potential output, and hence the economy is not fully utilising its resources (i.e. the economy is not at its full productive potential).

<sup>5</sup> Countercyclical fiscal policy refers to policy that is moving in the opposite direction to the economic cycle – i.e. fiscal policy that increases (decreases) debt and deficits when the economy is weak (strong).

<sup>6</sup> Although the government has reiterated its commitment to fiscal consolidation, the Commission noted in its response to the 2012 Medium Term Budget Policy Statement that the pace of fiscal consolidation has slowed down significantly since 2009. This may potentially undermine the government's plans, particularly in the eyes of the international community.

<sup>7</sup> For example, recent Section 100 interventions could have targeted expenditure items that are less politically contentious such as maintenance, training and expenditures designated for research and development activities. However, such actions would have achieved fiscal discipline at the expense of future growth (i.e. would have undermined economic growth). This example serves to illustrate that achievement of a growth-friendly fiscal consolidation is a delicate exercise, which requires balancing of social objectives and economic objectives that may at times be mutually contradictory. Such a fiscal consolidation would thus need to be built around some social compact. Sustaining growth and preserving a fiscal compact in an era of fiscal consolidation will require a strong political consensus, so that sacrifices can be made in the short run in order to achieve economic growth and development in the medium to long run.

solidation is a potential lever to long-run economic development. The structural reforms proposed in the government's National Development Plan (NDP) and New Growth Path (NGP) are aimed at creating higher levels of economic growth as well as a more inclusive economy. Both plans imply an active role for government, proposing a tighter fiscal policy combined with a looser monetary policy and labour market reforms. Fiscal policy<sup>8</sup> is central to these strategies because it influences economic growth through its effects on private sector behaviour and on (human and physical) capital formation

Fiscal consolidation is a tool that can be used to reduce budget deficits and achieve better macroeconomic outcomes (i.e. greater productivity, higher levels of economic growth and development, etc.) through its focus on public expenditure and revenue reform (for example, using public revenue more efficiently, investing in development, and directing public resources at the most vulnerable people). Expenditure reform is particularly important as the government is making efforts to reprioritise expenditure and identify savings in the fiscal framework in order to encourage productive expenditure (e.g. investment in infrastructure) while maintaining social support to vulnerable groups (FFC, 2010).

This paper is an extension of the fiscal consolidation model (FFC, 2011a; Jooste and Marinkov, 2012). It seeks to answer the question of whether the government should be pursuing spending cuts (and if so, which); tax increases (and if so, which), and/or debt reduction in order to consolidate its budget.<sup>9</sup> The approach taken is to disaggregate various components of the budget and state debt, and examine their effects on the budget consolidation process and on economic growth.

Against this background, this paper has a twofold purpose. The first is to examine what economic factors are important for (i.e. will have a positive or negative effect on) fiscal consolidation. The second is to establish which combinations of these factors are most likely to achieve a growth-friendly fiscal consolidation. It is organised as follows: Section 2 summarises the literature reviewed; Section 3 outlines the data, model, and estimation technique; Section 4 reports the results; and Section 5 concludes, and offers some policy recommendations.

## 1.2 Literature Review

Fiscal consolidation is generally defined in terms of policies aimed at reducing government deficits as well as public debt. International literature contains abundant evidence of and proposals for fiscal consolidation, as well as methods to achieve it. For example, in a study of OECD countries, Alesina and Perotti (1997) argue that the composition of fiscal adjustments (i.e. consolidation) affects their likelihood of success and macroeconomic consequences. They find that, unlike fiscal consolidation which relies on tax increases and decreases in public investment, fiscal con-

<sup>8</sup> Fiscal policy is concerned with (i) allocation of resources, (ii) efficiency in the use of resources (to achieve economic stability and growth, for example), and (iii) redistribution of income. This paper aims to provide recommendations on (i) and (ii).

<sup>9</sup> To make the point, the fiscal multiplier (i.e. change in GDP as a result of a one unit change in a fiscal variable: for example, a fiscal multiplier of 0.6 implies that a R1 of government spending creates R0.6 of GDP, or national income) differs for government consumption relative to government investment. The time it takes for changes in fiscal policy to affect output is also different using different fiscal levers. As an example, government consumption reductions will affect output much quicker than investment reductions.

solidation that depends mostly on spending cuts in transfers and the government wage bill can be expansionary, and also have a better chance of success. Using a sample of 39 low-income countries, Gupta et al. (2002) find a strong link between public expenditure reform and economic growth. More specifically, they find that reducing current expenditure and domestic borrowing and protecting public investment all have a positive effect on economic growth. According to Baldacci et al. (2004), directing public expenditure towards productive uses is crucial for achieving more sustained fiscal adjustments. Using a sample of low-income countries, they conclude that reducing current expenditure and protecting capital expenditure lead to longer fiscal consolidation episodes. In addition, countries with larger cumulative reductions in deficit are less likely to abandon consolidation efforts, whereas countries that have achieved macroeconomic stability are more likely to do so.

