

Research Article

The Effect of Fiscal Policy on Economic Growth of Nigeria

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Abstract

Nigeria's economic growth, driven by oil revenue, government policies, infrastructure investment, and macroeconomic stability, has experienced expansion and contraction. A heavy reliance on oil exports makes the economy vulnerable to external shocks, such as fluctuations in oil prices and global crises. Fiscal policy is a response initiative used to stabilize the economy and ensure sustainable growth. Thus, the study examined the effect of fiscal policy on economic growth in Nigeria. The study employed the ex-post facto research design. The population consisted of the Nigerian fiscal economy with data spanning from 1994 to 2023. The study's population encompassed the Nigerian economy, measured through fiscal policy, and economic growth indicators. The total enumeration sampling technique was employed. Data for the research were obtained from the Central Bank of Nigeria's Statistical Bulletin, and the National Bureau of Statistics. Data were analyzed through Descriptive and Inferential statistics (ARDL regression). The findings revealed that fiscal policy has significant effect on economic growth in Nigeria ($\text{Adj.}R^2 = 0.59$, $F_{(4, 25)} = 11.05$, $p < 0.05$). The study recommended that the government should prioritize diversifying its revenue base by expanding non-oil tax revenue streams by strengthening tax administration, broadening the tax net, and promoting sectors such as agriculture, manufacturing, and services.

Keywords

Economic Growth, Fiscal Policy, Government Recurrent Expenditure, Gross Domestic Product

1. Introduction

1.1. Background to the Study

Economic growth, being a critical indicator of a nation's overall development, is measured by the increase in the production of goods and services over time. In Nigeria, economic growth has been influenced by several key variables, including government policies, infrastructure investment, and macroeconomic stability. The Nigerian economy, one of the largest in Africa, has experienced phases of expansion and

contraction influenced by variations in global oil prices, fiscal policies, and foreign economic shocks. Nigeria's growth trajectory has been influenced by its reliance on oil exports, which substantially contribute to government income and foreign exchange revenue [1]. This reliance has rendered the economy susceptible to external shocks, including falling oil prices and global financial crises. Consequently, the government has enacted several fiscal policies and debt management techniques to stabilize and foster sustainable economic

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Received: 7 June 2025; **Accepted:** 20 June 2025; **Published:** 15 July 2025



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growth [2].

Fiscal policy is crucial in the government's endeavors to improve economic performance and prosperity by modifying the spending and revenue structures of a nation's economy. It includes numerous elements such as tax policy and government expenditure, all of which significantly affect the entire macroeconomy. This economic strategy encompasses methods for obtaining government money, often via taxation, and strategies for distributing the acquired monies to attain designated economic goals [3]. Government spending is a crucial fiscal policy instrument employed by governments to attain macroeconomic objectives [4]. The domain of fiscal policy includes taxation, income generation, public borrowing (both domestic and international), and public expenditure aimed at impacting national objectives and macroeconomic targets. Fiscal policy is frequently used in conjunction with monetary policy, utilized by a nation's central bank to regulate the money supply and ensure price stability [2].

Two primary categories of fiscal policies exist: expansionary fiscal policy and contractionary fiscal policy [5]. An expansionary fiscal policy seeks to enhance economic growth through increased government expenditure, reduced taxation, or a combination of both, according to the fundamental Keynesian model. Nonetheless, should this policy not attain the anticipated growth rate, it results in inadequate funds to meet future expenditures through tax revenues [6]. A contractionary fiscal policy entails increasing taxes, decreasing government expenditure, or both, mitigate escalating inflation. Variations in government expenditure (either augmentation or reduction) directly affect economic performance in both directions, *ceteris paribus*. Nonetheless, indirect impacts on expenditure and other elements of Gross Domestic Product (GDP) intensify economic downturns [7]. Notwithstanding several fiscal changes, Nigeria has encountered difficulties including revenue deficits, ineffective tax collection mechanisms, and an overreliance on crude oil income [8]. To promote economic stability and growth, fiscal policies have concentrated on diversifying income streams, diminishing fiscal deficits, and enhancing public financial management [9].

Nigeria has enacted substantial fiscal changes in recent years, resulting in notable enhancements in its fiscal standing. The federal government's budget deficit decreased from 6.2% of GDP in the first half of 2023 to 4.4% in the same period of 2024, indicating a reduction of 1.8 percentage points [10]. The decrease in the budget deficit is ascribed to heightened government income, which grew from 6.7% of GDP in 2022 to 7.6% in 2023. As a result, the budget deficit diminished from 5.4% of GDP in 2022 to 5.1% in 2023, reflecting a reduction of 0.3 percentage points [11]. The fiscal enhancements have resulted from policy measures, such as the elimination of gas subsidies and currency depreciation, which have improved tax collection and diminished fiscal imbalances. [10] forecasts a 3.3% growth for Nigeria's economy in 2024, increasing to 3.6% in 2025, indicating that ongoing fiscal discipline and struc-

tural reforms are enhancing economic stability.

