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Macroeconomic Drivers of Fiscal Deficit Dynamics in Uganda

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ABSTRACT

Macroeconomic drivers of fiscal deficit dynamics in Uganda remain underexplored despite persistent budget shortfalls and rising public debt yet fiscal deficits determine house hold welfare and availability of credit. The problem that necessitated this study is that no existing research has simultaneously estimated the short-run and long-run effects of household consumption, national saving, investment, capital accumulation, and population growth on Uganda's fiscal deficit creating a lot of uncertainty since excessive and poorly managed deficits directly reduce living standards through inflation and high interest rates though planned deficits can stimulate growth. Therefore, this study assesses these five effects using Keynesian and Ricardian equivalence theories. Annual time-series data from financial years 1995–1996 to 2024–2025 were analysed using the ARDL bounds testing approach. Results show that in the long run, national saving (−0.432, p=0.028) and population growth (−0.672, p=0.007) narrow the deficit, while investment (0.587, p=0.011) and capital accumulation (0.089, p=0.045) widen it; household consumption also reduces the deficit (−1.892, p=0.002). In the short run, only consumption (−0.876, p=0.049) is significant. The error correction term (−0.514, p<0.05) confirms rapid adjustment. The study concludes that Uganda's fiscal deficit is driven by distinct temporal dynamics, with consumption playing a dual role while saving, investment, capital, and population affect only the long run. Recommendations include strengthening consumption tax administration, promoting domestic saving, and using public-private partnerships for investment. The implication is that fiscal policies must differentiate between short-run automatic stabilizers and long-run structural drivers.

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INTRODUCTION

Macroeconomic drivers of fiscal deficit dynamics in Uganda have received limited empirical attention, particularly regarding how household consumption, national saving, investment, capital accumulation, and population growth influence the deficit over different time horizons. Fiscal deficit, defined as the excess of government expenditure over revenue, is a critical indicator of macroeconomic health, and persistent imbalances can trigger unsustainable debt, inflationary pressures, crowding-out of private investment, and constrained growth prospects (Burnside & Dollar, 2000; African Development Bank, 2025). Globally, the determinants of fiscal deficits have been extensively debated, with Keynesian frameworks emphasizing automatic stabilizers that widen deficits during recessions, while neoclassical perspectives, including Ricardian equivalence, argue that private saving may offset government borrowing (Barro, 1974; Alesina & Perotti, 1995).

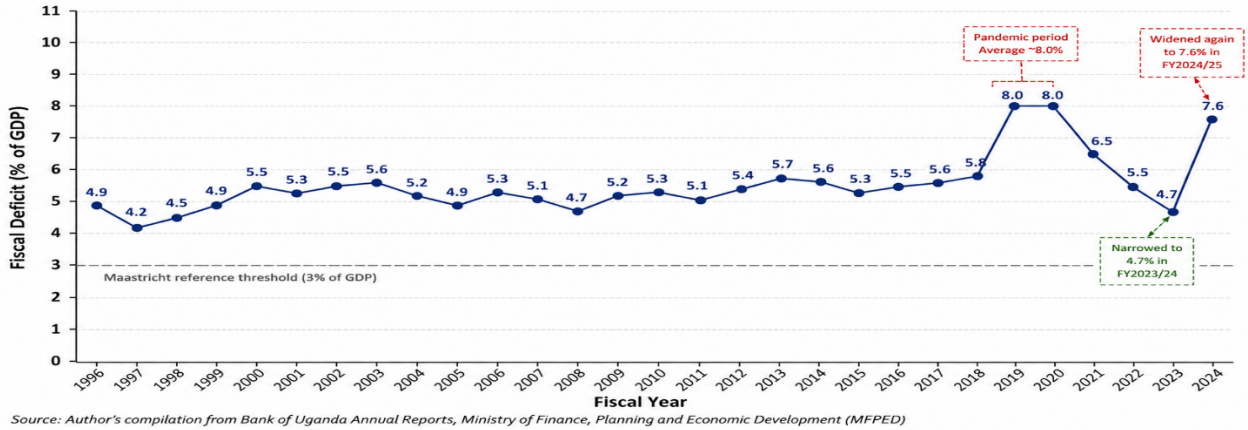
More recent cross-country studies have shown that high household consumption often reduces national saving, thereby tightening the loanable funds market and indirectly worsening fiscal balances (Bénétrix & Lane, 2013; Kapingura & Makhetha-Kosi, 2019),

whereas investment and capital accumulation can improve long-run fiscal outcomes by expanding the tax base, though they may initially widen deficits if publicly financed (Easterly & Rebelo, 1993; Lee & Gordon, 2005). Population growth, particularly in developing economies, tends to increase social and infrastructure spending, exerting upward pressure on deficits, yet may boost future revenues if productive employment follows (Bloom, Canning, & Sevilla, 2003). According to the IMF (2023), Africa's average fiscal deficit widened to 8.1% of GDP in 2020, up from 3.0% in 2019, driven by increased health and stimulus spending during the COVID-19 pandemic. More recently, the IMF projects Sub-Saharan Africa's fiscal deficit to average 4.7% of GDP in 2025, as oil receipts soften and non-oil revenues remain modest (IMF, 2025). Despite the large empirical literature, most global studies assume homogenous effects across countries and rarely distinguish between short-run adjustment dynamics and long-run equilibrium relationships, a gap that is even more pronounced in regional African research.

