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FISCAL POLICY IMPACT ON ECONOMIC GROWTH IN NIGERIA: AN EMPIRICAL ANALYSIS

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ABSTRACT
Nigeria's economic paradox of sustained GDP growth alongside rising unemployment, poverty, and income inequality underscores the limitations of relying solely on headline economic indicators. While fiscal policy plays a crucial role in financial management, its effectiveness in fostering inclusive growth remains debatable. This study examines the impact of fiscal policy on economic growth and macroeconomic stability in Nigeria from 2003 to 2023, employing time-series data and econometric techniques such as regression analysis. The study evaluates the relationship between government expenditure, taxation, and income distribution, highlighting the structural inefficiencies that hinder fiscal effectiveness. Findings suggest that while fiscal policy has contributed to GDP growth, its impact is weakened by inefficient government spending, and revenue dependency, particularly on oil and institutional weaknesses. Moreover, fiscal interventions have failed to significantly reduce income inequality due to misallocation of resources and corruption. The study recommends targeted interventions to enhance fiscal policy effectiveness, including increased investment in human capital development, tax reforms, and improved governance. Strengthening fiscal discipline, diversifying revenue sources, and promoting transparency in public finance management are crucial for ensuring equitable and sustainable economic growth. These insights contribute to the broader discourse on the resource curse and the challenges of fiscal policy implementation in developing economies, offering valuable implications for policymakers in Nigeria and similar contexts.

INTRODUCTION

Nigeria's economy presents a paradox: while it has experienced sustained GDP growth, it faces rising unemployment, poverty, and income inequality (World Bank, 2023). This discrepancy raises concerns about the effectiveness of fiscal policy in promoting inclusive economic growth. Although government expenditure and taxation policies have been employed to stimulate economic activity, their impact on income distribution and macroeconomic stability remains debated. Fiscal policy is crucial for stabilizing economies and ensuring fair resource allocation. However, in Nigeria, challenges such as budgetary inefficiencies, corruption, and dependence on oil revenue have limited the effectiveness of government spending (Metu et al., 2023). This study explores the relationship between fiscal policy and economic growth in Nigeria, with an emphasis on income inequality, macroeconomic stability, and the effectiveness of fiscal interventions in addressing external shocks. Economic growth is a primary goal of fiscal policy, yet Nigeria's financial landscape reveals a contradiction. Despite consistent GDP growth over the past two decades, the country continues to struggle with increasing unemployment, poverty, and income inequality (World Bank, 2023).

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Education and healthcare serve as foundational pillars in the development of human capital. By prioritizing these sectors, Nigeria has the potential to enhance the living standards of its citizens and equip them with the necessary resources to compete effectively in the labor market. An educated and healthy workforce not only boosts productivity but also fosters innovation and economic growth (The World Bank, 2019). Nigeria, endowed with abundant natural resources and considerable human potential, grapples with the challenge of achieving sustainable economic growth. While rapid economic development can contribute to poverty alleviation and job creation, it frequently leads to increased inequality and environmental degradation. To address these multifaceted challenges, Nigeria has implemented a comprehensive strategy that emphasizes human capital development, infrastructure enhancement, anti-corruption measures, entrepreneurship promotion, and open governance. This integrated approach aims to cultivate an environment in which all Nigerians can both contribute to and benefit from economic progress. These dynamic raises critical questions concerning the efficacy of fiscal policy in fostering inclusive economic growth. Historically, government expenditure and taxation have been employed as instruments for economic stabilization and development; however, their impact on income distribution and macroeconomic stability remains a contested issue. Fiscal policy encompasses government spending, taxation, and borrowing mechanisms designed to influence economic activity. In Nigeria, the effectiveness of these fiscal strategies has been undermined by challenges such as an overreliance on oil revenue, corruption, and suboptimal resource allocation (Metu et al., 2023). The nation's significant dependence on oil revenues renders its fiscal policy particularly vulnerable to external shocks, including fluctuations in global oil prices, thereby contributing to economic instability. This study seeks to investigate the relationship between fiscal policy and economic growth in Nigeria, with a specific focus on income inequality, macroeconomic stability, and the effectiveness of governmental interventions in mitigating external shocks. By analyzing Nigeria's fiscal policy from 2003 to 2023, this research aspires to provide empirical evidence to optimize fiscal tools for sustainable and equitable growth. Nevertheless, the pursuit of economic growth must be balanced with the imperative of environmental sustainability.