Governments in both advanced and emerging economies have fundamentally relied on fiscal policy as an essential instrument of economic policy to attain their macroeconomic objectives [12]. The government use public expenditure and tax revenues to exert influence on economic activity. Governments utilize numerous strategies to control deficits, including borrowing, raising taxes, employing seigniorage, depleting foreign reserves, or selling fixed assets [13]. Deficit financing has nearly become a constant feature of Nigeria's fiscal policy management, leading to a significant increase in the nation's public debt, notwithstanding the advantages gained from the Paris Club debt relief in 2005 [14].

The interaction of fiscal policy, and economic growth is crucial for Nigeria's economic stability and progress. Effective fiscal policies stimulate growth by enhancing government investment in infrastructure, education, and healthcare [15]. Fiscal mismanagement impede economic progress by elevating inflation, diminishing investor confidence, and constraining government expenditure on essential industries [16]. This study seeks to analyze the impact of fiscal policy on Nigeria's economic growth, assessing the effectiveness in fostering sustainable development and identifying potential policy recommendations for economic stability and growth.

1.2. Problem Statement

The economic growth trajectory of Nigeria from 2010 to 2023 has exhibited notable fluctuations, underscoring the nation's susceptibility to various internal and external shocks. During the initial phase of this period, the country witnessed significant growth, marked by a remarkable GDP increase of 6.88% in the first quarter of 2011 [17]. Nevertheless, this progress encountered several obstacles, such as falling oil prices, political turmoil, and insufficient infrastructure. The interplay of these factors led to a decline, ultimately resulting in a recession in 2016, during which the economy experienced a contraction of 1.6% [10]. The economic downturn was succeeded by a gradual resurgence, as evidenced by a GDP growth of 3.65% in 2021. Nonetheless, the onset of the Corona virus (COVID-19) pandemic in 2020 resulted in a notable economic contraction of 1.79%, highlighting the nation's vulnerability to global disturbances [10]. In 2022, the economy demonstrated notable resilience, attaining a growth rate of 3.25%. Subsequently, there was a decline to 2.86% in 2023, indicating a reduction of 0.39 percentage points from the preceding year [11]. The observed fluctuations underscore the ongoing complexities that impede Nigeria's economic stability. The dependence on oil exports renders the economy acutely vulnerable to fluctuations in global prices, while internal challenges, including policy inconsistencies and security issues, further obstruct enduring growth.

The recent economic decline can be attributed largely to a precipitous fall in global oil prices, which has markedly diminished national revenue, considering Nigeria's substantial

dependence on oil exports. In light of the prevailing economic challenges, the Nigerian government has instituted a range of fiscal policies designed to stabilize and rejuvenate the economy [17]. Fiscal policy initiatives encompassed augmented public expenditure aimed at fostering growth during economic contractions, alongside endeavors to broaden revenue streams beyond the oil sector. The efficacy of these fiscal strategies in tackling the economic growth challenges faced by Nigeria has yielded varied results. Although certain intervals have exhibited signs of recovery, exemplified by a GDP growth of 3.3% in 2022, the economy experienced a deceleration to 2.9% in 2023, highlighting persistent vulnerabilities [17]. Thus, the study examines the effect of fiscal policy on economic growth in Nigeria.

1.3. Aim and Objectives of the Study

The objective of the study is to examine the effect of fiscal policy on economic growth in Nigeria.

1.4. Research Questions

The study set out to answer the question: How does fiscal policy affect economic growth in Nigeria?

1.5. Research Hypothesis

This study developed a tentative statement to be tested in achieving the set objective:

Ho1: Fiscal policy insignificantly affects economic growth in Nigeria.

1.6. Model Specification

This study will utilize two categories of variables: the de-

pendent (endogenous) variable, which encompasses measures of economic growth, and the independent (exogenous) variables, which pertain to measures of fiscal policy. The interplay between these categories of variables can be articulated through a functional equation as;

$$Y = f(X)$$

$$Y = y_1$$

$$X_1 = x_1, x_2, x_3, x_4$$

Where:

Y = Economic Growth (EGH)

y_1 = Gross Domestic Product (GDP)

X = Fiscal Policy (FPY)

x_1 = Oil Tax Revenue (OTR)

x_2 = Non-Oil Tax Revenue (NTR)

x_3 = Government Recurrent Expenditure (GRE)

x_4 = Government Capital Expenditure (GCE)

The regression models are formulated as:

$$GDP_t = \beta_0 + \beta_1 OTR_t + \beta_2 NTR_t + \beta_3 GRE_t + \beta_4 GCE_t + \varepsilon_t$$

β_0 represents the Constant in the models, β_{1-4} represent the coefficients of the exogenous variables, and t represents time coefficient.