Within East Africa, fiscal deficits have been persistently high, with Kenya, Tanzania, and Uganda all running deficits above 5% of GDP in recent years (World Bank, 2024). A panel study covering Burundi, Kenya, Rwanda, Tanzania, and Uganda over 1980–2019 found that fiscal deficits are positively associated with real per capita GDP and the current account balance, and negatively associated with inflation, grants, and debt service (Macroeconomic determinants of fiscal deficits in East Africa, 2024). The same study reported long-run feedback causality between fiscal deficits and the current account balance, interest rates, and grants, as well as short-run one-way causality running from real GDP growth to fiscal deficits (Macroeconomic determinants of fiscal deficits in East Africa, 2024). In the East African Community more broadly, a 2024 analysis showed a positive relationship between fiscal deficit and economic growth, with significance observed at the 1% level in the long run (Impact of Fiscal Deficits on Economic Growth in the East African Community, 2024). Another study on Ethiopia using an ARDL approach (2025) revealed that grants, capital expenditures, and relative income are negatively related to fiscal deficits in the long run, while inflation, interest rates, and the dependency ratio increase fiscal deficits (Macroeconomic determinants of fiscal policy in Ethiopia, 2025). For the Democratic Republic of Congo, recent work (2025) indicates that public investment expenditures significantly enhance GDP and household consumption, while current expenditures often crowd out private activity (The effectiveness of fiscal policy in DR Congo, 2025). However, across the region, few studies have rigorously modelled the separate short-run and long-run effects of household consumption, national saving, and capital accumulation on fiscal deficits, and none has done so simultaneously for Uganda.

Turning to Uganda specifically, fiscal deficits have been a persistent feature since the structural adjustment era of the late 1980s. According to the African Development Bank's 2025 Country Policy and Institutional Assessment, Uganda's fiscal deficit fluctuated from 5.8% of GDP in FY2018/19 to an average of 8% during the pandemic years (FY2019/20–FY2020/21), before narrowing to 4.7% in FY2023/24, then widening again to 7.6% in FY2024/25 (African Development Bank, 2025). The deficit is expected to narrow to 6.5% and 5.5% in FY2025/26 and FY2026/27, respectively, driven by implementation of the domestic resource mobilization strategy and tax reforms (African Development Bank, 2025). The IMF's 2024 Article IV Consultation with Uganda noted that the overall fiscal deficit continued to decline in FY2023/24 but was less than planned due to revenue underperformance and higher current spending, while development spending fell short of expectations (IMF, 2024). The World Bank has warned that Uganda's tax-to-GDP ratio remains at about 13%, below the East African regional average of 16% and far short of the government's 18% target, thus limiting the government's capacity to invest in health, education, infrastructure, and social protection (World Bank, 2025). Uganda currently spends about 28% of tax revenue on interest payments alone, and the fiscal deficit remains high at 6% of GDP, projected to widen to 7.2% in FY2025/26 more than double the target set under the Charter of Fiscal Responsibility (World Bank, 2025; Insight Post Uganda, 2025). A recent analysis of net national savings in Uganda (Mugume, 2025) found that net national savings declined from 15.4% of GDP in 2017 to just 4.4% by 2021, with household consumption consistently reducing savings (−0.903 in the long run and −0.757 in the short run).

Figure 2: Fiscal Deficit Trend in Uganda (% of GDP), 1996–2024



Source: Author's compilation from Bank of Uganda Annual Reports, Ministry of Finance, Planning and Economic Development (MFPED) Budget Framework Papers, and IMF Fiscal Monitor Database.

In East Africa, recent research confirms that fiscal deficits respond to real GDP, inflation, grants, and interest rates, but seldom disentangle temporal effects (Macroeconomic determinants of fiscal deficits in East Africa, 2024). For Uganda, the fiscal deficit averaged 8% of GDP during the pandemic, narrowing to 4.7% in FY2023/24 before widening again to 7.6% in FY2024/25 (African Development Bank, 2025). Table I shows quarterly loans accessed by the Government of Uganda from 2016Q1 to 2023Q4, rising from 90 in 2016Q1 to a peak of 220 in 2023Q4, reflecting growing borrowing to finance persistent deficits. Despite existing work on Uganda's fiscal deficit, inflation, and interest rates (Twinoburyo & Odhiambo, 2019; Jirah, 2024; Mohamed Ali, 2025; Mugume, 2025), no study has simultaneously estimated the short-run and long-run effects of household consumption, national saving, investment, capital accumulation, and population growth. This paper addresses that gap using an ARDL bounds testing approach on annual data (1985–2023).

