An empirical link between fiscal and monetary credibility and the impact of restoring policy credibility on growth in South Africa

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1. Introduction

"In a word, credibility matters in the theory and it is certainly believed to matter in practice- although empirical on this point is hard to come by because credibility is not easy to measure" (Blinder, 2000, p.1421).

In recent years, the topic of monetary and fiscal credibility has gained a great deal of international attention (Blinder, 2000). Credibility, in this context, generally refers to the ability of a central bank and a government to commit to what they said they would do within their respective monetary and fiscal policy frameworks. In particular, it requires monetary authorities to manage inflation expectations and government officials to be prudent in their fiscal decisions. Despite the growing interest in international literature, no clear consensus has emerged on how credibility can be built or measured due to its complexity and subjectivity.

This paper analysed the impact of restoring fiscal and monetary policy credibility on growth in the economy. In saying this, I discussed the actions government can take to restore fiscal credibility. Moreover, I proposed a time-varying index to measure National Treasury credibility so as to identify the current level of fiscal credibility. Additionally, I provided an empirical link between fiscal and monetary policy credibility in South Africa over the past 17 years. Finally, I examined the impact of building fiscal and monetary credibility on growth in South Africa by running an Ordinary Least Squares (OLS) regression.

2. Policies Aimed at Improving Fiscal Credibility in South Africa

In an environment with a great deal of uncertainty, government can build fiscal credibility by demonstrating prudent fiscal policy decisions. Hence, I have provided the following recommendations to ensure a successful transition towards an effective fiscal consolidation path in South Africa.

1. Implement measures that are aimed at strengthening the existing prudent macroeconomic policies, thereby promoting future fiscus stability and sustainability. Fiscal policy cannot act in isolation, government must implement measures that are aimed at increasing productive capital investment, while stabilising debt-to-GDP through, for example, the containment of the public sector wage bill and improvement in the overall planning and execution of public infrastructure projects (Budget Review, 2018).
2. Government must focus on steadily reducing the budget deficit by implementing a gradual approach of fiscal consolidation, so as to preserve the current level of fiscal sustainability and ensure that it is maintained at this level in the future. Aggressive fiscal consolidation is likely to surge overall confidence in the economy by means of discouraging investment in the private sector (Jooste and Marinkov, 2012).
3. Develop a more stringent framework for accountability of government resources to ensure that the right people are held responsible for their actions and decisions. Furthermore, explicitly clarify the penalties for non-compliance.
4. Implement well-designed fiscal policy rules at a national, provincial and local level. Proper design and execution of fiscal rules can only complement already existing policies (Jooste and Marinkov, 2012). Fiscal rules, for example debt rules, impose a long-lasting constraint of fiscal policy through numerical limits on budgetary aggregates, thus promoting fiscal responsibility and debt sustainability (IMF, 2017). In an economy with high levels of unemployment, poverty and income inequality, expenditure rules should be avoided by all means because spending

on social grants supports 33 percent of the nation's poor (Rossouw, 2017). Debt rules foster credibility because governments set quantitative targets and then continually strive to achieve them. Not only does this hold the government more responsible for their actions but it also addresses the problem of time-inconsistency, making decisions more difficult to reverse.