1.7. Apriori Expectation

Relationships of varying complexity were identified among the constructs of fiscal policy, debt management, and economic growth, as demonstrated by scholarly research undertaken by academics both within the country and abroad. Nonetheless, the relationship that is theoretically elucidated through relevant theories may align with the ensuing *a priori* findings. Nigeria is expected to bolster economic growth through the refinement of its fiscal policy and the management of its debt.

Table 1. *Apriori Expectation.*

S/N	Model	Expectations	Test of Significance	Decision Rule
H _{o1}	$GDP_t = \beta_0 + \beta_1 OTR_t + \beta_2 NTR_t + \beta_3 GRE_t + \beta_4 GCE_t + \varepsilon_t$	$\beta_{1-4} > 0$ (i.e positive)	If the ρ of t-statistics of any of the constructs is greater than 5%, it implies that such construct has no significant effect	If ρ of F-statistics is greater than 5%, do not reject H ₀

Source: Researcher's Compilation (2025)

1.8. Scope of the Study

This study aims to examine the effect of fiscal policy and debt management on economic growth in Nigeria. The data will be derived from the database of regulated agencies and authorities such as the Central Bank of Nigeria (CBN) Statis-

tical Bulletin and National Bureau of Statistics (NBS) Database. The study will cover a period will cover a period of thirty (30) years (1994 - 2023). Therefore, total enumeration sampling technique will be adopted in selecting the sample size based on data availability.

1.9. Significance of the Study

The findings of this research are expected to benefit various stakeholders, as outlined below:

Government: By examining the impact of fiscal policy on economic growth, the study will provide insights into effective strategies for optimizing public finance management.

Taxpayers: This study will help taxpayers understand their role in national development by providing insights into the objectives of taxation and how government revenue is utilized.

Corporate Organizations: Understanding government taxation and fiscal policies will enable businesses to evaluate potential investment opportunities and adapt their financial strategies accordingly.

Accounting Profession, Financial Analysts, and Regulators: By assessing the effects of fiscal policies on corporate finances and compliance requirements, accountants can better advise businesses on transparency, accountability, and best financial practices.

2. Review of Related Literature

This section addressed the review of the concept, the underlying theory, and a review of past related studies. It is subdivided into three sections.

2.1. Conceptual Review

2.1.1. Economic Growth

The concept of economic growth is often characterized as the total output a nation can generate within a year, evaluated at market prices of its products, while considering price fluctuations and the imputed costs associated with the goods and services produced within the economy, minus net income received from foreign sources [12-14]. Economic growth constitutes a systematic progression through which a nation's wealth and economic stature expand over time [18]. The researcher posits that economic growth is characterized by the augmentation in the value of goods and services generated by an economy over a specified period, commonly assessed through the expansion of GDP.

2.1.2. Fiscal Policy

Fiscal policy involves the intentional application of government spending and taxation to affect economic activity and attain macroeconomic stability [2]. The process involves the administration of governmental revenue and expenditures to influence overall demand, production, and job creation, ultimately aiming to foster sustained economic growth, increased employment levels, and reduced inflationary pressures. [5, 9] underscore the significance of fiscal policy as an essential mechanism for economic stabilization, employing taxation, public expenditure, and borrowing to impact fundamental

macroeconomic variables. [17] underscores the notion that fiscal policy encompasses the strategic deployment of government spending and taxation to influence economic dynamics. In nations characterized by developing economies, fiscal policy emerges as a pivotal tool employed by the government to uphold macroeconomic stability [8]. Fiscal policy, in the context of the study, can be defined as the use of government spending measured by two variables (Government Recurrent Expenditure (GRE) and Government Capital Expenditure (GCE)) and taxation policies measured by two variables (Oil Tax Revenue (OTR) and Non-oil Tax Revenue (NTR)) [5, 8, 9] to influence a nation's economic activity which involves decisions on the level and composition of government expenditures, as well as tax rates, to achieve macroeconomic goals such as economic growth, inflation control, and unemployment reduction.

2.2. Theoretical Review - Keynesian Theory of Fiscal Policy

Keynesian Theory of Fiscal Policy was developed by John Maynard Keynes in 1936. Keynes introduced the idea that active government intervention through fiscal policy could stabilize economic cycles and mitigate the effects of recessions [19]. Keynesian theory assumes that the economy does not always self-correct and that aggregate demand (total spending in the economy) drives economic growth [1, 20]. It suggests that during economic downturns, the private sector's demand is insufficient to achieve full employment and growth. The theory assumed that governments boost economic activity by increasing public spending and/or cutting taxes, particularly when there is a demand shortfall [15, 16].

