INTERNATIONAL MONETARY FUND

Fiscal Forecast Errors in East Africa: Nature, Drivers, and Policy Implications

Youssouf Kiendrebeogo and Barima Kwame Gyesaw

WP/26/55

2026
MAR

WORKING PAPER

 WP/26/55

IMF Working Paper
African Department

Fiscal Forecast Errors in East Africa: Nature, Drivers, and Policy

Prepared by Youssouf Kiendrebeogo and Barima Kwame Gyesaw*

Authorized for distribution by Jesmin Rahman
March 2025

ABSTRACT: This paper explores the nature and underlying factors contributing to fiscal slippages in selected East African countries from 2000 to 2024. Slippages are proxied by the budget forecast errors as captured in WEO projections by IMF Staff. Our findings indicate that budget forecasts tend to be systematically optimistic with actual budget balances typically falling short of projected balances, primarily due to spending overruns and, to a lesser extent, revenue shortfalls. Unexpected revenue shortfalls largely arise from indirect taxes (VAT and customs), whereas spending slippages are predominantly influenced by public investment, goods and services and social protection expenditures. The optimism bias is more pronounced in situations where the budget is in deficit, during economic booms, among commodity-exporting countries, in the absence of an IMF program or fiscal rules, and when fiscal institutions are weak. These results are robust to excluding potential outliers, expanding the sample to other SSA countries, and controlling for country specific effects as well as potential endogeneity bias.

RECOMMENDED CITATION: Kiendrebeogo, Y., and Gyesaw, B. K. (2026). Fiscal Forecast Errors in East Africa: Nature, Drivers, and Policy Implications. IMF Working Paper No WP/26/55. International Monetary Fund, Washington, D.C.

JEL Classification Numbers:	E62, E37, C13.
Keywords:	Fiscal Forecast Errors; Budget Credibility; East African Community.
Author's E-Mail Address:	ykiendrebeogo@imf.org; bgyesaw@imf.org

Fiscal Forecast Errors in East Africa: Nature, Drivers, and Policy Implications

Prepared by Youssouf Kiendrebeogo and Barima Kwame Gyesaw[1]

[1] The author(s) are grateful to Sebastian Beer, Nicolas Blancher, Christian Ebeke, Leni Hunter, Frederic Lambert, Sergii Meleshchuk, Jesmin Rahman, Bozena Radzewicz-Bak, Martin Stuermer, Melesse Tashu, and Robert Tchaidze, for helpful comments and suggestions. The usual caveat applies.

Contents

I. Introduction

Amid heightened global uncertainty following the COVID-19 pandemic, fiscal slippages have emerged as a major concern for policymakers. Budget shortfalls can derail public investment and development plans, particularly in low-income countries (LICs). When actual revenue collections systematically fall short of projections, governments are often forced to cut spending—typically in domestically-financed capital projects and social protection—midway through the fiscal year. Persistent optimism in fiscal forecasts is widely recognized as a key driver of fiscal deficits and procyclical policies (Debrun and Kumar, 2007; Frankel et al., 2013). At the same time, public debt ratios remain elevated relative to pre-pandemic levels, with an increasing number of LICs either in default or facing a high risk of debt distress.

This potential optimism bias raises important questions about the reliability and interpretation of fiscal projections and their implications for budget planning and execution. In practice, the most consistently available projections across countries—and therefore those used in empirical work such as this paper—are the IMF's World Economic Outlook (WEO) forecasts. Although WEO forecasts are informed by discussions with country authorities, they primarily reflect IMF staff assessments and may differ from authorities' own budget submissions, particularly in non-program contexts. In countries with IMF-supported programs, however, staff and authorities' projections tend to be closely aligned, making WEO data a reasonable proxy for intended fiscal plans.

Understanding these staff-based forecast deviations is particularly relevant for LICs, many of which often face structurally weak public financial management (PFM) systems and chronically low revenue performance (Allen and Last, 2007). While fiscal forecast bias is well documented in advanced economies (AEs), far less is known about its magnitude and implications in LICs, largely due to limited availability of reliable and comparable fiscal data (Frankel, 2011).

By leveraging WEO vintages, this paper provides a consistent framework for measuring one-year-ahead fiscal forecast deviations across selected East African Countries (EAC) and comparable LICs over the period 2010-2024.[2] Using WEO projections—produced with a consistent methodology across countries and over time—we construct a harmonized dataset that allows for cross-country comparison of deviations in revenue, expenditure, and overall fiscal balance projections. The EAC presents a compelling case for examining fiscal slippages. Countries in the region exhibit larger and more volatile fiscal deviations than SSA and LIC

[2] The EAC is a regional intergovernmental organization that promotes economic integration and cooperation among its member states. It has established free-trade and customs-union arrangements and is working towards a common market and a monetary union. For benchmarking purposes, the sample includes 2 non-EAC countries, namely Central African Republic and Comoros, the former being a natural resource exporting country.

averages, (Figure 1), suggesting that structural, institutional, and macroeconomic dynamics interact differently in this region. Moreover, given its stated objective of regional economic integration and convergence, the EAC presents a compelling case for examining fiscal slippages. Since it was established in 2000, EAC countries have undertaken significant fiscal reforms--including the 2014 EAC Monetary Union Protocol (Drummond et al., 2014) to align fiscal policies, adopt common frameworks, and strengthen institutional foundations.

Against this backdrop, this paper complements existing studies by empirically exploring the macroeconomic and institutional factors associated with fiscal forecast errors. In doing so, we offer new insights into the sources of fiscal slippages in LICs, the role of institutional quality and fiscal rules, and the implications for medium-term fiscal stability and debt sustainability. While budget balance forecast errors in AEs are typically driven by overly optimistic official projections of growth and inflation, in developing countries they are more commonly rooted in structural weaknesses in PFM systems. In many LICs, actual budgets fall short of planned budgets due to widespread revenue shortfalls stemming from weak tax administration.

Our findings suggest that WEO forecasts for EAC countries exhibit systemic optimism in fiscal forecasting which limits their ability to achieve budget surpluses and stabilize public debt during periods of economic growth. When forecasts are overly optimistic, excessive optimism may hinder painful reforms aimed at improving the budget balance. Actual budget balances tend to fall short of planned balances, mainly due to spending overruns. Fiscal adjustments often exhibit asymmetry, with expenditure cuts primarily impacting investment and social spending, thereby limiting medium-term growth prospects. Revenue forecast errors predominantly stem from indirect taxes, whereas spending slippages are primarily driven by investment, goods and services and social protection expenditures. Strengthening the quality of fiscal institutions is therefore critical. Priority reforms include the adoption of credible budget rules, reinforcement of commitments to IMF programs, adopting medium-term revenue strategies, and promoting targeted structural fiscal reforms to strengthen PFM systems.

The remainder of the paper is organized as follows: Section 2 reviews the relevant literature. Section 3 describes the data and empirical methodology. Section 4 presents the key stylized facts and main results. Section 5 concludes and discusses policy implications.

II. Literature Review

The existing literature has predominantly focused on AEs due to data limitations for LICs (Frankel, 2011). Forecast errors in public budgets are neither rare nor insignificant. A substantial body of research—including from the IMF, World Bank, and European Central Bank—has

consistently documented a tendency toward optimism bias, whereby governments systematically overestimate revenues and underestimate expenditures (Frankel, 2011). Such optimism occurs because policymakers are often under political pressure to present strong fiscal positions during periods of growth or ahead of elections. Frankel (2011) finds that this bias intensifies during economic upturns, increases with the forecast horizon, and is especially pronounced in countries with fiscal rules that lack credible enforcement. He also highlights that independent fiscal institutions, such as Chile's fiscal council, offer a more accurate and credible counterbalance to such bias.

Linked to optimism bias is the broader phenomenon of fiscal procyclicality, where governments expand spending during booms and curtail it in downturns. Frankel, Végh, and Vuletin (2013) argue that strong Public Financial Management (PFM) frameworks and well-designed fiscal rules are crucial to preventing this pattern; without them, countries become prone to boom-driven overspending that undermines fiscal stability. IMF working papers emphasize that fiscal rules have proliferated in emerging markets, but only "second-generation" rules—those with cyclically-adjusted targets, escape clauses, and strong legal backing—effectively reduce procyclical behavior (Bova, Carcenac, & Guerguil, 2014).

A critical component of budget errors lies in the design and enforcement of institutional anchors. Empirical studies by Debrun and Kumar (2007) and Beetsma, Giuliodori, and Wierts (2011) show that countries with fiscal rules, independent fiscal councils, and IMF-supported frameworks deliver higher forecast accuracy and exhibit stronger fiscal discipline. Research using Public Expenditure and Financial Accountability (PEFA) data confirms that, across developing countries, it is often expenditure variability (PI-1) that dominates, while PI-3 offers valuable insights into revenue-side risks (International Budget Partnership, 2018).