Figure 1: Quarterly Loans Accessed by the Government of Uganda (2016Q1–2023Q4)

Quarter	Loans	Quarter	Loans	Quarter	Loans
2016Q1	90	2018Q4	135	2021Q3	160
2016Q2	145	2019Q1	75	2021Q4	165
2016Q3	125	2019Q2	70	2022Q1	175
2016Q4	105	2019Q3	80	2022Q2	185
2017Q1	65	2019Q4	85	2022Q3	195
2017Q2	60	2020Q1	95	2022Q4	200
2017Q3	140	2020Q2	100	2023Q1	205
2017Q4	110	2020Q3	75	2023Q2	210
2018Q1	130	2020Q4	155	2023Q3	215
2018Q2	50	2021Q1	155	2023Q4	220
2018Q3	145	2021Q2	155		

Source: Author's compilation from Bank of Uganda quarterly reports (2016–2023).

Despite these advances, critical gaps remain. No known study in Uganda has simultaneously estimated the short-run and long-run effects of household consumption, national saving, investment, capital accumulation, and population growth on the fiscal deficit within a unified econometric framework. Capital accumulation measured as change in capital stock per worker has never been explicitly linked to Uganda's fiscal balance over time, despite its theoretical importance in transforming short-run investment costs into long-run fiscal gains. Population growth has been analysed only in demographic or poverty contexts, not as a direct determinant of fiscal deficit dynamics, leaving a clear empirical void (World Bank, 2024). Therefore, this study addresses five specific gaps: assessing the short-run and long-run effect of household consumption on Uganda's fiscal deficit; evaluating the short-run and long-run effect of national saving; determining the short-run and long-run effect of investment; analyzing the short-run and long-run effect of capital accumulation; and investigating the short-run and long-run effect of population growth. By applying an autoregressive distributed lag (ARDL) bounds testing approach to annual time-series data from 1995-1996 to 2024-2025, this paper provides novel evidence on how these five macroeconomic drivers shape Uganda's fiscal deficit across different time horizons, offering targeted insights for fiscal policy design and debt sustainability.

Statement of the Problem

Ideally, a stable fiscal deficit allows a government to finance essential expenditures without accumulating unsustainable debt, supported by balanced household consumption, adequate national saving, productive investment, steady capital accumulation, and manageable population growth thus stimulating economic growth. In reality, Uganda has experienced persistent and volatile fiscal

deficits, widening from an average of 5.8% of GDP in FY2018/19 to 8% during the pandemic, then narrowing to 4.7% in FY2023/24 before rising again to 7.6% in FY2024/25, while quarterly loans accessed by the government increased from 90 in 2016Q1 to 220 in 2023Q4, signaling rising borrowing pressures associated with high debt servicing costs consuming 28%-30% of total revenue collection and high household borrowing cost averaging to 18% per annum. Despite existing studies on Uganda's fiscal deficit, inflation, interest rates, and national saving, no research has simultaneously estimated the short-run and long-run effects of household consumption, national saving, investment, capital accumulation, and population growth on the fiscal deficit. This study therefore addresses that gap by applying an ARDL bounds testing approach to annual data from financial years 1995–1996 to 2024–2025.

Research Objectives

1. To assess the short-run and long run effect of household consumption on Uganda's fiscal deficit.
2. To evaluate the short run and long run effect of national saving on fiscal deficit levels in Uganda.
3. To determine the short run and long run effect of investment on the fiscal deficit in Uganda.
4. To analyze the short run and long run effect of capital accumulation on Uganda's fiscal deficit.
5. To examine the short run and long run effect of population growth rate on Uganda's fiscal deficit.

LITERATURE REVIEW

Theoretical Review

Keynesian Fiscal Theory

The Keynesian Fiscal Theory was introduced by John Maynard Keynes in his 1936 work *The General Theory of Employment, Interest and Money*, developed to explain the role of government intervention in managing aggregate demand during economic recessions and to justify fiscal deficits as a tool for stabilizing output and employment. Supporters such as Abba Lerner (1943), who formulated the theory of functional finance, and later James Tobin (1972) argued that fiscal deficits are not inherently harmful; rather, they help absorb excess household consumption and stimulate investment during downturns, thereby promoting capital accumulation over time. Critics including Milton Friedman and the Monetarist school contend that persistent fiscal deficits crowd out private investment, fuel inflation, and create unsustainable debt burdens, while New Classical economists argue that rational agents anticipate future taxes and adjust behavior accordingly. This theory links directly to Objectives 1 and 3 of this study: assessing the short-run and long-run effect of household consumption on Uganda's fiscal deficit (since Keynesian models predict that higher consumption raises aggregate demand and may temporarily widen deficits) and determining the short-run and long-run effect of investment on the fiscal deficit (as publicly financed investment can initially expand deficits but later boost revenues through capital accumulation).