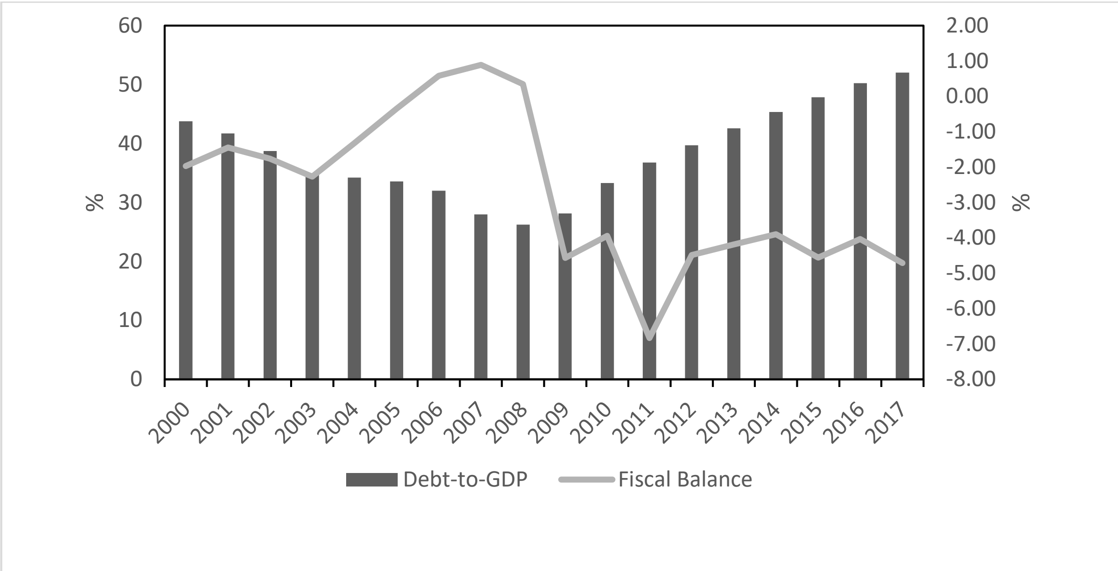
3. Fiscal Credibility in South Africa

Fiscal credibility is the private sector's perception that the government will carry out its proposed policy announcements as planned, and thus plays an important role in the determination of various economic policies (Borges, 2012). Regarding fiscal deficits, credibility is essentially what determines government's solvency and their ability to borrow (Borges, 2012). Hence, if lenders do not perceive the government as credible, in terms of being able to payback outstanding debt in the future, they will simply choose not to finance the government, to avoid any situation of "debt overhang" or default (Borges, 2012). On the other hand, if a government is seen as credible by lenders, it will most likely receive funding relatively easily, and in doing so, build the degree of public confidence in relation to avoiding the risk of a credit rating downgrade or default (Borges, 2012). The most convincing method for a long-standing government to turn investor's expectations positive, is by demonstrating prudent fiscal behaviour through stability and consolidation, so that, should the fiscal deficit start to grow, private investors consider that it nevertheless deserves appropriate funding (Borges, 2012).

According to Jooste and Marinkov (2012) fiscal consolidation refers to government policies that are aimed at reducing government deficits and debt accumulation. Figure 1 below shows South Africa's fiscal balance[1] and government debt-to-GDP ratio[2]. According to Saxegaard's (2014) recommendation, public debt-to-GDP in South Africa should be in a range of between 40-60 percent from 2014-2021. Based on this recommendation, debt-to-GDP has remained within this range since 2012, but worryingly, has risen considerably towards the upper-end of this range more recently, reaching an all-time high of 53.10 percent in 2017. Notably, prior to the Global Financial Crisis (GFC), South Africa ran a budget surplus, which was in anticipation that should a recession occur, government could use the built-up buffers to limit the impact of a recession. Hence, the budget went into a deficit post GFC for a good reason, being, to limit the recessionary impact felt in South Africa. Increasing government expenditure also meant that spending today would pay for itself tomorrow by increasing economic activity and ultimately tax revenue, swinging the budget back into positive territory. However, such did not materialise as intended, with fiscal spending rising disproportionately to growth, alongside the miss-management of state funds and government-owned revenue-generating entities, the fiscus dug deeper into deficit. Going forward, international credit rating agencies and other institutions like the IMF, have noted that government must rein in wasteful expenditure, or consolidate its budget position to ensure debt levels do not continue to rise, reasoning that the current fiscal position cannot be sustained in the long run (Kamp, 2017).

[1] Central government Fiscal Balance (% of GDP) Africa Development Bank Group.
[2] National government debt: Total gross loan debt (% of GDP) (Average of Annual Values) SARB Quarterly Bulletin.

Figure 1: South Africa Government Deficit and Debt (% of GDP)



