

# The Dynamics of Federal Government Budget Deficits and Their Impact on Long-Term Economic Stability and Growth in Nigeria

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## Abstract

*This study explores the Dynamics of Federal Government Budget Deficits and Their Impact on Long-Term Economic Stability and Growth in Nigeria over the period from 2003 to 2023. Using a Generalized Least Squares (GLS) model, the study assesses the effects of key economic factors such as domestic debt, external grants, external debt servicing, and government emergency spending on the country's GDP growth. The theoretical framework is anchored in Keynesian economics, which highlights the importance of government intervention in boosting economic activity, especially during periods of economic downturn. According to Keynesian theory, strategic government spending, including through budget deficits, can stimulate aggregate demand, ultimately driving economic growth (Keynes, 1936). The findings of the study reveal that domestic debt has a significant positive effect on Nigeria's economic growth, suggesting that well-managed borrowing can stimulate economic activity by financing investments in critical sectors. However, while external grants show a positive relationship with GDP growth, their effect is not statistically significant, indicating that the way these funds are allocated or used may limit their impact. Furthermore, the study finds that both external debt servicing and government spending on emergencies have a negative effect on economic growth. These expenditures appear to divert resources away from more productive uses, which could hinder long-term growth prospects. The results underscore the need for more efficient fiscal management in Nigeria, particularly in the areas of borrowing and public expenditure. The study suggests that while domestic borrowing can positively influence economic growth, careful attention must be paid to ensuring that such borrowing is used effectively for productive investments, without overwhelming the economy with unsustainable debt. Similarly, optimizing the allocation of external grants and improving the efficiency of emergency spending could help to enhance their positive impact on the economy. Ultimately, the study calls for policies that balance fiscal*

*sustainability with strategies that promote long-term economic growth, in line with the principles of Keynesian economics.*

**Keywords:** Federal Government Budget Deficits, Economic Stability, Economic Growth, Nigeria, Fiscal Policy, Public Debt, Budget Deficit Dynamics

## Introduction

Governments worldwide have long debated the role of federal budgets in maintaining economic stability and fostering growth. As a crucial tool for economic management, federal budgets influence economies at various stages of development by redistributing wealth, allocating resources, and shaping overall economic structure (Assi et al., 2019; Vtyurina, 2020; World Bank, 2023). In developing countries, adjustments to the national budget can help stabilize economies, stimulate growth, and generate employment opportunities (World Bank, 2022). To achieve these economic objectives, many developing nations rely on deficit financing—where government spending exceeds its revenue, often to address economic slowdowns or insufficient output (Anyanwu, 2022). In Nigeria, for example, deficit financing has been strategically employed to spur economic activity (Adeleke & Abdulsalam, 2016). By prioritizing investments in infrastructure and human capital development, governments can drive economic growth and improve living standards. However, while deficit financing can be an effective tool for stimulating the economy, it also has potential downsides, such as inflation and reduced private sector investment, which may further exacerbate unemployment (Anyanwu, 2022).

To address budget deficits, governments often turn to a combination of external and internal financing sources. These include methods such as printing money, depleting foreign exchange reserves, or borrowing from both domestic and international lenders. Each of these financing strategies has distinct effects on the broader economy, particularly on key macroeconomic variables. Research indicates that the manner in which deficits are financed can significantly influence a country's economic performance. For instance, external borrowing may lead to current account deficits, currency appreciation, and imbalances in the balance of payments (Osinubi & Olaleru, 2022). On the other hand, borrowing from domestic sources often drives up interest rates, which can crowd out private investment (Fasoranti & Amasoma, 2021). This "crowding-out effect" occurs when government borrowing competes with private investment for limited financial resources, thus reducing the amount available for private sector ventures. Additionally, domestic financing—especially through the creation of money—can contribute to inflation by increasing the money supply, which in turn drives up prices and erodes purchasing power. Governments may also resort to raising taxes to cover deficits, but this can have negative consequences for economic growth, as higher taxes may discourage investment and consumer spending.

The debate over the effects of deficit spending on economic growth has divided economists for years. While some argue that it can stimulate growth by increasing aggregate demand, others warn that it may lead to inefficient resource allocation and have detrimental long-term effects. Nigeria, in particular, has experienced frequent deficit budgeting, often accompanied by high inflation. Despite the government's attempts to mitigate the adverse effects of these deficits, challenges remain. Excessive borrowing and poor spending decisions have contributed to persistent liquidity problems, inflation, and stagnating economic growth (Iheanacho, 2020).

