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South Africa's Fiscal Framework: Challenges and Options for Reform

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ABSTRACT: South Africa's public debt has tripled since the global financial crisis and is not expected to stabilize over the medium term under staff's baseline. Cross-country evidence suggests that fiscal rules anchored in debt ceilings can be helpful in supporting fiscal adjustments aimed at reducing public debt and bolstering policy credibility. Design features such as institutional coverage, statutory base, correction mechanisms, and flexibility provisions can make the rules more credible and durable, and formal enforcement mechanism and independent institutions can strengthen their compliance. Strengthening South Africa's fiscal framework by introducing a debt anchor and a credible operational fiscal rule in line with international best practice could help support the authorities' fiscal objectives and safeguard debt sustainability.

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SELECTED ISSUES PAPERS

South Africa's Fiscal Framework: Challenges and Options for Reform

South Africa

Prepared by Asma Khalid and Anh Dinh Minh Nguyen¹

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A. Introduction

1. South Africa's debt dynamics have weakened significantly over the last decade. The existing fiscal framework, comprised of a non-interest expenditure ceiling, and aiming to support the government's stated budget objectives, has not been able to rein in the rise in public debt, primarily due to consistent revenue underperformance (also given subdued growth and volatile commodity prices), unbudgeted transfers to SOEs, and rising debt servicing cost. The pandemic added to pressures on the public finances. Consequently, public debt increased from 23.6 percent of GDP in 2008 to 74.1 percent of GDP at end-2023, one of the largest increases among EM peers during this period. Under staff's baseline projections, debt is projected to rise further over the medium term and reach close to 86 percent of GDP by 2030, with a quarter of fiscal revenues being spent on debt servicing. This would further limit fiscal space needed to mitigate future adverse shocks and close financing gaps in infrastructure and critical service delivery.

2. Strong fiscal rules anchored in debt ceilings can serve as an effective tool for safeguarding debt sustainability and bolstering policy credibility. The authorities are exploring options for integrating debt sustainability objectives in fiscal planning and budgeting processes. Such a framework can have significant commitment and signaling effects that can help strengthen policy credibility and, eventually, lower financing costs. An extensive empirical literature associates the presence of strong fiscal rules with a greater probability of meeting consolidation plans and stabilizing debt levels. However, the effectiveness of fiscal rules hinges on their design and careful calibration. This paper draws lessons from technical and empirical work on fiscal rules and country experiences that can help inform considerations for enhancing South Africa's fiscal framework.

3. The paper is organized as follows. Section B discusses the evolution of public debt in the last 15 years and its drivers. Section C assesses the existing fiscal framework. Section D summarizes the empirical literature on fiscal rules. Section E identifies key design features and institutional frameworks used by countries around the world to strengthen the link between fiscal rules and objectives. Section F lays out possible options for calibrating a debt anchor for South Africa and designing supporting operational rules. The last section concludes.

B. Evolution of Public Debt

4. South Africa's fiscal position and debt dynamics deteriorated significantly in the aftermath of the Global Financial Crisis (GFC). Increases in public wages and social benefits to counter the impact of the crisis, together with a moderation in revenues given the end of the commodity super cycle, brought about a shift in public finances, with the primary balance turning into a deficit in 2009/10 for the first time since the country's political transformation in 1994.²While much of the increase in the deficit persisted, the authorities delayed consolidation efforts due to the slow recovery from the GFC, resulting in a continuous increase in public debt. To reign in these unfavorable trends, the authorities introduced expenditure ceilings in 2012, increased some tax rates, and started tightening capital investments. While these efforts led to a gradual correction in the primary balance, they were insufficient to slow down the debt accumulation due to growing interest payments (Figure 1). Consequently, the public debt-to-GDP ratio doubled between 2008 and 2019 to

² IMF 2018. Selected Issue Paper. What led to the doubling of public debt in the last decade? Was debt good for growth?

reach 57 percent of GDP, above the EM average, leading to downgrades by most credit rating agencies (S&P and Fitch) below investment grade.³



5. The Covid-19 crisis put an additional strain on the public finances. Given high deficits and debt pre-pandemic, the authorities accommodated part of the pandemic-related relief through expenditure reprioritization. Social grants and benefits related to the Unemployment Insurance Fund were partially offset by cuts in the acquisition of goods and services and delays in investment projects (IMF 2023). The growth in non-interest expenditures (main budget) was therefore relatively contained (4.7 percent in 2020, compared to an average of 8.7 percent in the preceding three years). Nonetheless, deficits and debt deteriorated sharply due to lower revenues and nominal GDP. The deficit improved post pandemic, but remained elevated, averaging 5.6 percent of GDP, given the high global interest rate environment, multiple extensions of the pandemic Social Relief Distress (SRD) Grant, a sizeable public wage increase agreed in 2023, and materialization of contingent liabilities including from SOEs (averaging 0.7 percent of GDP annually over the last 10 years) – the latter has persistently been a major factor causing fiscal slippages over the past few years (Figure 2). The revenue boost provided by the commodity price boom in 2022 was short lived.

³ S&P, Fitch, and Moody's downgraded South Africa's sovereign credit rating to sub-investment grade in 2015, 2016, and 2020 respectively.



6. Under staff's baseline, debt is expected to continue to rise, given unfavorable automatic debt

dynamics. While the primary balance is expected to attain a modest surplus in the medium turn, as support to SOEs declines (but is not eliminated), this will likely be insufficient to stabilize debt in the absence of additional concrete reforms to rein in public spending. The contribution from interest-growth differential to the change in debt has been strongly positive since 2010 and is expected to remain so over the medium term (Figure 3). Finally, stock-flow adjustments due to revaluations of inflation-linked bonds, foreign debt, and debt issuances at a discount (1.5 percent of GDP per year in the last years) are expected to persist.⁴ In this context, debt is expected to remain on a non-stabilizing path over the medium term.⁵

⁴ Inflation linked bonds constitute over 22 percent of total domestic debt portfolio, and their share is expected to increase by 1 percentage point by 2026/27 (in line with the 2024 Budget). CPI inflation is expected to remain stable at 4.5 percent through the medium term, which is the rate at which the R1 trillion of the principal debt stock is expected to grow (minus redemptions). The second big component within SFA is revaluation of foreign currency loans. These two components alone had contributed 1 percent of GDP to increase in debt in 2023/24 (Budget Review 2024). Finally, the 'discount from loan transactions' was the largest item within SFA in 2023/24 and alone added R59.6 billion (0.85 percent of GDP) to debt. This component reflects the fact that domestic debt is being issued at a discount to their value at maturity reflecting excess supply and/or higher perceived risk. The size of the discount depends on the size of debt issuance in a year and the prevailing bond prices.

