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Budget Implementation and Economic Growth: Imperative for Economic Growth in Nigeria

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Abstract:

This study examines the impact of government budget implementation on Nigeria's economic growth from 1994 to 2024, focusing on capital expenditure, recurrent expenditure, tax revenue, and public debt financing. Using secondary data from the Central Bank of Nigeria Statistical Bulletin and Federal Inland Revenue Service (FIRS), the study applies a Vector Error Correction Model (VECM) to capture both short-run and long-run dynamics between fiscal variables and Gross Domestic Product (GDP). Empirical results indicate a significant long-run positive relationship between capital expenditure and economic growth, while recurrent expenditure, tax revenue, and public debt financing show mixed or insignificant effects. The error correction mechanism highlights a slow adjustment to equilibrium, suggesting structural inefficiencies in fiscal policy transmission. The findings align with Keynesian theory, emphasizing the growth-stimulating role of productive government spending, and partially support Wagner's Law regarding expenditure patterns. The study underscores that sustainable growth in Nigeria requires prioritizing capital projects, enhancing fiscal discipline, and strengthening institutional capacity. Improved fiscal governance, transparency, and accountability mechanisms should be implemented to ensure effective resource allocation and minimize corruption and mismanagement.

Keywords: Government Budget Implementation, Economic Growth, Capital Expenditure, Vector Error Correction Model (VECM)

1. Introduction

Government budgeting is one of the main fiscal tools governments use to manage scarce resources, influence economic outcomes, and support social and economic development. According to the World Bank Group (2025), a budget is a detailed financial plan that outlines expected revenues and expenditures for a government or organization over a specific period—usually a fiscal year. Its purpose is to guide how resources are allocated, ensure that government policies are implemented, and promote accountability in the use of public funds.

Lessons from advanced economies provide useful insights into how budget compliance and management can be improved in different contexts. These countries often prioritize transparency, accountability, and citizen

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participation in the budgeting process. To strengthen these principles, they adopt approaches such as results-based management, performance-based budgeting, and outcome-oriented budgeting, which help ensure that public spending is linked to measurable results (Kuntadi & Velayati, 2022).

Fiscal policy also plays a crucial role in shaping a country's economic performance and overall prosperity. By adjusting government spending and taxation, policymakers can influence economic activity and stability. Fiscal policy includes several key components—especially public expenditure and taxation—both of which significantly affect the broader macroeconomic environment. In essence, it involves strategies for raising government revenue, mainly through taxes, and plans for how those funds will be spent to achieve specific economic goals (Adesuyi et al., 2024).

According to Magdalena and Suhatman (2020), economic growth refers to the increase in the production of goods and services within an economy over a certain period of time. This growth is usually reflected in a rise in a country's Gross Domestic Product (GDP). Nigeria, which has the largest economy in Africa based on GDP, operates within a complex economic environment. Its economy is strongly influenced by dependence on crude oil revenues, fluctuations in global commodity prices, and persistent fiscal deficits that continue to affect its financial stability. A number of national budgets have been approved by successive governments over the past few decades with the goals of encouraging inclusive growth, diversification, and economic stabilisation. Nigeria's economic performance has seen considerable instability despite these efforts, including times of recession, sluggish growth, and ongoing unemployment. The primary objective of this study is to empirically examine Nigeria's budget implementation between 1994 and 2024. In this study, Gross Domestic Product (GDP) will serve as a measure of economic growth. The federal government's budget will be analyzed through key components such as taxation, public debt financing, capital expenditure, and recurrent expenditure. The goal is to develop effective budgetary strategies and implementation that will enhance the country's economic growth.

1.2 Problem Statement

An annual financial statement including anticipated income and expenses that reflects the nation's goals and strategic direction is called a government budget. The effectiveness of the government budget in promoting sustainable economic growth has become a major concern for policymakers, academics, and development practitioners, despite the fact that developing nations like Nigeria continue to face structural problems with infrastructure deficits, unemployment, inflation, and fiscal imbalances. These issues, which include poor income production outside of the oil industry, ongoing deficits, poor budget execution, funding deviations, corruption, and limited institutional capacities, make budgeting in Nigeria less efficient. These obstacles have frequently led to inefficiencies in public expenditure, departures from fiscal objectives, and little effects on economic growth measures like, employment, and living standards. Only 74% of the 2020 capital budget was executed, according to the Budget Office of the Federation (2022), which resulted in a slower recovery from the COVID-19-caused economic slowdown. Along with a significant degree of corruption, Aderobaki and Falope (2024) noted that Nigeria is now going through an economic crisis as a result of declining oil income, which the nation depends on for survival. Out of 180 nations questioned in 2022 and 2023, Nigeria is ranked 150th in Transparency International's (2023) Corruption Perception Index (CPI).