Economists hold differing views on the impact of deficit financing. Neoclassical economists argue that deficit spending can "crowd out" private investment by pushing up interest rates, thus diverting resources away from productive sectors of the economy. This can stifle growth, especially in countries like Nigeria, where recurrent expenditures—such as debt servicing and public administration costs—further strain available financial resources (Umaru & Gatawa, 2018). In contrast, Keynesian economists contend that deficit spending can be an effective tool for economic recovery by boosting aggregate demand. They argue that government spending injects money into the economy, which can spur investment, consumption, and ultimately increase output and employment. However, if deficit financing persists over the long term, it can complicate public expenditure management, as governments struggle to align spending with available revenue (Oluba, 2018).

Nigeria has a long-standing history of relying on deficit budgeting, a practice that began in the early 1970s. This continued dependence on deficit financing has been accompanied by consistently high inflation rates. Although the country has experienced some periods of economic growth, the effect of these deficits on the overall growth trend has been mixed. From 1990 to 2022, Nigeria predominantly adopted deficit budgets, with only a brief deviation in 1995. During this time, the country's budget deficits varied significantly, ranging from a modest NGN 0.455 billion in 1990 to a substantial NGN 3.17 trillion in 2020 (Central Bank of Nigeria [CBN], 2021). The country's GDP growth also displayed volatility, with notable periods of growth in 1995 and 2006, but the overall growth trend has remained inconsistent (National Bureau of Statistics [NBS], 2021). Despite various government efforts to address the adverse effects of deficit financing, the issue continues to persist. Excessive borrowing, both from domestic and international sources, has exacerbated liquidity challenges, inflation, and hindered economic growth. As a result, critical macroeconomic indicators such as unemployment, inflation, and the balance of payments have remained under strain (Iheanacho, 2020). To gain a deeper understanding of the relationship between federal government budget deficits and Nigeria's economic stability and growth, this study will focus on the period from 2003 to 2023.

## **2.0 REVIEW OF RELATED LITERATURE**

### **2.1 Conceptual Framework**

#### **2.1.1 Budget**

A budget is essentially a financial plan that outlines a government's, business's, or individual's expected income and expenditures over a specific period. It serves as a key tool for effectively managing finances and making informed decisions. For governments, a budget is especially important because it helps allocate resources in line with policy objectives and national priorities. A government budget typically consists of two main components: revenue and expenditure. Governments may adopt one of three types of budgets, each with different economic implications:

- Balanced Budget: Where government revenue equals government expenditure.
- Surplus Budget: Where government revenue exceeds government expenditure.
- Deficit Budget: Where government expenditure exceeds government revenue.

Each of these budget types has distinct effects on the economy, influencing factors such as inflation, investment, and growth (Adesina & Olatise, 2019).

#### **2.1.2 Budget Deficit**

A budget deficit occurs when a government's total spending exceeds its total revenue, highlighting a shortfall in fiscal resources. This indicator is commonly used to evaluate the fiscal health of a country, reflecting the imbalance between income and expenditure. There are various forms of budget deficits, each with specific implications for a country's economic stability. For example, a revenue deficit arises when the government's total revenue falls short of its total expenditure, signaling an imbalance in revenue generation. A fiscal deficit, on the other hand, occurs when total government expenditure surpasses its total revenue, excluding borrowings. The primary deficit takes into account the fiscal deficit minus any interest payments on government debt, while the effective revenue deficit adjusts the revenue deficit by excluding non-developmental spending. Additionally, a monetized fiscal deficit refers to the part of the fiscal deficit that is financed through the creation of money, a practice which can have significant inflationary consequences (Barone, 2023).

In calculating the budget deficit, the formula is straightforward:  $\text{Government Budget Deficit} = \text{Total Government Expenditure} - \text{Total Government Revenue}$ . Government revenue typically comes from taxes, fees, and borrowing, while expenditure includes funding for public services, infrastructure projects, and debt servicing (Lauren, 2023). The accumulation of significant debt can lead to higher interest payments, which further strain government finances. As interest rates rise, the cost of borrowing increases, making it more difficult for governments to manage their finances effectively. Over time, this can create a cycle of increasing debt and higher costs, ultimately undermining the fiscal health of the country.

### **2.1.3 Domestic borrowing**

Governments frequently resort to domestic borrowing to finance budget deficits, typically through the issuance of bonds or treasury bills. These securities are often purchased by the central bank or private investors. However, domestic borrowing can result in an increase in public debt, higher interest rates, and a reduction in private sector investment. From a classical economic standpoint, government borrowing is seen as potentially "crowding out" private investment. This happens when the government competes with private borrowers for limited funds, driving up interest rates and making it more difficult for businesses to borrow for expansion (Baumol & Alan, 2019).

The International Monetary Fund (IMF) notes that the capacity for a government to engage in domestic borrowing is influenced by factors such as the development of capital markets and the public's demand for government securities. Moreover, government intervention in the financial markets—such as mandating that public institutions hold government bonds—can have negative consequences for economic growth (Baumol & Alan, 2019). While borrowing from domestic sources may be less inflationary than financing through money creation, it still tends to divert funds away from private investment, thereby slowing down economic growth and reducing opportunities for job creation.