⁵ IMF Staff Report on Post Financing Assessment, September 2024, and Staff Report on Article IV, June 2023.

7. The high debt level has increased South Africa's macroeconomic vulnerability to shocks. Although the composition of debt remains favorable compared to EMs given long maturities and low foreign currency exposure, the high debt level and interest payments make the fiscal position increasingly sensitive to sudden changes in global financial conditions. Presently, around 21 percent of government revenues are spent on interest payments, which is very close to perceived safe limits (Figure 4).6 Since the GFC, interest spending has outpaced all other spending items, whereas consistently large borrowing requirements have pushed up sovereign yields and crowded out private investments. Rising interest cost has also constrained the government's ability to respond to shocks. In a more shock prone world, restoring debt sustainability and building policy buffers would be critical to bolster resilience and



the capacity of the authorities to mitigate the adverse impact of shocks on the economy.

C. Assessing the Existing Fiscal Framework

8. Since 2012, the authorities have been relying on an expenditure ceiling to anchor fiscal policy. The main budget primary expenditure ceiling provides an upper limit within which departments prepare and manage their budgets. The ceiling is adjusted by inflation every year in the medium-term expenditure framework (MTEF) period to maintain a target of non-interest expenditure. The ceiling is simple and transparent, helping provide certainty for budget execution. Nominal allocations for the current budget year are enshrined in law once the budget-related bills are approved by the Parliament. The Budget also includes two-years ahead ceilings; these are indicative and not binding.

⁶ For instance, Debrun and Kinda (2013) estimated a threshold level of 26 percent beyond which the sensitivity of primary balance (and the need for additional fiscal consolidation) to the size of interest bill changes significantly. Similarly, Comelli and others (2023) suggests that estimated threshold for interest-to-revenue ratios between 16 to 19 percent robustly predicts a higher risk of upcoming fiscal stress.



9. Compliance with expenditure ceilings helped broadly stabilize the spending-to-GDP ratio since 2009, except for the post-pandemic period (Figure 5). Non-interest expenditures have mostly remained within prescribed ceilings during 2009-2018. According to the current framework, if unbudgeted spending pressures arise during the year or revenues underperform, NT advises departments to reappropriate expenditures *within* the ceiling budget – indeed this implied a more pronounced containment of discretionary capital spending to accommodate unavoidable pressures related to wages, social transfers, or SOE bailouts. However, if the entire adjustment could not be absorbed within the ceilings, then in-year *level* adjustments are done at the time of MTBPS through the Adjustments Appropriation Bill.⁷ However, since 2020, large revisions in ceiling levels have been observed to account for the Covid-19 impact and commodity-driven changes in projected revenues. Moreover, since 2023, SOE support (averaging 1 percent of GDP per year) has been excluded from the ceilings and is treated below the line.

⁷ For instance, compensation ceilings for labor intensive sectors were increased in 2023/24 to reflect the impact of wage agreement that was finalized after the budget process.



10. Despite solid compliance, the existing fiscal framework has not been successful in stabilizing public debt. Several factors explain this phenomenon, including rising interest costs, stock-flow adjustments, and support to SOEs, as noted above. However, there are also calibration and design issues with expenditure ceilings that weaken their effectiveness in managing fiscal slippages:

- Missing anchor: Although each MTBPS and Budget Review has debt sustainability as the key fiscal objective, the calibration of expenditure ceilings has been such that overall budget balances remain in deficit and debt is projected to rise throughout the medium-term expenditure framework (MTEF) period (except 2016, 2017, and 2024 when the debt was projected to fall in the final year of MTEF) (Figure 6). Furthermore, there has been no feedback loop between previous debt outcomes and ceiling calibrations for the next MTEF (Soobiyah and others, 2022). Indeed, actual increases in debt were even larger than budget projections in the MTEF period, reflecting lower revenues and weaker-than-expected growth.
- Optimistic growth projections: The authorities' MTEF and expenditure ceilings have been calibrated
 around optimistic growth and revenue projections. When revenue outturns fall short, in-year rigidities in
 nominal expenditures do not allow ceiling adjustments proportional to the revenue shortfall. As a result,
 deficits and debt overshoot even if nominal expenditure ceilings are complied with. Within the budget
 framework, forecast errors are seen to be more pronounced in revenues than expenditures (Figure 7).



Figure 7. Deviation of Fiscal Indicators from MTEF and Budget Projections

Revenues explain most of the forecast errors in budget deficit...

... This also reflects difficulties in making in-year adjustments in expenditure.

2022-23

2021-22

2020-21



Deviation of actual outcome from projections at t-3 and Annual Budget: For revenues, the negative value shows a shortfall. For expenditures, a negative value shows overspending compared to projections/budget and positive value shows underspending. To reflect forecast error, actual revenue and expenditures are as per authorities' definition.

Source: South African Authorities' data, and IMF staff calculations.

Discretionary adjustments: Since the ceilings are not anchored to a specific debt or deficit target, adjustments are discretionary. Expenditure ceilings are determined 3 years in advance and are reviewed every 6 months with each Budget and MTBPS. Any upside or downside forecast revision in GDP and revenues, or unanticipated spending need necessitates adjustments in ceilings. However, there is no clear pattern regarding the size of adjustments, with both nominal and real ceilings being subject to change (Figure 8). A tendency for asymmetric responses to upside and downside surprises is also observed: when revenue projections were revised up by R83.5 billion in 2022 MTBPS compared to the budget, expenditure ceilings were revised up by R37 billion. However, when revenue projections were revised down by R44.4 billion in 2023 MTBPS compared to the budget, expenditure ceilings to a deficit overshoot.



- Misaligned wage negotiation cycle: Public-service wage agreements are finalized after the completion of the budget cycle and are therefore a major risk to fiscal performance. At the time of the budget (February), preliminary compensation ceilings for each department are determined. However, actual wage allocations come at the time of MTBPS (October) to reflect wage agreements (usually finalized in May-June). If the deviation from budget allocations and adjusted allocations is not too large, departments are typically asked to adjust additional allocations within the expenditure ceilings. Otherwise, additional allocations are made mid-year through the Adjustments Appropriation Bill. During the last 3 years, wage bill outcomes have turned out to be higher than the respective annual budgets.⁸
- **Exclusions:** Some large spending items are excluded from expenditure ceilings, such as payments directly financed by dedicated revenue flows and payments "not subject to policy". An important recent

⁸ In 2023, an in-year adjustment of 0.3 percent of GDP had to be made because the wage increase settled in the agreement was much higher than budgeted. The Treasury had to provide additional funds to support wage increases in labor intensive sectors, but other departments were asked to absorb wage increases within existing budgets (for instance through limiting the recruitment of non-critical posts).

exclusion has been the debt-relief support to Eskom, averaging 1.1 percent of GDP per year between 2023/24 and 2025/26.