In South Africa, fiscal consolidation is backed by sound reforms, including the Public Finance and Management Act of 1999, which calls for rigorous expenditure controls and supervision systems (Siebrits and Calitz, 2004; Ajam and Aron, 2007). Other fiscal reforms contributing to fiscal consolidation are related to budget procedure, tax reform, and revenue collection. Discretionary fiscal policy post 1997 is described as “transparency-based discretion” (Siebrits and Calitz, 2004; Ajam and Aron, 2007), which amounts to fiscal authorities reporting cyclical, structural, and off-the-line budget components.

Successful fiscal consolidation is an ambiguous notion.<sup>10</sup> According to Alesina and Ardagna (2010), it implies a significant and persistent reduction in the debt-to-GDP ratio. However, this definition ignores the possibility that public budget cuts will significantly reduce rates of economic growth. Therefore, a possible trade-off exists between a scenario in which public debt is reduced but negatively affects GDP, and one in which debt increases but positively affects GDP. However, it should be noted that increased debt can hamper economic growth in the long run.

Reinhart and Rogoff (2011) suggest that debt-to-GDP ratios above 60 per cent in developing countries reduce economic growth, and argue that the intergenerational consequences of higher debt should also be considered. However, debt in itself is not a problem because it can be self-financing when GDP growth exceeds interest rates, usually proxied by the long-run government bond yields (cf. DeLong and Summers, 2012). Higher levels of inflation can also erode the real level of debt. In addition, when bond yields are low (i.e. the demand for debt is high), debt financing is not a pressing issue. Given this, embarking on fiscal consolidation without an adequate understanding of the factors surrounding public debt might result in a sub-optimal policy choice. This paper argues that the definition of fiscal consolidation should be broader than just reducing budgets and debt: instead, successful fiscal consolidation should be defined as the simultaneous reduction of the budget deficit and overall level of debt, and an increase in GDP growth.

<sup>10</sup> According to the European Commission (2007), a definition of successful consolidation should incorporate the following elements:

- A measure of fiscal consolidation (i.e. reduction in public debt, reduction in the (cyclically adjusted) budget balance, reduction in government expenditure and/or an increase in taxes);
- A reference period over which a given size of consolidation is implemented; and
- A criterion discriminating between success and failure.

A review of international empirical literature on fiscal consolidation yields the following conventional wisdom:

1. successful fiscal consolidation is characterised by primary expenditure cuts rather than tax increases<sup>11</sup> (Alesina and Ardagna, 2010; Devries et al., 2011; Perotti, 2011);
2. the initial state of the economy and public finances is important to fiscal consolidation (McDermott and Wescott, 1996; Perotti, 1999; IMF, 2010); and
3. successful consolidations need to reduce transfer payments and government wage expenditure (IMF, 2010; de Cos and Moral-Benito, 2012).

Other factors examined include the role of political leadership (Kumar et al., 2007), the timing of fiscal consolidations with respect to elections (Alesina, 2010) and the role of the government composition in fiscal consolidations (Perotti, 1996; Gupta et al., 2002).

An important empirical study is that of De Cos and Moral-Benito (2012), who use a probit model to analyse the macro environment that signals successful debt reductions. It includes various fiscal variables such as government wages, subsidies, non-wage expenditure, and taxes. Irrespective of their specification of a successful consolidation,<sup>12</sup> the output gap is the most important factor to consider. Any fiscal lever used to consolidate the budget out of step with the output gap can have negative economic consequences. De Cos and Moral-Benito (2012) extend Alesina and Ardagna (2010) by defining a successful consolidation as one where the cyclically adjusted budget deficit is reduced by at least three percentage points over three years, and future GDP is greater than GDP during the consolidation period. With this specification, only wage reductions are a robust determinant of successful fiscal consolidation.

For South Africa, Jooste and Marinkov (2012) have developed and used a model on the “optimal” path of fiscal consolidation. Instead of the conventional measure of successful consolidations (debt reductions) used in the literature, their main findings suggest that the consolidation of fiscal balances should be aligned with the output gap. This would not only strengthen the size of automatic stabilisers,<sup>13</sup> but would also ensure that fiscal policy is more sustainable by adhering to countercyclical policy. Such a strategy would avoid a too hasty consolidation, which would hamper employment and economic growth, and the rapid accumulation of unwanted debt.