This Theory is highly relevant to the analysis of fiscal policy in Nigeria, as the country often faces economic volatility and is heavily reliant on government spending to address infrastructure gaps, unemployment, and social development [4]. Given Nigeria's recurring fiscal deficits, Keynesian economics provides a framework for understanding how increased government spending, financed by debt, could stimulate aggregate demand and foster economic growth [3, 4]. The theory justified fiscal policy as a means of controlling total demand, lowering unemployment, and promoting economic development. In the end, Keynesian fiscal policy emphasizes how much the government can help to smooth business cycles and promote long-term economic stability.

2.3. Empirical Review

A study conducted a thorough analysis of the influence of fiscal policy on the economic growth trajectories of Southeast European nations [4]. The research was conducted utilizing secondary data spanning 12 years, specifically from 2010 to 2021, encompassing 11 countries; thus, the data is classified as panel data. To achieve this objective, the research utilized a variety of econometric models and methodologies, including

Ordinary Least Squares (OLS), robust OLS, fixed and random effects models, as well as Generalized Method of Moments (GMM). The research findings indicated that fiscal policy instruments exerted a positive effect on the economic growth of Southeast European nations.

A study conducted an analysis of the influence of fiscal policy on Nigeria's economic growth [5]. The research employed the Johansen Co-integration test analysis to ascertain the long-term relationship between fiscal policy and the economic growth of Nigeria. The information was obtained from the CBN statistical bulletin covering the years 1990 to 2021. The research findings indicated a linear correlation between Gross Domestic Product and Public Debt, as well as between Tax Revenue and Government Expenditure. Notably, Public Debt (PDBT) and Tax Revenue (TAX) exhibited a negative association with GDP, whereas Total Government Expenditure (TGE) demonstrated a positive relationship with GDP.

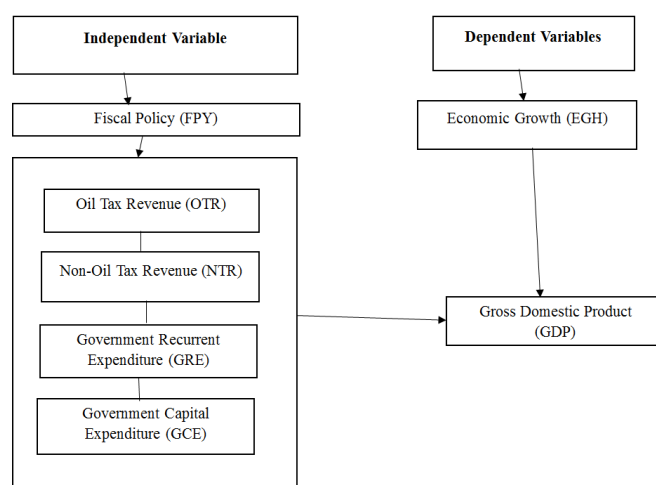
A study conducted a thorough analysis of the influence of fiscal policy on the economic growth of Nigeria, spanning a comprehensive period from 1981 to 2022, thus encompassing 41 years of data [6]. The study utilized secondary data from esteemed sources, employing an ex-post facto research design alongside a purposive sampling technique to examine the correlation between fiscal policy and economic growth. The results illuminated a multifaceted interplay among governmental spending, taxation strategies, and the resultant economic growth trajectories in Nigeria. The impact of tax revenue on economic growth was also detrimental.

A study examined the influence of fiscal policy variables on economic growth in Nigeria, utilizing secondary data to extract relevant information [7]. The ordinary least squares (OLS) method was utilized to derive the parameters in the analysis. The results revealed that government expenditure exerts a positive and significant influence on Nigeria's gross domestic product, whereas the government's tax initiatives have a negative and significant effect on the same economic

measure. [9] conducted an examination of the influence of fiscal policy on inclusive growth in Nigeria spanning the years 1985 to 2022. Autoregressive Distributed Lag (ARDL) technique served as the primary analytical instrument. ARDL Bounds test indicated that, over the long term, government spending on infrastructure and education exhibited a positive yet statistically insignificant correlation with inclusive growth, as measured by the human development index, in Nigeria. Furthermore, there existed a negative and statistically insignificant correlation between total government expenditure and the ratio of total tax revenue to GDP with respect to inclusive growth, as measured by the human development index, in Nigeria.