Recent studies conducted by the World Bank (2023) and the United Nations (2023) underscore the necessity of sustainable development as a cornerstone for achieving long-term prosperity. By integrating environmental considerations into its economic policies, Nigeria can ensure that its development trajectory is both inclusive and resilient to future challenges. Emphasizing sustainability presents an array of advantages. The incorporation of sustainability principles into policy formulation and decision-making processes guarantees that economic growth aligns with environmental stewardship and commercial viability (International Monetary Fund, 2023). Moreover, encouraging businesses to adopt sustainable practices can mitigate pollution and resource depletion while simultaneously fostering job creation and economic expansion (Business & Sustainable Development Commission, 2023).

Statement of the Problem. Despite the critical role of fiscal policy in driving economic growth, Nigeria continues to grapple with widening income inequality. The top 10% of the population controls a disproportionate share of national income, while nearly half of the population struggles to meet basic needs. This imbalance is reflected in Nigeria's Wealth Inequality Score of 35.1, highlighting deep structural disparities that undermine social stability and economic development. Rising inequality is further exacerbated by inefficient government spending, overreliance on oil revenues, and

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wasteful expenditures that fail to address systemic poverty (Metu et al., 2023). To bridge this inequality gap, policymakers must adopt a more inclusive and equitable fiscal policy framework. Progressive taxation on high-income earners can help redistribute wealth and generate revenue for essential public services. Increased investment in education, healthcare, and social welfare programs is vital to improving living standards for marginalized populations. Furthermore, targeted economic policies that promote job creation, entrepreneurship, and financial inclusion can help expand opportunities for low-income groups. Additionally, strengthening governance and transparency in public finance management is crucial in mitigating corruption and ensuring efficient allocation of resources.

LITERATURE REVIEW

This section presents the theoretical, conceptual, and empirical framework of fiscal policy and its role in fostering economic growth. It explores key fiscal policy instruments, their impact on economic performance, and relevant empirical findings in Nigeria and other economies.

Theoretical Review

Keynesian Theory of Fiscal Policy

John Maynard Keynes (1936) argued that government intervention through fiscal policy is necessary to manage economic fluctuations. The Keynesian framework emphasizes that increased government spending and lower taxes stimulate aggregate demand, leading to higher production and employment. Conversely, reducing government expenditure and increasing taxes during inflationary periods helps stabilize the economy. Keynesians advocate expansionary fiscal policy during recessions to boost economic activity and contractionary fiscal policy during economic booms to prevent overheating.

Neoclassical Growth Theory

The Neoclassical Growth Model, developed by Solow (1956) and Swan (1956), highlights capital accumulation and technological progress as key drivers of economic growth. This theory suggests that while fiscal policy can influence short-term economic growth, long-term growth is primarily determined by productivity improvements and innovation. Excessive government intervention, particularly inefficient public spending, can lead to distortions in resource allocation and reduce private sector participation.

Endogenous Growth Theory

Endogenous Growth Theory, as introduced by Romer (1990) and Lucas (1988), argues that investment in human capital, innovation, and infrastructure directly contributes to long-term economic growth. This theory suggests that fiscal policy should prioritize education, healthcare, and research and development to foster productivity and competitiveness. Unlike the Neoclassical Model, this approach asserts that government policies play a fundamental role in sustaining economic expansion.

Public Choice Theory

The Public Choice Theory, developed by Buchanan and Tullock (1962), critiques government intervention, arguing that policymakers may act in self-interest rather than in the public good. This theory warns that inefficient fiscal policies, corruption, and rent-

seeking behavior can undermine economic growth. Transparency, accountability, and strong institutions are therefore necessary for effective fiscal management.

Conceptual Review

Fiscal Policy and Economic Growth

Fiscal policy refers to the government's use of taxation, government spending, and borrowing to influence economic activity. Economic growth, often measured by GDP, depends on productive fiscal management. An effective fiscal policy enhances public investment in infrastructure, education, and social welfare, which can stimulate growth. However, fiscal mismanagement such as excessive borrowing and inefficient expenditure can lead to inflation, economic instability, and unsustainable debt.