Jooste and Marinkov (2012) also suggest that any consolidation strategy by government should heed efficiency--volatility trade-offs. Efficiency is measured as the fiscal multiplier, and volatility as growth-induced volatility due to changes in fiscal policy. They argue that increases in fiscal spending or a reduction in taxes leads to volatile GDP growth which could have negative long-run effects on GDP. Also, the multiplier, which measures the degree to which fiscal policy strengthens GDP, is subject to many other economic factors: openness, interest rates, debt, and the choice

<sup>11</sup> Although papers like Ardagna (2004) also argue that both expenditure and revenue-based fiscal consolidations may be successful.

<sup>12</sup> Some of these specifications include: a 1.5 per cent point reduction in the cyclical adjusted budget balance, and a 4.5 per cent point reduction in the debt-to-GDP ratio.

<sup>13</sup> Automatic stabilisers refer to government policies that moderate the effects of the economic cycle fluctuations on income, employment, etc. without direct government intervention. Examples include the unemployment insurance fund and progressive income tax.

of fiscal variables. Therefore, when considering the optimal path for fiscal consolidation, these factors must be taken into account, and other definitions of what constitutes a successful fiscal consolidation must be considered. The following sections explore these factors in the South African context.

### 1.3 Research Methodology

The approach followed is to model and analyse the most effective means of fiscal consolidation using various fiscal variables (i.e. different components of revenue, expenditure and debt). A successful fiscal consolidation is defined as a simultaneous reduction in the budget deficit, decrease in public debt and increase in GDP growth. Following Alesina and Ardagna (1998), Baldacci et al. (2004), Giudice et al. (2007) and De Cos and Moral-Benito (2012), a probit model is used to explain the likelihood of a successful consolidation episode in terms of the type of adjustment (i.e. expenditure, revenue, and/or debt) and the initial conditions.<sup>14</sup> The specification of the probit model is as follows:

$$Y_t = \alpha + \sum_{j=1}^k \beta_j X_{jt-1} + \varepsilon_t \quad [1]$$

Where:

$t$  represents the year during fiscal consolidation

$t-1$  represents the year preceding the beginning of fiscal consolidation

$Y_t$  is a discrete dependent variable, taking on the value of 1 in the case of success during a consolidation episode (judged, for example, by an improvement in the fiscal balance) and 0 otherwise (i.e. when no improvement in the fiscal balance)

$\alpha$  is a constant

$k$  is a number of explanatory variables

$\beta_j$  represents the coefficients on the explanatory variables

$X_{jt-1}$  represents continuous explanatory variables that will capture the contribution of economic factors in successful fiscal consolidations. (These variables will also include variables that capture the initial macroeconomic and fiscal conditions.)

The probit model assumes that the true likelihood function is given by:

$$L(\beta) = \pi_{Y=1} Pr(Y_t=1) \cdot \pi_{Y=0} Pr(Y_t=0) \quad [2]$$

Where the error term that creates these probabilities (i.e.  $\varepsilon_t$ ) is distributed normally with a mean of 0 and a variance of 1. Using this assumption, and with the knowledge of the normal cumulative distribution function, the probabilities of successful fiscal consolidations can be calculated, and values of  $\beta$  parameters that maximise the likelihood function [2] can be estimated.

As noted in De Cos and Moral-Benito (2012), because of a lack of theoretical guidance as to what variables should be included in  $X_{jt-1}$ , the results (of estimating [1]) will vary depending on what variables are included in the regression. The Bayesian Model Averaging (BMA) technique is a

<sup>14</sup> It should be noted that a probit model can also be used to estimate the likelihood of commencing a fiscal consolidation depending on the realisations of explanatory variables in a given period (see for example von Hagen et al., 2001).

useful tool in this regard. BMA is a method used to analyse the sign of the variables of interest and is also helpful in selecting the most important explanatory variables in a regression – i.e. instead of including many explanatory variables that erode the degrees of freedom, BMA estimates the best combination of models (see Zeugner, 2011). Starting with a simple model as outlined in equation [1], there are  $k$  potential explanatory variables and thus  $2^k$  possible combinations of those variables (hence,  $2^k$  models). BMA estimates all of the  $2^k$  models and then constructs a weighted average over all of them, giving the following model weights (that arise from the Bayes theorem):

$$p(M_\gamma/Y, X) = \frac{p(Y/M_\gamma, X)p(M_\gamma)}{p(Y|X)} = \frac{p(Y/M_\gamma, X)p(M_\gamma)}{\sum_{s=1}^{2^k} p(Y/M_s, X)p(M_s)} \quad [3]$$