The combined gaps in the studies highlight a lack of consensus on the specific impact of fiscal policy variables on economic growth in Nigeria, with different studies yielding mixed results regarding the influence of government expenditure, tax revenue, and public debt. While some studies suggest a positive relationship between government expenditure and GDP [7], others find a negative impact of government capital expenditure on growth [6]. Furthermore, the studies do not sufficiently address the underlying mechanisms through which fiscal policy affects growth, particularly in the context of Nigeria's unique socio-economic conditions. Additionally, the existing studies predominantly focus on short to medium-term relationships, leaving a gap in understanding the long-term dynamics and the role of government effectiveness, fiscal freedom, and corruption, as suggested by [4]. The lack of comprehensive models that integrate both fiscal policy and institutional quality, as well as the inconsistency in findings regarding the interaction between fiscal variables and inclusive growth [9], points to a need for more robust, multi-faceted approaches to analyzing fiscal policy's impact on Nigeria's economic growth. Thus, the study hypothesized that;

H₀₁: Fiscal policy insignificantly affects economic growth in Nigeria.



Source: Researcher's Compilation (2025)

Figure 1. Conceptual Model.

3. Methodology

This study adopted an *ex-post* facto research design examining the effect of fiscal policy on economic growth with existing data. The choice of this design was informed by its suitability for such a study, as demonstrated by previous researchers such as [6, 7, 13, 21]. The study focused on the Nigerian fiscal economy, with data spanning thirty (30) years from 1994 to 2023, and was deemed sufficient to draw meaningful conclusions and provide actionable recommendations. The study's population encompasses the Nigerian economy, measured through fiscal policy and economic growth indicators. The total enumeration sampling technique was employed, with the CBN selected as the primary data source, being the custodian of reliable and comprehensive economic and financial data in Nigeria.

The data was analyzed in three stages. The first stage involves pre-estimation tests, including descriptive statistics (mean, variance, skewness, kurtosis, etc.) and stationarity tests using the Augmented Dickey-Fuller (ADF) test at a 5% significance level. Since some of the variables were stationary at levels [I (0)], the Ordinary Least Squares (OLS) technique was employed. The second stage involved estimation tests using the Autoregressive Distributed Lag (ARDL) model to examine long-run and short-run relationships, and the Granger causality test to determine causal relationships be-

tween the independent and dependent variables. The final stage consists of post-estimation tests to ensure the robustness and integrity of the model. These include the Ramsey RESET test for linearity, the ARCH test for heteroscedasticity, the LM test for serial correlation, and tests for multicollinearity and normality. These diagnostic tests were used to confirm the validity of the model, ensuring that the disturbance term follows a normal distribution, exhibits constant variance, and maintains a linear relationship between dependent and independent variables. This comprehensive analytical approach ensured the reliability and accuracy of the study's findings.

4. Results and Discussion of Findings

This chapter analyzes the effect of fiscal policy on economic growth in Nigeria (1994–2023) using descriptive statistics, co-integration analysis, and the ARDL bounds test. E-Views (Version 12.0) was used to assess short- and long-run relationships in the model, guiding hypothesis decisions.

4.1. Preliminary Analysis

This analysis covers descriptive statistics, normality tests, and stationarity (ADF test), and between fiscal policy and economic growth. Results are presented in [Tables 2-4](#).

4.1.1. Results of the Summary of Descriptive Statistics of the Variables

Table 2. Summary of Descriptive Statistics of the Variables.

	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Prob
GDP	65,705.21	41,707.84	234,425.90	1,768.79	65,901.78	0.977455	2.974295	4.77792	0.0917
OTR	3,745.85	4,128.13	8,878.97	160.19	2,456.02	0.118351	2.122083	1.033458	0.5965
NTR	2,459.30	1,494.33	13,587.50	41.72	2,997.17	2.13866	7.939835	53.3718	0.0000
GRE	3,281.29	2,122.66	14,287.56	89.97	3,546.09	1.494602	4.742913	14.96635	0.0006
GCE	1,001.02	771.22	4,486.21	70.92	986.42	1.955307	6.79289	37.09864	0.0000

Source: Researcher's Computation, (2025)

Interpretation

[Table 2](#) provides the descriptive statistics of the dependent and the independent variables. The mean values of variables range from 1,001.02 to 65,702.21 billion, with GDP having the highest (65,702.21) and GCE the lowest (1,001.02). Standard deviations vary between 986.42 and 65,901.78, with GDP showing both the highest and lowest values. The broad differences in average values indicate notable variation in economic indicators, with GDP standing out as the main variable. High standard deviations show significant changes,

especially in GDP, which points to economic instability. This variability could affect policy decisions regarding fiscal policy and sustainable development. All variables are positively skewed, indicating more low values than high ones. GCE, GRE, and NTR are highly skewed, showing long tails of high values. The positive kurtosis values suggest distributions are more peaked than normal. Kurtosis ranges from 2.122 (OTR) to 7.5086 (NTR), with NTR having the highest. Several variables (NTR, GRE, GCE) fall below the 0.05 threshold, indicating non-normal distribution. This suggests significant deviations from normality,

impacting statistical assumptions. Table 2 summarizes these statistics, providing insight into data distribution.