Building on this work, Davoodi et al. (2022) document recent global trends in fiscal rules and fiscal councils, showing that both have expanded significantly in emerging and developing economies over the past two decades. Their study finds that countries with a strong pre-pandemic track record of adhering to fiscal rules were better positioned to respond to the COVID-19 shock, while those with weaker enforcement frameworks struggled to return to compliance once rules were suspended or escape clauses were triggered. Importantly, fiscal councils played a critical role during the pandemic by evaluating emergency measures, monitoring deviations from rules, and maintaining transparency—functions that reinforced fiscal credibility even under exceptional circumstances. These findings highlight that, for institutional anchors to meaningfully improve fiscal forecasting accuracy and discipline, rule design must be accompanied by credible enforcement and independent oversight.

Despite institutional safeguards, low-income and fragile states face unique challenges. Flores et al. (2022) find that countries with limited bureaucratic capacity, poor data quality, and frequent

external shocks have persistent forecast errors. This finding is supported by IMF work by Ismail, Perrelli, and Yang (2020), which shows that growth forecast optimism is tied to planned fiscal adjustments around IMF-supported programs. In East Africa, Mawejje and Odhiambo (2022) adds that narrow revenue bases and fragile institutional systems compound these issues; budget projections in countries like South Sudan and Central African Republic (CAR) are highly volatile due to conflict, aid dependence, and commodity shocks.

East Africa presents a particularly instructive case. The October 2023 IMF Economic Outlook for Sub-Saharan Africa and EAC' Convergence Reports reveal consistent fiscal deficit overshoots during growth booms and election cycles. PEFA assessments for countries such as Kenya, Uganda, Rwanda, Tanzania, and Burundi consistently identify recurrent expenditure overruns and overly optimistic revenue forecasts, even as PFM reforms progress. Country-specific studies (Kiringai et al., 2021; Mawejje & Ssewanyana, 2020) reinforce these patterns, documenting structural gaps in budget execution and forecasting.

This study adds to the existing literature by offering the first comprehensive, quantitative analysis of fiscal forecast errors for LICs with a focus on East African Community (EAC). By linking macroeconomic factors (growth cycles, deficits, commodity shocks) and institutional anchors (IMF programs, fiscal rules, CPIA governance scores) to deviations in the budget balance, revenue, and expenditure forecasts, we bridge the gap between broader cross-country comparisons and narrow case studies. This contribution is especially relevant as EAC countries pursue deeper integration under the East African Monetary Union (EAMU), where credible budgeting is essential for fiscal and macroeconomic stability.

III. Data and Methodology

This paper defines the forecast errors as deviations of actual (executed) budgets from initially approved plans. The planned budget is proxied by submissions made to the Spring edition of the IMF's World Economic Outlook (WEO), while actual outturns are taken from the subsequent year's Spring WEO release. Although this approach may mask in-year revisions, it ensures cross-country consistency.[3] Using WEO data ensures we have consistent, comparable time series across countries. Since WEO figures may differ from actual budget submissions, particularly in non-program contexts, we assess the link between forecast errors in both series. The budget submission subsample includes 18 observations. The results for the budget balance, revenue and spending are reported in Figures A3, A4 and A5 respectively. In all cases, WEO and budget submission errors are highly correlated, with coefficients ranging from 0.8 to

[3] In contrast to other databases, the collection of WEO data follows the same process and timeline for most IMF member countries.

0.9. Moreover, forecast errors from WEO vintages are widely used in the literature. Blanchard and Leigh (2013), for instance, used a similar approach to examine the relationship between growth forecast errors and planned fiscal consolidation during the Eurozone crisis.

The analysis is based on a panel dataset of 10 countries—eight of which are EAC members—spanning 2000-2024. We examine annual forecast errors for the primary budget balance (BB), non-grant revenue (R), and non-interest expenditure (E), expressed in percentage points (ppts) of GDP. Fiscal forecasts are taken in percent of forecasted GDP while fiscal realizations are taken in percent of realized GDP. In this context, we just need to define the forecast errors in percent of GDP. The three forecast errors are defined as follows:[4]

$$\varepsilon_{ct}^{BB} = BB_{ct}^{A} - BB_{ct}^{F}$$
$$\varepsilon_{ct}^{R} = R_{ct}^{A} - R_{ct}^{F}$$
$$\varepsilon_{ct}^{E} = E_{ct}^{A} - E_{ct}^{F}$$

Then, we investigate the evolution of forecast errors for EAC countries, taken both individually and as a group.

$$\varepsilon_{ct}^{BB} = \beta X_{ct} + \gamma_{c}^{BB} + \lambda_{t}^{BB} + \upsilon_{ct}^{BB} \quad (1)$$
$$\varepsilon_{ct}^{R} = \beta X_{ct} + \gamma_{c}^{R} + \lambda_{t}^{R} + \upsilon_{ct}^{R} \quad (2)$$
$$\varepsilon_{ct}^{E} = \beta X_{ct} + \gamma_{c}^{B} + \lambda_{t}^{E} + \upsilon_{ct}^{E} \quad (3)$$

Next, we explore key determinants of fiscal forecast errors for each key fiscal variable. X is a vector of regressors including dummy variables indicating commodity exporters, whether the budget balance is in deficit, whether the output gap is positive, the presence of an IMF program, and the adoption of fiscal rules (budget balance, revenue and spending). Additionally, X includes the inflation forecast error, the growth forecast error and scores for the two CPIA clusters: Economic management and public sector management and institutions.

Our panel data follow a “small N, large T” structure, with a relatively small number of cross-sectional units (10) observed over a long-time dimension (25 periods). Given this “small N and large T” set up of our sample, we estimate Equations 1, 2, and 3 using the Seemingly Unrelated Regressions Estimator (SURE) proposed by Zellner (1962). The SURE is appropriate when the number of time periods (25 in this case) exceeds the number of cross-sectional units

[4] An alternative approach would be to consider the absolute forecast errors instead, thus assuming that upward and downward deviations have the same economic interpretation. However, such an approach may be misleading given the critical importance of the sign of the forecast error for developing countries. As we will see in Figure 2 below, there is a strong positive correlation between revenue forecast errors and spending forecast errors, suggesting that underspending is caused by revenue shortfalls. This pattern is not established when we replicate the same exercise for the sample of AEs

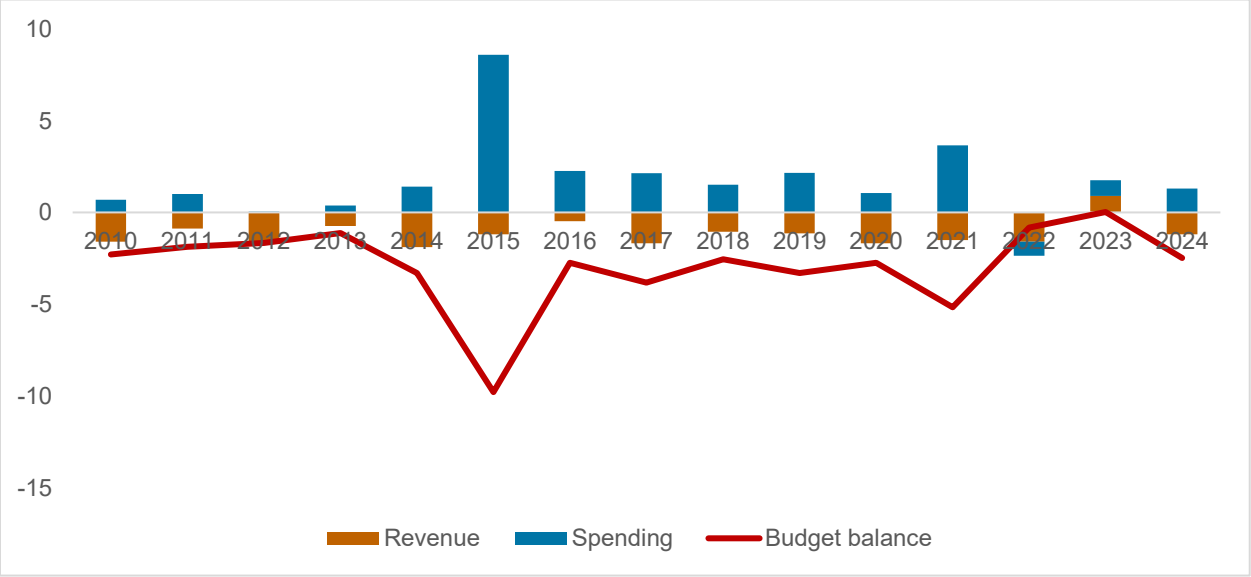
(10 in this case). The notion of “seemingly unrelated” reflects the fact that that there is no simultaneity across country equations; as a result, each panel unit could, in principle, be estimated separately using ordinary least squares (OLS). In fact, those equations are estimated jointly to account for potential correlation of the error terms (common shocks). This approach accounts for the fact that member states share the same institutional framework (convergence criteria) and are in the same geographic region (East Africa). Moreover, the SURE model offers several advantages over fixed-effects panel models, as it allows coefficients to vary across units and permits separate estimation of the error variance for each equation.