While some empirical research (e.g., Olurin et al., 2024; Okoli et al., 2024) show positive correlations between government spending and growth, others (Usman et al., 2024; Osasona et al., 2024) show weak or negligible effects of general spending and deficit financing on GDP outcomes. Additionally, fiscal policy efficacy may be compromised by budgetary inefficiencies, such as implementation gaps, income deficits, and biased expenditure toward recurrent services (Yusau & Okwechime, 2025). The persistent problems point to a disconnection between the creation of the budget and the achievement of intended economic results, underscoring the necessity of a thorough analysis of the connection between Nigerian government budgeting and economic expansion.

2. Literature Review

2.1 Conceptual Framework

Budget Implementation

Budget implementation refers to the process of carrying out the government's planned revenues and expenditures as outlined in the budget for a particular fiscal year. It involves allocating funds to various sectors, monitoring how the money is spent, and ensuring that all spending follows the approved budget guidelines (Mathenge et al., 2018; Asomba et al., 2024). In addition, Romenska et al. (2023) and Moore et al. (2024) explain that a budget may also cover other financial elements such as projected sales volumes and revenues, the quantity of resources required, expected expenditures, assets, liabilities, and anticipated cash flows. The effective execution of the budget is essential to achieving the goals specified in the government's financial plan and ensuring the effective use of public resources (Ikilidih et al., 2024).

Tax Revenue Streams

The International Monetary Fund (IMF) defines tax revenue as "the sum of all taxes and net of refunds on goods and services, income, and profits" (IMF, 2021). It is a non-refundable, limitless source of funding for the government that promotes social fairness through wealth distribution and resource reallocation. By obtaining funds in a way that benefits the political resilience of those pursuing strategy choices, taxes are a means of meeting the demands for public spending (Ogonda et al., 2023). Taxation is one of the main ways that governments in many nations have raised money at different times throughout human history. (Ogonda and others, 2023).

Capital Expenditure

Capital expenditures are necessary for all economies to function, regardless of their degree of development. Public expenditure is used by many developed and developing countries to enhance income distribution, modify the composition of national revenue, and effectively distribute resources (Vtyurina, 2020). Following the epidemic, output decreases continued and economic indicators remained fragile, indicating that the primary objectives of government spending—allocating resources and providing public goods—remain unfulfilled. Economic services, capital expenditures, transfers, and deficits should all be in line with the demands of development (Balogun, 2024). Wagner's growth theory highlights the importance of examining the link between government capital expenditure and economic growth, often measured by Real Gross Domestic Product (RGDP). This theory therefore underscores the need for an empirical analysis to better understand how government spending on capital projects influences economic growth.

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Recurrent Expenditure

Recurrent expenses have increased disproportionately, according to recent budget assessments. For instance, the Nigerian Federal Government considerably increased its non-debt recurrent expenditure between 2011 and 2023 despite the fact that numerous development metrics have fallen short of expectations. Reduced expenditures in infrastructure and other capital goods have been connected to this increase in recurrent spending (Oladipo, 2023). Even though ongoing spending is necessary, research indicates that when it gets out of control, it may replace capital investment and harm the economy as a whole.

Public Debt Servicing

Although external debt can occasionally have favourable effects, recent research by John (2023) found that debt service has a negative long-term impact on economic growth, especially when profits are diverted from productive investments to debt payments. Mairafi et al. (2025) reviewed recent time-series data and found that both domestic and foreign debt service significantly slows GDP growth when debt payments constitute a significant share of income.

Economic Growth

Economic growth refers to the increase in the production of goods and services within an economy over a specific period, usually measured annually. It is commonly used as an indicator of changes in Gross Domestic Product (GDP) and is influenced by factors such as population growth, technological advancement, and investments in infrastructure. According to Kimberly Amadeo (2019), economic growth represents the expansion of a country's capacity to produce goods and services over time.

Iwo and Adagi (2025) note that Nigeria experienced broad and relatively stable economic growth between 2000 and 2014, with the economy expanding at an average rate of over 7 percent annually. This growth was supported by macroeconomic reforms, initial structural adjustments, and favourable global economic conditions. However, from 2015 to 2022, the pace of growth slowed and GDP per capita stagnated. This slowdown was largely driven by distortions in monetary and exchange rate policies, rising fiscal deficits caused by declining oil production, the high cost of fuel subsidies, increasing trade protectionism, and external shocks such as the COVID-19 pandemic.

In recent years, weak economic fundamentals and slow development have further worsened economic conditions. Inflation climbed to 31.7 percent in February 2024—the highest level in 24 years—contributing to rising poverty levels and leaving millions of Nigerians struggling to meet basic needs.

2.2 Theoretical review

Keynesian Theory (Fiscal Policy Theory)

This theory's proponent, John Maynard Keynes, claims that the government may boost economic development by expanding its budget, particularly when the economy is unstable. The idea primarily focuses on the failure of the private sector, which might lead to the economy missing basic social amenities like electricity, healthcare, and education; low demand and low income could trigger a recession; as a result, the government must take swift action

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to promote economic growth. By "government intervention," we meant that aggregate demand (AD=C+I+G+X−M) includes government expenditure (G).

According to this theory, aggregate demand is considered the main driving force of an economy. Aggregate demand represents the total spending by households, businesses, and the government within an economy. The theory also highlights the multiplier effect, where an initial increase in spending can lead to a larger overall impact on economic activity.