D. Have Fiscal Rules Delivered Elsewhere?

11. While fiscal rules have generally been found to be associated with better fiscal outcomes, other factors may complicate the assessment. The literature indicates a positive relationship between the adoption of fiscal rules and deficit and debt outcomes, e.g., Poterba (1996), Debrun and others (2008), Tapsoba (2012), Bergman and others (2016), Asatryan (2018), Heinemann and others (2018). Indeed, the presence of strong national fiscal rules that extend to sub-national governments has been found to be associated with a greater probability of meeting adjustment targets and stabilizing debt ratios (Mauro and Villafuerte, 2013), and countries with strong fiscal rules were found to be more likely to stick to their consolidation plans (Heylen, Hoebeeck, and Buyse, 2012). However, selection bias and other sources of endogeneity may lead to overestimating the benefits of fiscal rules (e.g. Caselli and Reynaud, 2020, and Heinemann, Moessinger, and Yeter, 2018). This is because countries might adopt fiscal rules in periods of stress or crisis, or after consolidation episodes, to lock-in gains. Moreover, society's preference for fiscal discipline could be responsible for both positive fiscal outcomes and a country's decision to adopt fiscal rules.

12. The literature indicates that the design of fiscal rules is key to reducing fiscal deficits,

particularly in AEs. Several features improve the effectiveness of the rules, including institutional coverage, monitoring and enforcement bodies, statutory base, flexibility, correction mechanisms, and sanctions. Studies focused on US states show that more binding rules have a stronger disciplinary effect (von Hagen 1991; Bohn and Inman 1996; Clemens and Miran 2012; Lutz and Follette 2012). Evidence for European countries also suggests that stronger rules are associated with lower deficits, even after correcting for selection bias (Debrun and others 2008; Afonso and Hauptmeier 2009; Bergman, Hutchison, and Hougaard Jensen; 2016). In addition, Badinger and Reuter (2017) show that countries with more stringent fiscal rules have lower deficits and output volatility. Caselli and Reynaud (2020) confirm these results and find a positive impact on the fiscal balance (0.6 ppt of GDP) from moving from a relatively weakly designed fiscal rule to a better designed rule. Davoodi and others (2023) show that stronger fiscal rules are associated with stronger primary balances,⁹ and countries with stronger budget balance rules (BBRs) have smaller and less frequent breaches of the rules. Using a panel of 40 AEs, Chrysanthakopoulos and Tagkalakis (2023) find that well designed fiscal rules increase both the probability to initiate and to successfully conclude a fiscal adjustment.

13. The impact of fiscal rules on fiscal consolidation efforts in EMs has been found to be conditional on institutional quality. Looking at EMs in Latin America and the Caribbean, Ardanaz and others (2023) concluded that countries that comply with fiscal rules show, on average, lower probability of public debt accelerations compared to countries that are not able to comply with the rules. Using a panel predominantly comprised of developing countries, Manasse (2006) shows that fiscal rules and fiscal responsibility laws tend to reduce the deficit bias; however, fiscal frameworks do not exert independent effects when the quality of institutions (proxied by measures of social, institutional, economic, and financial vulnerability reported by International Country Risk Guide (ICRG) is accounted for. Gootjes and de Haan

⁹ The fiscal rule strength index is developed based on the approach used by European Commission's Fiscal Rule Index (2015), by mapping the variables used in IMF Fiscal Rule dataset: 1985-2021 and IMF Fiscal Council dataset, and using four institutional criteria: i) statutory or legal basis of the fiscal rule; ii) nature of the entity in charge of monitoring the fiscal rule; (iii) enforcement and correction mechanism; and (iv) flexibility and resilience of the fiscal rules against shocks.

(2022), using a panel data of 73 countries over the 2003-2013 period, find that that fiscal rules make the success of fiscal adjustments more likely only when fiscal transparency is sufficiently high.

14. The adoption of fiscal rules has been associated with lower sovereign spreads in both AEs and EMs. Several studies focused on AEs indicate that the adoption of rules lower both sovereign spreads and the response of spreads to fiscal outcomes (e.g., Bayoumi, Goldstein, and Woglom (1995), Poterba and Rueben (1999), Johnson and Kriz (2005), and lara and Wolff (2010)). Eyraud (2018) also finds that the sovereign spreads of non-complying EU countries with the EU fiscal frameworks are on average higher by 50–150 basis points compared to countries that comply. Using a 90-country sample of AEs and EMDCs, Davoodi and others (2022b) shows that, after exceeding a budget balance rule, a country is expected to have higher CDS spreads than countries that adhere to the rule. Gomez-Gonzales et. Al. (2022) find that introducing a fiscal rule lowers sovereign default risk and the probability of a sudden stop; similarly, Sawadogo (2020) finds that the adoption of fiscal rules reduces sovereign bond spreads and increases sovereign debt ratings for a sample of 36 EMDCs. Thornton and Vasilakis (2017) estimate that the adoption of fiscal rules reduces sovereign risk premia by 1.1–1.2 percent for debt rules and by 1.5–1.8 percent for budget balance rules in a sample of AEs and EMDCs. Afonso and Jalles (2019) find a similar impact of rules on sovereign spreads (1.2-1.8 percentage points). Finally, the WB (2024) documents that countries with fiscal rules in place faced 350 bps lower sovereign spreads relative to countries without rules.¹⁰

E. What Makes Rules More Effective and Successful?

15. Limited compliance and lack of political support, together with too much rigidity, can undermine the effectiveness of fiscal rules. Deviations of fiscal outturns from targets have been common across all regions and income groups (Reuter, 2015, Davoodi et al., 2022; Blanco et al., 2020, Larch and Santacroce, 2020, and Larch and others, 2023, Ulloa-Su'arez and Valencia, 2022). Moreover, the European sovereign crisis reminds us that even when rules are in place, lack of political support can undermine their effectiveness in safeguarding fiscal sustainability. Separately, even when complied with, rules can be overly rigid, preventing fiscal policy from providing counter-cyclical support when economies are hit by large exogenous shocks, with the negative effect on output exacerbated when monetary policy is constrained (e.g. by the lower bound), which can erode support for the rules.

16. A stronger legal basis and broad social and political support can help make fiscal rules more durable and credible. Currently more than 60 countries have fiscal rules featured at or above statutory levels such as in a fiscal responsibility or budget framework laws (Armenia, Jamaica, Paraguay) or in constitutions (Brazil, Denmark). However, the mixed compliance record implies that a strong legal basis is a necessary but not a sufficient condition for the successful implementation of rules. In addition, ensuring social and political buy in for fiscal rules and objectives is key. Jamaica's successful debt reduction (from 144 percent in 2012 to 73 percent in 2023) supported by its Fiscal Responsibility Framework highlights the importance of social consensus and reduced political polarization to achieve fiscal objectives (NBER 2024). Similarly, Sweden's respect for rules has been associated with broad public and political consensus to limit deficits (Eyraud and others, 2018).