IV. Stylized Facts

4.1 Magnitude of forecast deviations

Fiscal forecast deviations in EAC countries are sizable and persistent over time. Figure 1 shows the distribution of one-year-ahead forecast errors for the overall fiscal balance, revenues, and expenditures over the period 2010-2024. To limit the influence of extreme observations, the discussion focuses on median deviations rather than means. To put our results into a broader perspective, we compare the average forecast errors between EAC, Sub-Saharan Africa (SSA) and LICs.

Figure 1: Fiscal forecast errors: EAC relative to SSA



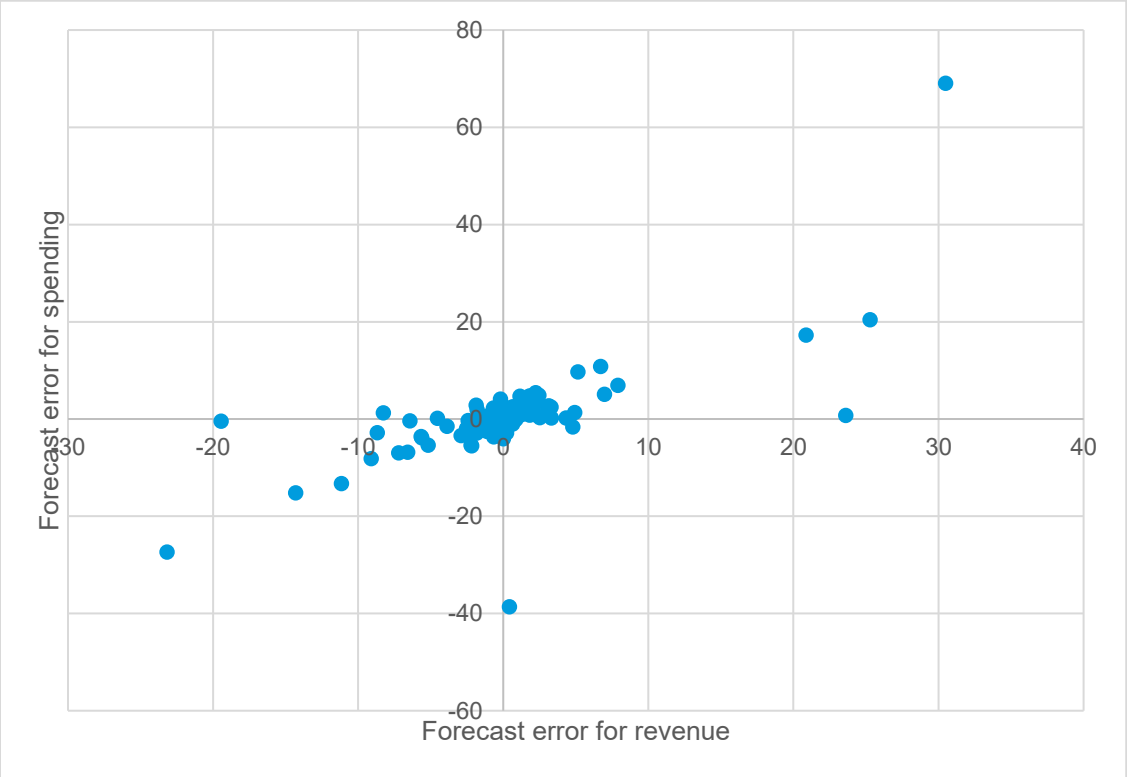
Note: The reported series are the forecast errors differences between EAC and SSA, in percent to GDP. For each country group, the median forecast error is used. The median is preferred over the average to smooth temporal fluctuations and mitigate the effects of outliers.

Median fiscal balance deviations in EAC countries are consistently negative, averaging around 1½–2 percent of GDP, indicating that realized fiscal balances tend to be weaker than projected. These deviations are larger than those observed for the broader sub-Saharan Africa (SSA) and LIC samples (Table A3), suggesting that forecast slippages are more pronounced in the EAC. Importantly, deviations are not confined to isolated years but recur across the sample period, pointing to structural rather than purely cyclical forecasting challenges.

4.2 Revenue vs spending: which side drives deviations?

Disaggregating forecast errors reveals that expenditure overruns are the primary driver of fiscal balance deviations. Figure 2 plots expenditure forecast errors against revenue forecast errors. While revenue shortfalls are frequent, expenditure deviations are larger in magnitude.

Figure 2: Fiscal forecast errors: Revenue vs Spending



The positive correlation between revenue and expenditure forecast errors indicates that revenue underperformance is often followed by spending adjustments.[5] However, these adjustments are

[5] To improve visual clarity, extreme country-year outliers are excluded from Figure 2. These observations—largely associated with conflict episodes, sharp commodity price swings, or data discontinuities—are retained in the underlying dataset and discussed separately in the annex.

incomplete, resulting in net fiscal slippages. This pattern contrasts with advanced economies, where revenue and expenditure deviations are less tightly linked, reflecting greater access to financing and more flexible adjustment mechanisms.

4.3 Procyclicality and asymmetry of fiscal deviations

Fiscal forecast deviations in the EAC exhibit strong procyclicality and asymmetry. Figure 1 shows that forecast errors are larger during periods of economic expansion and when fiscal positions are already in deficit. This suggests that projections tend to be overly optimistic during booms, when revenue expectations are high and spending pressures intensify.

The asymmetry is pronounced. While underspending does occur—most notably in capital projects during revenue shortfalls—overspending dominates both in frequency and magnitude. Downward adjustments typically fall on investment and social spending, whereas upward deviations are more diffuse, contributing to weaker-than-planned fiscal balances. This asymmetric adjustment pattern limits the ability of EAC countries to rebuild fiscal buffers during favorable economic conditions.

4.4 Role of shocks, fragility and resource dependence

Large forecast deviations are often associated with episodes of heightened economic stress. Figure 1 illustrates that periods marked by external shocks—such as the COVID-19 pandemic or sharp commodity price movements—coincide with wider forecast errors, particularly in resource-dependent economies.

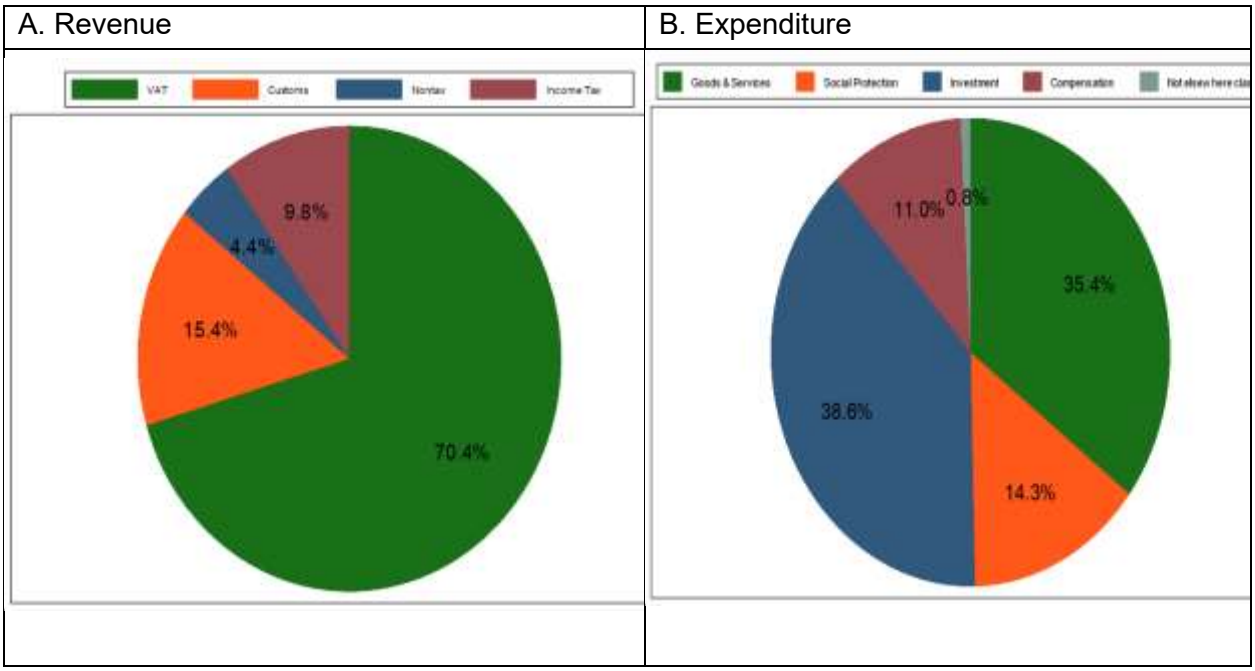
Commodity exporters display more volatile forecast errors than non-resource-intensive countries, reflecting uncertainty around global commodity prices and export receipts. While part of this volatility can be attributed mechanically to price forecast revisions, the significant deviations suggest that institutional and fiscal rigidities amplify the impact of shocks. In fact, while institutional quality—as proxied by the World Bank's CPIA rating—has improved in the average EAC country since the pandemic, it still remains well below that of the average SSA country (Figure 4). Fragile and conflict-affected states exhibit the largest deviations, underscoring the role of weak administrative capacity and heightened uncertainty.