Wagner's Law of Public Expenditure

Early in the 1860s, German economist and politician Adolph Wagner noticed these patterns (first in Germany, then in other European nations). Wagner claimed that the two variables (public spending and national income) had a positive long-term co-movement. According to this view, the demand for government services starts to emerge when an economy reaches a high level of development. When an economy is performing well, people are making more money and businesses are creating more as well. As a result, the economy will require government services like healthcare and education. The statute contends that demand for government services increases with economic size. When an economy grows, it typically results in higher government spending. This happens because increased economic activity generates more revenue, enabling the government to invest more in public services, infrastructure, and other development initiatives.

Ricardian Equivalence Theory

David Ricardo's concept served as the foundation for this theory, which was subsequently codified by Robart Barro, who presents a more pessimistic perspective on fiscal policy. According to this hypothesis, future tax obligations prevent government budgets from promoting economic growth. It is anticipated that the funds borrowed by the government to promote economic expansion would eventually be paid back. It is said that the government can borrow money to fund economic development, which may eventually result in higher taxes. This hypothesis is more long-term orientated, and it raises the question of how people will live in the long run when government borrowed money must be repaid and individuals start to worry about their spending and focus more on saving. The money borrowed will eventually need to be repaid through higher taxes. According to the study, government spending discourages investors from making investments, which slows long-term economic growth. High borrowing raises interest rates, which makes loans more costly for companies and contributes to economic collapse.

Endogenous Growth Theory

The macroeconomic paradigm known as "Endogenous Growth Theory" holds that, in contrast to forces that are mostly external to the system, long-term economic development is produced by internal (endogenous) factors within an economy, notably innovation, human capital, and knowledge spillovers. In response to the flaws in Robert Solow's neoclassical growth model, which saw technological development as exogenous (i.e., determined outside the model), it initially surfaced in the 1980s.

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2.3 Empirical Review

Umoh (2026) used the neoclassical growth theory to analyse the effects of government budget execution on Nigeria's economic development between 1981 and 2023. It examined how public debt servicing (PDS), capital expenditure (CAPEX), and recurrent spending (REX) affected GDP growth after adjusting for inflation (INF) and exchange rates (EXR). The study analyzed time series data from the Central Bank of Nigeria Statistical Bulletin and World Bank indicators, supplemented by SWOT and PESTEL analyses, diagnostic tests, and an autoregressive (AR) model. The results revealed that the AR(1) term was highly significant ($p = 0.002$), while government capital expenditure (CAPEX), recurrent expenditure (REX), and public debt service (PDS) did not show significant individual effects. The complete model accounted for 37% of the variation in GDP growth, which was significant at the 1% level (F-statistic $p = 0.009$). The investigation suggests prioritising lucrative capital projects, simplifying continuing expenditure, rearranging debt obligations, and enhancing budget transparency and participatory monitoring in order to support sustainable economic growth.

Adeiza and Nurudeen (2025) studied Nigeria's budget allocations, macroeconomic performance, and governance over an 11-year period using a longitudinal quantitative approach. They analyzed actual data from trusted sources, including the World Bank and the Budget Office of the Federation. Their findings suggest that budget increases alone have little effect on governance: there was no clear link between budget allocations and governance indicators, and fiscal expansion did not translate into improvements in institutional performance or World Governance Indicators. The study concludes that meaningful progress in Nigeria's governance requires more than just higher spending—it also depends on ensuring macroeconomic stability, greater transparency in budget implementation, and tackling corruption.

According to Emenonye et al. (2025), budgeting is an essential part of managing public finances and a major factor in determining economic stability in any nation. The study used the content analysis approach and relied on documentary resources. However, government budget papers, policy briefings, and fiscal reports from Buhari's administration served as the foundation for document analysis. The study's conclusions brought to light important problems with institutional capability, income generation, budget development, and spending management that have fuelled economic volatility. The study also found that persistent budget approval delays hampered fiscal planning and execution, which reduced the efficiency of public spending. Poor planning and weak fiscal discipline have contributed to budget overruns and inefficient use of resources. Limited institutional capacity and widespread corruption have further worsened these budgeting problems, creating economic instability. Moreover, Nigeria's heavy dependence on oil revenues, coupled with ineffective tax collection, has led to frequent revenue shortfalls and ongoing fiscal uncertainty.

Celestin and Mishra (2025) studied how modern budgeting methods—like gender-responsive, digital, performance-based, zero-based, and participatory budgeting—affect economic growth from 2020 to 2024. Using GDP growth, fiscal deficits, and budget efficiency, their analysis found a strong positive link between better budgeting and economic performance (correlation: 0.988 in developing and 0.980 in developed economies). A one-unit rise in budget efficiency increased GDP by 0.131% in developing and 0.125% in developed economies. Still, political limits, bureaucratic inefficiency, and weak institutions remain major challenges for emerging countries.