Where:

$p(M_\gamma/Y, X)$  represents the posterior model probability

$p(Y/M_\gamma, X)$  represents the marginal likelihood of the model (i.e. probability of the observed data given model  $M_\gamma$ )

$p(M_\gamma)$  represents the prior model probability (i.e. how probable model  $M_\gamma$  is before looking at the data)

The model prior is set in such a way to reflect the lack of knowledge (i.e. uncertainty with regard to sign and/or magnitudes of the relevant coefficients), hence  $p(M_\gamma) \propto 1$ . For this purpose, a non-informative prior – Zellner's g-prior – is used, with the assumption of a large value for  $g$ , which indicates uncertainty as to whether or not the coefficients in question are 0.

Hence, given the discussion in this section, the following strategy is proposed:

1. **Use the BMA to select relevant explanatory variables for equation [1] and to obtain some idea of the signs and magnitudes of the estimated coefficients.**

This step determines what variables are important for successful fiscal consolidation, and what types of contributions (i.e. positive or negative) these selected variables make to fiscal consolidation.

2. **Estimate a probit model using the explanatory variables selected in step 1.**

This step determines the probabilities of a successful consolidation, given different scenarios using disaggregated data on revenue, expenditure and debt. Hence, more detailed conclusions can be reached regarding fiscal consolidation in South Africa.

Macroeconomic data for variables such as consumer price index (CPI), the oil price, the exchange rate, and GDP growth is used in estimates. In addition, fiscal data on the three major taxes – personal income tax (PIT), corporate income tax (CIT) and value added tax (VAT) – as well as data on major components of expenditure (i.e. investment, consumption, etc.) is used. Lastly, public debt is disaggregated into domestic and foreign components. The data has been sourced from the South African Reserve Bank (SARB), Statistics South Africa (StatsSA), the International Monetary Fund (IMF), and National Treasury. The period under consideration is 1990Q1-2012Q2 (i.e., 90 observations).

## 1.4 Results

As noted earlier, successful fiscal consolidation is defined as the simultaneous reduction in the budget deficit and overall level of debt, and increase in GDP growth. To capture this definition quantitatively, a dummy variable is constructed, equalling 1 for a successful consolidation,<sup>15</sup> and 0 for an unsuccessful consolidation.<sup>16</sup> This measure serves as the dependent variable in the probit regression specified in equation [1]. The effects of different tax and expenditure levers on fiscal consolidation are examined. In particular, the impact of an increase in the PIT, CIT and VAT rates, expenditure on investment, the public sector wage bill, and other expenditure are analysed. Average tax rates are calculated for each tax by taking the ratio of the tax collected to its tax base. Therefore, these rates are close approximations of the actual rates, but not perfect substitutes. In order to avoid possible regression misspecification, the model is conditioned on the oil price, inflation, the output gap, and government subsidies. As discussed in Section 3, BMA is also used to take account of misspecification. The modelling technique samples across a multiple combination of models with the various regressors. It then chooses the model that maximises the likelihood function, and averages out parameters across the different model combinations.

Figure 1 (please see page 34) summarises these models.<sup>17</sup> The colour blue indicates a negative and statistically significant impact of an explanatory variable on fiscal consolidation, whereas the colour red indicates a positive and statistically significant impact of an explanatory variable on fiscal consolidation. The empty spaces represent coefficients of 0 – i.e. they indicate that these explanatory variables are not significant for that particular model. The frequency of colours indicate the importance of a specific variable in different combinations of models. For example, government subsidies (*gsub*) entered the top 22 models chosen by the BMA only three times. On the other hand, inflation, VAT, and government consumption variables are the top three variables selected by the BMA, and hence constitute important influences on fiscal consolidation in South Africa.

<sup>15</sup> Periods where there is a decrease in budget deficit, a decrease in public debt and an increase in GDP growth.