Source: Africa Development Bank Group and SARB Quarterly Bulletin

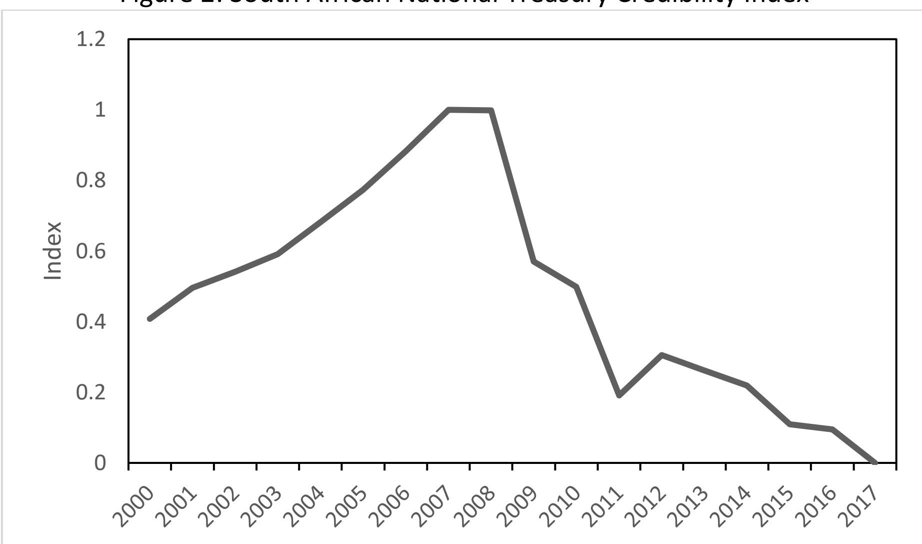
4. Measuring Fiscal Credibility in South Africa

The South African National Treasury Credibility Index (SANTCI) seeked to capture the two components of fiscal consolidation. In particular, South Africa's fiscal balance and government's commitment to public debt sustainability in terms of debt-to-GDP. Debt is expected to have a negative relationship with the SANTCI, hence I minus 1 from the index value. The SANTCI was calculated using the min-max approach as follows:

$$SANTCI_t = \frac{FB_t - FB_t^{Min}}{FB_t^{Max} - FB_t^{Min}} + (1 - \frac{Debt_t - Debt_t^{Min}}{Debt_t^{Max} - Debt_t^{Min}})$$

Where FB_t represents the government's fiscal balance, with FB_t^{Min} and FB_t^{Max} the minimum and maximum value. $Debt_t$ represents the annual public debt-to-GDP ratio. $Debt_t^{Max}$ and $Debt_t^{Min}$ Saxegaard's (2014) recommended lower and upper limit of debt-to-GDP in South Africa. Therefore, the SANTCI lies between a value of 0 (no credibility) and 1 (full credibility) and is illustrated as follows:

Figure 2: South African National Treasury Credibility Index



Source: Authors own

Figure 2 shows that prior to the 2008/09 GFC, South Africa's fiscal policy was regarded as credible. According to the Organisation for Economic Co-operation and Development (2010) South Africa has had a good historical record of fiscal prudence. Since the GFC however, public debt has increased significantly to ensure that social service spending does not decrease, despite the decline in government tax revenue brought about by the recession (Budget Review, 2018). More recently, the improved economic and fiscal outlook in 2017, has been tempered by substantial risks including rising national debt, significant revenue shortfalls and the precarious financial conditions of several state-owned entities which remain central policy concerns (Budget Review, 2018).

5. The Erosion of the Fiscal Position

Since the 2012 Budget, government has taken a stance of fiscal consolidation with policies aimed at reducing the budget deficit and debt accumulation (MTBPS, 2017). However, like other macroeconomic policies, fiscal consolidation is not without risks. In particular, the government continues to face challenges on both the revenue and expenditure side which present risks to fiscal policy.

On the revenue side, South Africa's track record in tax revenue collection unravelled in the 2017 Medium Term Budget Policy Statement (MTBPS), when the projection was revised downwards from 9.3 percent to only 4.9 percent for 2017/18, the largest under-collection since the GFC (Kamp, 2017). Moreover, the tax revenue shortfall of R50.8 billion in 2017/18 lowered South Africa's potential growth rate significantly. Despite the under-collection of potential tax revenue, government has implemented new revenue raising measures that are expected to raise R36 billion in additional tax revenue in 2018/19 (Budget Review, 2018). Notably however, there is a limit to which taxes can be increased and therefore successful fiscal consolidation requires expenditure cuts in aggregate (Kamp, 2017).

On the expenditure side, there are major liquidity and governance problems at several state-owned enterprises (SOEs). The collective profitability of SOEs fell from 0.8 percent in 2015/16 to 0.3 percent in 2016/17, resulting in R13.7 billion of government transfers (Budget Review, 2018). Nevertheless, government has started to address these issues that have caused domestic confidence to erode by strengthening its efforts to stamp out corruption and ensure good governance throughout the public sector (Budget Review, 2018). In recent months, government has appointed new boards and senior managers at several SOEs, with a mandate to stabilise and restore good governance and oversight (Budget Review, 2018). According to the IMF (2016) strengthening governance, private participation at SOEs and greater spending efficiency are key to improving SOE performance and public service delivery.