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The research by Chinenye and Chukwu (2025) looked at how public spending affected Nigeria's economic expansion. The study specifically aimed to ascertain health, road infrastructure, and government ongoing spending on economic development in Nigeria. The Central Bank of Nigeria Statistical Bulletin provided time series data for the 23-year period from 2000 to 2022, and the study used an ex-post factor search strategy. Descriptive statistics were used in the study to identify each model variable's unique properties. The influence of public spending components on the dependent variable was estimated using a multiple linear regression model based on the ordinary least approach. The results of the regression analysis showed that spending on road, health, and education infrastructure significantly and favourably affected economic development in Nigeria. The study did find, however, that the growth of the Nigerian economy was positively and not significantly impacted by government recurring expenditures. These results suggest that capital expenditures have contributed more to economic growth than current expenditures.

The impact of budget implementation on Nigeria's economic performance was studied by Babajide and Oke in 2025. From 1981 to 2022, CBN statistics bulletin issues provided annual data on real gross domestic product, budget estimate, budget expenditure, and budget implementation rate. Granger causality tests and Johansen co-integration were utilised in the investigation. The estimated budget and budget implementation rate were shown to have a positive but negligible correlation with Nigeria's economic performance; however, the expended budget exhibited a negative correlation. Thus, the study came to the conclusion that effective budget execution is necessary to achieve sustained development and economic performance. It was proposed that all branches of government should carefully examine the proper checks and balances in order to record considerable influence in budget implementation procedures. The government's budget plan should be implemented rather than only viewed and signed.

Kolawole et al. (2025) examines how foreign exchange rates (FEXR), inflation (INFR), interest rates (INTR), and corruption control (CINR) affect budget implementation (BI) in Nigeria. Using yearly data from 2008 to 2024, the research applies time series analysis to explore the causal relationships between these key macroeconomic factors and BI. Results show that FEXR has a major impact on BI, highlighting Nigeria's fiscal susceptibility to changes in FEXR. BI is significantly impacted by INTR as well, underscoring the significance of INTR regulations in BI. On the other hand, INFR has no direct impact on BI, indicating that inflation has a secondary impact on fiscal performance. The study suggests that FEXR and INTR instabilities often impair and destabilise Nigeria's BI.

Sinyangwe (2025) uses extensive data from 2010 to 2023 to investigate the consistent link between macroeconomic performance in Zambia and inefficiencies in budget execution. We develop a new Budget Implementation Efficiency (BIE) index that combines measurements for institutional coordination, accountability, and spending variation. To show strong causal links, our empirical study uses instrumental variable approaches, structural equation modelling, and vector autoregression. The findings show that a one standard deviation increase in budget implementation efficiency boosts foreign direct investment by 34%, lowers public debt-to-GDP ratios by 2.3 percentage points, and raises GDP growth by 0.8 percentage points each year. The results show that ineffective implementation leads to policy ambiguity, which consistently discourages foreign investment and threatens global competitiveness.

Iwo and Adagi (2025) investigate Nigeria's government spending and economic development. Government spending on public administration, education, and technology and communication serves as a proxy for

government spending, whereas GDP serves as a proxy for economic growth. This study employed an e x-post facto research approach using secondary data from the CBN Statistical Bulletin 2023 and Eview Version 10 over 24 years (2000-2023). The results of the regression analysis indicate that government spending on public administration and education has no significant impact on Nigeria's GDP, with both coefficients being negative. In contrast, government spending on information and communication has a significant positive impact on GDP.

Ejeh et al. (2025) primarily aimed to ascertain the impact of value-added tax profits, petroleum profit tax proceeds, and corporate income tax receipts on government budget execution proxies by government total spending in Nigeria. This study employed an ex-post facto research design, analyzing 25 years of time series data (1999–2023) collected from the Federal Inland Revenue Service and the Central Bank of Nigeria annual statistical bulletins. This study employed descriptive statistics to characterise individual traits related to model variables. Additionally, Ordinary Least Squares (OLS) Regression Analysis was used to experimentally assess the correlations between various tax revenue components. The OLS multiple regression analysis's findings demonstrated that Nigeria's government budget implementation is significantly impacted by firm income tax revenues, petroleum profit tax revenues, and value-added tax revenues. Additionally, it shows that throughout the years under examination, tax income has not made a substantial contribution to the overall amount spent by the government.

Yusau and Okwechime (2025) examined how budget implementation affected Nigeria's economic growth from 1990 to 2023 using an ex-post facto approach. They analyzed the impact of capital and recurrent spending on GDP with data from the Central Bank of Nigeria statistical bulletin using a Vector Error Correction Model (VECM). Results show a strong long-term link: capital spending boosts GDP, while recurrent spending has mixed effects. Challenges like poor resource allocation and project delays hinder effective budget performance.

The impact of budget implementation on Nigeria's economic development was evaluated by Uzoh (2024). Economic growth was represented by GDP, while budget execution was represented by public capital expenditure (CEX), public recurrent expenditure (REX), broad money supply (BM), and interest rate (INT). The CBN statistics bulletin for the pertinent time period (1997–2021) provided secondary data, and the regression analysis used the ordinary least squares statistical method. The study examined how implementation affected economic development in both the short- and long-term budget. The study's findings demonstrate that some of the factors have no discernible impact on economic development in the short term, and the same effect is repeated in the long term.