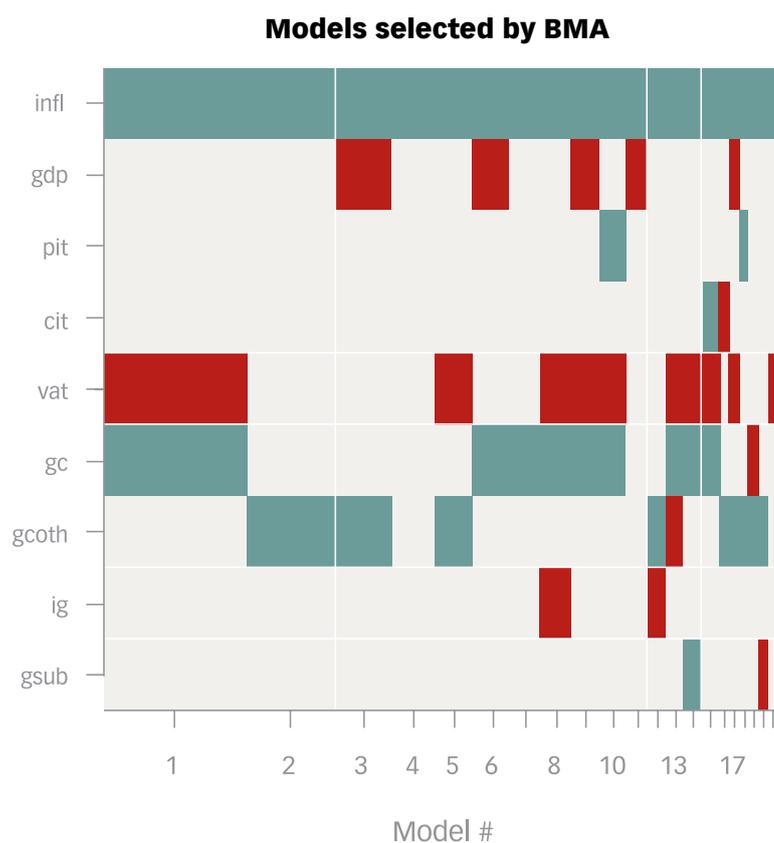
<sup>16</sup> Periods where there is an increase in the budget deficit and/or an increase in public debt and/or a decrease in GDP growth.

<sup>17</sup> The different variables shown in Figure 1 are defined as follows:

- *infl*: inflation rate;
- *gdp*: output gap (defined as the difference between actual and potential GDP);
- *pit*: average PIT rate = PIT/compensation of employees;
- *cit*: average CIT rate = CIT/gross operating surplus;
- *vat*: average VAT rate = VAT/household consumption;
- *gc*: government consumption (about 60 per cent of which is expenditure on wages, while the rest constitutes government purchases such as buildings and equipment);
- *gcoth*: other government consumption;
- *ig*: government investment; and
- *gsub*: government subsidies.

It should be noted that the oil price was also included in the estimation, but the BMA technique dropped this variable because it was not selected by any of the models that were estimated. Hence, the conclusion is that the oil price is not an important variable to consider when modelling successful fiscal consolidation in South Africa. While government debt is an important fiscal variable, it does not lend insight into which fiscal levers achieve successful consolidation. This makes sense, since government debt is not a control variable but an outcome of fiscal policy.

Figure 1: BMA Summary of Best 22 Models



Source: The Commission's estimates.

Table 1 summarises the parameters, standard deviation, and inclusion probabilities resulting from the BMA. The inclusion probabilities are indicated in the column "PIP". The closer the PIP is to 1, the more important the variable associated with that specific PIP. A PIP close to 0 means that the variable associated with that specific PIP is not important. The two most significant fiscal variables that have an impact on fiscal consolidation are government consumption and VAT rates. According to Figure 1, government consumption, VAT rates, inflation, and the output gap are the most consistent inclusion variables that explain fiscal consolidation in South Africa. An increase in the PIT and CIT rates decreases the probability of a successful fiscal consolidation. This implies that increasing PIT and CIT rates does not necessarily lead to higher rates of tax collection, and that taxpayers could possibly be diversifying their income into other types of taxes with preferential rates. However, an increase in the VAT rate increases the probability of a successful consolidation. This VAT is a flat rate on consumption goods and so, unless goods are sold on a cash basis, consumers are unlikely to be able to avoid paying taxes on consumption. An increase in government consumption (mainly comprising the public sector wage bill) decreases the probability of fiscal consolidation. This finding is consistent with conventional wisdom, namely that a decrease in the public sector wage bill would result in more successful fiscal consolidation. Inflation has a negative relationship with the fiscal consolidation variable. One argument is that inflation should increase the probability of successful fiscal consolidation, as it erodes real debt and deficit. However, strict inflation policies increase interest rates in line with inflation. In turn, an increase in interest rates increases debt service costs, resulting in higher debts and deficits.

Furthermore, high inflations hamper economic growth. Thus it would appear that the inflation effect in this model justifies an accommodative monetary policy (i.e. monetary policy that tolerates a certain level of inflation).