Irregular expenditure, also known as expenditure other than unauthorised expenditure which is incurred in contravention of any applicable legislation, poses an additional fiscal risk (National Treasury, 2014). Over the years, there has been persistent fruitless expenditure, due to weak or absent internal control systems, which is an indication of non-compliance (Dlomo, 2017). This corruption and fruitless expenditure in the public sector has caused taxpayer morality to erode (Budget Review, 2018). Moreover, the lack of an effective response by the government to accusations of corruption and poor governance has caused the foundation of trust between the private and the public sector to deteriorate rapidly (Budget Review, 2018). For this trust to be re-established, Dlomo (2017) recommended that the Department and Property Management Trading Entity create measures and mechanisms that prevent such unwanted behaviour, by means of developing a clear irregular expenditure register and regular monitoring by both internal and external oversight bodies (Dlomo, 2017). Of late, government has taken action to reduce wasteful expenditure. In November 2017, as a response to the deteriorating fiscal outlook, a Cabinet subcommittee identified medium-term spending cuts amounting to R85 billion (Budget Review, 2018). Furthermore, the government has proposed that irregular expenditure not be tax deductible in order to reinforce accountability and good governance within the public sector (Budget Review, 2018).

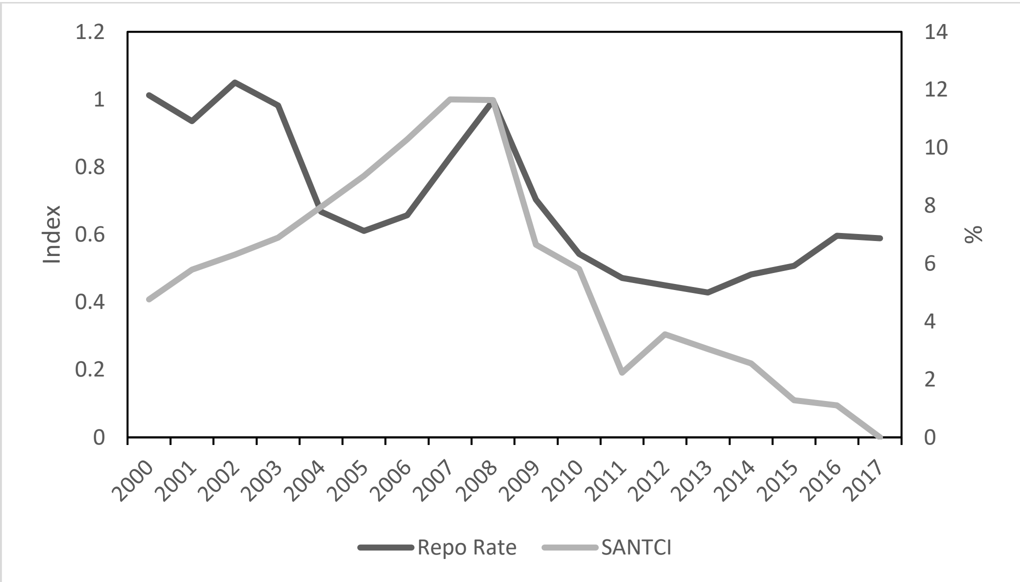
6. National Treasury Credibility and Monetary Policy

There is an important link between fiscal and monetary policy which justifies fiscal stability and sustainability from the perspective of inflation targeting (Montes, Jordânia and Nicolay, 2016). Empirical literature shows that fiscal sustainability, specifically in terms of government debt, has an indirect impact on price stability, and represents an essential condition to aid monetary policy in keeping inflation low and stable (Sargent and Wallace, 1981; Mishkin, 2008). When fiscal policy is perceived to be unwarrantable, government lose its credibility and monetary policy lose control over inflation (Shirakawa, 2012; Woodford, 2001). Hence, the publics' belief in the success of fiscal policy, and thus its credibility, is critical in keeping inflation outlook stable. This means that fiscal credibility creates an essential foundation to building monetary policy credibility (Shirakawa, 2012).