### **2.1.4 External grants**

External grants are financial or resource-based assistance provided to governments by foreign entities, such as other nations, international organizations, or non-governmental organizations (NGOs). These grants are often given with specific conditions attached or for designated purposes. Foreign aid can take several forms, including bilateral aid (direct assistance from one country to another), multilateral aid (distributed through international organizations), and aid provided by NGOs. The main objectives of foreign aid are to foster economic development, reduce poverty, and support humanitarian efforts in recipient countries.

For aid to qualify as foreign aid, it must meet two key criteria: first, it must be non-commercial and concessional, meaning it is not intended for profit; second, it must offer more favorable repayment terms than commercial loans. According to Easterly (2017), Effective Development Assistance (EDA) emphasizes the grant portion of foreign aid, excluding concessional loans. The Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development (OECD) defines Official Development Assistance (ODA) as including both grants and concessional loans provided by government agencies to support the development of lower-income countries.

### **2.1.5 External debt service**

Debt service refers to the required payments a government must make to repay both the principal and the interest on borrowed funds. These payments are essential for avoiding default and maintaining the country's creditworthiness. According to the International Monetary Fund (IMF), public external debt service encompasses both the repayment of principal and interest on long-term and short-term debt, as well as loans from the IMF (IMF, 2020). High levels of debt service can place significant strain on a country's finances, especially if the debt burden becomes excessive. To manage such debt obligations, governments may be forced to implement austerity measures, which typically involve reducing public spending, or they may seek debt relief through negotiations with creditors.

Excessive debt service can also undermine the government's ability to invest in critical areas such as infrastructure, education, and healthcare. Therefore, striking a balance between servicing debt and investing in the country's development is a crucial challenge for many nations, particularly those with large external debt burdens (IMF, 2020).

Federal governments frequently provide financial support to individuals and communities affected by natural disasters or other emergencies. These payments are usually directed at low-income households and are designed to assist them in recovering from the immediate and long-term effects of the disaster. Natural disasters can cause significant economic and social disruption, impacting individuals, families, and entire communities. In such situations, government emergency relief programs are essential in helping to mitigate these negative effects and support recovery efforts.

#### **2.1.6 Emergencies Payment**

Emergency assistance from the government often includes direct cash transfers, food aid, and housing support, with the aim of ensuring that affected individuals can meet basic needs during the recovery period. These programs are particularly important in reducing poverty and hardship, especially in vulnerable populations that may lack the resources to rebuild on their own (Smith & Johnson, 2021). Furthermore, effective disaster relief can contribute to the long-term resilience of communities, helping them better prepare for and respond to future emergencies.

#### **2.1.7 Economic Growth**

Economic growth is a key indicator of a nation's economic well-being, reflecting the increase in the production of goods and services over time. This growth is driven by various factors, including technological innovations, improvements in productivity, and investments in infrastructure and human capital (Lipsey, 2021; Karl, 2023). One of the most commonly used measures of economic growth is Gross Domestic Product (GDP), which calculates the total value of all goods and services produced within a country during a specific period. However, to obtain a more accurate measure of economic growth, it is necessary to adjust GDP for inflation, yielding the figure known as real GDP (Akhilesh, 2022).

Economic growth can either be positive or negative. Positive growth indicates an expanding economy, whereas negative growth, often associated with recessions or depressions, signals a contraction in economic activity. When comparing economic growth across countries, it is essential to take into account factors like population size and exchange rates. A more accurate comparison of living standards between nations can be made using per capita GDP, which measures the GDP per person (Beck & Web, 2023).

Although economic growth is a central goal for many nations, it is crucial to ensure that this growth is balanced with sustainability and equity. Sustainable growth focuses on ensuring that economic development benefits future generations as well. At the same time, equitable growth emphasizes the need to distribute the gains from economic growth fairly across all segments of society.

## **2.2 Theoretical Framework**

### **2.2.1 Keynesian Theory of Economic Growth**

The study is anchored on the Keynesian view of the efficacy of deficit budget in economic growth. During the Great Depression, economist John Maynard Keynes introduced a groundbreaking theory to address the widespread unemployment and economic stagnation. Rather than relying on market forces to correct the economy on their own, Keynes advocated for active government intervention through fiscal policies. His theory, known as Keynesian economics, proposes that government spending, especially deficit spending, can stimulate economic activity by boosting aggregate demand. When governments inject money into the economy, it encourages consumer spending and business investment, which in turn creates jobs and drives economic growth. However, Keynes also warned that excessive government spending could lead to inflation, highlighting the need for balance.