**Table 1: Posterior Inclusion Probabilities (PIP), Posterior Mean and Standard Deviation**

Variable	PIP	Posterior mean	Posterior SD
Intercept	100	0.826	7.362
Inflation	100	-1.044	0.372
Output gap	22.3	0.106	0.245
PIT	5.3	-0.018	0.12
CIT	3.9	0.000	0.044
VAT	50.2	0.621	0.79
Government consumption (gc)	54	-0.289	0.339
Government investment (ig)	8.6	-0.048	0.08
Government other consumption (gcoth)	39.7	0.005	0.021
Government subsidies (gsub)	4	0.000	0.003

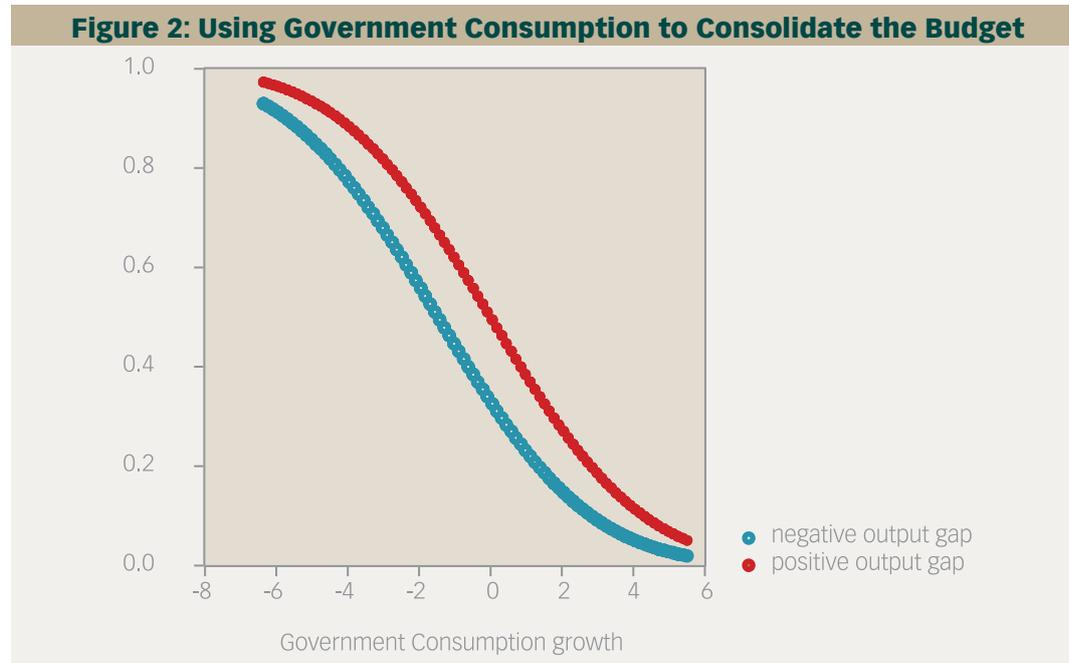
*Notes: Commission's estimations. PIP refers to the inclusion probabilities. The posterior mean represents the average coefficient value for the relevant variable with the standard deviations (i.e. Posterior SD) presented in the last column.*

The results suggest that reducing government spending (consisting mainly of the government wage bill) and increasing VAT are best suited to consolidating the budget without damaging economic growth in South Africa. The first result is a welcome finding, particularly as the government has committed itself to managing the increases in the public sector wage bill as part of its expenditure reprioritisation programme (FFC, 2011b). Implementing this successfully in the medium term may effectively relieve some of the pressure on the fiscal envelope. The second result is potentially unpopular because VAT can be considered as a regressive tax, being a burden borne by both the rich and the poor. However, it should also be noted that VAT collection as a percentage of GDP has remained constant since 1994, while the shares of PIT and CIT to GDP have increased. In addition, VAT should still be regarded as a consolidation instrument because it is only one component of a broader fiscal framework aimed at achieving redistribution objectives.<sup>18</sup> Discussion of this issue should focus on the design of the proposed VAT changes. Some options to consider include broadening the VAT base (i.e. re-examining the categories of consumption that are exempt from VAT – for example, banking, services that are physically performed outside of South Africa, certain services that are supplied to non-residents, etc.) and exempting from VAT certain consumption goods that bring significant relief to the poor.