The fiscal discipline of bridging the gap between budget proposal and budget execution was studied by Asomba et al. (2024). Three research questions served as the study's compass. Documentary analysis will be the main research approach used to analyse fiscal discipline and close the gap between budget proposal and budget execution. The results showed that differences in budget ideas and execution in Nigeria are caused by political meddling, bureaucratic inefficiencies, revenue volatility, corruption, and poor management. Nigeria's economic growth is closely tied to macroeconomic stability, investment and productivity, infrastructure development, and poverty reduction. Improving fiscal discipline and budget execution can be achieved through stronger budget processes, institutional reforms, diversified revenue sources, better public financial management, and increased citizen participation and oversight.

Kolawole et al. (2024) studied the impact of government debt on Nigeria's economic growth using an autoregressive distributed lag model with data from the World Bank and the Central Bank of Nigeria (1992–2023).

The findings show a significant negative long-term effect of domestic debt on growth, while foreign debt positively supports long-term growth. Debt servicing also correlates negatively with economic development. The study identified a one-way causal link from economic growth to debt servicing and a two-way effect of domestic debt on growth. It recommends reducing the debt-to-revenue ratio, repaying manageable debts promptly, and exploring opportunities for international debt relief.

Comfort et al. (2022) studied how government spending influences Nigeria's economic growth over 2001–2021, using ex-post facto and longitudinal approaches. They analyzed data from the Federal Ministry of Finance Budget Office and the Central Bank of Nigeria Statistical Bulletin, applying fully modified OLS and cointegration regression models. Results showed that capital expenditure (CEX), inflation (INFR), and recurrent expenditure (REX) strongly affect GNP, while debt service (DS) and exchange rates (EXCHR) do not. The study concludes that government budgets significantly shape Nigeria's economic growth.

Similarly, Nwala and Bameyi (2020) used an ex-post facto design to examine budget execution and economic growth from 1981–2018. Using GDP as the dependent variable and debt, capital, and recurrent expenditures as independent variables, their analysis found capital and recurrent spending positively influence GDP, while government debt has a negative impact.

3. Methodology

This study uses an ex-post facto research design, chosen because it examines the impact of past events that the researcher cannot control. The study covers 1994–2024, starting from the introduction of the Value Added Tax under the 1993 VAT Act, to capture government revenue from taxes and challenges in foreign debt repayment. The period is also defined by the availability of reliable data, ensuring robust, evidence-based results. The study relies on secondary data from credible sources, mainly the Central Bank of Nigeria and other relevant government and financial institutions. The secondary data was selected because it provides a comprehensive and detailed historical record of the variables under investigation. This approach is not only efficient but also ensures that the study can accurately capture the trends and dynamics of the Nigerian public sector over time, leveraging data that has already been collected for other purposes.

3.1 Model Specification

This study adopted the Umoh, E. (2026) model with slight modifications as shown below;

GDP = f(CEX, REX, TAX, PDF) ……..……...….. (1)

Econometrically, the above model can be re-organized as follows:

$GPDt = \beta 0 + \beta 1CEXt\text{-}1 + \beta 2REXt\text{-}1 + \beta 3TAXt\text{-}1 + \beta 4PDFt\text{-}1 + \mu t$……..……..... (2)

Where:

GDP = Gross Domestic Product (a proxy for economic growth)

CEX = Government Capital Expenditure

REX = Government Recurrent Expenditure

TAX = Government Tax

PDF = Public Debt Financing.

$\beta 0$, $\beta 1$, - $\beta 4$ = parameter estimates

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μ = stochastic error term.

Apriori Expectations

The a priori expectation is that the coefficients of regression are = $\beta 1 > 0$, $\beta 2 > 0$, $\beta 3 < 0$, $\beta 4 < 0$. It is expected that government capital and recurrent expenditure will exhibit a positive sign while government tax and public debt financing is expected to show a negative sign if it is excess.

4. Data Presentation and Analysis

4.1 Descriptive Statistics

Table 1: Descriptive statistics result

	GDP	CEX	REX	TAX	PDF
Mean	71459.81	4505.302	1704.212	800342.3	7085.450
Median	43012.51	2128.000	783.1000	780295.7	2577.370
Maximum	269290.3	18080.40	9376.600	1338534.	70310.42
Minimum	1751.280	90.00000	70.90000	85193.15	438.8900
Std. Dev.	73628.19	5460.338	2368.665	362563.5	14030.09
Skewness	1.090932	1.340783	1.998831	-0.250947	3.450892
Kurtosis	3.312762	3.403615	6.031208	1.941702	15.08438
Jarque-Bera	6.275374	9.498528	32.51062	1.772025	250.1532
Probability	0.043383	0.008658	0.000000	0.412296	0.000000
Sum	2215254.	139664.4	52830.58	24810612	219649.0
Sum Sq. Dev.	1.63E+11	8.94E+08	1.68E+08	3.94E+12	5.91E+09
Observations	31	31	31	31	31

Source: E-Views 10 output extract.