Government Expenditure and Income Inequality

Government expenditure plays a critical role in reducing income inequality by funding social programs, healthcare, and education. However, in Nigeria, inefficiencies in public spending, corruption, and misallocation of resources have limited the impact of fiscal interventions on poverty alleviation. Studies suggest that progressive taxation and targeted government spending are necessary to achieve equitable income distribution.

Fiscal Policy and External Economic Shocks

Fiscal policy is a key tool in mitigating external economic shocks such as oil price fluctuations, global financial crises, and inflation. Countries that rely heavily on commodity exports, like Nigeria, experience fiscal instability when global prices decline. Effective fiscal stabilization mechanisms such as sovereign wealth funds, budgetary buffers, and diversified revenue sources help cushion the economy against external disruptions.

Empirical Literature Review

Relationship Between Fiscal Policy and Economic Growth

Empirical studies on the effectiveness of fiscal policy in driving economic growth have produced mixed results. While some studies highlight the positive impact of government expenditure, others emphasize the risks associated with fiscal mismanagement and excessive borrowing.

Eze et al. (2019) found that government spending contributed to GDP growth in Nigeria; however, they also noted that external debt harmed economic performance. Their findings underscore the need for sustainable borrowing practices to prevent excessive debt accumulation, which can undermine long-term growth. Similarly, Ogundele and Olaniyi (2018) reported a positive long-run relationship between government expenditure and economic growth, particularly in infrastructure development. They argued that targeted investments in infrastructure can enhance productivity, create employment, and stimulate broader economic activities.

In contrast, Agboola and Olayemi (2016) emphasized the importance of fiscal discipline and efficient revenue utilization to maximize economic growth. They highlighted that while increased government spending has the potential to drive economic expansion, its effectiveness largely depends on how efficiently resources are allocated and managed. Additionally, they pointed out that revenue diversification is critical for sustainable fiscal policy implementation. Overreliance on oil revenue has made Nigeria vulnerable to external shocks, and a more diversified revenue base could enhance economic stability.

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Government Expenditure and Income Inequality

Recent studies continue to examine the role of fiscal policy in addressing income inequality in Nigeria, highlighting both progress and persistent challenges. While increased government spending on social programs has contributed to reducing disparities, issues such as weak institutional frameworks, inefficient resource allocation, and limited tax reforms remain key obstacles. Adedeji and Olowo (2023) found that targeted social spending on education and healthcare has helped narrow income disparities by improving access to essential services for lower-income groups. Their study emphasized that investment in human capital enhances productivity and social mobility, thereby reducing long-term inequality. However, they also noted that corruption and weak governance have limited the effectiveness of fiscal interventions, as funds allocated for social programs often fail to reach the intended beneficiaries. Similarly, Nwankwo et al. (2022) reported that Nigeria's fiscal policy remains skewed towards recurrent expenditure, with a significant portion of government spending directed toward salaries and administrative costs rather than capital investment. They argued that this pattern exacerbates income inequality, as inadequate investment in infrastructure, job creation, and economic diversification fails to provide sustainable opportunities for low-income households. Lucky and Godday (2021) stressed the urgent need for progressive taxation and enhanced social safety nets to address wealth disparities. They recommended expanding the tax base to include high-net-worth individuals and multinational corporations, ensuring a fairer distribution of the tax burden. Additionally, they advocated for direct financial assistance programs and affordable housing initiatives to alleviate poverty.