4.1.2. Result of the Stationary Test

Table 3. Unit root test.

Variable	Level	1 st difference	Conclusion
GDP	-3.5492***	-3.6754***	I(0)
OTR	-2.7437*	-5.0051***	I(0)
NTR	-1.7168	-9.6063***	I(1)
GRE	-1.6442	-6.626***	I(1)
GCE	-1.4688	-6.6275***	I(1)

Statistical significance at the 1%, 5%, and 10% levels is denoted by ***, **, and *, respectively.

Source: Researcher's Computation, (2025)

The stationary test examines the time series patterns over

time to determine if the series exhibits an upward or downward trend. In this study, Augmented Dickey-Fuller (ADF) unit root test was used to test for stationarity. The results of the test are presented in Table 3.

Interpretation

The study estimated the stationary status of all series, revealing that not all became stable at the same order of integration. NTR, GRE and GCE were stationary at their first differences, while other variables (GDP and OTR) were stationary at levels. As a result, Autoregressive Distributed Lag (ARDL) model approach to cointegration was chosen for estimation. Before running the ARDL model, VAR optimal lag length selection criteria were applied to ensure appropriate lag selection for both dependent and independent variables. To determine the optimal lag length, an unrestricted VAR was run assuming the variables are not cointegrated. The lag length with the lowest AIC value and marked with an asterisk is considered the best. Therefore, lag 1 was identified as the optimal lag length for the model.

4.2. Test of Hypothesis

Research Hypothesis One (H₀₁): Fiscal policy insignificantly affects economic growth in Nigeria.

Table 4. Auto regression Distributed Lag Model (ARDL).

ECM Regression

Long-run Estimate				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.391	0.240	5.784	0.000
LOG(OTR)	-0.119	0.147	-0.807	0.429
LOG(NTR)	0.426	0.367	1.160	0.260
LOG(GRE)	0.754	0.386	1.956	0.065
LOG(GCE)	-0.391	0.281	-1.392	0.179

Diagnosis tests:
 ARDL Bound Test @ 5%: $F - stat = 4.363$ ($I(0) = 2.86$, $I(1) = 4.01$)
 $R^2 = 0.65$ Adj. $R^2 = 0.59$; $F - stat = 11.05$ (0.00) ECT: -0.2343
 $X^2_{JB} = 1.81$ (0.40); $X^2_{LM} = 0.18$ (0.91); $X^2_{BPG} = 0.18$ (0.08) $X^2_{RR} = 1.24$ (0.28)

Source: Researcher's Computation (2025) from E-Views 12

Notes: X^2_{JB} ; X^2_{LM} ; X^2_{BPG} ; X^2_{RR} represent Jarque-Bera normality test, LM test for serial correlation, Breusch-Pagan Godfrey test for heteroscedasticity, and Ramsey Reset test for linearity, respectively. I(0) and I(1) represent the lower and upper bounds, respectively. While the respective probability values are in bracket, ECT: Error correction term.

Model 1:

$$GDP_t = \alpha_0 + \alpha_1 \Delta GDP_{t-1} + \alpha_2 \Delta OTR_t + \alpha_3 \Delta OTR_{t-1} + \alpha_4 \Delta NTR_t + \alpha_5 \Delta GRE_t + \alpha_6 \Delta GRE_{t-1} + \alpha_7 \Delta GCE_t + \alpha_8 \Delta GCE_{t-1} + \alpha_9 ECT_{t-1}$$

Interpretation

ARDL Bound Test produced an F-Stat value of 4.363, surpassing the upper bound critical value of 4.01 at the 5% significance level, confirming the existence of a long-run relationship between economic growth and fiscal policy.

Consequently, the study estimated both long-run and short-run elasticities using the Error Correction Model (ECM). The findings, along with diagnostic test results, are presented in Table 4.

Diagnostic Test:

The linearity assumption of ARDL model was tested using Ramsey RESET test, with a p-value of 0.28, which is greater than the 5% significance level. This suggests that the model is correctly specified, as the null hypothesis of linear relationship cannot be rejected. For heteroskedasticity,

Breusch-Pagan/Cook-Weisberg test resulted in a p-value of 0.40, indicating constant finite variance in the error terms, confirming that the model is homoscedastic. Breusch-Godfrey Serial Correlation LM Test revealed p-value of 0.91, supporting the null hypothesis that there is no serial correlation in the residuals at 5% significance level. Finally, Jarque-Bera normality test showed p-value of 0.40, suggesting that the residuals are normally distributed, and the null hypothesis of normality cannot be rejected.