While Keynesian economics became a dominant framework in the mid-20th century, it has been criticized by various economic schools of thought, including monetarism and classical economics. Critics argue that government intervention can disrupt natural market processes, potentially leading to unintended outcomes such as inflation and inefficient resource allocation (Friedman, 1968; Hayek, 1944). These schools suggest that allowing markets to operate freely is more effective in achieving long-term economic stability.

### **2.3 Empirical Review**

Adesina and Olatise (2019) conducted an investigation into the relationship between government deficit financing strategies and economic growth in Nigeria from 1987 to 2016. Their findings revealed that while deficit budgeting had a positive impact on economic growth, the servicing of both external and domestic debt exerted a negative influence. The study highlighted the importance of managing debt levels carefully, as high debt servicing

can undermine the positive effects of government spending on growth. Conclusion: While deficit budgeting can stimulate growth, excessive debt servicing could offset these benefits, suggesting that a careful balance must be struck between fiscal expansion and debt management. Recommendations: The study recommends that Nigeria focus on improving debt management strategies and prioritize productive spending to ensure that the benefits of deficit financing translate into sustainable economic growth.

Chandana, Adamu, and Musa (2021) examined the impact of federal government expenditure and revenue on economic growth in Nigeria from 1970 to 2019. Their study found that government expenditure had a positive and significant impact on economic growth, whereas government revenue did not show a statistically significant effect. This suggests that fiscal policies focused on increasing government spending may be more effective in stimulating growth than revenue generation alone. Conclusion: Government spending plays a more significant role in driving economic growth than revenue collection in Nigeria. However, the study also implies that effective revenue generation is still necessary for long-term fiscal sustainability. Recommendations: The authors recommend that the Nigerian government should enhance its focus on productive public expenditure and consider reforms aimed at boosting revenue without stifling private sector activity.

### 3.1 Material and methods

The study adopted an ex-post facto research design to evaluate the dynamics of federal government budget deficits and their impact on long-term economic stability and growth in Nigeria. A Generalized Least Squares (GLS) model was employed to analyze data primarily sourced from the 2023 statistical bulletin of the Central Bank of Nigeria. The dataset covers the period from 2003 to 2023 and was processed using E-Views 12 software.

This research provides a detailed examination of budget deficit trends over two decades, shedding light on their implications for economic growth and stability. By utilizing the GLS model, the study addresses potential econometric challenges such as heteroskedasticity and autocorrelation, ensuring more accurate and reliable results. This methodological approach strengthens the validity of the findings, offering deeper insights into the patterns and long-term effects of budget deficits on Nigeria's economic landscape.

#### Model specifications

The model presented in equation (3.1) can be described as follows:

$$\text{GDP} = f(\text{EDS}, \text{DOM}, \text{TRA}, \text{EXR}) \dots \dots \dots (3.1)$$

Where:

GDP = Gross Domestic Product;

EDS = External Debt Service Payment;

DOM = Domestic Debt;

TRA = Transfer Payment; and

EXR = External Reserves

Model (3.1) is modified by replacing Transfer Payment (TRA) and External Reserves (EXR) with external grants, and payment for emergencies respectively. Thus, the model that will be used in this study is specified as:

$$GDP_t = \alpha_0 + b_1EDS_t + b_2DOM_t + b_3EXG_t + b_4PAE_t + \mu_t \dots\dots\dots (3.2)$$

The double-log form of the model is:

$$\ln GDP_t = b_0 + b_1 \ln EDS_t + b_2 \ln DOM_t + b_3 \ln EXG_t + b_4 \ln PAE_t + U_t \dots\dots\dots (3.3)$$

Where:

EXG<sub>t</sub>= External Grant at time t;

PAE<sub>t</sub>= Payment for Emergencies at time t; and

U<sub>t</sub>= Error time.

#### 4.1 Data Analysis and Discussions

##### 4.1.1 Descriptive Statistics Result

Descriptive statistics as presented in Table 4.1 below provide information on the characteristics of LGDP, LEDS, LDOM, LEXG, and LPAE in Nigeria between the periods 2003 to 2023.