Fiscal Policy and External Economic Shocks in Nigeria

Fiscal policy plays a vital role in mitigating economic shocks by stabilizing macroeconomic conditions and fostering economic resilience. In Nigeria, where the economy is highly dependent on oil revenues, fiscal measures are essential in cushioning the effects of external shocks such as fluctuations in global oil prices, inflation, and financial crises. Elom-Obed et al. (2017) found that fiscal diversification and counter-cyclical policies helped stabilize Nigeria’s economy during periods of oil price downturns. Their study highlighted that when the government implemented counter-cyclical measures—such as increasing public investment and adjusting tax policies—economic volatility was reduced. They also emphasized the importance of revenue diversification, particularly through investments in non-oil sectors such as agriculture and manufacturing, to create a more resilient economy. However, fiscal mismanagement remains a major challenge. Morakinyo, David, and Alao (2018) argued that Nigeria’s overreliance on oil revenues has exacerbated its vulnerability to external shocks. Their study revealed that inefficient government spending, lack of savings during oil booms, and high public debt levels have weakened the country’s ability to respond effectively to economic downturns. Aliyu et al. (2019) stressed the need for stronger fiscal buffers and prudent government spending to enhance economic resilience. They recommended creating a robust sovereign wealth fund and strengthening public financial management to ensure fiscal sustainability.

Government Expenditure, Economic Growth, Unemployment, and Poverty in Nigeria

Recent studies continue to explore the impact of government expenditure on Nigeria’s economic growth, unemployment, and poverty reduction. While public

spending has been found to stimulate GDP growth, its effectiveness in addressing unemployment and poverty remains a major concern.

Friday et al. (2022) analyzed Nigeria's economic growth from 1990 to 2022, focusing on government capital expenditures. Using advanced econometric techniques such as the vector error correction model (VECM) and cointegration tests, they confirmed that public investment in infrastructure and human capital had a significant and positive impact on economic expansion. Their study suggested that increased government spending on critical sectors such as transportation, education, and healthcare enhances productivity and long-term economic sustainability. Similarly, Maku (2023) reinforced these findings, demonstrating that government expenditure contributes to GDP growth but emphasizing the need for efficient fiscal management to maximize its benefits. However, the relationship between government spending, unemployment, and poverty remains complex. Nwosa (2023) examined the effects of government expenditure on job creation and poverty alleviation from 1995 to 2023. Using an ordinary least squares (OLS) regression model, the study found that while government spending increased, unemployment rates remained high, suggesting a disconnect between public expenditure and labor market expansion. Additionally, the research revealed that poverty levels showed little improvement despite increased public investments, indicating that other structural factors such as labor market inefficiencies and economic diversification must be addressed to ensure inclusive growth.

Overall, recent studies highlight the need for improved fiscal discipline, targeted social investments, and job creation policies to enhance the effectiveness of government spending in Nigeria.

Summary of Literature and Research Gap

Existing literature highlights the crucial role of fiscal policy in promoting economic growth, reducing income inequality, and mitigating external economic shocks. Government spending, taxation, and debt management strategies significantly influence macroeconomic stability and overall development. However, Nigeria's fiscal policy has been constrained by inefficiencies, corruption, and a persistent overreliance on oil revenues, limiting its effectiveness in achieving sustainable growth and equitable income distribution. Several studies have explored these challenges independently. For instance, research on fiscal policy and economic growth often focuses on the impact of government spending and taxation on GDP expansion, while studies on income inequality assess the redistributive effects of public expenditure and tax structures. Similarly, investigations into external economic shocks primarily examine how Nigeria's fiscal policy responds to oil price fluctuations and global financial crises. However, there is a lack of comprehensive research that integrates these dimensions, providing a holistic evaluation of fiscal policy effectiveness in Nigeria. This study aims to bridge this gap by examining Nigeria's fiscal policy from 2003 to 2023 and analyzing its impact on economic growth, income inequality, and macroeconomic stability in response to external shocks. By adopting an integrated approach, the study offers empirical insights that can guide policymakers in designing more effective fiscal strategies. It emphasizes the need for enhanced fiscal discipline, diversification of revenue sources, and improved public financial management to ensure inclusive growth and economic resilience.

Research Objectives. The main objective of this study is to examine the impact of fiscal policy on economic growth in Nigeria. The specific objectives include: To analyze the relationship between fiscal policy and economic growth in Nigeria. To assess the

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impact of government expenditure on income inequality in Nigeria. To evaluate the effectiveness of fiscal policy in mitigating external economic shocks in Nigeria.

Research Questions: What is the relationship between fiscal policy and economic growth in Nigeria? What is the impact of government expenditure on income inequality? What is the effectiveness of fiscal policy in mitigating external economic shocks?