¹⁰ The results further suggest that during periods of global crisis, credit markets interpret the mere existence of fiscal rules as a signal of the sovereign government's fiscal responsibility. Even if a rule is temporarily abandoned during a global crisis, the sovereign is expected to restore fiscal discipline in the aftermath of the crisis.

17. Flexibility provisions in fiscal rules are key to avoiding unduly large adjustments that can undermine support. Introducing escape clauses in the fiscal framework has allowed countries to deviate or suspend the rules temporarily under exceptional circumstances without undermining the credibility of the framework (e.g. EU 2011, Colombia 2011, Jamaica 2014, Grenada 2015 However, escape clauses should be designed carefully and clearly to avoid misuse and strengthen credibility of the framework (Dudine and others, 2019). Specifically:

- The trigger that activates the escape clause should be clearly specified, such as "state of emergency", "natural calamity", "extraordinary events threatening macro-stability" (e.g., Mexico, Germany, Switzerland), or using a quantitative benchmark such as the size of GDP contraction (Poland, Ecuador, Brazil, Panama), or both (Jamaica, India, and Costa Rica).
- The authority and conditions to trigger the escape clause also needs to be clear. In Switzerland, only a supermajority in Parliament can invoke the escape clause. In Poland, the escape clause cannot be invoked when debt exceeds 48 percent of GDP, or the deficit exceeds 3 percent of GDP.
- Countries with frameworks comprised of several elements (i.e. two or more rules and/or correction mechanisms) should clarify which element of the framework would be suspended when the escape clause is in effect.
- Limiting the size of the allowed deviation from the rule is important. For example, Colombia allows deviation up to 20 percent of the output gap, Ecuador allows 1 percent of GDP increase in primary expenditures, Peru allows the fiscal deficit to go up to 2.5 percent of GDP (against 1 percent rule), and Panama allows the budget deficit to go of up to 3 percent of GDP (against 1.5 percent rule). These allowances can be adjusted depending on the nature of shocks.
- 18. Formal enforcement mechanisms can help ensure ex-post compliance and strengthen government accountability. Among the 104 countries with fiscal rules, 72 have put in place formal enforcement mechanisms (Davoodi and others, 2022). European countries use the Excessive Deficit Procedure to specify actions to return to the fiscal rules.¹¹ The Swiss and German structural budget balance rules contain "debt brakes" (Budina and Kinda, 2013), whereby deviations from the structural budget balance rule are stored in a notional account, which, when exceeding a set threshold, triggers automatic improvements in the structural balance within a defined time frame. Poland has specified preemptive

¹¹ If a member state breaches the maximum limit for government deficit (3 percent of GDP) and debt (60 percent of GDP) under the Stability and Growth Pact, the surveillance of its fiscal policies and request for corrective action intensifies through the declaration of an Excessive Deficit Procedure (EDP). However, the declaration of an EDP is not automatic given various escape clauses in assessing the breach of the SGP criteria. Countries in EDP are given a deadline of six months (or three for a serious breach) to comply with recommendations that provide them with a concrete path for correcting their excessive deficit within a set timeframe. In case the members fail to take effective action, the EDP is stepped up resulting in the imposition or strengthening of sanctions in the form of a fine of 0.2 percent of GDP (countries in receipt of assistance from the European Structural and investment Funds (ESIF) may face a temporary suspension of this financing). The EDP is abrogated when the excessive deficit is corrected in a durable manner. The Two Pack regulation, which entered into force on May 30, 2013, includes specific provisions on closer monitoring of member countries in EDP (to allow early detection of Member States at risk for not correcting its excessive deficit by the deadline set by the Council), by increasing the scope and frequency of information to be submitted to the Commission and to the Council for their review.

triggers as debt approaches its fiscal rule limits.¹² Similarly, Peru, Panama, and Jamaica have correction mechanisms that guide the return of the fiscal rules after deviations.

19. Independent institutions (fiscal councils) can further support compliance with fiscal rules. The empirical evidence highlights the important role these institutions play in achieving better fiscal outcomes (Debrun and Kinda, 2017), accuracy of budget forecasts (Beetsma and others 2019), better compliance with rules (Beetsma and others, 2019 and Capraru 2022), and reducing procyclicality (Chrysanthakopoulos and Tagkalakis, 2022). Fiscal councils can also help improve estimates of structural balances (e.g. Chile) or assessment of compliance with over-the-cycle rules. Over 80 percent of fiscal councils in advanced economies had de-jure operational independence in 2021, such as appointing their own staff, having their own communication channels, and benefitting from long-term appointments to limit political interference. Independence is often enshrined in legal provisions prohibiting political interference, especially among recently established fiscal councils. The key roles of fiscal councils are:

- Watchdog. The primary role of most fiscal councils is to evaluate public finances. They examine annual and medium-term government budget proposals and assess the long-term sustainability and associated fiscal risks. Additionally, they conduct ex-post evaluations of fiscal performance relative to government targets or objectives.
- Forecasts. Many fiscal councils are responsible for preparing or assessing macroeconomic and budget forecasts. For example, fiscal councils prepare forecasts in Brazil, Chile, Vietnam, Kenya, Colombia and Hungary, although except for Vietnam, these forecasts are not binding. In most countries, fiscal councils only assess the forecast done by budget institutions (e.g., Mexico, Peru and Uganda).
- Compliance. Most fiscal councils are tasked to independently monitor the implementation of fiscal rules (Davoodi and others 2022). This is primarily the case in European countries and Latin America (including Costa Rica, Chile, Colombia, Brazil, Panama, Peru, and Uruguay).
- Costing. Nearly half of fiscal councils are involved in costing of policy measures, ranging from simple reviews of tax and expenditure estimates in the budget to an extensive costing of specific policy initiatives by the government or parliamentarians. The latter is more common if the councils are associated with the legislative branch (e.g., Parliamentary Budget Office in Greece, Georgia, Canada and Australia, Congressional Budget Office in the US, and the Office for Budget Responsibility in the UK).