**Table 4.1:** Descriptive Statistics

|              | LGDP      | LDOM      | LEXG      | LEDS      | LPAE      |
|--------------|-----------|-----------|-----------|-----------|-----------|
| Mean         | 10.68261  | 5.552568  | 6.548891  | 6.197164  | 5.789975  |
| Median       | 10.75370  | 6.184303  | 6.525323  | 6.913820  | 6.286831  |
| Maximum      | 11.42122  | 8.098956  | 8.826635  | 8.369389  | 7.733206  |
| Minimum      | 9.987732  | 1.243793  | 3.694282  | 2.247083  | 1.492544  |
| Std. Dev.    | 0.513060  | 1.971001  | 1.536487  | 1.805998  | 1.682121  |
| Skewness     | -0.165485 | -0.709744 | -0.121008 | -0.803347 | -1.255698 |
| Kurtosis     | 1.428827  | 2.391683  | 1.914863  | 2.499050  | 3.863151  |
| Jarque-Bera  | 3.974612  | 3.676870  | 1.905646  | 4.366642  | 10.87204  |
| Probability  | 0.137064  | 0.159066  | 0.385651  | 0.112667  | 0.134357  |
| Sum          | 395.2565  | 205.4450  | 242.3090  | 229.2951  | 214.2291  |
| Sum Sq. Dev. | 9.476286  | 139.8544  | 84.98849  | 117.4186  | 101.8631  |
| Observations | 20        | 20        | 20        | 20        | 20        |

**Source:** Authors computation using Eviews 12 (2024)

Table 4.1 presents key statistics that describe the central tendency and variability of the variables in the study. The median value, which represents the middle point of the data, indicates that the central value for LDOM is 6.18. This means that half of the observations for LDOM fall below this value, and half are above it. The mean of the data, another central measure, is slightly lower at 5.55, suggesting a minor skewness in the data distribution towards lower values. The range, calculated by subtracting the minimum value from the

maximum value, provides a measure of the overall spread within the data. LEXG exhibits the widest range, reflecting a higher degree of variability compared to LGDP, which has a more limited spread. The standard deviation, a measure of how much the individual data points deviate from the mean, is highest for LDOM. This indicates that LDOM values are more spread out and exhibit greater variability compared to LGDP. These descriptive statistics offer a detailed view of how the data is distributed, providing important context for interpreting the relationships between the variables.

Skewness and kurtosis are statistical measures that provide insights into the shape of a data distribution. Skewness indicates the direction in which the distribution leans, and a negative skew, as observed in all the variables in this study, suggests that the data is skewed to the left. This means that the left side of the distribution has a longer tail. Among the variables, LPAE shows the most pronounced negative skew, indicating a substantial concentration of data points on the right side of the distribution, with fewer values on the left.

Kurtosis measures the "tailedness" of a distribution, or the extent to which data points cluster in the tails of the distribution compared to a normal distribution. A kurtosis value of 3 is considered normal, indicating a balanced distribution with typical tail behavior. However, LPAE has a kurtosis value greater than 3, signaling that it has heavier tails, which implies that extreme values (outliers) are more likely than in a normal distribution. On the other hand, LGDP has a kurtosis value lower than 3, suggesting a distribution with lighter tails and fewer extreme values.

These measures of skewness and kurtosis highlight the non-normal nature of the data and help in understanding how the values are distributed across the variables, providing further context for interpreting their statistical behavior.

The Jarque-Bera test is used to evaluate whether a data set follows a normal distribution. If the p-value is greater than 0.05, it suggests that the data does not significantly differ from a normal distribution. In this analysis, all the variables have p-values exceeding 0.05, implying that their distributions are approximately normal.

However, despite the normality indicated by the test, the variables still show varying degrees of skewness and dispersion. Specifically, LPAE stands out with a stronger left skew and heavier tails compared to the other variables, which indicates that while it is generally normal, it is more prone to extreme values or outliers.

In summary, while the majority of the variables in this study can be considered to follow a normal distribution, it is important to recognize that some exhibit skewness and differing levels of spread. These characteristics should be considered carefully when conducting

further statistical analysis and drawing conclusions. Understanding these nuances is essential for making accurate interpretations and ensuring the robustness of any subsequent findings (Anderson, 2018).

#### 4.1.2 Causality Test Result

**Table 4.2:** Causality Test

Pairwise Granger Causality Tests

Date: 11/10/24 Time: 00:13

Sample: 2003 2023

Lags: 1

| Null Hypothesis:                 | Obs | F-Statistic | Prob.  |
|----------------------------------|-----|-------------|--------|
| LDOM does not Granger Cause LGDP | 20  | 10.8453     | 0.0024 |
| LGDP does not Granger Cause LDOM |     | 0.56048     | 0.4594 |
| LEXG does not Granger Cause LGDP | 20  | 5.86659     | 0.0211 |
| LGDP does not Granger Cause LEXG |     | 3.91539     | 0.0562 |
| LEDS does not Granger Cause LGDP | 20  | 10.5912     | 0.0026 |
| LGDP does not Granger Cause LEDS |     | 0.19784     | 0.6594 |
| LPAE does not Granger Cause LGDP | 20  | 5.57499     | 0.0243 |
| LGDP does not Granger Cause LPAE |     | 0.64578     | 0.4274 |

**Source:** Authors computation using Eviews 12 (2024)

**Note:** \*reject Ho \*\* accept Ho

The Granger causality test is used to identify whether one time series can predict another. By analyzing the p-values from the test, we can determine which relationships are statistically significant and thus, causal.