Research Hypotheses:

H_1: There is a significant relationship between fiscal policy and economic growth in Nigeria.

H_1: Government expenditure has a significant impact on income inequality in Nigeria.

H_1: Fiscal policy is effective in mitigating external economic shocks in Nigeria.

RESEARCH METHODOLOGY

Preamble

This study investigates the relationship between fiscal policy and economic growth in Nigeria from 2003 to 2023, focusing on key fiscal variables. The dependent variable, economic growth, is measured using the poverty headcount ratio, while the independent variables: total government expenditure, tax revenue, and public debt are expressed as percentages of GDP or annual growth rates. Data for the analysis is sourced from the Central Bank of Nigeria (CBN), World Development Indicators (WDI), and the National Bureau of Statistics (NBS). The study covers Nigeria's democratic era, providing insights into the effectiveness of fiscal policy in promoting inclusive and sustainable economic growth.

Research Design

This study employs a quantitative research design using time-series data from 2003 to 2023. The study utilizes econometric techniques, including regression analysis, to examine the causal relationship between fiscal policy variables and economic growth indicators.

Data Sources and Variables

Data for this study are obtained from reputable sources, including the Central Bank of Nigeria (CBN), the National Bureau of Statistics (NBS), and the World Bank. The variables used in the study include:

- **Dependent Variable**: Gross Domestic Product (GDP) Growth Rate
- **Independent Variables**: Government Expenditure, Tax Revenue, Public Debt and Inflation Rate
- **Control Variables**: Human Capital Index, Exchange Rate

Model Specification

To analyze the relationship between fiscal policy and economic growth in Nigeria, the study adopts the following functional model:

$$\mathbf{EGRW = \mathit{f}\,(TGExp, TRE, PDBT, GDPPC)}$$

Where:

- EGRW = Economic Growth, measured by indicators such as the Gini coefficient (income inequality), poverty rates, and employment levels.

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- TGExp = Total Government Expenditure, disaggregated into different sectors such as education, healthcare, and infrastructure to assess its impact on economic growth.
- TRE = Total Government Revenue, which includes tax and non-tax revenue sources to determine how government income influences economic performance.
- PDBT = Public Debt, capturing the effect of domestic and external borrowing on economic stability and long-term growth.
- GDPPC = GDP per Capita, serving as a proxy for economic development, reflecting income levels and overall economic well-being.

Econometric Model

To estimate the impact of fiscal policy on economic growth, the study employs the following regression equation:

$$EGRW = \beta_0 + \beta_1 TGExp + \beta_2 TRE + \beta_3 PDBT + \beta_4 GDPPC + \epsilon$$

Where:

β_0 = Intercept

β_1, β_2, β_3, & β_4 = Coefficients representing the relationship between the independent variables and economic growth

ϵ = Error term, accounting for unobserved factors

This model will be estimated using time-series econometric techniques, including stationarity tests, cointegration analysis, and regression methods such as the Autoregressive Distributed Lag (ARDL) model, to determine both short-run and long-run relationships between fiscal policy and economic growth in Nigeria.

Estimation Techniques

The study employs the Autoregressive Distributed Lag (ARDL) model to assess both short-run and long-run relationships between fiscal policy measures and economic growth. Unit root tests (Augmented Dickey-Fuller) are conducted to ensure data stationarity, while diagnostic tests assess model robustness.

RESULT AND DISCUSSION

Preamble

This presents the results of the data collected and shows the empirical analysis of the impact of fiscal policy on economic growth using various methods. It uses quantitative data analysis to present the results clearly and effectively with data visualization.