F. Designing a Fiscal Rule for South Africa—Initial Considerations

20. Designing a fiscal rule involves a two-step process. The first step is the calibration of a long-term fiscal objective (anchor). Anchoring fiscal policy to a stock variable, such as public debt, is necessary because fiscal sustainability is determined by the government balance sheet and its capacity to meet financing needs and service debt. However, because the debt stock is not under the full control of the government, the debt anchor should be primarily used to guide fiscal policy over the medium term. The second step is to select the operational rule to achieve the long-term debt anchor. Operational rules can be based on fiscal indicators that

¹² Specifically, the rule limits the growth of nominal expenditure to the product of an estimate of real potential output and the inflation target. However, when debt exceeds 43 percent of GDP, 1.5 percentage points are to be deducted from the estimate of potential output; when debt exceeds 48 percent of GDP or deficit exceeds 3 percent of GDP, 2 percentage points are to be deducted from the estimate of potential output.

have a close and predictable link to debt dynamics (e.g. expenditure or deficit rules). In addition, as noted above, clear escape clauses, adjustment mechanisms, and supporting fiscal institutions (councils) are key to supporting the fiscal rule.

Debt Anchor

21. In line with methodologies proposed by Debrun and others (2019), Baum and others (2017), and Eyraud and others (2018), calibrating the debt anchor involves two steps. First, a maximum debt limit would need to be estimated based on macroeconomic dynamics. Second, a safety buffer around the maximum debt limit would be determined, taking into account past macroeconomic and fiscal volatility. The long-term debt anchor would then be derived as the difference between the maximum debt limit and the safety buffer. An intermediate medium-term debt objective could be defined as a step toward the long-term anchor.

22. Conceptually, a country's maximum debt limit represents the level beyond which fiscal sustainability would be jeopardized. The literature shows that debt limits are fundamentally linked to countries' debt carrying capacity, which is determined by the strength of their institutions, access to financing, fiscal multipliers, the size, and depth of domestic financial market, etc. Indeed, debt limits vary across countries, reflecting their unique country characteristics, but are clustered predominantly around 60 and 70 percent of GDP for both national and supernational rules (IMF 2018).

23. Various approaches can be used to calculate the maximum debt limit for South Africa:

- Debt limits with exogenous interest rates: Comelli and others (2023) use a probit model to estimate the maximum threshold of the interest-to-revenue ratio beyond which a high probability of fiscal stress would ensue. For South Africa, this approach would imply a maximum debt limit of around 73 percent of GDP.¹³ Another method estimates a maximum debt limit associated with highest primary surplus a country can achieve in times of stress. IMF (2023), IMF (2029), IMF (2017) used this methodology to compute debt limits for Brazil (90 percent), Colombia (50 percent) and Paraguay (50–70 percent). For South Africa, using a primary surplus of 2.5 percent of GDP the average achieved over 2000–07) suggests a range of debt limits of 60–100 percent of GDP, depending on whether the estimate of the interest-growth differential (r-g) under stress is calibrated in line with South Africa's own experience or with the upper bound of EMs' average. These methods, however, treat interest rates as exogenous to changing debt levels, which may run the risk of overestimating debt limits. Empirical evidence, however, suggests higher debt could place upward pressure on interest rates through, higher risk premiums or diminishing convenience yields (Laubach, 2009).
- Debt limits with endogenous interest rates: Mian, Straub, and Sufi (MSS, 2022) propose a framework that also defines the maximum sustainable level of debt as that consistent with a maximum primary balance that a government can sustain over long periods, while incorporating the endogenous relationship between debt and interest rates.¹⁴ For South Africa, assuming a socially and politically sustainable primary surplus of no more than 2.5 percent of GDP (as achieved in 2000–07) would imply a maximum debt limit of 80 percent of GDP, assuming an elasticity of the interest rate to changes in debt at 2.5 percent. Incorporating the impact of projected stock-flow adjustments further squeezes the maximum sustainable

¹³ This estimate is based on an estimated threshold of 20.8 percent and the (maximum) revenue of 30 percent of GDP.

¹⁴ In essence, this framework provides multiple steady state equilibria with constant levels of primary balances that keep the debt levels unchanged at given levels. The framework allows this deficit-debt relationship to vary with changes in risk perception as reflected in elasticity of interest rate to changes in debt levels.

debt level to around 70 percent of GDP. Another endogenous-interest rate framework developed by Jian, Sargent, Wang, and Yang (2024) associates maximum primary balance with optimal taxes as determined by the country's overall tax capacity and sovereign default cost, where the interest-growth differential is influenced by the probability of a debt surge, a convenience yield, and risk premium on GDP volatility. According to this method also, South Africa's debt limit is estimated at around 60–70 percent of GDP (Cao et al, 2024).

24. A more prudent debt anchor would ensure a high probability of not surpassing the maximum debt limit even under adverse shocks. As noted above, the long-run debt anchor should account for a safety margin (buffer) such that, with high probability, debt would not exceed the maximum limit even under adverse shocks. The likelihood of surpassing the debt ceiling can be estimated by simulating distributions of future debt outcomes under shock scenarios. This involves first estimating the distribution of macroeconomic and fiscal shocks based on historical data for South Africa, followed by performing stochastic simulations of the future deficit and debt trajectory under those shocks.¹⁵ The fan charts present the results of the simulations (Figure 9). The results suggest that a buffer of 10 percent of GDP would reduce the probability of debt surpassing 70 percent of GDP in South Africa to less than 10 percent. Thus, a debt anchor of 60 percent of GDP would be prudent over the long term. This level is in line with debt rule limits/anchors set by other EMs (Figure 10).





25. Setting an interim target for debt can provide short term operational guidance and lend

credibility to fiscal framework. Significant gains can be achieved from developing credible plans to reduce the debt-to-GDP ratio to 70 percent of GDP by 2030. This could be an interim target on the way toward achieving further debt reduction and ultimately the sustainable long-term debt anchor of 60 percent of GDP noted above. Ambitious and early implementation of this plan would improve fiscal credibility and start rebuilding fiscal buffers and reduce marginal interest costs via improved market access, with positive spillovers to private sector borrowing costs.

¹⁵ In all cases we maintain a maximum primary surplus of 2.5 percent of GDP (historic high) and assume no change in the currency composition of debt.