**Domestic Debt (LDOM) and GDP (LGDP):** The result shows a significant relationship between domestic debt and GDP. Specifically, past values of domestic debt (LDOM) are found to significantly influence future GDP (LGDP). This suggests that changes in domestic debt levels can have a notable effect on the country's economic growth (Hansen, 2019).

**Exchange Rate (LEXG) and GDP (LGDP):** A bidirectional relationship exists between the exchange rate and GDP. The p-value indicates that past values of both variables can influence each other, suggesting a strong interconnection between the two. This means that not only does the exchange rate affect GDP, but economic growth can also influence the exchange rate (Clark & McCulloch, 2017).

External Debt (LEDS) and GDP (LGDP): The results show that external debt (LEDS) also significantly influences GDP growth, similar to domestic debt. This finding highlights the impact of external borrowing on a nation's economic performance (Cohen, 2018).

Public Expenditure (LPAE) and GDP (LGDP): The analysis reveals that public expenditure (LPAE) has a significant effect on GDP. Past public spending is shown to drive future GDP growth, suggesting that government expenditure can play a crucial role in stimulating economic activity (Papanek, 2020).

While these findings indicate the importance of debt and expenditure policies in influencing economic growth, it is critical to note that these variables are not the only factors shaping a nation's economic trajectory. Other factors such as technological advancements, institutional quality, and global economic conditions also play substantial roles in determining long-term economic growth (Jones & Mak, 2016). Therefore, a comprehensive approach is needed when designing economic policies that aim to foster sustainable development.

#### 4.1.3 OLS Result

**Table 4.3: OLS Result**

Dependent Variable: LGDP

Method: Least Squares

Date: 11/10/24 Time: 00:57

Sample: 2003 2023

Included observations: 20

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.  |
|--------------------|-------------|-----------------------|-------------|--------|
| LDOM               | 0.213272    | 0.103629              | 2.058031    | 0.0478 |
| LEXG               | 0.139977    | 0.053544              | 2.614248    | 0.0135 |
| LEDS               | 0.103245    | 0.118549              | 0.870905    | 0.3903 |
| LPAE               | -0.204662   | 0.050280              | -4.070464   | 0.0003 |
| C                  | 9.126866    | 0.184817              | 49.38322    | 0.0000 |
| R-squared          | 0.945520    | Mean dependent var    | 10.68261    |        |
| Adjusted R-squared | 0.938710    | S.D. dependent var    | 0.513060    |        |
| S.E. of regression | 0.127017    | Akaike info criterion | -1.163899   |        |
| Sum squared resid  | 0.516269    | Schwarz criterion     | -0.946207   |        |
| Log likelihood     | 26.53212    | Hannan-Quinn criter.  | -1.087152   |        |
| F-statistic        | 138.8427    | Durbin-Watson stat    | 0.940019    |        |
| Prob(F-statistic)  | 0.000000    |                       |             |        |

**Source:** Authors computation using Eviews 12 (2024)

Table 4.3 presents an analysis of the relationship between key economic variables and GDP growth in Nigeria from 2003 to 2023.

**Domestic Debt (LDOM):** There is a significant positive relationship between domestic debt and GDP growth, suggesting that increased domestic debt may stimulate economic activity. This effect could be driven by government spending on infrastructure, social programs, and other initiatives. However, it is important to maintain fiscal discipline to ensure that domestic debt does not become unsustainable, as excessive debt could eventually hamper long-term growth (Fasanya & Oyinlola, 2015).

**Exchange Rate (LEXG):** The analysis reveals a positive and significant relationship between the exchange rate and GDP growth. A depreciation of the domestic currency could potentially boost exports, which in turn could stimulate economic growth. Nevertheless, while a weaker currency may benefit export-driven industries, it can also lead to inflationary pressures, affecting the broader economy (Adeoye & Fakile, 2019). Thus, currency devaluation must be carefully managed to avoid negative consequences.

**External Debt (LEDS):** Although there is a positive relationship between external debt and GDP growth, this relationship is not statistically significant. This suggests that external borrowing, in the case of Nigeria, may not have a strong impact on stimulating economic growth. This finding raises questions about the effectiveness of foreign loans and grants in driving long-term development (Ogunyemi, 2020). It highlights the need for better management of external debt to ensure that borrowing leads to productive investments that contribute to economic growth.

**Public Expenditure (LPAE):** A negative and significant relationship exists between public expenditure and GDP growth, indicating that increased government spending may not always translate into higher economic growth. This result suggests that inefficient public spending, corruption, and mismanagement of public funds can undermine the potential benefits of government expenditure (Mabogunje, 2018). Therefore, it is crucial to focus on improving the efficiency and accountability of government spending to enhance its positive impact on the economy.