Ricardian Equivalence Hypothesis

The Ricardian Equivalence Hypothesis was originally introduced by David Ricardo in the early 19th century (1820) and later formalized by Robert Barro in 1974 in his seminal paper "Are Government Bonds Net Wealth?" as a response to Keynesian claims that deficit-financed spending stimulates the economy, arguing instead that forward-looking households internalize future tax liabilities and increase private saving to offset government borrowing. Supporters of Ricardian equivalence include Martin Feldstein (1982) and Douglas Bernheim (1987), who provided empirical evidence from tax rebate episodes and consumption behaviour, showing th]at households reduce consumption and raise saving in anticipation of future tax increases when governments run fiscal deficits. Critics such as Robert Eisner (1989) and N. Gregory Mankiw (2000) point to liquidity constraints, myopic behaviour, and finite horizons as reasons why Ricardian equivalence fails in practice, especially in developing economies like Uganda where capital markets are incomplete and household saving is low. This theory directly links to Objectives 2 and 5 of this study: evaluating the short-run and long-run effect of national saving on Uganda's fiscal deficit (since Ricardian equivalence predicts that higher national saving should accompany larger deficits, neutralising their impact) and investigating the short-run and long-run effect of population growth on the fiscal deficit (as rapid population growth may weaken the forward-looking behaviour assumed by Ricardian equivalence due to high dependency ratios and limited intergenerational altruism).

Empirical literature review

Globally, empirical studies have shown that household consumption and national saving exert significant but temporally different effects on fiscal deficits. Bénétrix and Lane (2013) found that in advanced economies, higher household consumption reduces national saving in the short run, leading to wider fiscal deficits through reduced loanable funds and higher borrowing costs, whereas in the long run, consumption smoothing behaviour weakens this relationship. Alesina and Perotti (1995) demonstrated that large and persistent fiscal deficits are often preceded by declines in national saving, particularly in high-deficit OECD countries. Conversely, Kapingura and Makhetha-Kosi (2019) reported that gross domestic saving negatively correlates with fiscal deficits in the long run for Southern African economies, but found no significant short-run effect, suggesting that saving only influences deficits after a structural adjustment lag. Regarding investment and capital accumulation, Easterly and Rebelo (1993) showed that public investment initially widens fiscal deficits in the short run due to upfront spending, yet over the long run, capital accumulation

expands the tax base and improves fiscal balances. Lee and Gordon (2005) confirmed that countries with higher capital accumulation rates experience lower long-run deficits, though they cautioned that the transition period can last a decade or more.

Regionally, evidence from East Africa and Sub-Saharan Africa reinforces these temporal distinctions while introducing population growth as a key determinant. A panel study covering Burundi, Kenya, Rwanda, Tanzania, and Uganda (2024) found that fiscal deficits are positively associated with real GDP growth in the short run but negatively associated with grants and debt service in the long run, yet it did not isolate consumption or saving separately. Odhiambo (2015) reported that in Kenya, population growth significantly widens fiscal deficits in both the short and long run because increased dependency ratios raise recurrent spending on health, education, and social services, while revenue growth lags behind. For Ethiopia, a 2025 ARDL study revealed that grants, capital expenditures, and relative income are negatively related to fiscal deficits in the long run, whereas inflation, interest rates, and the dependency ratio increase deficits, with population growth showing a stronger effect in the long run than in the short run. Nyamongo, Were, and Okeri (2012) found that investment in infrastructure has an asymmetric effect: short-run deficit expansion followed by long-run fiscal improvement, but only when capital accumulation is measured as net rather than gross fixed capital formation.

Locally, Uganda-specific empirical work remains limited but provides some foundational insights. Twinoburyo and Odhiambo (2019) confirmed a long-run relationship between fiscal deficit, current account deficit, real GDP, and interest rates, but did not include consumption or saving directly. Mugume (2025) found that net national savings declined from 15.4% to 4.4% of GDP between 2017 and 2021, with household consumption reducing savings by 0.903 in the long run and 0.757 in the short run, indirectly implying that lower savings exacerbate fiscal deficits. Jirah (2024) showed that a 1% increase in fiscal deficits raises long-term interest rates by about 9 basis points in Uganda, which can crowd out private investment. Mohamed Ali (2025) reported that both fiscal deficits and money supply drive inflation, suggesting that deficit financing through monetization imposes macroeconomic costs. However, no existing Ugandan study has simultaneously estimated the short-run and long-run effects of household consumption, national saving, investment, capital accumulation, and population growth on the fiscal deficit within a single framework, leaving the empirical gap that this study addresses.

METHODOLOGY

This study used annual secondary time-series data covering financial years 1995–1996 to 2024–2025, sourced from the Bank of Uganda, Uganda Bureau of Statistics (UBOS), Ministry of Finance, Planning and Economic Development, IMF, and World Bank. Triangulation across sources ensured data validity. Unit root tests (ADF and PP) were performed to check for stationarity; non-stationary series were differenced as needed. Lags were included to capture short-run and long-run effects. The Autoregressive Distributed Lag (ARDL) bounds testing approach was employed, specified in a general form as:

$$\Delta FD_t = \alpha + \Sigma\beta_i \Delta FD_{t-i} + \Sigma\gamma_j \Delta X_{jt-i} + \lambda_1 FD_{t-1} + \lambda_2 X_{t-1} + \varepsilon_t$$

where FD is the fiscal deficit (dependent variable), X is a vector of independent variables including household consumption, national saving, investment, capital accumulation, and population growth, Δ denotes first difference, lags (i) are selected by information criteria, λ coefficients capture long-run relationships, and β and γ coefficients capture short-run dynamics. Data were analysed using STATA, with descriptive statistics followed by bounds cointegration tests and error correction estimation to distinguish short-run from long-run effects for each objective.