In keeping inflation within the 3-6 percent target band, the South African Reserve Bank's (SARB) main policy tool, the repo rate, is adjusted accordingly. In South Africa, a significant share of public debt is indexed to this interest rate and therefore when the SARB tightens monetary policy by increasing the repo rate, the cost of public debt rises. Essentially, the repo rate is what connects monetary and fiscal policy via its impact on the cost of public debt.

Figure 3 below shows the SANTCI and the SARB's policy rate[3]. Between 2005 -2008, the rise in the repo rate corresponded with an increase in fiscal policy credibility. Post 2008/09 GFC, fiscal credibility fell considerably and has continued to fall since. On the other hand, the repo rate declined gradually and exceeded the SANTCI in 2009. This relationship post GFC suggests that, as a result of the decline in fiscal credibility, monetary authorities have adopted a mostly hawkish policy stance.

Figure 3: SANTCI and the Repo Rate



Source: Authors own and SARB Quarterly Bulletin

Given the rapid decline in National Treasury credibility over the last 17 years, what has been the reaction of SARB credibility? This empirical link is discussed below in more detail.

[3] Money-market and related interest rates: Accommodation rates - Repurchase (Repo) rate % (Date) (Average of Annual Values) SARB Quarterly Bulletin

7. An Empirical Link between Fiscal and Monetary Credibility in South Africa

In recent years, in pursuit of price stability whilst in turn creating policy credibility, many developing countries central banks like the SARB, have adopted an inflation-targeting framework. Inflation targeting is a monetary regime in which a central bank announces an explicit inflation target and uses monetary policy tools to achieve this target. In saying that, monetary policy credibility implies that a central bank is conducting policy as its guidance, so that agent's inflation expectations are anchored to the official inflation target. Deviations above or below the inflation target signal that the public do not believe that the central bank is entirely credible, however, this does not automatically imply that the central bank is unsuccessful. During times of uncertainty, agent's expectations may be sticky because of their own beliefs even if a central bank is credible by historic measures.

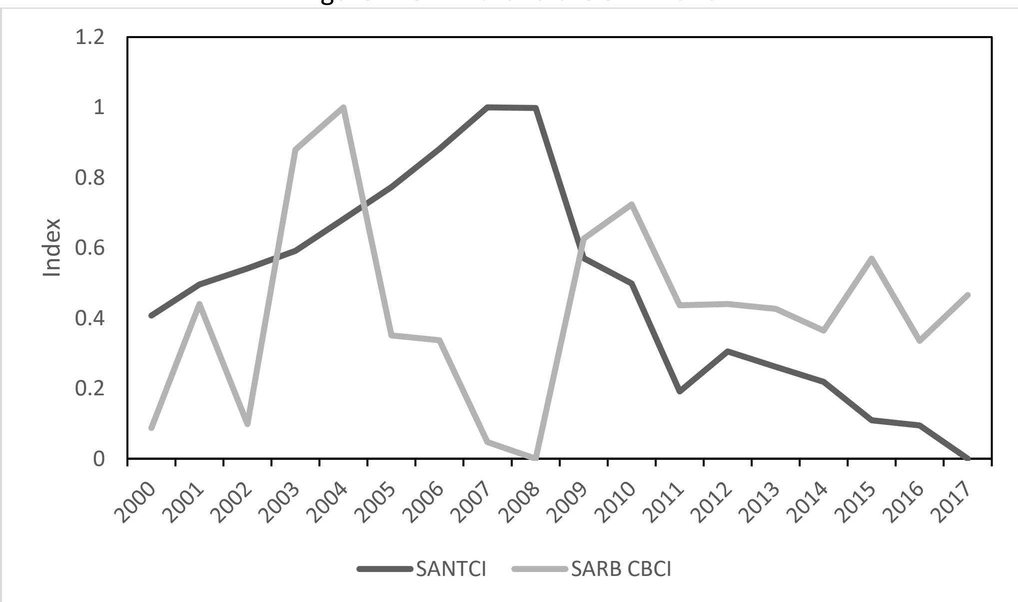
To examine the impact of fiscal credibility on monetary policy, I have developed a SARB Central Bank Credibility Index (SARB CBCI) which is expressed as follows:

$$SARB\ CBCI_t = \frac{\bar{\pi}_t - \bar{\pi}_t^{Min}}{\bar{\pi}_t^{Max} - \bar{\pi}_t^{Min}}$$

Where $\bar{\pi}_t$ represents the difference between inflation expectations[4] and the realised inflation[5], with $\bar{\pi}_t^{Max}$ and $\bar{\pi}_t^{Min}$ the maximum and minimum values.