The regression model, as shown by the R-squared and adjusted R-squared values, explains a substantial proportion of the variation in GDP growth. The high F-statistic confirms the overall significance of the model, indicating that the relationship between the economic variables and GDP growth is meaningful and robust.

However, the Durbin-Watson statistic suggests that there may be autocorrelation in the residuals. Autocorrelation occurs when the error terms in the regression model are correlated, which violates the assumption of independent errors. This could lead to biased and inefficient estimates of the model parameters. To address this issue, further analysis is recommended,

including the use of time series techniques that account for potential autocorrelation in the data (Gujarati & Porter, 2020).

Additionally, the Breusch-Pagan-Godfrey test can be conducted to assess heteroscedasticity, which occurs when the variance of the error terms is not constant across observations. If heteroscedasticity is detected, adjustments such as weighted least squares can be applied to improve the accuracy and reliability of the model's estimates (Wooldridge, 2016).

By addressing these potential issues, researchers can enhance the robustness and reliability of the findings, thereby providing more accurate insights into the factors influencing economic growth in Nigeria.

#### 4.1.4 Generalized Least Square Result

**Table 4.4:** GLS Result

| log_GDP            | Coef. | St.Err. | t-value              | p-value | [95% Conf | Interval] | Sig |
|--------------------|-------|---------|----------------------|---------|-----------|-----------|-----|
| log_DOM            | .31   | .132    | 2.35                 | .027    | .039      | .582      | **  |
| log_EXG            | .09   | .068    | 1.31                 | .201    | -.051     | .23       |     |
| log_EDS            | .006  | .132    | 0.04                 | .966    | -.265     | .276      |     |
| log_PAE            | -.158 | .052    | -3.04                | .005    | -.265     | -.051     | *** |
| Constant           | 9.282 | .237    | 39.20                | 0       | 8.795     | 9.769     | *** |
| Mean dependent var |       | 10.605  | SD dependent var     |         | 0.482     |           |     |
| R-squared          |       | 0.973   | Number of obs        |         | 31        |           |     |
| F-test             |       | 232.594 | Prob > F             |         | 0.000     |           |     |
| Akaike crit. (AIC) |       | -54.282 | Bayesian crit. (BIC) |         | -47.112   |           |     |

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$

**Source:** Authors computation using Stata 15 (2024)

It is observed in Table 4.4 that after correcting the presence of heteroscedasticity using the GLS technique, all the variables except log\_PAE exerted a negative relationship with the outcome variable. In terms of magnitude, only two variables (LDOM and LPAE) exerted a significant impact on the outcome variable against the three explanatory variables in the OLS result. LEXG and LEDS exerted a no significant positive impact on LGDP for the period under investigation. In furtherance, the model exhibited a better fit as indicated by the  $R^2$  value of 97.3% against the 94.55% established in the OLS result. To ascertain whether the model is free of heteroscedasticity, the Breusch-Pagan / Cook-Weisberg test for heteroskedasticity is utilized to test the null hypothesis of constant variance.

#### 4.2 Discussion of Findings

The results of the Generalized Least Squares (GLS) estimation in Table 4.4 reveal several key insights regarding the relationship between domestic debt (LDOM), external grants (LEXG),

external debt servicing (LEDS), public expenditure (LPAE), and GDP growth (LGDP) in Nigeria from 2003 to 2023.

**Domestic Debt (LDOM) and GDP Growth (LGDP):** The study finds that LDOM ( $p = 0.027$  and  $\beta = 0.31$ ) has a statistically significant and positive impact on LGDP. This means that an increase of one unit in domestic debt will lead to a significant increase of 0.31 units in GDP. This result is consistent with the theoretical expectation that government borrowing for infrastructure investment and public services can stimulate economic growth. However, this finding contrasts with Adofu and Abula's (2010) study, which argued that excessive domestic borrowing can crowd out private sector investment and negatively affect growth in Nigeria. The discrepancy may be due to differing economic contexts or time periods analyzed in the respective studies.

**Exchange Rate (LEXG) and GDP Growth (LGDP):** The result for LEXG ( $p = 0.201$  and  $\beta = 0.09$ ) suggests that while exchange rate movements have a positive impact on LGDP, the effect is statistically insignificant. A one-unit increase in LEXG results in a 0.09 unit increase in LGDP, but the effect is not large enough to be deemed significant. This is contrary to theoretical expectations that currency devaluation might stimulate economic growth by boosting exports, but in this case, the effect does not reach statistical significance. The bidirectional causality between LEXG and LGDP observed in the study also stands in contrast to Titus, Chidi, Tochukwu, and Babatunde's (2016) findings, which suggested that government grants (which may be tied to exchange rate fluctuations) negatively impacted economic growth in Nigeria.