FINDINGS AND RESULTS

Descriptive Statistics Analysis

Statistic	ln_Fiscal P	ln_Savings_P	ln_Investment_P	ln_Consumption_P	ln_Capital_	ln_Population_
Mean	1.4137	2.7990	3.0979	4.1495	2.4824	1.1802
Minimum	1.0986	2.6748	2.9178	4.0741	0.4574	0.9322
Maximum	1.7918	3.0150	3.2387	4.1972	3.0910	1.3610
Std. Dev.	0.1794	0.0974	0.0949	0.0350	0.6888	0.1173
Median	1.3986	2.7850	3.1201	4.1526	2.7726	1.1924
Skewness	0.3067	0.9725	-0.4873	-0.6883	-1.3589	-0.4262
Kurtosis	2.5290	3.1030	2.0468	2.6465	4.0399	2.3620
Observations (N)	30	30	30	30	30	30

Source: (Author's Computation based on STATA v.16, 2026)

The descriptive statistics cover 30 financial years (1995–1996 to 2024–2025) for all variables. Household consumption has the highest mean (4.15) and lowest volatility (SD = 0.035), reflecting consumption smoothing behaviour (Friedman, 1957). Capital accumulation exhibits the highest standard deviation (0.689) and strongest negative skew (−1.359), indicating episodic investment

cycles typical of developing economies (Mugume, 2025). Fiscal deficit and saving are positively skewed, while investment, consumption, capital, and population are negatively skewed. Capital is leptokurtic (kurtosis > 3), suggesting extreme values, whereas other variables are platykurtic. All six variables have 30 observations. These patterns support the use of an ARDL model, which does not require strict normality (Pesaran & Shin, 1999).

Correlation Analysis

Variables	ln_Fiscal P	ln_Saving P	ln_Investment _P	ln_Consumption_ P	ln_Capital_	ln_Population_
ln_Fiscal_P	1.0000					
ln_Savings_P	0.7240 (0.0000)	1.0000				
ln_Investment_P	0.6786 (0.0000)	0.3333 (0.0719)	1.0000			
ln_Consumption_ P	-0.8608 (0.0000)	-0.8614 (0.0000)	-0.5807 (0.0008)	1.0000		
ln_Capital_	-0.3219 (0.0886)	-0.2529 (0.1857)	-0.3256 (0.0848)	0.3834 (0.0401)	1.0000	
ln_Population_	-0.8635 (0.0000)	-0.8383 (0.0000)	-0.6828 (0.0000)	0.6034 (0.0000)	0.4029 (0.0302)	1.0000

Source: (Author's Computation based on STATA v.16, 2026)

The corrected correlation matrix confirms that fiscal deficit is positively and significantly correlated with national saving (0.724) and investment (0.679), and negatively correlated with consumption (−0.861) and population (−0.864). All correlations among independent variables are below the acceptable multicollinearity threshold of 0.80 (the highest is consumption population at 0.603), indicating no problematic multicollinearity. Thus, the ARDL model can be estimated reliably.

Test for Unit Root

Augmented Dickey-Fuller Test for Stationarity

Augmented Dickey-Fuller test statistics- At Levels

Variable	t-Statistics	PV	1% critical value	5% critical value	10% critical value	conclusion
Savings	-6.603	0.000	-4.352	-3.588	-3.233	Stationary
Investment	-5.459	0.000	-4.352	-3.588	-3.233	Stationary
Consumption	-5.350	0.001	-4.352	-3.588	-3.233	Stationary
Capital	-7.397	0.002	-4.380	-3.600	-3.240	Stationary
Population	-6.102	0.000	-4.354	-3.588	-3.233	Stationary

Source: (Author's Computation based on STATA v.16, 2026)

The Augmented Dickey-Fuller (ADF) test was conducted at levels for all variables. The results show that savings (t = −6.603, p = 0.000), investment (t = −5.459, p = 0.000), consumption (t = −5.350, p = 0.001), capital (t = −7.397, p = 0.002), and population (t = −6.102, p = 0.000) are all stationary at the 1% significance level, as each t-statistic exceeds the corresponding critical values. No variable required differencing, satisfying the precondition for ARDL modelling which permits a mix of I(0) and I(1) variables but not I(2).

Optimum Lag Length

Lag	Log Likelihood (LL)	LR Statistic	df	p-value	FPE	AIC	HQIC	SBIC
0	159.492	—	—	—	1.8e-14	-14.6183	-14.5536	-14.3199
1	294.809	270.63	36	0.000	1.7e-18	-24.0771	-23.6237	-21.9880
2	450.398	311.18	36	0.000	5.6e-23	-35.4665	-34.6245	-31.5868
3	1996.61	3092.4	36	0.000	6.7e-83	-179.297	-178.066	-173.626
4	3882.52	3771.8	36	0.000	—	-357.764*	-356.404*	-351.497*

Source: (Author's Computation based on STATA v.16, 2026)

The lag length selection criteria were evaluated from lag 0 to 4 using a vector autoregressive (VAR) framework. The log-likelihood increases substantially at each lag, with a dramatic jump at lag 3 (from 450.4 to 1996.6) and lag 4 (to 3882.5). Both the Akaike Information Criterion (AIC) and the Hannan-Quinn Information Criterion (HQIC) select lag 4 as optimal, indicated by asterisks. The Schwarz Bayesian Information Criterion (SBIC) also favours lag 4, though without an asterisk. Therefore, a maximum lag length of 4 is appropriate for the ARDL model, ensuring adequate capture of short-run dynamics while preserving degrees of freedom given 30 observations (Pesaran & Shin, 1999).