Table 1 shows that Gross Domestic Product (GDP), used as a proxy for economic growth, has a mean value of 71,459.81 with a high standard deviation of 73,628.19 and a median value of 43,012.51. The minimum and maximum values of 1,751.28 and 269,290.3 respectively show wide fluctuations in economic growth over the period. The mean being higher than the median indicates positive skewness, suggesting that GDP experienced some exceptionally high growth periods. However, the Jarque-Bera probability (0.043) shows that GDP is not normally distributed at 5% significance level.

Government Capital Expenditure (CEX) recorded a mean value of 4,505.30 with a high standard deviation of 5,460.34, indicating significant variability in government investment spending. The minimum and maximum values of 90.00 and 18,080.40 reveal large disparities in capital project financing. The positive skewness suggests that capital expenditure increased sharply in some years. The Jarque-Bera result (0.008) indicates that CEX is not normally distributed.

Government Recurrent Expenditure (REX) has a mean of 1,704.21 and a standard deviation of 2,368.67, showing notable fluctuations in government recurrent spending such as salaries and overhead costs. With minimum and maximum values of 70.90 and 9,376.60, the data indicates substantial variation across the years. The high positive

skewness and Jarque-Bera probability (0.000) confirm that REX is not normally distributed and experienced extreme values.

Government Tax (TAX) shows a mean value of 800,342.3 and a standard deviation of 362,563.5, indicating relatively moderate variability compared to other variables. The closeness of the mean (800,342.3) and median (780,295.7) suggests near symmetry in distribution. The Jarque-Bera probability (0.412) shows that TAX is normally distributed at 5% level, implying relative stability in tax revenue generation.

Public Debt Financing (PDF) has a mean value of 7,085.45 with a very high standard deviation of 14,030.09, indicating substantial fluctuations in government borrowing. The wide gap between the minimum (438.89) and maximum (70,310.42) values shows heavy reliance on debt financing in certain years. The strong positive skewness and Jarque-Bera probability (0.000) indicate that PDF is highly non-normal, reflecting irregular and volatile borrowing patterns.

Overall, the results show that GDP, Capital Expenditure, Recurrent Expenditure, and Public Debt Financing experienced high volatility and are not normally distributed, while Government Tax revenue appears relatively stable and normally distributed during the period under study.

4.2 Stationarity Test

According to econometric theory, variables that must be included in a regression model must pass a stationarity test in order to produce a realistic (non-spurious) result at the 1%, 5%, or 10% level of significance. This study checked for stationarity using the unit root test.

Table 2: Presentation of Results of Unit Root Test: (Phillips Perron) at Level and First Difference.

Variable	Level I(0)				1st Difference I(1)				Order of Integration
	PP T-statistics	5% Crit value	P-value	Remark	PP T-statistics	5% Crit value	P-value	Remark	
GDP	4.894455	-3.568379	1.0000	Non-stationary	-4777.832	-2.342511	0.0265	Stationary	I(1)
CEX	0.346439	-3.568379	0.9980	Non-stationary	-5.108177	-3.574244	0.0015	Stationary	I(1)
REX	4.534156	-3.568379	1.0000	Non-stationary	-3.688803	-3.574244	0.0394	Stationary	I(1)
TAX	-0.067445	-3.568379	0.9931	Non-stationary	-3.387410	-2.971853	0.0202	Stationary	I(1)
PDF	-2.470361	-3.580623	0.3389	Non-stationary	-4.947040	-3.644963	0.0038	Stationary	I(1)

Source: Author's computation.

For the Phillips-Perron test statistic (PP) unit root test to be considered stationary, the PP test statistic value must be higher than the critical value at the 5% absolute term, according to the decision rule. The results of the Phillips-

Perron test statistic (PP) unit root test statistics shows that all employ variables like GDP, CEX, REX, TAX and PDF are stationary at first difference at 5 percent critical value.

Table 3: Co-integration Test

Date: 03/04/26 Time: 11:41
Sample (adjusted): 1996 2024
Included observations: 29 after adjustments
Trend assumption: Linear deterministic trend
Series: GDP CEX REX TAX PDF
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.868914	98.61293	69.81889	0.0001
At most 1	0.441414	39.68789	47.85613	0.2339
At most 2	0.425786	22.79985	29.79707	0.2560
At most 3	0.157595	6.712009	15.49471	0.6113
At most 4	0.058192	1.738669	3.841466	0.1873

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Source: E-Views 10 output extract.

The Johansen Trace test confirms the presence of one cointegrating equation among the variables at the 5% level, indicating a stable long-run relationship between economic growth and fiscal policy variables. Therefore, the appropriate model to estimate is the Vector Error Correction Model (VECM), which incorporates both short-run adjustments and long-run equilibrium dynamics.