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Trend Analysis

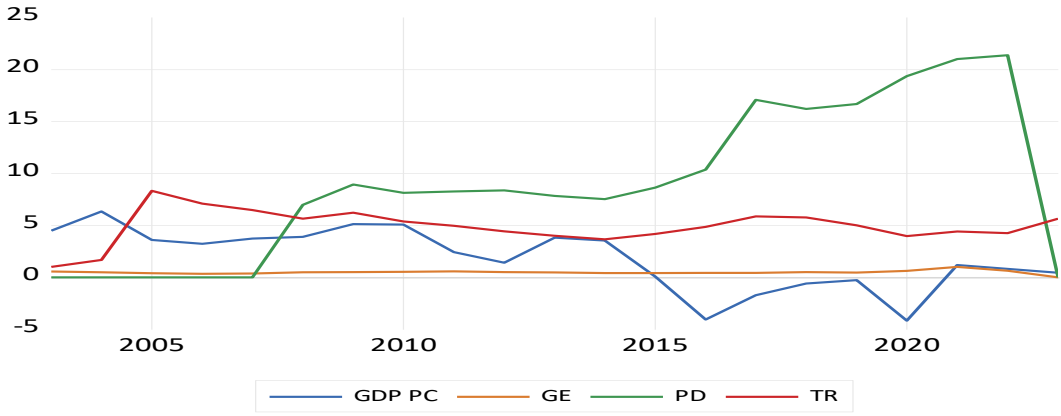

Figure 1: Trend Analysis of Key Fiscal and Economic Indicators
Source: Authors' Compilation

The data outlines key economic indicators from 2003 to 2023, including Total Revenue, Government Expenditure, Public Debt, and GDP per Capita, which reflect significant economic events and shifts

Total Revenue experienced considerable fluctuations, reaching a peak of 8.33% in 2005, likely due to enhanced tax administration or targeted policy interventions. However, it declined during 2006-2007, possibly influenced by global economic factors. Between 2008 and 2020, Total Revenue stabilized within a range of 3.5% to 6.2%, with a notable drop to 3.98% in 2020 because of the COVID-19 pandemic. By 2023, Total Revenue rebounded to 5.65%, indicating a gradual recovery and improved tax collection efforts.

Government expenditure remained low but stable, ranging from 0.35% to 0.63% for much of the period. In 2021, there was a notable increase to 1.01%, likely in response to fiscal measures aimed at mitigating the pandemic's impact. Expenditure returned to 0.63% in 2022 and was not recorded in 2023, suggesting potential fiscal constraints or incomplete data.

Public debt was negligible until 2008, when it rose sharply to 6.99%, indicating a significant shift in fiscal policy and increased borrowing. It peaked at 17.09% in 2017 but showed no data from 2020 to 2023, raising concerns about its implications for economic growth and fiscal sustainability.

GDP per capita displayed considerable variability, peaking at 6.34% in 2004. However, it experienced fluctuations, including a significant drop to -4.05% in 2016, likely due to a recession resulting from declining oil prices. A similar downturn occurred in 2020 (-4.16%) amid the COVID-19 pandemic. Following this, there was modest growth in 2021 (1.18%) and 2022 (0.82%), but by 2023, growth slowed to 0.44%, indicating ongoing economic challenges.

Relationship Between Total Revenue and GDP Per Capita

Tax revenue and GDP per capita (GDPPC) typically exhibit a positive relationship during periods of economic growth. Between 2003 and 2006, GDPPC steadily improved alongside rising total revenue, demonstrating the government's capability to effectively mobilize resources in a growing economy. However, during economic downturns in 2016 and 2020, total revenue experienced significant declines due to decreased economic activity, coinciding with sharp contractions in GDP driven by

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global oil price crashes and the COVID-19 pandemic. This situation underscores the necessity for a more diversified revenue base.

Impact of Public Debt on GDPPC

Following a sharp increase in public debt after 2008, there was no immediate adverse impact on GDPPC, suggesting that initial debt accumulation may have funded growth-supporting initiatives. However, by 2016 and 2020, high debt levels combined with external shocks contributed to economic contraction and a decline in GDPPC. This trend emphasizes the critical importance of prudent debt management and the effective allocation of borrowed funds to ensure they yield tangible economic benefits.

Government Expenditure's Role

Government expenditure appears to play a significant role in stabilizing GDPPC during economic challenges. A notable spike in GE occurred in 2021, correlating with a modest GDP recovery (1.18%). This suggests that fiscal interventions, such as increased public spending, can mitigate the adverse effects of economic downturns and stimulate growth. The relationship underscores the importance of timely and well-targeted government spending in fostering economic resilience and recovery. However, to sustain long-term growth, it is vital to ensure that public spending is efficient, productive, and directed toward sectors with high economic multipliers.