Operational Rules

26. Based on their unique structural dynamics and policy objectives, countries choose from four broad categories of fiscal rules. Each of these rules has advantages and disadvantages:

A debt rule offers a clear link to the ultimate debt target but may be difficult to implement. Since the debt rule sets an explicit ceiling on public debt (usually as percent of GDP), it has the most direct link to ultimate fiscal objective, i.e., converging to a sustainable debt target. In practice, however, it is the least controllable indicator, since debt ratios are influenced by many factors that are

not directly under the control of the government (e.g, interest rates, exchange rate, inflation, other determinants of stock-flow adjustments). This is likely the reason why out of 85 countries with debt rules, only five have this on a standalone basis, with the rest combining it with other rules (Figure 11).¹⁶

- Budget balance rules (BBRs) provide clear operational limits on the overall balance, primary balance, or structural or cyclically adjusted balance:
 - Overall balance rule: This rule is the simplest and easiest to communicate, monitor, and enforce. Given that it is closely tied to debt dynamics, it is the most frequently adopted rule. On the flip side, the overall balance rule can make fiscal policy more procyclical (Eyraud and others, 2018), reducing the quality of the budget composition (since it incentivizes politically easier cuts in capital rather than current spending), and failing to prevent spending windfall revenues (IMF 2018). Therefore, BBRs are often adopted with flexibility features such as exclusion of capital investments or cyclical trends, (see below).
 - Golden rule: To avoid public investment cuts, countries sometime exclude capital expenditures from the BBRs (e.g., Brazil, Malaysia, Costa Rica). However, this risks excessive borrowing (to fund investment projects) and weakens the connection with the debt objective. Furthermore, in the absence of sound public investment management frameworks, unrestricted borrowing could reduce incentives for thorough cost-benefit analysis, leading to the selection of projects with low social returns and revenues (Balassone and Franco 2000). Finally, creative accounting may undermine the effectiveness of golden rule (Serven, 2007).¹⁷

¹⁶ Countries with only the debt rule includes Cambodia, Mauritius, Liberia, St Lucia, and St Kitts and Nevis. On the other extreme, Australia, France, Netherlands, Vietnam, and Andorra have at some stage adopted all the rules.

¹⁷ Conceptually, by allowing governments to borrow just for creating return-yielding assets, the golden rule implies that public debt is fully backed by public capital in the long run. In practice, however, there is no guarantee that the assets will yield a return high enough to cover the interest on the debt that financed their acquisition (Serven 2007).

- Primary balance rule: Since interest payments are excluded, the rule is more directly under the control of policymakers than other BBRs. However, this exclusion weakens the link to debt dynamics, since interest payments could constitute the bulk of the overall balance and financing requirement. Therefore, the rule threshold needs to be recalibrated on a regular basis to incorporate changing debt dynamics.
- *Cyclically adjusted/structural rule:* Cyclically adjusted/structural balance rules can adjust for cyclical changes in revenues and spending and thus better reflect the authorities' discretionary fiscal efforts. Moreover, they have been shown to have a better compliance rate among BBRs (Skrok 2020). However, they are difficult to communicate and monitor, since output gaps are difficult to assess in real time (IMF 2018). This is why these rules are predominantly adopted by AEs. Among EMs, the cases of Colombia and Chile illustrate that even if these rules are adopted, generating, and maintaining countercyclical buffers could still be challenging, and debt may not stabilize (Ardanaz and others, 2023).
- Revenue rules set floors or impose ceilings on government revenues. In contrast to other rules, revenue rules are seldom adopted on their own and are rather used in combination with other rules to help support fiscal sustainability. Given the cyclicality of revenues, the implementation of these rules can complicate macroeconomic stabilization efforts. For instance, revenue floors increase procyclicality, as these might require tax hikes in bad times, whereas ceilings (such as in Australia till 2022)¹⁸ can limit revenue mobilization and fiscal savings in good times (IMF 2018). However, earmarking windfall revenues could mitigate deficit and procyclical bias, especially if these are allocated for debt (Netherlands) or deficit (Lithuania) reduction.
- Expenditure rules (ERs) are fully under the government's control, but the link with debt dynamics is relatively weak. ERs typically set expenditure ceilings in absolute terms (levels) or growth rates, and sometimes as percent of GDP. ERs are increasingly common among AEs, with less than a third of EMDCs having adopted them (e.g., Brazil, Mongolia, Paraguay). Most countries combine it with a budget balance and/or debt rule. ERs allow most automatic stabilizers to operate freely since revenues are allowed to fluctuate with the business cycle (IMF 2018). As a result, ERs are associated with lower procyclical bias (e.g., Manescu and Bova, 2020 and Cordes and others 2015) and expenditure volatility (Fall and others, 2015) compared to other rules. They can also avoid procyclicality in good times by preventing higher-than-expected revenues from being spent, assuming no upward adjustments re allowed (this is not the case in South Africa). However, ERs are also associated with procyclical changes in investment spending (e.g., Guerguil and others, 2017) and high income inequality (e.g., Combes and others, 2024).

27. In the case of South Africa, tightening the existing expenditure rule and combining it with a primary balance rule could help achieve the debt objective. The expenditure rule could be calibrated to ensure a minimum improvement in primary balance that is required to achieve the debt target. This requires avoiding any exclusions (e.g. SOE support) to strengthen the link with debt dynamics and make the rule transparent and easier to monitor. In case of an upside revenue surprise, the expenditure rule will ensure that additional revenues are saved or used for debt repayments. In the case of unforeseen spending pressures, mid-year adjustments would be limited to spending reappropriations. Contingency allocations could help this process if fiscal risks are carefully calibrated and accounted for. The rule would allow accommodating new spending initiatives (such as public health insurance) when they come with a dedicated resource base and are

¹⁸ Australia's tax to GDP was previously capped at 23.9 percent.

budget neutral. Given uncertainties around revenue outturns, the combination of an expenditure and primary balance rule could be more effective in reaching debt objectives than the current framework. For instance, in the case of a downside surprise, the primary balance rule would allow for consolidation on both the revenue and spending sides to make the required adjustment possible.

28. The arrangements discussed above could be viewed as transitional rules, which would guide the fiscal position towards a steady state. The transitional rules could be aimed at addressing the immediate challenge of reversing the trend of rising debt and reaching the intermediate debt target of 70 percent by 2030, putting its trajectory on a firm downward path until it reaches 60 percent anchor. Once the debt reaches the level of the fiscal anchor, the rules could be reviewed and recalibrated to focus on stabilizing debt at this level.

29. Implementation of the fiscal rule framework would require strong public financial and expenditure frameworks. This would require boosting capacity to accommodate urgent and unforeseen expenditure through reprioritization, specifically by enhancing the ability to identify and secure decisions to make expenditure savings. Moreover, the authorities need to strengthen long-term fiscal-forecasting capacity and reporting and strengthen fiscal risk management, including of risks arising from SOEs. Assigning an independent institution to assess budget assumptions and report on the government's adherence to its strategy would enhance accountability and credibility.

G. Conclusion

30. The current spending rule in South Africa did not prevent the rapid rise in public debt over the past decade. In the absence of a clear fiscal policy anchor amid rising spending pressures, the effectiveness of the primary expenditure ceiling has been diluted by policy discretion and, to some extent, pandemic-related spending pressures. Under the current staff baseline, debt is not expected to stabilize over the medium term as unfavorable interest-growth differential and sizable stock-flow adjustments are projected to more than offset a modest consolidation in the primary balance. To reduce debt vulnerabilities in a more shock-prone world, putting public debt on a downward path toward a lower, more prudent level, is essential.