4.5 Decomposition of forecast errors

To understand the key components of forecast error from an accounting perspective, we decompose the revenue and spending forecast errors as the sums of forecast errors of

respective subcomponents.[6] Revenue is decomposed into VAT, Customs revenue, income tax and Nontax revenue while spending is decomposed into goods and services, social protection, investment, compensation and residual spending. The results show that highlights that indirect taxes—particularly VAT—account for a large share (70.4 percent) of revenue forecast errors (Figure 3, Panel A), while spending slippages are concentrated in investment expenditure (38.6 percent), goods and services (35.4 percent), and social protection (Figure 3, Panel B).

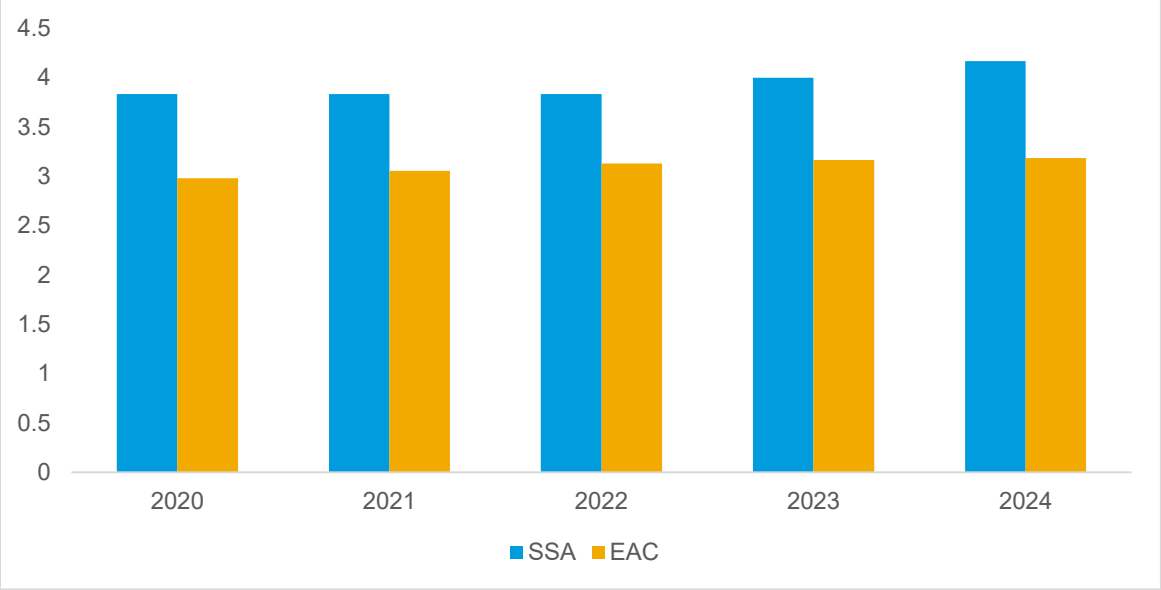
Figure 3. Variance decomposition of forecast errors



VAT is a major source of domestic revenue in EAC countries and is especially sensitive to import volumes, consumption dynamics, and compliance gaps, making it prone to forecasting errors. On the expenditure side, investment and social protection are more discretionary than wages (quasi statutory expenditure) or interest payments (statutory expenditure) and therefore serve as the primary margins of adjustment when revenues underperform or financing constraints bind. As a result, these categories account for a disproportionate share of expenditure forecast deviations.

[6] The forecast error for domestic revenue is decomposed into contributions of customs revenue, income tax, nontax revenue and VAT. Likewise, the forecast error for expenditure is broken down into contributions of compensation, goods and services, investment, social protection and a residual item (not elsewhere classified).

Figure 4. CPIA Overall Score: EAC vs SSA



4.6 Summary of stylized facts

Taken together, the stylized facts point to four key patterns. First, fiscal forecast deviations in EAC countries are large and recurrent relative to SSA and LIC benchmarks. Second, expenditure overruns-not revenue shortfalls-are the dominant source of fiscal slippages. Third, deviations are strongly procyclical and asymmetric, with overspending prevailing during booms and adjustment falling disproportionately on growth-enhancing expenditures. Finally, shocks, resource dependence, and fragility amplify forecast errors, while weaknesses in revenue administration and expenditure control shape their composition.

Overall, these empirical patterns provide a nuanced foundation for the econometric analysis presented in the next section. They underscore the interplay between macroeconomic conditions, institutional quality, and the structural challenges of fiscal planning in the EAC context.

V. Results and Discussion

The stylized facts document sizable, persistent, and asymmetric fiscal forecast deviations in EAC countries, with expenditure overruns emerging as the dominant source of slippages. This section formalizes these observations by examining the macroeconomic and institutional drivers of fiscal forecast deviations.

Rather than interpreting forecast errors as purely mechanical outcomes, the empirical strategy as elaborated in Section III, treats them as reflecting a combination of economic conditions, institutional constraints, and policy environments. Accordingly, we estimate regressions of one-year-ahead forecast deviations for the fiscal balance, revenues, and expenditures on a common set of explanatory variables capturing business cycle conditions, fiscal stance, structural characteristics, and institutional anchors.

5.1 Main results

A. Decomposing Fiscal Balance Deviations

Before turning to the structural and institutional drivers of fiscal slippages, it is useful to assess how deviations in revenues and expenditures translate into deviations in the overall fiscal balance. Consequently, we estimate a simple descriptive regression that relates fiscal balance forecast errors to contemporaneous revenue and expenditure forecast deviations.[7] While this does not imply causality—given the accounting relationship between these aggregates—it provides a useful decomposition of the relative contribution of revenue and spending deviations to overall fiscal slippages.

The results in Table A1 point to a clear asymmetry. Expenditure forecast deviations account for a substantially larger share of fiscal balance slippages than revenue deviations. A one-percentage-point expenditure overrun relative to forecast is associated with a deterioration in the fiscal balance forecast error of about 0.5 percentage points of GDP, while a comparable revenue deviation improves the balance by only about 0.35 percentage points of GDP.

This pattern suggests that revenue surprises are only partially reflected in fiscal outcomes, as they tend to be offset by higher spending. By contrast, expenditure overruns translate more directly into fiscal slippages. This finding is consistent with the stylized facts and highlights weak expenditure control as the main proximate source of fiscal deviations in the EAC.

Taken together, these results motivate a closer examination of the economic and institutional factors that shape expenditure behavior and fiscal planning. The remainder of this section therefore explores the role of resource dependence, macroeconomic fluctuations, and fiscal institutions in explaining systematic patterns of forecast optimism and fiscal slippages.

[7] This decomposition is intended to be descriptive rather than causal, given the accounting relationship between the fiscal balance, revenues, and expenditures

B. Resource dependence and overoptimism in budget forecasts

Given the central role of expenditure overruns in driving fiscal slippages, we start the exploration of underlying drivers of fiscal slippages by focusing on the role of resource dependence. The resource curse literature argues that resource-rich countries (RRC) are more prone to procyclicality due to the Dutch Disease phenomenon, poor institutions, limited absorptive capacity, rent-seeking behavior, poor institutions (Ossowski and Halland, 2016). We control for these aspects of resource dependence by including a dummy variable that takes 1 if the country is a RRC and 0 otherwise. The classification of commodity (both fuel and non-fuel) exporters comes from Table D of the 2023 October WEO Statistical Appendix. South Sudan is classified as a fuel exporting country. Burundi, Central African Country, and Democratic Republic of Congo are classified as exporters of nonfuel primary products. The remaining 6 countries are classified as non-exporters of natural resources.

The results, reported in Table 1, indicate that RRC are more likely to be relatively more optimistic than non-resource-rich peers. The coefficient on this dummy variable is negative and statistically significant for the budget balance and revenue forecast errors, while positive and significant for the spending forecast error. On average, the forecast errors for the budget balance and revenue are 0.03 and 0.02 ppt of GDP lower for RRC relative to non-RRC. While these differences may appear small in magnitude, their economic implications are substantial. The results suggest that RRCs are relatively more exposed to fiscal uncertainty, with unexpected deviations of about 3 percent of GDP in the primary balance and 2 percent of GDP in revenue. The forecast error for primary spending is 0.03 ppt of GDP higher compared to non-RRC. budget optimism tends to be relatively more prominent in resource-rich countries. This finding is an illustration of EAC's exposure to commodity price shocks. In particular, EAC experienced its worst shortfall in budget balance during the 2015 commodity price shock (Figure 1).

Yet, revenue forecasts are more prone to optimism in resource-rich countries. Over the period 2010-2024, actual revenue was lower than projected in over 72 percent of the time. Those countries also tend to overspend, with actual spending larger than initially planned in nearly 61 percent of the instances. Forecast errors tend to be larger during commodity booms. Persistent fiscal deficits and procyclical spending are primarily driven by overoptimistic official forecasts during booms (Alesina et al., 2008; Ilzetski and Vegh, 2008). Procyclical spending during booms is due to the (political) difficulty of cutting spending and pervasive wishful thinking during economic or commodity booms. This procyclical behavior is particularly the case in resource-rich countries where governments cannot resist the temptation to expand public spending when royalties surge.