Descriptive Statistics

Table 1: Descriptive Statistics of Key Variables

	GDPPC	GE	PD	TR
Mean	1.833937	0.486104	8.900462	4.901259
Median	2.437007	0.489084	8.270215	4.974290
Maximum	6.345041	1.012702	21.38878	8.333829
Minimum	-4.162059	0.000000	0.000000	1.014733
Std. Dev.	2.909351	0.178022	7.347420	1.643446
Skewness	-0.580305	0.302663	0.265778	-0.424818
Kurtosis	2.552440	7.029771	1.922835	3.702754
Jarque-Bera	1.353908	14.52979	1.262481	1.063777
Probability	0.508162	0.000700	0.531931	0.587495
Sum	38.51267	10.20818	186.9097	102.9264
Sum Sq. Dev.	169.2864	0.633835	1079.692	54.01830
Observations	21	21	21	21

Source: Authors' Compilation

The analysis of GDP per capita reveals significant fluctuations over the period studied. A mean value of 1.83 indicates moderate average growth, while a median of 2.44 suggests more years experienced above-average growth. The maximum GDP per capita of 6.35 reflects periods of strong economic performance, likely due to favorable external factors, while the minimum of -4.16 shows sharp contractions during recessions or crises, such as the oil price slump in 2016 and the COVID-19 pandemic. A standard deviation of 2.91 indicates considerable variability, suggesting that GDP per capita is sensitive to external shocks. The skewness of -0.58 reveals more years of below-average performance than exceptional growth. The kurtosis value of 2.55, close to the normal distribution benchmark, indicates a balanced distribution, though extreme negative values slightly flatten it. The Jarque-Bera test shows a probability value of 0.51, supporting the assumption of normality. These findings highlight the need for

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policies that stabilize the economy, diversify income sources, and enhance resilience to achieve consistent and inclusive growth.

Correlation Analysis

Analysis of GDPPC, GE, PD, and TR

The correlation matrix highlights key relationships among GDP per capita (GDPPC), government expenditure (GE), public debt (PD), and tax revenue (TR). GDPPC exhibits a weak negative correlation with GE (-0.02) and TR (-0.08), suggesting minimal direct influence of these variables on per capita income growth in the dataset. However, the negative and moderate correlation between GDPPC and PD (-0.61) indicates a stronger inverse relationship. This suggests that higher public debt levels are associated with declines in GDPPC, likely due to the economic strain caused by elevated debt servicing costs or inefficient debt utilization. Such findings emphasize the importance of effective debt management in preventing adverse economic impacts.

Interactions between Fiscal Indicators

Government expenditure (GE) positively correlates with public debt (PD) at 0.60, implying that higher government spending may be partially financed by borrowing. This aligns with fiscal patterns in many economies where public spending rises alongside increased debt obligations. Meanwhile, GE and TR have a weak negative correlation (-0.31), which might suggest inefficiencies in revenue generation relative to expenditure levels. Additionally, TR and PD display a negligible negative correlation (-0.06), indicating limited direct interaction. The overall interplay among these variables underscores the complexity of fiscal dynamics, where borrowing and spending decisions must be carefully balanced to sustain economic growth without overburdening the economy with debt.

Regression Analysis (Summary)

Table 2: Regression Analysis Summary

Dependent Variable	**GDPPC**	**Prob.**	
Coefficient	0.432186	0.8577	
Government Expenditure	9.150112	0.0176	
Public Debt	- 0.375922	0.0002	
Total Revenue	0.061152	0.8417	
R-squared	0.566747	**Prob(F-statistic)**	0.002194
F-statistic	7.412673	**Durbin-Watson stat**	1.694591

Source: Authors' Compilation

Analysis of Regression Results

The regression results provide insights into the factors influencing GDP per capita (GDPPC). The coefficient for government expenditure (GE) is positive and statistically significant at a 5% level ($p = 0.0176$), suggesting that an increase in government spending contributes significantly to GDPPC growth. This finding highlights the importance of fiscal interventions in driving economic activity and improving living standards. Public debt (PD), on the other hand, has a negative and highly significant coefficient ($p = 0.0002$), indicating that higher levels of debt adversely affect GDPPC. This relationship underscores the potential economic challenges posed by excessive borrowing, including increased debt servicing costs that can crowd out productive investments. Meanwhile, total revenue (TR) and the constant term are not statistically

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significant, implying a weaker direct influence of revenue generation on GDPPC during the analyzed period.