Graphically, the relationship between fiscal and monetary policy credibility in South Africa from 2000-2017 is illustrated in Figure 4. The rise in the repo rate over the period 2005- 2008, corresponded with a rapid fall in monetary policy credibility. Post 2008 however, the SARB CBCI experienced prompt growth, and from 2009 exceeded the SANTCI. This suggests that the role of credibility within the current South African economy is largely dominated by monetary policy at the expense of fiscal policy.

Figure 4: SANTCI and the SARB CBCI



Source: Authors own

Post GFC, the success of the SARB monetary policy, and thus its credibility, played a critical role in confining the recessionary impact and preserving macroeconomic stability. In saying this, why is

[4] CPI (Headline) Inflation Expectations: Total: Current year Percentage (Average of Annual Values, Year on Year % Change) SA Reserve Bank / BER

[5] Consumer Price Index Headline Inflation: Current year Percent (All items) African Development Bank Group.

restoring fiscal policy credibility viewed as such an essential aspect to improve the future economic outlook in South Africa? In the section below, I have provided an empirical test of the relative contribution of monetary and fiscal credibility on GDP growth in South Africa.

8. Restoring Fiscal and Monetary Credibility on Growth in South Africa
In order to determine the impact of improved fiscal and monetary policy credibility on GDP growth in South Africa, I ran the following OLS regression on Eview:

$$GDP\_INDEX_t = \alpha_0 + \alpha_1 SANTCI_t + \alpha_2 SARB\_CBCI_t + \varepsilon_t$$

Where GDP_INDEX_t represents an index value of real GDP growth per annum[6]. $SANTCI_t$ and $SARB\_CBCI_t$ the fiscal and monetary credibility indices. α_0 and ε_t the intercept coefficient and stochastic error term, respectively.

Table 1 below provided some fascinating results. As expected, the signs of the estimated coefficients for the two explanatory variables are positive, confirming the relationship between fiscal and monetary credibility on GDP growth. Interestingly however, only the SANTCI appeared statistically significant at 1 percent level. In contrast, the SARB CBCI did not appear to be marginally significant. These results emphasise the importance of building fiscal credibility in South Africa. Moreover, the impact of monetary policy credibility on GDP growth in South Africa is minor, in comparison to that of fiscal policy credibility. Therefore, for South Africa to increase GDP growth in the long-term, there needs to be a shift in policymaker's attention towards restoring and maintaining National Treasury credibility.

Table 1: The Impact of SANTCI and SARB CBCI on GDP

Variable	**SANTCI**	**SARB_CBCI**
Coefficient	0.645621	0.013584
Std. Error	0.161687	0.178681
t-Statistic	3.993038	0.076026
Prob.	0.0012***	0.9404

*, **, *** Indicates significance at 10, 5 and 1 percent level

9. Conclusion
In conclusion, the optimal approach to fiscal consolidation in South Africa is that of a gradual response as it ensures both stability of output and debt in the economy. A gradual approach of reducing the budget deficit is most effective in eliminating the income inequality gap whilst promoting future economic growth and development. In addition, the successful transition to a consolidated budget requires the proper implementation of well-designed fiscal rules, for example debt rules, which aim to improve fiscal prudence in South Africa, however, given the current economic conditions, these rules should avoid a sharp contraction in government expenditure and rather focus on encouraging productive capital investment whilst stabilising debt-to-GDP. Ultimately, debt rules aim to enrich existing fiscal policies while safeguarding future fiscal stability and sustainability.

In this paper, I presented an empirical link between fiscal and monetary policy credibility in South Africa over the past 17 years. The findings emphasised the success of the SARB monetary policy in confining the recessionary impact and preserving macroeconomic stability post 2008/09 GFC. In addition to this, I provided an empirical analysis of the relative contributions of SARB and National Treasury credibility on GDP growth in South Africa by running an OLS model. The findings indicated that both fiscal and monetary credibility contribute to improved economic growth in South Africa,

[6] Real GDP growth (annual %) African Development Bank Group

however, the results found the overall impact to be more effective in terms of building fiscal credibility. Thus, it is critical for policymakers to shift their attention towards restoring and maintaining fiscal policy credibility through stability and consolidation.

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