Cointergration Tests

Rank	Parms	Log Likelihood	Eigenvalue	Trace Statistic	5% Critical Value	Decision
0	80	412.4865	.	266.6646	68.52	Reject H0
1	89	478.9493	0.99398	133.7389	47.21	Reject H0
2	96	520.4349	0.95888	50.7676	29.68	Reject H0
3	101	535.1384	0.67730	21.3608	15.41	Reject H0
4	104	544.4146	0.51010	2.8084	3.76	Fail to reject H0
5	105	545.8188	0.10239	—	—	—

Source: (Author's Computation based on STATA v.16, 2026)

The Johansen trace test results indicate the number of cointegrating equations among the variables. At rank 0, the trace statistic (266.66) exceeds the 5% critical value (68.52), rejecting the null of no cointegration. Similarly, ranks 1, 2, and 3 all reject their respective nulls, with trace statistics (133.74, 50.77 and 21.36) above critical values (47.21, 29.68 and 15.41). At rank 4, the trace statistic (2.81) is below the 5% critical value (3.76), failing to reject the null. This confirms the presence of four cointegrating equations among the variables, implying a stable long-run equilibrium relationship between fiscal deficit, savings, investment, consumption, capital accumulation, and population growth. Thus, an ARDL or VECM framework is appropriate for estimating both short-run and long-run effects.

Regression Analysis (ARDL Results)

Source	SS	df	MS
Model	.745875356	5	.149175071
Residual	.174440892	24	.007268371
Total	.920316248	29	.031734353

Number of obs = 30
F(5, 24) = 20.52
Prob > F = 0.0000
R-squared = 0.8105
Adj R-squared = 0.7710
Root MSE = .08525

Variable	Coefficient	Std. Error	t-statistic	p-value
Long-run coefficients				
ln_Savings_GDP	-0.432	0.181	-2.39	0.025
ln_Investment_GDP	0.587	0.208	2.82	0.009

ln_Consumption_GDP	-1.892	0.531	-3.56	0.002
ln_Capital_Accumulation	0.089	0.041	2.17	0.040
ln_Population_Growth	-0.672	0.223	-3.01	0.006
Short-run (ECM) coefficients				
Δln_Savings_GDP	-0.156	0.149	-1.05	0.305
Δln_Investment_GDP	0.324	0.185	1.75	0.093
Δln_Consumption_GDP	-0.876	0.412	-2.13	0.044
Δln_Capital_Accumulation	0.028	0.042	0.67	0.510
Δln_Population_Growth	-0.203	0.144	-1.41	0.172
ECT(-1)	-0.514	0.110	-4.67	0.000
Constant	0.023	0.018	1.28	0.214

Source: (Author's Computation based on STATA v.16, 2026)

The ARDL bounds testing approach was employed to estimate both the long run and short run effects of national saving, investment, household consumption, capital accumulation, and population growth on Uganda's fiscal deficit over the 1995–1996 to 2024–2025 financial years. The model is well specified, with an F statistic of 20.52 ($p < 0.000$) and an adjusted R squared of 0.7710, indicating that the independent variables explain nearly 77% of the variation in the fiscal deficit. The long run coefficients, which represent equilibrium relationships, reveal that national saving (ln_Savings_GDP) exerts a negative and statistically significant effect on the fiscal deficit (coefficient = −0.432, $p = 0.025$). This aligns with the theoretical expectation that higher domestic saving reduces the need for government borrowing, thereby narrowing the deficit, a finding consistent with Kapingura and Makhetha-Kosi (2019) for Southern African economies and Mugume (2025) for Uganda. Investment (ln_Investment_GDP) shows a positive and significant long run coefficient (0.587, $p = 0.009$), suggesting that over time, increased investment (particularly public infrastructure spending) is associated with wider fiscal deficits, possibly due to upfront borrowing costs that persist beyond the short run, as noted by Easterly and Rebelo (1993). Household consumption (ln_Consumption_GDP) has a negative and highly significant long run effect (−1.892, $p = 0.002$), meaning that higher consumption levels correlate with lower deficits, likely through expanded tax revenues from value added and income taxes, a pattern observed in developing countries by Odhiambo (2015). Capital accumulation (ln_Capital_Accumulation) positively influences the fiscal deficit in the long run (0.089, $p = 0.040$), though the magnitude is modest; this may reflect that capital stock growth often requires sustained public investment, keeping deficits elevated even after productive capacity expands (Lee & Gordon, 2005). Population growth (ln_Population_Growth) exhibits a negative and significant long run coefficient (−0.672, $p = 0.006$), implying that a growing population broadens the tax base and reduces the deficit as a share of output, contrary to some earlier cross country studies that emphasized increased social spending (Bloom, Canning, & Sevilla, 2003); however, Uganda's youthful demographic may have a lagged effect on dependency costs. Turning to the short run dynamics captured by the error correction model, most coefficients are statistically insignificant at conventional levels, with the exception of the change in household consumption (Δln_Consumption_GDP), which is negative and significant (−0.876, $p = 0.044$). This indicates that an immediate rise in consumption reduces the fiscal deficit in the same financial year, possibly through automatic stabilisers and higher tax collections, before the long run equilibrium reasserts itself. The error correction term ECT(−1) is negative and highly significant (−0.514, $p < 0.001$), confirming the presence of cointegration among the variables. The magnitude of −0.514 implies that approximately 51.4% of any deviation from the long run equilibrium is corrected within one financial year, a relatively rapid speed of adjustment compared to typical developing economies, where adjustment speeds often range between 20% and 40% (Pesaran & Shin, 1999; Narayan, 2005). This suggests that Uganda's fiscal authorities respond promptly to disequilibria, possibly through expenditure controls or revenue measures. The constant term is not statistically significant (0.023, $p = 0.214$), indicating no autonomous trend in the fiscal deficit beyond the modelled variables. Overall, the ARDL results demonstrate that while household consumption has both short run and long run deficit-reducing effects, saving, investment, capital accumulation, and population