The estimated equation is presented as:

$$\begin{aligned} \text{GDP}_t = & 1.39 + -0.23 \Delta \text{GDP}_{t-1} + 0.04 \Delta \text{OTR}_t - 0.03 \Delta \text{OTR}_{t-1} + 0.10 \Delta \text{NTR}_t - 0.03 \Delta \text{GRE}_t + \\ & 0.18 \Delta \text{GRE}_{t-1} - 0.01 \Delta \text{GCE}_t - 0.09 \Delta \text{GCE}_{t-1} + \alpha_9 \text{ECT}_{t-1} \end{aligned} \quad (1)$$

ECM result depicts that:

The results indicate that a one-year lagged GDP ($\alpha_1 = -0.23$; $\rho = 0.01$) significantly and negatively impacts current GDP, implying a 0.23% improvement in GDP due to past values. Oil tax revenue (OTR) ($\alpha_2 = 0.04$; $\rho = 0.41$, $\alpha_3 = -0.03$; $\rho = 0.43$) has no significant effect on GDP. Non-oil tax revenue (NTR) ($\alpha_4 = 0.1$; $\rho = 0.25$) has an insignificant positive impact, suggesting a 0.1% GDP increase per 1% rise in NTR. Government recurrent expenditure (GRE) shows mixed effects, with lagged GRE ($\alpha_5 = -0.03$; $\rho = 0.76$) positively but insignificantly influencing GDP, while current GRE ($\alpha_6 = 0.18$; $\rho = 0.12$) has a negative but insignificant impact, indicating a 0.03% decrease and 0.18% increase in GDP, respectively, for every 1% change in GRE.

Finally, the result also shows that current year and last year government capital expenditure (GCE) will have a negative insignificant effect on access to GDP based on the coefficient and p-values of $\alpha_7 = -0.01$; ρ -value = 0.81, $\alpha_8 = -0.09$; ρ -value = 0.11 respectively. This means that for every per cent change in current year and last year GCE; economic growth will decrease by 0.01 and 0.09 per cent respectively. The coefficient of Error Correction Term (ECT), CointEq (-1), is -0.2343, with a high significant at 0.00 probability level. This negative coefficient implies that any deviation of GDP from its long-term equilibrium is corrected at a rate of 23.43% per period. In other words, if GDP moves away from its equilibrium value, the model adjusts approximately 23.43% of the gap in the next period, indicating a stable adjustment process towards the long-term growth path of GDP. The statistical significance of this result highlights the importance of the error correction mechanism in ensuring GDP reverts to its long-term equilibrium over time.

The estimated long run outcome shows that:

The result of the long-run estimate reveals that none of the measures of fiscal policy exerted significant effect on economic growth (GDP). The statistical values of the variables; for instance, OTR ($\alpha_1 = -0.12$; ρ -value = 0.43) implies that the elasticity of OTR pertaining to GDP in the long run is -0.12, indicating that ceteris paribus, a per cent change in OTR is expected to decrease GDP by 0.12%. Furthermore, it was

revealed in the study that NTR ($\alpha_2 = 0.43$; ρ -value = 0.26) and GRE ($\alpha_3 = 0.75$; ρ -value = 0.63) depicted a positive nexus with GDP, as displayed in the long run. The estimate of NTR and GRE pertaining to GDP is an indication that ceteris paribus, a per cent change in NTR and GRE is expected to increase GDP by 0.43% and 0.75%. In contrast, GCE has a negative effect on GDP with $\alpha_4 = -0.39$; ρ -value = 0.18. This shows that when GCE increase by 1%, it will lead to a 0.39% decline in GDP.

Joint Effect Significance of Variables

The adjusted R-squared value of 59% indicates that fiscal policy measures collectively explain a significant portion of economic growth, while the remaining 41% is attributed to other factors not included in the model. The F-statistic of 11.05 with a p-value of 0.000 confirms the joint statistical significance of the explanatory variables. This validates the study's objective and leads to the rejection of the null hypothesis, affirming that fiscal policy significantly influences economic growth in Nigeria.

Decision:

Given the probability of the F-statistic at 0.000, the study rejects the null hypothesis that fiscal policy has an insignificant effect on economic growth in Nigeria. Instead, it accepts the alternative hypothesis, concluding that fiscal policy significantly affects economic growth in Nigeria.

4.3. Discussion of Findings

The result showed that the null hypothesis of the model was rejected at a p-value < 0.05 (5%) significance level. Establishing that fiscal policy significantly affects economic growth in Nigeria. The findings that non-oil tax revenue and government recurrent expenditure positively affect economic growth, while oil tax revenue and government capital expenditure have a negative impact, are supported by several studies which including [7] found that government expenditure positively influences Nigeria's GDP. Similarly, [6] noted that government recurrent expenditure positively impacts economic growth. On the other hand, the negative effect of oil tax revenue resonates with the findings of [5], who high-

lighted that tax revenue, particularly from oil, negatively correlates with GDP due to the volatility and over-reliance on oil revenues in Nigeria.