Table 1: Budget balance forecasts and realizations

	Primary balance forecast error	Revenue forecast error	Spending forecast error
	(1)	(2)	(3)
Commodity exporter dummy	-0.031***	-0.029***	0.037**
	(0.008)	(0.007)	(0.015)
Actual Budget balance in deficit (=1)	-0.039***	-0.107***	0.018***
	(0.011)	(0.027)	(0.005)
Positive Output gap (=1)	-0.014**	-0.091***	0.077***
	(0.006)	(0.022)	(0.024)
Inflation forecast error	0.012	-0.031	-0.042
	(0.025)	(0.042)	(0.082)
Growth forecast error	-0.019*	-0.077*	0.089
	(0.010)	(0.004)	(0.094)
Observations	216	216	216
No. of countries	10	10	10
R-squared	0.501	0.529	0.551

Note: Revenue excludes grants. Spending excludes interest payments. The output gap is calculated as the log deviation of real GDP from country-specific HP trends. In the regressions, the output gap is expressed as a percentage of potential output. The classification of commodity (both fuel and non-fuel) exporters comes from Table D of the 2023 October WEO Statistical Appendix. A country is considered resource-rich when natural resources (fuel or nonfuel) account for 20% (or more) of exports. South Sudan is classified as a fuel exporting country. Burundi, Central African Country, and Democratic Republic of Congo are classified as exporters of nonfuel primary products. The remaining 6 countries are classified as non-exporters of natural resources.

C. Macroeconomic fluctuations and over optimism

In this subsection, we examine the potential influence of macroeconomic fluctuations on budget forecast errors. We include the dummy indicating whether the output gap is positive (boom) and a dummy indicating whether the fiscal balance is positive (surplus). The results are reported in Table 1. The coefficient relating to the boom dummy is statistically significative in all specifications. It is negative for the budget balance and revenue forecast errors but positive for the spending forecast error. On average, the budget balance and revenue forecast errors are 0.01 and 0.09 ppt of GDP larger during booms relative to recessions. They are 0.03 and 0.10 ppt of GDP greater when the actual primary balance is in deficit compared to surplus times. On the other hand, the spending forecast error is 0.07 ppt of GDP larger during booms and 0.01 ppt of GDP smaller during deficit times, respectively. This result illustrates the notion “discipline signaling” that the authorities systematically plan to conduct fiscal adjustment when the budget is in deficit. In the case of Tanzania (median EAC country) for instance, the forecast errors for the budget balance and revenue were 0.01 and 0.09 ppt of GDP lower than average during the

pandemic. The spending forecast error, on the other hand, was 0.07 ppt of GDP larger than average during the pandemic.

Furthermore, fiscal adjustment tends to be asymmetric and expenditure cuts are predominantly reliant on investment and social spending. Spending cuts that follow revenue shortfalls are relatively smaller in magnitude than overspending resulting from revenue windfalls. Such asymmetric consolidation generates a deficit bias over time. Furthermore, in 86.3 percent of instances, spending-led consolidations take place through cuts in investment and social spending. This pattern of fiscal adjustment, by constraining the accumulation of physical and human capital, can hamper economic growth over the medium term. These results hold for both forecasting horizons, with stronger magnitudes and statistical significance at the 2-year horizon. Intuitively, optimistic fiscal forecasts are more likely at longer horizons for which uncertainty is greater.

The literature on AEs has also identified optimism in forecasting inflation as a potential determinant of optimism in budget forecasts. This result is related to the Tanzi effect, the notion that elevated inflation typically erodes the real value of taxation (Tanzi, 1977, 1978). We also test the so-called Tanzi effect by including the forecast errors for headline inflation. The results also indicate that the coefficient on the growth forecast error is statistically significant for the primary balance and revenue forecast errors, but not significant for the spending forecast error.

Overall, official forecasts are likely to be more optimistic during economic expansions, which reflects procyclicality, and when the budget is in deficit. The main channel through which macroeconomic conditions influence budget optimism is spending, with overruns typically occurring during boom and deficit times. However, the inflation channel appears to be unsignificant. Optimism in forecasting inflation does not significantly influence optimism in budget forecasts, suggesting that there is no evidence to support the Tanzi effect. This result may be explained by the relatively elevated inflation rate in EAC, at which levels, the Tanzi effect can be offset by a reassignment of taxpayers to higher tax brackets.

D. The role of fiscal institutions and governance

Fiscal institutions and governance have gained prominence worldwide as a mechanism to improve budget credibility. Given EAC's significant institutional gap relative to SSA, as illustrated in Figure 4, it is worth examining the role of institutional quality strengthening budget planning and execution. We further control for the presence of an IMF program,[8] of numerical fiscal rules and the economic management and public sector management and institutions CPIA

[8] As of 2024, nine out of the ten countries in the sample—excluding Burundi—were under IMF-supported programs, reflecting broad regional engagement with Fund-supported fiscal and macroeconomic frameworks.

clusters. Fiscal rules can take the three following forms: budget balance, spending and revenue rules. The results are reported in Table 2.

The presence of and commitment to IMF programs can help alleviate fiscal slippage on both the revenue and expenditure fronts. The coefficient on the IMF program dummy is positive and statistically significative for the budget balance and revenue forecast errors. Adopting an IMF program on average enhances the primary balance and revenue collection, respectively, by 0.02 and 0.01 ppt of GDP, relative to what was forecast a year previously. For the spending forecast error, this coefficient is negative and statistically significant, suggesting that the presence of an IMF program reduces the magnitude of spending overruns. On average, an IMF program is associated with a reduction of expenditure slippages by 0.03 ppt of GDP. By way of illustration, the median EAC country (Tanzania) in 2019 had forecast errors for budget balance, revenue and spending of -0.6, -1.6, and -0.9 ppt of GDP, respectively.

Table 2: Budget forecast errors: the role of fiscal institutions

	Primary balance forecast error	Revenue forecast error	Spending forecast error
	(1)	(2)	(3)
Commodity exporter dummy	-0.025**	-0.022**	0.029**
	(0.010)	(0.009)	(0.012)
Actual Budget balance in deficit (=1)	-0.034**	-0.101**	0.008*
	(0.014)	(0.043)	(0.004)
Positive Output gap (=1)	-0.011**	-0.085**	0.070**
	(0.004)	(0.036)	(0.030)
Inflation forecast error	0.010	-0.021	-0.032
	(0.028)	(0.038)	(0.071)
Growth forecast error	-0.015*	-0.071*	0.086
	(0.008)	(0.041)	(0.093)
IMF program dummy	0.026**	0.017**	-0.036***
	(0.010)	(0.007)	(0.009)
Budget balanced rule	0.029***	0.086***	-0.012
	(0.008)	(0.023)	(0.016)
Revenue rule	0.018**	0.093**	0.029
	(0.007)	(0.038)	(0.020)
Spending rule	0.081***	0.131	-0.117***
	(0.023)	(0.171)	(0.028)
CPIA Cluster: Economic management	0.082***	0.070**	-0.101***
	(0.021)	(0.029)	(0.021)

CPIA Cluster: Public sector management and institutions	0.119** (0.049)	0.032* (0.018)	-0.092*** (0.027)
Observations	156	156	156
No. of countries	10	10	10
R-squared	0.511	0.534	0.558

Note: Revenue excludes grants. Spending excludes interest payments. The output gap is calculated as the log deviation of real GDP from country-specific HP trends. In the regressions, the output gap is expressed as a percentage of potential output. The classification of commodity (both fuel and non-fuel) exporters comes from Table D of the 2023 October WEO Statistical Appendix. A country is considered resource-rich when natural resources (fuel or nonfuel) account for 20% (or more) of exports. South Sudan is classified as a fuel exporting country. Burundi, Central African Country, and Democratic Republic of Congo are classified as exporters of nonfuel primary products. The remaining 6 countries are classified as non-exporters of natural resources.

These results indicate that Tanzania's budget balance and revenue would have been 0.02 and 0.01 ppt of GDP larger had it had an IMF program. Its expenditure would have been 0.03 ppt of GDP lower had it an IMF program.