31. Adopting an operational fiscal rule anchored in a debt ceiling could help safeguard debt sustainability and strengthen policy credibility. Such a framework would need to include the following elements: (i) a prudent debt anchor—estimated using a variety of methods, and accounting for a safety buffer—of around 60 percent of GDP in the long run, supported by an intermediate debt target of 70 percent of GDP in the medium run; (ii) a credible fiscal rule, which could build on and strengthen the existing framework of expenditure ceilings, and be complemented by a primary balance rule, including well-defined escape clauses in case of large unforeseen shocks; and (iii) assigning an independent fiscal body to assess the robustness of assumptions and report on implementation. Effective implementation of the rule will necessitate a sound legal framework consistent with medium-to-long-term fiscal and debt policy objectives and underlying fiscal rules (along with specific provisions for enforcement and independent monitoring), strong supporting public financial and expenditure frameworks and sound fiscal risk management practices.

References

- Afonso, A., and S. Hauptmeier. 2009. "Fiscal Behavior in the European Union: Rules, Fiscal Decentralization and Government Indebtedness." ECB Working Paper 1054, European Central Bank, Frankfurt, Germany.
- Afonso, A and Tovar Jalles, J. (2019). 'Fiscal Rules and Government Financing Costs' 40(1/2019).
- Ardanaz, Martín, Carolina Ulloa-Súarez, and Oscar Valencia (2023). Why don't we follow the rules?: drivers of compliance with fiscal policy rules in emerging markets / Martín Ardanaz, Carolina Ulloa-Suárez, Oscar Valencia. p. cm. — (IDB Working Paper Series; 1497). September 2023.
- Ardanaz, M., Cavallo, E., and Izquierdo, A. (2023). Fiscal rules: Challenges and reform opportunities for emerging markets. IDB Working Paper.
- Arslanalp, Serkan, Eichengreen, Barry, and Henry, Peter Blair, sustained Debt Reduction: The Jamaica Exception. NBER Working Paper No. 32465, May 2024.
- Asatryan, Z., Castellon, C., & Stratmann, T. (2018). Balanced budget rules and fiscal outcomes: Evidence from historical constitutions. Journal of Public Economics, 167, 105–119.
- Badinger, H., & Reuter, W. (2017). The case for fiscal rules. Economic Modelling, 60, 334–343.
- Balassone, F., and D. Franco. 2000. "Public Investment, the Stability Pact, and the Golden Rule." Fiscal Studies 21 (2): 207–29.
- Bayoumi, T., M. Goldstein, and G. Woglom. 1995. "Do Credit Markets Discipline Sovereign Borrowers? Evidence from the U.S. States." *Journal of Money, Credit and Banking* 27 (4): 1046–59.
- Beetsma, R., Debrun, X., Fang, X., Kim, Y., Lled'o, V., Mbaye, S., and Zhang, X. (2019). Independent fiscal councils: Recent trends and performance. European Journal of Political Economy, 57:53–69.
- Bergman, U. M., Hutchison, M., & Hougaard Jensen, S. (2016). Promoting sustainable public finances in the European Union: The role of fiscal rules and government efficiency. European Journal of Political Economy, 44, 1–19.
- Blanco, F., Saavedra, P., Koehler-Geib, F., and Skrok, E. (2020). Fiscal rules and economic size in Latin America and the Caribbean. World Bank Publications.
- Bohn, H., and R. Inman. 1996. "Balanced Budget Rules and Public Deficits: Evidence from the U.S." NBER Working Paper 5533, National Bureau of Economic Research, Cambridge, MA.
- Bova, E., Medas, P., & Poghosyan, T. (2018). Macroeconomic stability in resource-rich countries: The role of fiscal policy. Journal of Banking and Financial Economics, 1(9), 103–122.
- Căpraru, B., Pappas, A., & Sprincean, N. (2024). Fiscal rules in the European Union: Less is more. *Journal of Common Market Studies, 2024*, 1–25.
- Caselli, F., & Reynaud, J. (2020). Do fiscal rules cause better fiscal balances? A new instrumental variable strategy. *European Journal of Political Economy*, *63*, 101873.
- Chrysanthakopoulos, C., & Tagkalakis, A. (2022). Do fiscal councils reduce fiscal policy volatility? *Applied Economic Letters*.

- Chrysanthakopoulos, C., & Tagkalakis, A. (2023). The effects of fiscal institutions on fiscal adjustment. Journal of International Money and Finance, 134, 102853.
- Cao, Y., Jiang, W., Lam, R., Wang, N. (forthcoming) Trees of Debt Have Limits: Debt Carrying Capacity across Countries over Time.
- Clemens, J., and S. Miran. 2012. "Fiscal Policy Multipliers on Subnational Government Spending." American Economic Journal: Economic Policy 4 (2): 46–68.
- Clements, B., Gupta, S., Jalles, J., & Mylonas, V. (2023). Why do governments cut their deficits? European Journal of Political Economy.
- Comelli, F., Kovacs, P, Montoya, J., Sode, A., David, A., Eyraud, L., "Navigating Fiscal Challenges in Sub-Saharan Africa: Resilient Strategies and Credible Anchors in Turbulent Waters', African Department Paper, IMF, DP/2023/007
- Combes, J.-L., Debrun, X., Minea, A., Sawadogo, P., & Vinturis, C. (2024). On the side effects of fiscal policy: Fiscal rules and income inequality. European Journal of Political Economy.
- Cordes, T., Kinda, T., Muthoora, P., and Weber, A. (2015), "Expenditure rules: Effective tools for sound fiscal policy?" IMF Working Papers, No. WP/15/29, International Monetary Fund, Washington DC.
- Davoodi, H.R., P. Elger, A. Fotiou, D. Garcia-Macia, X. Han, A. Lagerborg, W.R. Lam and P. Medas (2022a), "Fiscal rules and fiscal councils—Recent trends and performance during the COVIS-19 pandemic", International Monetary Fund, Working Paper 22/11.
- Debrun, X. and M. Kumar (2008), "Fiscal rules, fiscal councils and all that: Commitment devices, signaling tools or smokescreens?" In Fiscal Policy: Current Issues and Challenges, proceedings of the 9th Banca d'Italia Workshop on Public Finance, June 2008, Rome: Banca d'Italia.
- Debrun, X., and Kinda, T. (2017). Strengthening post-crisis fiscal credibility: Fiscal councils on the rise—A new dataset. Fiscal Studies, 38, 667–700.
- Debrun, X., Kinda, T., Curristine, T., Eyraud, L., Harris, J., & Seiwald, J. (2013). "The functions and impact of fiscal councils", IMF Policy Paper. International Monetary Fund.
- Debrun X., J. D. Ostry, T. Willems and C. Wyplosz (2019), "Public Debt Sustainability", Chapter 4 in Abbas, A., A. Pienkowski, and K. Rogoff (eds.) Sovereign Debt: A Guide for Economists and Practitioners, Oxford University Press.
- Eyraud, L., Debrun, M. X., Hodge, A., Lledo, V. D., and Pattillo, M. C. A. (2018). Second-Generation Fiscal Rules: Balancing Simplicity, Flexibility, and Enforceability. International Monetary Fund.
- Fall, F., D. Bloch, J.M. Fournier and P. Hoeller (2015), "Prudent debt targets and fiscal frameworks", OECD Economic Policy Paper No. 15, OECD Publishing, Paris.
- Gootjes, B., & de Haan, J. (2022b). Do fiscal rules need budget transparency to be effective? European Journal of Political Economy, 75, 102210.
- Gomez-Gonzalez, Jose E., Valencia, Oscar M. and S'anchez, Gustavo A. How fiscal rules can reduce sovereign debt default risk. Emerging Markets Review 50 (2022) 100839.
- Guerguil, M., Mandon, P., & Tapsoba, R. (2017). Flexible fiscal rules and countercyclical fiscal policy. Journal of Macroeconomics, 52, 189–220.