Additionally, the negative impact of government capital expenditure aligns with [6], who found that capital expenditure detrimentally affects economic growth, likely due to inefficiencies, mismanagement, or delays in project execution. However, some studies present contrasting findings. For example, [4] emphasized that fiscal policy instruments, including government expenditure, positively influence economic growth in Southeast European nations. The contradiction in the result could be because of differences in national data volume, value and period of coverage. Similarly, [9] found that government spending on infrastructure and education had a positive, albeit statistically insignificant, relationship with growth in Nigeria, which partially contradicts the negative impact of capital expenditure. This partial difference could be because of the type of expenditure involved, since infrastructure and education are only but a fraction of government's total capital expenditure. The positive effect of non-oil tax revenue and recurrent expenditure suggests the need to diversify revenue sources away from oil and prioritize efficient allocation of recurrent spending to sectors that directly stimulate growth, such as education and healthcare.

5. Summary, Conclusion and Recommendations

5.1. Summary of Findings

The study used both descriptive and inferential statistics to investigate the effect of fiscal policy on economic growth in Nigeria.

Model One: ARDL Bound Test confirmed a long-run relationship between fiscal policy and economic growth in Nigeria. ECM indicated that GDP adjusts to long-term equilibrium at a rate of 23.4% per period. Short-run estimates showed a significant negative impact of lagged GDP but insignificant effects of oil tax revenue (OTR), non-oil tax revenue (NTR), government recurrent expenditure (GRE), and government capital expenditure (GCE) on GDP. In the long run, OTR negatively influenced GDP, while NTR and GRE had positive but insignificant effects; GCE exhibited a negative relationship. The adjusted R^2 revealed that 59% of GDP variation is explained by fiscal policy variables, and the F-statistic ($p = 0.000$) confirmed their joint significance. Consequently, the study rejects the null hypothesis and concludes that fiscal policy significantly affects economic growth in Nigeria.

5.2. Conclusion

The study concluded that fiscal policy plays a crucial role in shaping Nigeria's economic growth and recommends a more efficient allocation of tax revenues and government expend-

itures to enhance long-term economic stability and development.

5.3. Recommendations

After uncovering the research findings related to fiscal policy and economic growth in Nigeria, the study proposes the following recommendations based on each objective of the research as thus:

- 1) Given the negative impact of oil tax revenue on economic growth, the Nigerian government should prioritize diversifying its revenue base by expanding non-oil tax revenue streams. This can be achieved by strengthening tax administration, broadening the tax net, and promoting sectors such as agriculture, manufacturing, and services. Reducing dependence on oil revenues will mitigate the vulnerability of the economy to global oil price fluctuations and enhance fiscal stability.
- 2) Government should focus on improving the efficiency and transparency of public spending, particularly in capital projects as implementing robust monitoring and evaluation mechanisms, reducing corruption, and ensuring timely execution of infrastructure projects will maximize the positive impact of government expenditure on economic growth.

5.4. Limitation of the Study

This study has some limitations that should be acknowledged. First, the analysis relies on historical data, which does not fully capture structural changes or unforeseen economic shocks that could impact fiscal policy effectiveness in Nigeria. Second, the study focuses only on selected fiscal policy variables (OTR, NTR, GRE, GCE), potentially overlooking other macroeconomic factors such as monetary policy, inflation and exchange rates that also influence economic growth. Additionally, data availability constraints have affected the robustness of the estimations, particularly in ensuring consistency across different fiscal periods. Future research could explore broader economic factors and consider sector-specific fiscal impacts to enhance the understanding of debt management and fiscal policy's role in Nigeria's economic growth.

Abbreviations

ADF	Augmented Dickey-Fuller
ARDL	Autoregressive Distributed Lag
CBN	Central Bank of Nigeria
COVID-19	Corona virus
ECM	Error Correction Model
ECT	Error Correction Term
EGH	Economic Growth
FPY	Fiscal Policy
GCE	Government Capital Expenditure

GDP	Gross Domestic Product
GMM	Generalized Method of Moments
GRE	Government Recurrent Expenditure
FPY	Fiscal Policy
NBS	National Bureau of Statistics
NTR	Non-Oil Tax Revenue
OLS	Ordinary Least Squares
OTR	Oil Tax Revenue
PDBT	Public Debt
TAX	Tax Revenue
TGE	Total Government Expenditure

Author Contributions

Chimeruo Victory Onyeka-Iheme: Formal Analysis, Methodology, Supervision, Validation, Visualization, Writing – review & editing

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Conflicts of Interest

The author declares no conflicts of interest.

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