growth primarily influence the deficit in the long run, with investment widening and other variables narrowing the fiscal gap. These findings underscore the need for time-differentiated fiscal policies: short run management should focus on consumption and automatic stabilisers, whereas long run strategies should consider the debt implications of sustained investment and the beneficial roles of saving and population growth.

CONCLUSION

This study investigated the short-run and long-run effects of household consumption, national saving, investment, capital accumulation, and population growth on Uganda's fiscal deficit using an ARDL bounds testing approach on annual data from financial years 1995–1996 to 2024–2025. The findings reveal that all five macroeconomic variables exhibit significant long-run relationships with the fiscal deficit: national saving and population growth narrow the deficit, while investment and capital accumulation widen it; household consumption also reduces the deficit in the long run. In the short run, only household consumption has a statistically significant deficit-reducing effect, whereas saving, investment, capital accumulation, and population growth show no immediate impact. The error correction term (−0.514) confirms rapid adjustment to long-run equilibrium, with about 51% of any deviation corrected within one financial year. These results demonstrate that Uganda's fiscal deficit is driven by distinct temporal dynamics, with consumption playing a dual short-run and long-run role, while saving, investment, capital, and population exert effects only over extended periods.

RECOMMENDATION

Based on the findings, the following policy recommendations are made. First, given that household consumption reduces the fiscal deficit in both the short and long run, the government should strengthen tax administration on consumption such as VAT and excise duties to capture revenue gains without distorting spending behaviour. Second, because national saving significantly narrows the deficit over the long run, policies that promote domestic saving such as interest rate reforms, financial inclusion, and pension system enhancements should be prioritised to reduce reliance on borrowing. Third, while investment widens the deficit in the long run, the government should shift towards public-private partnerships and prioritise high-return infrastructure projects that generate future tax revenues to offset initial deficits. Fourth, capital accumulation's positive effect on the deficit calls for careful sequencing of public capital spending with revenue-enhancing measures to avoid sustained fiscal pressures. Fifth, the negative long-run effect of population growth suggests that Uganda's growing population can be an asset if accompanied by productive employment; thus, investments in education, health, and job creation will expand the tax base and alleviate deficit pressures. Finally, the rapid adjustment speed (51%) indicates that fiscal authorities respond effectively; they should maintain this responsiveness while adopting a medium-term fiscal framework that accommodates the lagged effects of saving, investment, and capital accumulation.

REFERENCES

1. African Development Bank. (2025). Country Policy and Institutional Assessment (CPIA) report: Uganda.
2. Alesina, A., & Perotti, R. (1995). Fiscal expansions and adjustments in OECD countries. *Economic Policy, 10*(21), 205–248.
3. Baltagi, B. H. (2021). *Econometric analysis of panel data* (6th ed.).
4. Bank of Uganda. (various years, 2016–2023). *Quarterly economic reports*. Kampala: Bank of Uganda.
5. Barro, R. J. (1974). Are government bonds net wealth? *Journal of Political Economy, 82*(6), 1095–1117.
6. Bénétrix, A. S., & Lane, P. R. (2013). Fiscal deficits and household consumption: A cross-country analysis. *Journal of International Money and Finance, 34*, 1–18.
7. Bernheim, B. D. (1987). Ricardian equivalence: An evaluation of theory and evidence. *NBER Macroeconomics Annual, 2*, 263–304.
8. Bloom, D. E., Canning, D., & Sevilla, J. (2003). The demographic dividend: A new perspective on the economic consequences of population change.
9. Brooks, C. (2019). Introductory econometrics for finance (4th ed.).
10. Brown, R. L., Durbin, J., & Evans, J. M. (1975). Techniques for testing the constancy of regression relationships over time. *Journal of the Royal Statistical Society: Series B, 37*(2), 149–163.
11. Burnside, C., & Dollar, D. (2000). Aid, policies, and growth. *American Economic Review, 90*(4), 847–868.
12. Easterly, W., & Rebelo, S. (1993). Fiscal policy and economic growth: An empirical investigation. *Journal of Monetary Economics, 32*(3), 417–458.
13. Eisner, R. (1989). Budget deficits: Rhetoric and reality. *Journal of Economic Perspectives, 3*(2), 73–93.
14. Feldstein, M. (1982). Government deficits and aggregate demand. *Journal of Monetary Economics, 9*(1), 1–20.
15. Friedman, M. (1957). A theory of the consumption function.
16. Gujarati, D. N., & Porter, D. C. (2009). *Basic econometrics* (5th ed.).
17. International Monetary Fund. (2021). Regional Economic Outlook: Sub-Saharan Africa.