**External Debt Servicing (LEDS) and GDP Growth (LGDP):** The analysis for LEDS ( $p = 0.996$  and  $\beta = 0.006$ ) shows that external debt servicing does not have a significant positive effect on LGDP. The positive but insignificant coefficient implies that while an increase in external debt servicing could theoretically lead to a marginal increase in GDP, this effect is negligible. This result contradicts theoretical expectations, which suggest that increasing external debt servicing could constrain economic growth by diverting resources away from productive investments. Additionally, the study found a unidirectional causality flowing from LEDS to LGDP, which challenges the findings of Peter, Denis, and Chukwuedo (2013), who suggested that government debt servicing could negatively impact growth by reducing the funds available for investment in the economy.

**Public Expenditure (LPAE) and GDP Growth (LGDP):** The relationship between LPAE and LGDP is negative and statistically significant, with a coefficient of -0.158. This suggests that an increase in public expenditure could lead to a significant decline in GDP growth. While this result may seem counterintuitive, it underscores the possibility that inefficient government spending—particularly in the absence of strong governance and accountability mechanisms—can reduce economic performance. The unidirectional causality from LPAE to

LGDP implies that higher government spending, especially when not effectively targeted, could dampen economic growth in Nigeria. This finding contrasts with Jayaraman and Lau's (2009) study of Pacific island countries, which found that government spending during natural disasters could boost short-term growth due to public investment in rebuilding efforts. However, long-term growth effects were constrained by the diversion of resources away from other productive sectors. The difference in findings may be attributed to the nature of public expenditure in Nigeria, where inefficiency and corruption can negate the positive impacts of spending.

## 5.1 Conclusion

This study explored the impact of the Nigerian Federal Government's budget deficit on economic stability and growth, focusing on the roles of domestic borrowing (LDM), external debt servicing (LEDS), exchange rate grants (LEXG), and public expenditure on emergencies (LPAE). The findings reveal a complex relationship between these factors and GDP growth in Nigeria. Specifically, domestic borrowing (LDM) has a significant positive effect on economic growth, suggesting that increasing domestic debt, if managed properly, can contribute to growth by financing key infrastructure and development projects. This outcome is supported by the notion that well-directed borrowing can stimulate economic activity and provide necessary funding for long-term growth initiatives.

## 5.2 Recommendations

Based on the findings, several policy recommendations can be made to improve the efficiency of government expenditure and enhance its positive impact on economic growth in Nigeria:

- i. Strategic Management of Domestic Borrowing and External Grants: The study underscores the importance of effective domestic borrowing and careful management of external grants. Policymakers should focus on ensuring that borrowed funds are directed toward high-priority sectors such as infrastructure, education, and healthcare, which can yield long-term economic benefits. In addition, external grants should be better targeted and aligned with national development goals to ensure they are used efficiently. This could involve strengthening monitoring mechanisms to ensure that the funds are allocated to productive uses and are not wasted due to inefficiencies or mismanagement.
- ii. Enhancing the Effectiveness of Domestic Borrowing: Given that domestic borrowing has a positive impact on GDP growth, it is recommended that borrowing be strategically focused on projects that directly support growth, such as infrastructure development. A transparent framework should be established to ensure that the funds borrowed are used effectively and transparently.

Furthermore, there should be limits on borrowing to avoid excessive public debt, which could crowd out private sector investment. Responsible borrowing practices should be implemented to ensure that debt remains sustainable and does not place undue strain on the economy.

- iii. **Improving the Impact of External Grants:** While external grants showed a positive but insignificant effect on GDP growth, improving the management and targeting of these grants could enhance their effectiveness. Policies should aim to align grant utilization with strategic national priorities, such as sustainable development, energy, or technological innovation. Establishing stronger accountability measures and monitoring systems can ensure that grants are effectively deployed and do not result in wasteful expenditures.
- iv. **Reforming External Debt Servicing Policies:** Given that external debt servicing does not have a significant positive impact on economic growth, the government should explore renegotiating the terms of external debts to reduce the burden of debt payments. Lowering the cost of debt servicing would free up resources that could be better utilized in growth-promoting activities, such as infrastructure development, education, and healthcare. In addition, it is important to prioritize the use of debt repayment funds toward projects that enhance the country's productive capacity, rather than servicing high-interest loans.
- v. **Optimizing Emergency Expenditures:** The significant negative relationship between emergency spending and GDP growth calls for a more structured and efficient approach to managing emergency funds. Policymakers should consider creating a contingency reserve that can be used for emergencies without diverting resources from long-term development goals. Improving the transparency and efficiency of emergency fund allocation is also critical to minimizing the negative economic effects of such spending. Additionally, strengthening disaster risk management and preparing for contingencies in advance can reduce the need for ad-hoc emergency spending and help ensure that resources are better allocated to support sustainable growth.

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