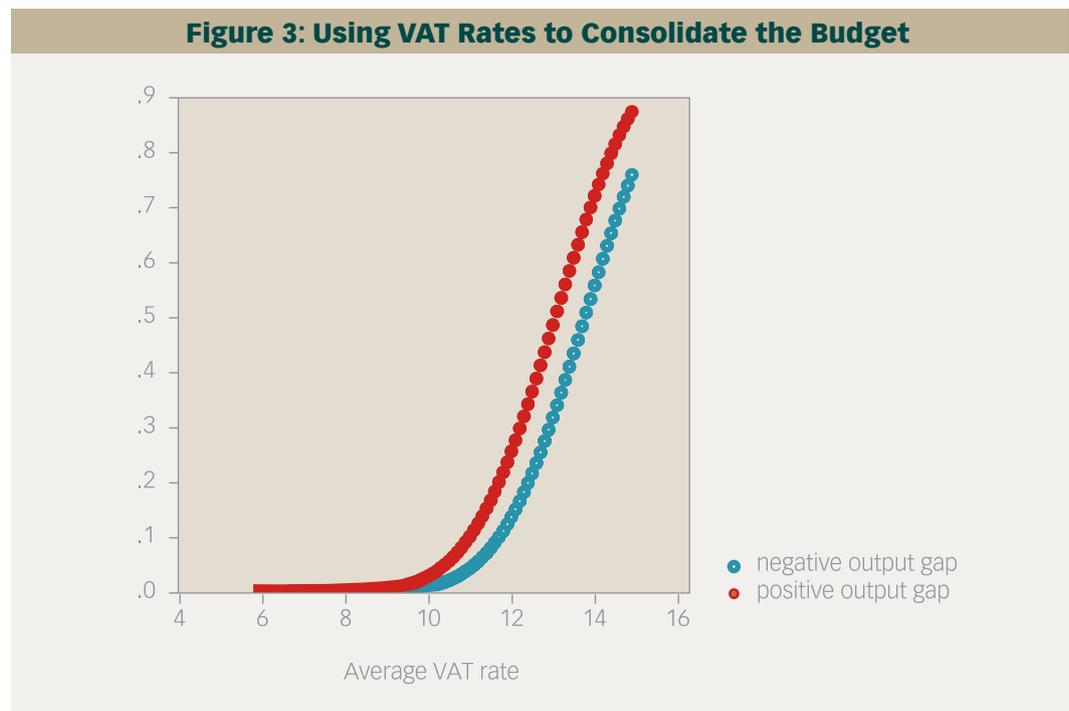
Figures 2 and 3 analyse the effects of different cuts/increases in government consumption and different average VAT rates on the probability of a successful fiscal consolidation. The red lines correspond to positive output gaps, while the blue lines correspond to negative output gaps. Figure 2 shows that if there is zero growth in government consumption, the probability of a successful

<sup>18</sup> This has to do with creating an optimal tax framework, which falls beyond the scope of this paper. In theory, negative distributional effects that arise as a result of an increase in VAT could be offset by changes in other taxes and/or policies. Hence, the tax system should be viewed holistically as opposed to merely considering the effects of changes in individual tax rates.

consolidation is 0.3 and 0.5 respectively. Real decreases in government consumption increase the probability of successful consolidation. On the other hand, Figure 3 shows that increasing the average VAT tax rate (historically 10 per cent) by four percentage points results in a 0.6 and 0.7 probability of a successful fiscal consolidation. In an intertemporal framework, consumption taxes are not distortionary, and continue to ensure a competitive equilibrium. In both instances (i.e. Figures 2 and 3), positive output gaps speed up the consolidation process, as taxes are closely linked to the economic cycle.



Source: Commission's calculations.



Source: Commission's calculations.

## 1.5 Conclusion and Policy Recommendations

This paper addresses the question of which fiscal levers would be most effective in consolidating South Africa's national budget. Disaggregated components of the budget and state debt are modelled in order to examine their effects on the budget consolidation process and on economic growth. This paper broadens the conventional definition of fiscal consolidation (i.e. debt reduction) to incorporate the effect of fiscal consolidation on GDP growth. This is done in a framework that analyses consolidation in an uncertain economic climate, using the BMA technique as well as probit regressions.

With respect to **fiscal consolidation**, the Commission recommends that:

- Government continues its efforts to moderate the growth in expenditure components such as the public sector wage bill (which constitutes some 60% of government expenditure), as decreases in government expenditure increase the probability of a successful fiscal consolidation in South Africa. More effort must be made to improve the effectiveness of public finances, through greater and more rigorous oversight to ensure the elimination of fruitless, wasteful, and unauthorised expenditure, and corrupt practices in managing public finances.
- Government explicitly considers economic growth as an important factor for fiscal consolidation in South Africa. The most obvious manner in which South Africa could improve its fiscal situation is if the economy grew faster. This would help generate higher growth in tax revenue and thus budget deficits could decline a lot faster, and public debt would begin to reduce accordingly.