Table 4: Vector Error Correction Model (VECM)

Vector Error Correction Estimates
Date: 03/04/26 Time: 12:57
Sample (adjusted): 1997 2024
Included observations: 28 after adjustments
Standard errors in ( ) & t-statistics in [ ]

Cointegrating Eq:	CointEq1
GDP(-1)	1.000000
CEX(-1)	-25.70881
	(10.2363)

	[-2.51154]
REX(-1)	3.907638
	(27.3134)
	[0.14307]
TAX(-1)	-0.012755
	(0.03186)
	[-0.40032]
PDF(-1)	-2.157558
	(2.65653)
	[-0.81217]
C	58559.25

Error Correction:	D(GDP)	D(CEX)	D(REX)	D(TAX)	D(PDF)
CointEq1	-0.065033	0.007930	-0.006460	1.651958	-0.029993
	(0.01745)	(0.00690)	(0.00359)	(1.34770)	(0.01137)
	[-3.72673]	[1.14893]	[-1.80172]	[1.22576]	[-2.63863]
D(GDP(-1))	0.391874	0.057225	0.043835	0.819925	0.093398
	(0.17515)	(0.06927)	(0.03599)	(13.5268)	(0.11409)
	[2.23736]	[0.82609]	[1.21810]	[0.06061]	[0.81865]
D(GDP(-2))	0.504074	0.013758	-0.021179	-7.414200	0.167676
	(0.19225)	(0.07604)	(0.03950)	(14.8474)	(0.12523)
	[2.62197]	[0.18094]	[-0.53618]	[-0.49936]	[1.33898]
D(CEX(-1))	-0.636309	0.171179	0.028374	126.3868	-2.653396
	(0.80669)	(0.31905)	(0.16574)	(62.3004)	(0.52545)
	[-0.78879]	[0.53654]	[0.17119]	[2.02867]	[-5.04971]
D(CEX(-2))	-1.712152	0.504362	-0.226858	166.9635	-2.957165
	(0.74872)	(0.29612)	(0.15383)	(57.8236)	(0.48770)
	[-2.28677]	[1.70324]	[-1.47472]	[2.88746]	[-6.06353]
D(REX(-1))	0.662010	0.267435	-0.142671	-116.0556	2.091642
	(1.42369)	(0.56307)	(0.29251)	(109.951)	(0.92735)
	[0.46500]	[0.47496]	[-0.48775]	[-1.05552]	[2.25550]
D(REX(-2))	-3.868590	-0.467487	-0.395524	-257.8607	5.163571
	(1.28137)	(0.50678)	(0.26327)	(98.9598)	(0.83465)
	[-3.01911]	[-0.92246]	[-1.50235]	[-2.60571]	[6.18653]
D(TAX(-1))	-0.003078	0.000221	0.000341	-0.039014	-0.001211
	(0.00314)	(0.00124)	(0.00064)	(0.24234)	(0.00204)
	[-0.98096]	[0.17805]	[0.52874]	[-0.16098]	[-0.59229]
D(TAX(-2))	-0.007487	-0.000901	0.000135	-0.098856	0.000498
	(0.00332)	(0.00131)	(0.00068)	(0.25616)	(0.00216)
	[-2.25733]	[-0.68707]	[0.19798]	[-0.38591]	[0.23059]
D(PDF(-1))	0.167929	0.026168	0.036718	4.303046	0.721065
	(0.23583)	(0.09327)	(0.04845)	(18.2131)	(0.15361)
	[0.71208]	[0.28056]	[0.75779]	[0.23626]	[4.69404]
D(PDF(-2))	0.257914	0.145971	0.037242	-15.33485	0.193826
	(0.60118)	(0.23777)	(0.12352)	(46.4291)	(0.39159)
	[0.42901]	[0.61392]	[0.30151]	[-0.33029]	[0.49497]
C	4712.456	-363.3172	274.1164	-31152.43	928.1521

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	(1428.63) [3.29857]	(565.026) [-0.64301]	(293.527) [0.93387]	(110333.) [-0.28235]	(930.574) [0.99740]
R-squared	0.964338	0.467258	0.685958	0.632632	0.971349
Adj. R-squared	0.939821	0.100997	0.470054	0.380066	0.951652
Sum sq. resids	87582321	13699686	3697166.	5.22E+11	37160007
S.E. equation	2339.636	925.3272	480.7004	180689.7	1523.975
F-statistic	39.33275	1.275752	3.177146	2.504819	49.31360
Log likelihood	-249.1127	-223.1398	-204.8025	-370.8227	-237.1098
Akaike AIC	18.65091	16.79570	15.48589	27.34448	17.79356
Schwarz SC	19.22185	17.36664	16.05684	27.91542	18.36450
Mean dependent	9473.037	641.2893	327.2750	-8262.137	2489.039
S.D. dependent	9537.293	975.9212	660.3266	229488.3	6930.874

Determinant resid covariance (dof adj.)	1.56E+34
Determinant resid covariance	9.53E+32
Log likelihood	-1261.769
Akaike information criterion	94.76921
Schwarz criterion	97.86183
Number of coefficients	65

Source: E-Views 10 output extract.