Table 3: Determinants of budget forecast error: RE and System GMM estimates

	Primary balance forecast error		Revenue forecast error		Spending forecast error	
	RE	GMM	RE	GMM	RE	GMM
Lagged dependent variable		0.693*** (0.203)		0.801*** (0.190)		0.786*** (0.187)
Commodity exporter dummy	-0.023** (0.009)	-0.012** (0.005)	-0.019*** (0.005)	-0.028*** (0.008)	0.024** (0.010)	0.033** (0.014)
Actual Budget balance in deficit (=1)	-0.041*** (0.010)	-0.029*** (0.007)	-0.101*** (0.032)	-0.020*** (0.006)	0.023** (0.009)	0.041*** (0.012)
Positive Output gap (=1)	-0.022** (0.009)	-0.029** (0.012)	-0.086*** (0.024)	-0.072*** (0.021)	0.103** (0.043)	0.121*** (0.036)
Inflation forecast error	0.041 (0.063)	0.034 (0.040)	-0.018 (0.037)	-0.028 (0.036)	-0.041 (0.057)	-0.059 (0.068)
Growth forecast error	0.104* (0.059)	0.099* (0.057)	0.101 (0.072)	0.083** (0.036)	-0.079 (0.071)	-0.092 (0.083)
Observations	216	208	216	208	216	208
No. of countries	10	10	10	10	10	10
R-squared	0.512		0.501		0.528	
Hansen test for OID (p-value)		0.218		0.203		0.319
Arellano-Bond AR(2) test (p-value)		0.102		0.109		0.111
No. of instruments		2		2		2

Note: Revenue excludes grants. Spending excludes interest payments. The output gap is calculated as the log deviation of real GDP from country-specific HP trends. In the regressions, the output gap is expressed as a percentage of potential output. The classification of commodity (both fuel and non-fuel) exporters comes from Table D of the 2023 October WEO Statistical Appendix. A country is considered resource-rich when natural resources (fuel or nonfuel) account for 20% (or more) of exports. South Sudan is classified as a fuel exporting

country. Burundi, Central African Country, and Democratic Republic of Congo are classified as exporters of nonfuel primary products. The remaining 6 countries are classified as non-exporters of natural resources.

The results further show that introducing fiscal rules can help improve budget credibility. In our regressions, we also control for the existence of fiscal rules either at the national or subnational level. Fiscal rules have been introduced in EAC since 1997, with the establishment of budget balanced, revenue and debt rules in Kenya. Then, budget balanced and debt rules were introduced in 2022 in Central Africa Republic. The remaining countries (Rwanda, South Sudan, Tanzania and Uganda) introduced expenditure, budget balanced and debt rules in 2013, as part of the Macroeconomic Convergence Criteria Under the East African Community Monetary Protocol. The fiscal rules data come from the IMF/FAD Fiscal Rules Database, whose latest version is discussed in Davoodi et al. (2022).[9]

Table 4: Budget forecast errors: the role of fiscal institutions: RE and System GMM estimates

	Primary balance forecast error		Revenue forecast error		Spending forecast error	
	RE	GMM	RE	GMM	RE	GMM
Lagged Dependent variable		0.714***		0.829***		0.816***
		(0.148)		(0.169)		(0.156)
Commodity exporter dummy	-0.019**	-0.016**	-0.014***	-0.021**	0.018**	0.028**
	(0.008)	(0.006)	(0.006)	(0.009)	(0.007)	(0.012)
Actual Budget balance in deficit (=1)	-0.037**	-0.022**	-0.093**	-0.018**	0.019*	0.034**
	(0.016)	(0.009)	(0.040)	(0.007)	(0.010)	(0.014)
Positive Output gap (=1)	-0.017*	-0.025**	-0.071**	-0.068**	0.101*	0.116**
	(0.009)	(0.010)	(0.030)	(0.029)	(0.058)	(0.050)
Inflation forecast error	0.033	0.028	-0.016	-0.024	-0.033	-0.052
	(0.068)	(0.039)	(0.040)	(0.037)	(0.054)	(0.071)
Growth forecast error	0.102*	0.106*	0.098	0.081*	-0.074	-0.085
	(0.058)	(0.061)	(0.085)	(0.046)	(0.083)	(0.089)
IMF program dummy	0.037**	0.031***	0.046**	0.052***	-0.033***	-0.039**
	(0.015)	(0.009)	(0.019)	(0.015)	(0.008)	(0.016)
Budget balanced rule	0.020**	0.041***	0.073**	0.102***	-0.038	-0.046
	(0.008)	(0.011)	(0.030)	(0.031)	(0.046)	(0.061)
Revenue rule	0.023**	0.034**	0.110***	0.096***	0.019	0.037
	(0.010)	(0.014)	(0.032)	(0.025)	(0.031)	(0.040)
Spending rule	0.101**	0.091**	0.096	0.110	-0.121***	-0.124***
	(0.042)	(0.037)	(0.113)	(0.128)	(0.033)	(0.030)
CPIA Cluster: Economic management	0.092***	0.079***	0.019**	0.021**	-0.094***	-0.090***
	(0.027)	(0.024)	(0.007)	(0.008)	(0.027)	(0.027)

[9] While the IMF/FAD Fiscal Rules Database reports that Tanzania introduced numerical rule on public spending in 2015, the country team could not confirm the existence of such a rule. The analysis then assumes that this rule has been suspended since the pandemic. This change leaves our results virtually unchanged.

CPIA Cluster: Public sector management and institutions	0.103** (0.042)	0.101** (0.042)	0.027** (0.011)	0.029** (0.012)	-0.104*** (0.032)	-0.089*** (0.025)
Observations	178	166	178	166	178	166
No. of countries	10	10	10	10	10	10
R-squared	0.449		0.528		0.503	
Hansen test for OID (p-value)		0.206		0.290		0.265
Arellano-Bond AR(2) test (p-value)		0.126		0.105		0.119
No. of instruments		2		2		2

Note: Revenue excludes grants. Spending excludes interest payments. The output gap is calculated as the log deviation of real GDP from country-specific HP trends. In the regressions, the output gap is expressed as a percentage of potential output. The classification of commodity (both fuel and non-fuel) exporters comes from Table D of the 2023 October WEO Statistical Appendix. A country is considered resource-rich when natural resources (fuel or nonfuel) account for 20% (or more) of exports. South Sudan is classified as a fuel exporting country. Burundi, Central African Country, and Democratic Republic of Congo are classified as exporters of nonfuel primary products. The remaining 6 countries are classified as non-exporters of natural resources.

The results show that adopting a fiscal rule reduces fiscal slippages. The coefficient on the dummy variable indicating the existence of a fiscal rule is negative and statistically significative for the balance budget and revenue forecast errors. Having a formal ceiling on the budget deficit and spending raises the actual primary balance by 0.03 ppts of GDP and boosts revenue by 0.09 ppt of GDP, relative to what was planned a year previously. This coefficient is negative but statistically unsignificant for the spending forecast errors. We also find that more specific rules such as numerical floors on revenue are more likely than budget balance rules to make a difference. A numerical floor on revenue improves revenue collection by 0.09 ppt of GDP, relative to what was forecast a year previously. A spending rule pushes up the primary balance by 0.08 ppt of GDP and curtails non-interest expenditures by 0.11 ppt of GDP.

We also control economic and institutional factors such as CPIA ratings on the following 2 clusters: economic management and public sector management and institutions. The results show that the quality of fiscal management and institutions is likely to improve budget credibility by scaling down budget forecast errors, especially on the revenue side. In particular, better fiscal institutions, as proxied by the World Bank's CPIA rating on economic management and public sector management and institutions, are also conducive to credible budgeting. The CPIA index varies between 1 and 6, with the average rating for EAC countries standing at 2.6 in 2024. The coefficients on the CPIA clusters are positive and statistically significant in Table 2, implying that every additional point of the Economic Management rating leads to 0.08 and 0.08 ppt of GDP greater realizations of the primary balance and revenue. For every additional point of the Economic Management rating, actual spending drops by 0.10 ppts of GDP, compared to what was initially forecast. For the Public Sector Management and Institutions cluster, one additional point of the rating is associated with 0.1 and 0.03 ppt of GDP increases in the primary balance and revenue collection, respectively. However, such an improvement in the Public Sector

Management and Institutions rating would lead to a 0.09 ppt of GDP drop in non-interest expenditures.

The introduction of fiscal rules and commitment to IMF programs contributes to bolstering budget credibility in EAC. In our regressions, we also control for the existence of fiscal rules either at the national or subnational level. Fiscal rules have been introduced in EAC since 1997, with the establishment of budget balanced, revenue and debt rules in Kenya. Then, budget balanced and debt rules were introduced in 2022 in Central Africa Republic. The remaining countries (Rwanda, South Sudan, Tanzania and Uganda) introduced expenditure, budget balanced and debt rules in 2013, as part of the Macroeconomic Convergence Criteria Under the East African Community Monetary Protocol. The results show that adopting a fiscal rule reduces budget forecast errors. The coefficient on the dummy variable indicating the existence of a fiscal rule is negative and statistically significative for the balance budget and revenue forecast errors. This coefficient is negative and statistically significant for the spending forecast errors. We also find that more specific rules such as expenditures rules (Tanzania) and revenue rules (Kenya) are more likely than budget balance rules to do not make any statistically significant difference. The results also show that countries with IMF programs had significantly lower fiscal deviations.