## 1.6 References

- Ajam, T and Janine, A. 2007. Fiscal Renaissance in a Democratic South Africa, *Journal of African Economies*, Centre for the Study of African Economies (CSAE), 16(5): 745-781.
- Alesina, A. 2010. Fiscal adjustments: Lessons from recent history, mimeo.
- Alesina, A and Ardagna, S. 1998. Tales of fiscal adjustment. *Economic Policy*, 27: 487–545.
- Alesina, A and Ardagna, S. 2010. Large changes in fiscal policy: Taxes versus spending. *Tax Policy and the Economy*, 24: 35–68.
- Alesina, A and Perotti, R. 1997. Fiscal Adjustments in OECD Countries: Composition and Macroeconomic Effects. *International Monetary Fund Staff Papers*, 44: 210–248.
- Ardagna, S. 2004. Fiscal stabilizations: When do they work and why? *European Economic Review*, 48(5): 1047–1074.
- Baldacci, E, Clements, B, Gupta, S and Mulas-Granados, C. 2004. Front-loaded or back-loaded fiscal adjustments: What works in emerging market economies? *IMF Working Paper Series*, WP/04/157. International Monetary Fund
- De Cos, PH and Moral-Benito, E. 2012. What drives a successful fiscal consolidation? Working Paper. Available online: <http://www.moralbenito.com/papers/efcbma.pdf>.
- DeLong, JB and Summers, LH. 2012. Fiscal policy in a depressed economy. *Brookings Papers on Economic Activity*, Spring 2012.
- Devries, P, Guajardo J, Leigh, D and Pescatori, A. 2011. A new action-based dataset of fiscal consolidation. *IMF Working Paper Series*, paper number 11/128. International Monetary Fund

- European Commission. 2007. Lessons from successful fiscal consolidations. *Public Finances in EMU, 2007*: 171–209.
- FFC (Financial and Fiscal Commission). 2010. Submission to the Medium Term Budget Policy Statement. Midrand: FFC.
- FFC (Financial and Fiscal Commission). 2011a. 2012/13 Submission for the Division of Revenue. Online at: [www.ffc.co.za](http://www.ffc.co.za).
- FFC (Financial and Fiscal Commission). 2011b. Submission to the Medium Term Budget Policy Statement. Midrand: FFC.
- Giudice, G, Turrini, A and in't Veld, J. 2007. Non-Keynesian fiscal adjustments? A close look at expansionary fiscal consolidations in the EU. *Open Economies Review*, 18: 613–630.
- Gupta, S, Clements, B, Baldacci, E and Mulas-Granados, C. 2002. Expenditure composition, fiscal adjustment, and growth in low-income countries. *IMF Working Paper Series*, paper number WP/02/77.
- IMF (International Monetary Fund). 2010. From stimulus to consolidation - Revenue and expenditure policies in advanced and emerging economies. *IMF Policy Paper (Fiscal Affairs Department)*.
- Jooste, C and Marinkov, M. 2012. South Africa's transition to a consolidated budget. *South African Journal of Economics*, 80(2): 181–199.
- Kumar, MS, Leigh, D and Plekhanov, A. 2007. Fiscal adjustments: Determinants and macroeconomic consequences. *IMF Working Paper Series*, paper number WP/07/178.
- McDermott, J and Wescott, R. 1996. An empirical analysis of fiscal adjustment. *IMF Staff Paper Series*, 43(4).
- Perotti, R. 1999. Fiscal policy in good times and bad. *Quarterly Journal of Economics*, 114(4): 1399–1436.
- Perotti, R. 2011. The 'austerity myth': Gain without pain? *NBER Working Paper Series*, paper number 17571.
- Reinhart, CM and Rogoff, KS. 2011. From financial crash to debt crisis. *American Economic Review*, 101(5): 1676–1706.
- Schick, A. 2009. Budgeting for fiscal space. *OECD Journal on Budgeting*, 2009(2): 1–18. Organisation for Economic Cooperation and Development
- Siebrits, F and Calitz, E., 2004. Should South Africa Adopt Numerical Fiscal Rules?, *South African Journal of Economics, Economic Society of South Africa*, 72(4): 759-783.
- Von Hagen, J, Hughes Hallett, A and Strauch, R. 2001. Budgetary consolidation in the EMU. *CEPR Economic Paper Series*, paper number 148. Centre for Economic Policy Research
- Zeugner, S. 2011. Bayesian Model Averaging with BMS. Available online at: <http://bms.zeugner.eu>.