Model Evaluation and Implications

The R-squared value of 0.5667 suggests that approximately 56.7% of the variations in GDPPC are explained by the model's independent variables, indicating a moderately strong fit. The F-statistic of 7.41 is significant ($p = 0.0022$), confirming the joint explanatory power of the variables. However, the Durbin-Watson statistic of 1.69 falls slightly short of the threshold for identifying potential autocorrelation, warranting caution in interpreting the results. These findings suggest that while government spending can positively impact GDPPC, the negative impact of public debt highlights the need for prudent debt management. Policymakers should focus on ensuring that borrowed funds are allocated to productive sectors that can generate long-term economic returns, balancing expenditure and revenue efforts to promote sustainable growth.

Summary of ARDL

Table 3: Augmented Dickey-Fuller (ADF) Unit Root Test Results

VARIABLES	ADF TEST STATISTICS	CRITICAL VALUE 5%	PROB.	ORDER OF INTEGRATION	REMARKS
GDPPC	- 7.079039	- 3.065585	0.0000	I(2)	Stationary
GE	- 4.629995	- 3.040391	0.0021	I(1)	Stationary
PD	- 2.596418	- 3.040391	0.1118	I(2)	Stationary
TR	- 9.685081	- 3.040391	0.0000	I(2)	Stationary

Source: Authors' Compilation

Stationarity Analysis and Its Implications for Forecasting

The Augmented Dickey-Fuller (ADF) test results indicate that all variables in the study—GDP per capita (GDPPC), government expenditure (GE), public debt (PD), and total revenue (TR)—are stationary after differencing at various orders of integration. GDPPC, PD, and TR achieve stationarity at the second difference I(2), while GE is stationary at the first difference I(1). The statistical significance of these results, reflected in the probability values (p-values), confirms that the null hypothesis of a unit root is rejected for all variables at their respective differencing levels. The critical values at the 5% significance level serve as a benchmark for confirming stationarity. These findings suggest that while government expenditure follows a more stable trend, GDP per capita, public debt, and total revenue exhibit long-term non-stationarity before reaching stability. This characteristic is essential in forecasting economic growth patterns, as time-series models must rely on stationary data to avoid spurious regression results.

For forecasting purposes, the stationarity properties suggest that employing an Autoregressive Integrated Moving Average (ARIMA) model or an Autoregressive Distributed Lag (ARDL) Bounds Testing Approach could be effective. Since GDP per capita (GDPPC), public debt (PD), and total revenue (TR) exhibit integration at I(2), second differencing is essential for ensuring accurate predictions. This suggests the presence of potential long-run equilibrium relationships among the variables, making Johansen cointegration tests or the Vector Error Correction Model (VECM) appropriate for forecasting economic growth in response to fiscal policy changes. The results of the Augmented Dickey-Fuller (ADF) test indicate that GDPPC, PD, and TR achieve

stationarity after two differences. In contrast, government expenditure (GE) becomes stationary after one differencing [I(1)], suggesting it is more responsive to short-term fluctuations. These varying integration orders can complicate regression modeling and introduce risks of spurious results if not addressed carefully.

CONCLUSION

This study concludes that fiscal policy is crucial for Nigeria's economic growth but has been hindered by inefficiencies, corruption, and over-reliance on oil revenues. Despite fiscal interventions driving growth, structural weaknesses like poor revenue management and unsustainable borrowing continue to undermine long-term development. The analysis highlights the need for sustainable fiscal management, economic diversification, and strategic allocation of government spending to sectors like infrastructure, education, and healthcare. Additionally, the rapid accumulation of public debt has hurt GDP per capita, emphasizing the importance of careful debt management. To achieve stable, inclusive growth, Nigeria must strengthen non-oil revenue sources, improve financial transparency, and adopt a balanced fiscal strategy to avoid excessive debt.

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