VI. Robustness Checks

In this section we check the robustness of our main results to a number of sensitivity tests. We start by excluding potential outliers from our sample. In particular, the budget data for Somalia and South Sudan are only available for starting in 2022 and 2015, respectively. Furthermore, South Sudan has an extremely volatile fiscal data with a budget forecast error of -38.6 percent in 2015 and of 19.2 percent in 2016, well below/above the sample mean. We rerun Equations 1, 2, and 3 by removing Somalia and South Sudan. The results show that coefficients have slightly lower magnitudes, but their statistical significance remains broadly unchanged. Then, we extend our sample to all SSA countries for which data is available (Table 5). This test is intended to ensure external validity of our key results from EAC. The results are broadly unchanged using the larger sample of SSA countries. Next, we rerun all regressions using forecast errors expressed in ppts of initial forecast rather than in ppts of GDP. This sensitivity check is designed to mitigate the potential for endogeneity (contaminated by nominal GDP). The results indicate that our main results on EAC are not influenced by the way the forecast errors are constructed.[10]

Table 5: Budget balance forecasts and realizations: SSA sample

[10] For the sake of space, the results of the remaining sensitivity checks are not reported but available from the authors upon request.

	Primary balance forecast error	Revenue forecast error	Spending forecast error
	(1)	(2)	(3)
Commodity exporter dummy	-0.048***	-0.041***	0.039***
	(0.011)	(0.010)	(0.009)
Actual Budget balance in deficit (=1)	-0.028***	-0.081**	0.015**
	(0.007)	(0.035)	(0.006)
Positive Output gap (=1)	-0.024***	-0.078***	0.069***
	(0.005)	(0.018)	(0.015)
Inflation forecast error	0.008	-0.015	-0.050
	(0.060)	(0.036)	(0.063)
Growth forecast error	-0.023*	-0.084*	0.046*
	(0.013)	(0.048)	(0.026)
Observations	842	842	842
No. of countries	39	39	39
R-squared	0.604	0.594	0.598

Note: Revenue excludes grants. Spending excludes interest payments. The output gap is calculated as the log deviation of real GDP from country-specific HP trends. In the regressions, the output gap is expressed as a percentage of potential output. The classification of commodity (both fuel and non-fuel) exporters comes from Table D of the 2023 October WEO Statistical Appendix. A country is considered resource-rich when natural resources (fuel or nonfuel) account for 20% (or more) of exports. South Sudan is classified as a fuel exporting country. Burundi, Central African Country, and Democratic Republic of Congo are classified as exporters of nonfuel primary products. The remaining 6 countries are classified as non-exporters of natural resources.

Finally, we estimate dynamic versions of Equations 1, 2, and 3 using two alternative estimators: the random effect estimator and the System GMM estimator (Blundell and Bond, 1998). The random effect estimator allows for country specific effects that are uncorrelated with the error term. The System GMM estimator allows checking the robustness of our main results to further address endogeneity concerns. It combines levels and first difference equations using lagged differences and lagged levels of the explanatory variables as instruments. To mitigate the risk of overfitting the model, we restricted the number of instruments (relative to the number of countries) by narrowing the lag ranges used to generate them (Roodman, 2009).

The following modified versions of Equations 1, 2 and 3 are expressed as

$$\varepsilon_{ct}^{BB} = \beta\varepsilon_{ct-1}^{BB} + \beta X_{ct} + \gamma_c + \lambda_t + \upsilon_{ct}^{BB} \quad (1')$$

$$\varepsilon_{ct}^{R} = \beta\varepsilon_{ct-1}^{R} + \beta X_{ct} + \gamma_c + \lambda_t + \upsilon_{ct}^{R} \quad (2')$$

$$\varepsilon_{ct}^{E} = \beta\varepsilon_{ct-1}^{E} + \beta X_{ct} + \gamma_c + \lambda_t + \upsilon_{ct}^{E} \quad (3')$$

The results presented in Tables 4 and 5 show that our main findings on EAC are influenced neither by country fixed effects nor by potential endogeneity bias. Using both the random effect and the System GMM estimators leaves our main results unchanged (Tables 3 and 4).

VII. Conclusion

This paper studies the magnitude and drivers of one-year-ahead fiscal forecast deviations in EAC using the WEO database vintages. In this context, fiscal forecast errors are understood to stem primarily from IMF staff's assessment of countries' fiscal developments. By analyzing forecast deviations in the primary balance, revenues, and expenditures over the period 2000-2024, it provides a consistent cross-country assessment of the size and underlying factors behind fiscal forecast errors.

The results reveal optimism in WEO-based fiscal projections for the EAC, with actual fiscal balances falling short of forecasts in most years. These deviations are driven primarily by spending overruns and to some extent revenue shortfalls. Revenue forecast errors are concentrated in indirect taxes, particularly, VAT and customs, while spending slippages are largely influenced by investment, goods and services and social protection expenditures. Forecast deviations tend to be larger during economic booms, when fiscal balances are already in deficit, and at longer forecasting horizons. We also find that countries with IMF-supported programs, numerical fiscal rules, and stronger fiscal institutions, proxied by the World Bank CPIA rating, typically exhibit smaller forecast deviations, especially on the expenditure side.

These findings have implications for fiscal reforms in the region (IMF, 2023, 2025). First, the predominance of expenditure overruns underscores the importance of strengthening expenditure planning, cash management, and commitment controls—areas repeatedly identified in PEFA assessments as sources of execution risk (IBP, 2018). Second, the concentration of revenue forecast errors in indirect taxes highlights the need for more conservative assumptions around tax, consistent with IMF guidance on medium-term revenue strategies (Curristine et al., 2024). Third, the link between smaller forecast deviations and IMF program engagement or fiscal rules suggests that institutional anchors can help discipline fiscal planning when they are supported by credible enforcement and realistic macro-fiscal assumptions (Frankel, 2011).

References

Alesina, A., Campante, F., and Tabellini, G. (2008), 'Why is Fiscal Policy Often Procyclical?', *Journal of the European Economic Association*, 6(5): pp. 1006–36.

Allen, R. and Last, D. (2007). Low-Income Countries Need to Upgrade Financial Management. IMF Survey. Washington, D.C.: International Monetary Fund.

Beetsma, R., Giuliodori, M., & Wierts, P. (2011). Budget forecasting in Europe. *Journal of International Money and Finance*, 30(3), 535–553.

Blanchard, O.J. & Leigh, D. (2013). Growth Forecast Errors and Fiscal Multipliers. *American Economic Review*, 103(3): 117–20.

Bova, E., Carcenac, N., & Guerguil, M. (2014). Fiscal rules and the procyclicality of fiscal policy in the developing world (IMF Working Paper No. 14/122). International Monetary Fund.

Curristine, T.. Adenauer, I. Alonso-Albarran, V., Grinyer, J., Tee, K., Wendling, C., Moretti, D. (2024). How to Develop and Implement a Medium-Term Fiscal Framework. How to Notes No. 24/05. International Monetary Fund.

Davoodi, H., Elger, P., Fotiou, A., Garcia-Macia, D., Lagerborg A., Lam, R. & Pillai, S. (2022). Fiscal Rules and Fiscal Councils: Recent Trends and Performance during the COVID-19 Pandemic. International Monetary Fund, Washington, D.C.

Debrun, X., & Kumar, M. S. (2007). The discipline-enhancing role of fiscal institutions: Theory and empirical evidence. IMF Working Paper No. 07/171. International Monetary Fund.

Drummond, P., Kal Wajid, s., and Williams, O. (2014). The Quest for Regional Integration in the East African Community. Washington, D.C.: International Monetary Fund.

Flores, A., et al. (2022). Why do debt forecasts go wrong in LICs? IMF Working Paper No. 22/123. International Monetary Fund.

Blundell, R. & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87(1):115—143.

Frankel, J. (2011). Over-optimism in forecasts by official budget agencies and its implications. *Oxford Review of Economic Policy*, 27(4):536–562.

Frankel, J., Végh, C., & Vuletin, G. (2013). On graduation from fiscal procyclicality. IMF Working Paper No. 13/180. International Monetary Fund.

Ismail, K., Perrelli, R., & Yang, J. (2020). Optimism bias in growth forecasts: The role of planned policy adjustments (IMF Working Paper No. 20/229). International Monetary Fund.

Ilzetski, E., & Vegh, C. (2008). Procyclical Fiscal Policy in Developing Countries: Truth or Fiction?, NBER Working Paper No. 14191.

IMF. (2025). Regional Economic Outlook: Sub-Saharan Africa. *Holding Steady*. International Monetary Fund. October 2025.

IMF. (2021). Fiscal Monitor. *Strengthening the Credibility of Public Finances.* International Monetary Fund. October 2021.

IMF (2023). Regional Economic Outlook for Sub-Saharan Africa: Light on the Horizon? International Monetary Fund. October 2023.

IBP (2018). Budget Credibility: What Can We Learn from PEFA Reports? International Budget Partnership.

Kiringai, J., et al. (2021). Budget transparency in Kenya. Nairobi: Institute of Economic Affairs.

Mawejje, J., & Ssewanyana, S. (2020). Uganda's budget execution and forecasting. Kampala: Economic Policy Research Centre.

Mawejje, J., & Odhiambo, N. (2022). Macroeconomic determinants of fiscal policy in East Africa: a panel causality analysis. Working Papers 29842, University of South Africa, Department of Economics.