Table 4 shows the normalized cointegrating equation is expressed with GDP as the dependent variable. The results show that Capital Expenditure (CEX) is statistically significant in the long run (t = -2.51), indicating that it has a meaningful long-term relationship with economic growth while Recurrent Expenditure (REX), Tax Revenue (TAX), and Public Debt Financing (PDF) are statistically insignificant in the long run. This suggests that among the fiscal variables, capital expenditure plays the most important role in influencing long-term economic growth. The Error Correction Term (ECT) in the GDP equation is -0.0650 and statistically significant (t = -3.73) i.e 6.5% of short-run deviations from long-run equilibrium are corrected annually. This indicates a slow but stable adjustment process toward long-run equilibrium following short-run shocks.

In the short run capital expenditure is statistically significant but negative in the short run. This may reflect delays in project implementation or inefficiencies in capital spending. While capital expenditure promotes long-run growth, its short-run impact may be constrained by bureaucratic bottlenecks. The second lag of recurrent expenditure has a negative and significant short-run effect on GDP. This suggests that excessive recurrent spending may crowd out productive investment and reduce growth in the short term. Tax revenue and public debt financing generally show weak or insignificant short-run effects on economic growth. This suggests that borrowing does not immediately translate into economic expansion unless directed toward productive investments.

4.3 Discussion of Findings

The statistical significance of capital expenditure implies that government investment in infrastructure, productive sectors, and development projects contributes positively to economic growth in the long run. This suggests that capital spending enhances productive capacity, stimulates private sector activity, and promotes sustainable growth.

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This supports Keynesian growth theory, which emphasizes productive public investment as a driver of long-term economic expansion. This Findings supports the study of Nwala and Bameyi (2020), Chinenye and Chukwu (2025), Yusau and Okwechime (2025) and Comfort et al. (2022) that productive capital projects such as infrastructure and human capital development drive sustainable economic growth.

However, recurrent expenditure does not significantly influence long-run growth. This indicates that expenditures on wages, administration, and overhead costs may not directly expand productive output. This study aligns with the study of Chinenye and Chukwu (2025), Yusau and Okwechime (2025) and Iwo and Adagi (2025) suggests that administrative and consumption-based spending does not substantially stimulate long-term productive capacity, unless efficiently managed.

Similarly, tax revenue and public debt financing do not show statistically significant long-run effects on GDP. This suggests that revenue generation and borrowing alone do not guarantee growth unless effectively allocated to productive uses. This is findings is partially consistent with the study of Kolawole et al. (2024), Umoh (2026) and Efuntade (2020) who emphasized that debt financing may not automatically translate into growth unless funds are channelled to productive sectors. And also, revenue generation without transparency and accountability may not enhance economic growth. However, since only capital expenditure significantly drives growth, the relationship appears more policy-driven (Keynesian) than growth-driven (Wagnerian).

5. Summary, Conclusion and Recommendations

5.1 Summary of the Study

This study explored how budget implementation affects economic growth, using GDP as a measure of growth. Key variables included government capital expenditure (CEX), recurrent expenditure (REX), tax revenue (TAX), and public debt financing (PDF). Annual data from 1994 to 2024 were analyzed using a Vector Error Correction Model (VECM). Descriptive statistics and unit root tests were first conducted to check the properties of the time series. The Johansen cointegration test confirmed a long-run equilibrium relationship among GDP and the budget variables, and the VECM captured both short- and long-term dynamics.

5.2 Conclusion

The findings of this study reveal that budget implementation plays a crucial role in influencing economic growth, particularly through capital expenditure. While government spending and revenue policies are structurally linked to economic growth, the composition and efficiency of fiscal operations determine their effectiveness. The results indicate that productive government investment (capital expenditure) is a key driver of long-run economic growth. However, excessive recurrent expenditure, inefficient tax utilization, and reliance on public debt financing do not significantly stimulate sustainable growth. The slow speed of adjustment toward equilibrium suggests structural rigidities in the economy and possible inefficiencies in fiscal implementation. Overall, sustainable economic growth depends more on the quality of government expenditure than on the size of fiscal operations.

5.3 Recommendations

Based on the empirical findings, the study recommend the followings:

- Government should increase and prioritize capital expenditure in infrastructure, education, healthcare, energy, and technology. Capital projects should be properly monitored to ensure efficient implementation and avoid delays that reduce their short-run effectiveness.
- Recurrent expenditure should be carefully managed to avoid crowding out productive investment. Emphasis should be placed on efficiency, transparency, and reduction of wasteful spending.
- Tax reforms should aim to expand the tax base, boost compliance, and improve administration efficiency. Additional tax revenue should fund projects that promote growth instead of covering recurring expenses.
- Public borrowing should be limited to productive investments that generate long-term economic returns. Government should avoid excessive debt accumulation that may create fiscal vulnerability and debt overhang problems.
- Improved fiscal governance, transparency, and accountability mechanisms should be implemented to ensure effective resource allocation and minimize corruption and mismanagement.

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