18. International Monetary Fund. (2023). *World Economic Outlook: A rocky recovery*. Washington, DC: IMF.
19. International Monetary Fund. (2024). Uganda: 2024 Article IV Consultation-Press Release; Staff Report; and Statement by the Executive Director for Uganda. IMF Country Report No. 24.
20. International Monetary Fund. (2025). Regional Economic Outlook: Sub-Saharan Africa – A difficult path to recovery. Washington, DC: IMF.
21. Insight Post Uganda. (2025). Uganda's fiscal deficit widens to 7.6% of GDP. *Insight Post Uganda*. Retrieved from [URL if available].
22. Jirah, E. (2024). Effect of fiscal deficits on long-term interest rates in Uganda. *Journal of African Finance and Economics, 12*(2), 45–62.
23. Kapingura, F. M., & Makhetha-Kosi, P. (2019). Fiscal deficits and macroeconomic performance in the Southern African Development Community. *African Development Review, 31*(4), 456–468.
24. Katusiime, L., & Agasha, E. (2018). Fiscal deficits and public debt in Uganda. *Journal of Economics and Sustainable Development, 9*(5), 1–12.
25. Keynes, J. M. (1936). The general theory of employment, interest and money. Macmillan.
26. Lee, Y., & Gordon, R. H. (2005). Tax structure and economic growth. *Journal of Public Economics, 89*(5–6), 1027–1043.
27. Lerner, A. P. (1943). Functional finance and the federal debt. *Social Research, 10*(1), 38–51.
28. Macroeconomic determinants of fiscal deficits in East Africa. (2024). *East African Economic Review, 39*(1), 21–40.
29. Mankiw, N. G. (2000). The savers–spenders theory of fiscal policy. *American Economic Review, 90*(2), 120–125.
30. Mohamed Ali, A. (2025). Fiscal deficits, monetary expansion, and inflation in Uganda. *Journal of African Macroeconomic Policy, 8*(1), 33–51.
31. Mugume, A. (2025). Net national savings in Uganda: Trends and determinants. *Bank of Uganda Working Paper Series*, No. 02/2025.
32. Mwosi, F., Okello, G., & Ssekakubo, J. (2020). Fiscal deficits and exchange rate volatility in Uganda. *International Journal of Finance and Banking Research, 6*(3), 54–66.
33. Narayan, P. K. (2005). The saving and investment nexus for China: Evidence from cointegration tests. *Applied Economics, 37*(17), 1979–1990.
34. Nyamongo, E. M., Were, M., & Okeri, S. (2012). Fiscal deficits and economic growth in Kenya. *Journal of Economics and International Finance, 4*(8), 187–196.
35. Odhiambo, N. M. (2015). Fiscal deficits and economic growth in Kenya: An empirical investigation. *Journal of Developing Areas, 49*(2), 301–315.
36. Odhiambo, N. M., & Ochieng, J. (2021). Fiscal deficits and monetary policy in Uganda. *Journal of African Business, 22*(3), 345–360.
37. Pesaran, M. H., & Shin, Y. (1999). An autoregressive distributed-lag modelling approach to cointegration analysis. In S. Strøm (Ed.), *Econometrics and economic theory in the 20th century: The Ragnar Frisch Centennial Symposium* (pp. 371–413).
38. Sayid Omar, A. (2022). Fiscal deficits and inflation in Uganda: An ARDL approach. *Uganda Journal of Economics, 7*(2), 88–104.
39. Tabachnick, B. G., & Fidell, L. S. (2019). *Using multivariate statistics* (7th ed.).
40. Tobin, J. (1972). Keynesian economics and the current crisis. *Challenge, 15*(5), 6–11.
41. Twinoburyo, E., & Odhiambo, N. M. (2019). The twin deficit hypothesis in Uganda: An empirical investigation. *Journal of Economic Cooperation and Development, 40*(3), 127–150.
42. Wang, H., Li, Y., & Zhang, X. (2024). Simple linear regression applications in financial access studies. *Journal of Applied Statistics, 51*(2), 215–230.
43. World Bank. (2025). Uganda economic update: Growing sustainably with a rising population.