Public Expenditure and Financial Accountability (PEFA) Secretariat. (2016–2023). Country assessments.

Rahman, A. & Mansaray, A., S. (2025). Do governments adhere to their approved budgets? Insights from PEFA assessments. Word Bank Governance for Development Blog. Washington, D.C.

Tanzi, V. (1977). Inflation, Lags in Collection, and the Real Val Revenue. *IMF Staff Papers*, 24(1):154—167.

Tanzi, V. (1978). Inflation, Real Tax Revenue, and the Case for Inflation Finance: Theory with an Application to Argentina, *IMF Staff Papers*, 25(3): 417—451.

Ossowski, R. &Halland, H. (2016). Fiscal Management in Resource-Rich Countries: Essentials for Economists, Public Finance Professionals, and Policy Makers. World Bank Studies; World Bank.

Roodman, D. (2009). How to do xtabond2: An introduction to difference and system GMM in Stata. *The Stata Journal*, 9(1): 86–136.

Zellner, A. (1962). An Efficient Method of Estimating Seemingly Unrelated Regressions and Tests for Aggregation Bias. *Journal of the American Statistical Association*. 57(298):348—268.

Annex

Figure A3: Correlation between budget balance forecast errors: WEO vs budget submissions

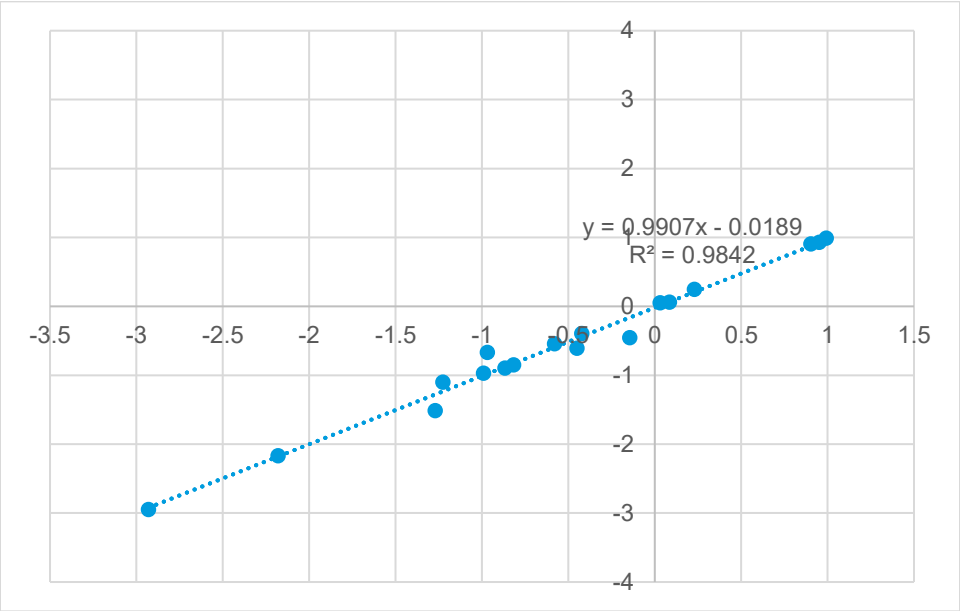


Figure A4: Correlation between revenue forecast errors: WEO vs budget submissions

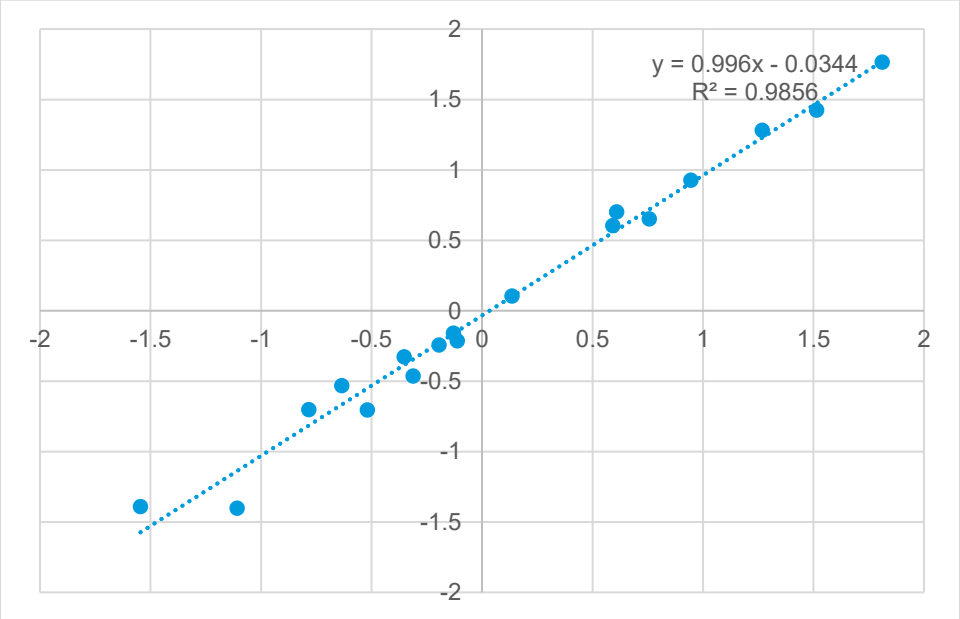


Figure A5: Correlation between spending forecast errors: WEO vs budget submissions

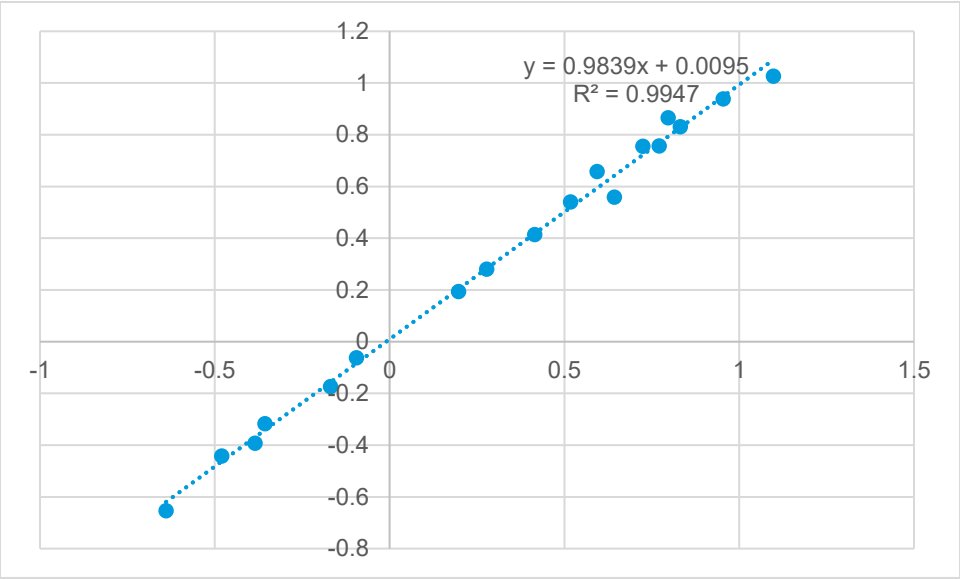


Table A2: One-year ahead fiscal forecast errors in EAC, 2010-2024

Country	Primary balance forecast error	Revenue forecast error	Spending forecast error
Burundi	-0.66	-1.11	-0.44
Central African Republic	-0.93	-0.20	0.63
Comoros	1.17	1.47	0.30
Congo, DR	0.19	-0.95	-1.15
Kenya	-0.87	-0.61	0.25
Rwanda	-0.75	0.18	0.93
Somalia	0.54	0.84	0.29
South Sudan	-0.10	3.36	7.29
Tanzania	0.00	-0.46	-3.1
Uganda	-0.28	-0.01	0.33
EAC average	-0.61	-0.34	0.27
SSA average	-0.20	-0.71	-0.50
LIC average	0.06	-0.46	-0.52

Note: Revenue excludes grants. Spending excludes interest payments.

Table A3: One-year ahead fiscal forecast errors in EAC, 2010-2024

Country	Primary balance forecast error	Revenue forecast error	Spending forecast error
2010	-0.790	-0.012	0.789
2011	-0.624	-1.103	-0.479
2012	-0.556	-0.300	-0.270
2013	-1.196	-1.988	-0.792
2014	-2.983	-2.983	-2.360

2015	-0.856	3.113	8.160
2016	0.571	-2.968	-4.677
2017	-0.584	2.857	2.273
2018	0.779	0.777	-0.001
2019	-0.703	-3.512	-2.808
2020	-0.138	2.644	2.505
2021	-1.641	1.074	2.716
2022	0.393	0.698	0.305
2023	-0.369	0.218	0.587
2024	-0.433	-2.297	-1.863

Note: Revenue excludes grants. Spending excludes interest payments.

PUBLICATIONS

Fiscal Forecast Errors in East Africa: Nature, Drivers, and Policy

Working Paper No. WP/2026/055