- Heylen, Freddy, Annelies Hoebeeck, and Tim Buyse, 2012, "Fiscal Consolidation, Institutions and Institutional Reform: A Multivariate Analysis of Public Debt Dynamics," Working Paper No. 763 (Belgium: Faculty of Economics and Business Administration, Ghent University).
- Heinemann, F., Moessinger, M., & Yeter, M. (2018). Do fiscal rules constrain fiscal policy? A meta-regressionanalysis. European Journal of Political Economy, 51, 69–92.
- Iara, A., and G. Wolff. 2010. "Rules and Risk in the Euro Area: Does Rules-Based National Fiscal Governance Contain Sovereign Bond Spreads?" European Economy Economic Papers 433, European Commission, Brussels, Belgium.
- Jiang, Wei, Thomas J. Sargent, Neng Wang, and Jinqiang Yang. 2024. "A p Theory of Taxes and Debt Management," NBER WP 2993.
- Johnson, C., and K. Kriz. 2005. "Fiscal Institutions, Credit Ratings, and Borrowing Costs." *Public Budgeting and Finance* 25 (1): 84–103.
- Larch, M., & Santacroce, S. (2020). Numerical compliance with EU fiscal rules: The Compliance Database of the Secretariat of the European Fiscal Board. European Fiscal Board.
- Larch, M., Malzubris, J., & Santacroce, S. (2023). Numerical compliance with EU fiscal rules: Facts and figures from a new database. Intereconomics, 58(1), 32–42.
- Manescu, C. and E. Bova (2020), "National expenditure rules in the EU: An analysis of effectiveness and compliance", European Economy Discussion Paper No. 124, European Commission, Brussels.
- Mauro, Paolo, and Mauricio Villafuerte, 2013, "Past Fiscal Adjustments: Lessons from Failures and Successes," *IMF Economic Review*, Vol. 61, No. 2, pp. 379-404.
- IMF 2016. "Analyzing and Managing Fiscal Risk—Best Practices." IMF Policy Paper, Washington, DC, available at https:// www.imf .org/ external/ np/ pp/ eng/ 2016/ 050416 .pdf.
- IMF 2017. "Paraguay: Technical Assistance Report-Establishing a Structural Balance Rule and a Public Debt Objective". Country Report No. 2017/067.
- IMF 2018. "How to Select Fiscal Rules. A Primer" IMF How-To-Note, Washington, DC, available at https:// www.imf.org/ en/ Publications/ SPROLLs/ How -To -Notes.
- IMF 2019. Colombia: Establishing a debt anchor and updating the fiscal rule, *Technical Report, August 2019*. International Monetary Fund, Washington, D.C.
- IMF 2022, "The Return to Fiscal Rules," October 2022 Staff Discussion Note No. 2022/002 (Washington, D.C).
- IMF 2023. Brazil's Fiscal Framework: Challenges and Options for Reforms. Brazil: Selected Issues. Country Report No. 2023/289.
- Manescu, C. and E. Bova (2020), "National expenditure rules in the EU: An analysis of effectiveness and compliance", European Economy Discussion Paper No. 124, European Commission, Brussels.
- Martin Larch, Janis Malzubris, Stefano Santacroce Numerical Compliance with EU Fiscal Rules: Facts and Figures from a New Database.
- Molnár, Margit, 2012, "Fiscal Consolidation: What Factors Determine the Success of Consolidation Efforts?" OECD Journal: Economic Studies, Vol. 2012/1, pp. 123-149.

- Budina, N., Kinda, T., Schaechter, A., and Weber, A., "Numerical Fiscal Rules: International Trends," 2013, in Public Financial Management and Its Emerging Architecture, ed. M. Cangiano, T. R. Curristine, and M. Lazare. International Monetary Fund.
- Poterba, J.1996. "Budget Institutions and Fiscal Policy in the U.S. States." American Economic Review 86 (2): 395–400.
- Poterba, J., & Rueben, K. (1999). State fiscal institutions and the U.S. municipal bond market. In J. M. Poterba & J. von Hagen (Eds.), Fiscal institutions and fiscal performance (pp. 181–208). University of Chicago Press.
- Reuter, W. (2015). National numerical fiscal rules: Not complied with, but still effective? European Journal of Political Economy, 39, 67–81.
- Sawadogo, P. (2020). Can fiscal rules improve financial market access for developing countries? Journal of Macroeconomics, 65, 103214.
- Serven, Luis (2007). "Fiscal Rules, Public Investment and Growth". Policy Research Working Paper 4382, November 2007, World Bank.
- Skrok,Emilia; Gaska,Jan; Holda,Paulina Ewa; Koehler-Geib,Friederike. Having or Complying with Fiscal Rules : Insights for Small Countries in LAC (English). Washington, D.C.: World Bank Group. http://documents.worldbank.org/curated/en/713471597692712343/Having-or-Complying-with-Fiscal-Rules-Insights-for-Small-Countries-in-LAC.
- Soobyah, Luchelle, Mamburu, Mulalo and Viegi, Nicola (2023). Is South Africa falling into a fiscal-dominant regime? South African Reserve Bank Working Paper Series WP/23/02. March 2023.
- Tapsoba, R. 2012. "Do National Numerical Fiscal Rules Really Shape Fiscal Behaviors in Developing Countries? A Treatment Effect Evaluation." Economic Modelling 29 (4): 1356–69.
- Thornton, J., & Vasilakis, C. (2017). The impact of fiscal rules on sovereign risk premia: International evidence. Finance Research Letters, 20, 63–67.

von Hagen, J. 1991. "A Note on the Empirical Effectiveness of Formal Fiscal Restraints." *Journal of Public Economics* 44: 199–210.