Sapientia Global Journal of Arts, Humanities and Development Studies (SGOJAHDS), Vol.8 No.3 September, 2025; p.g. 1 – 9; ISSN: 2695-2319 (Print); ISSN: 2695-2327 (Online)

EXAMINING THE NEXUS BETWEEN VALUE ADDED TAX, GOVERNMENT EXPENDITURE, AND ECONOMIC GROWTH IN NIGERIA: AN EMPIRICAL ANALYSIS

ABARI-OGUNSONA, T. A., ABARI A.O., ADEYANJU Y.T., AKINTAYO O.E., AKINTUNDE, S.F.
Lagos State University, OJO, Nigeria
Faculty of Social Sciences
Department of Economics

ABSTRACT

This study inquiries into the tripartite relationship between Value Added Tax (VAT) efficiency, government expenditure, and economic growth in Nigeria, utilizing annual time-series data from 1994 to 2023. The study employs an ARDL approach to capture short and long-run dynamics. The Ordinary Least Squares (OLS) and ARDL regression results indicate that broad money supply (BMS) and government expenditure (GEXP) are significant positive drivers of GDP in the short run, highlighting the critical roles of liquidity provision and public spending in stimulating output. However, VAT showed no statistically significant effect on GDP, suggesting persistent issues with tax administration, revenue efficiency, and failure to channel tax collections into growth-enhancing projects. The study concludes that Nigeria's growth is heavily reliant on prudent fiscal and monetary policy interventions, while VAT is yet to evolve into a strong, independent pillar of sustainable development. The study recommends reforming VAT administration, balancing monetary policy to manage inflation, and strengthening institutional governance to ensure policy coordination and prudent management of public finance.

Keywords: Gross Domestic Product, Value Added Tax Revenue, Government Expenditure, Broad Money Supply.

INTRODUCTION

As the continent's most populous state and leading economic powerhouse in Africa, Nigeria. Continues to grapple with the challenge of achieving sustainable economic growth despite its vast natural resource endowments. The country's heavy reliance on crude oil exports, which historically contributed over 80 percent of government revenue and 90 percent of foreign exchange earnings, has entrenched structural vulnerabilities within its fiscal framework (Central Bank of Nigeria (CBN), 2023).

Global oil price volatility and recurring market instabilities have repeatedly exposed the fragility of this oil-centric economic model. These shocks precipitated recessions, currency devaluation, and mounting public debt, which reached approximately 97 trillion Naira by 2024 (Debt Management Office (DMO), 2024).

Within this context, Value Added Tax has emerged as a critical fiscal instrument for Nigeria. VAT, introduced in 1993 to replace sales tax, was designed to broaden the tax base, enhance revenue stability, and reduce dependence on oil. Its contribution to total tax revenue has

grown significantly from a mere 4% in 2000 to 30% by 2023, generating approximately 2.5 trillion Naira annually according to Federal Inland Revenue Service data (FIRS, 2023). This expansion, which reflects both policy reforms and administrative improvements in collection mechanisms, greatly increased government expenditure in Nigeria and positively affected economic performance.

Concurrently, Nigeria's approach to public expenditure reveals critical structural imbalances. Analysis of national budgets from 1999 to 2024 indicates a consistent dominance of recurrent spending, which consumes 70 to 80 percent of annual allocations (BudgIT, 2023). The consequence of this dominance in recurrent expenditure is chronic underfunding of capital expenditure, which receives less than 25 percent of budgetary resources despite its established role in driving productivity through infrastructure development, human capital investment, and technological advancement. Nigeria allocates only 1.8 percent of its GDP to capital projects, far below the 5 percent benchmark for emerging economies (World Bank, 2023).

The dissonance between revenue generation and expenditure efficiency manifests in suboptimal economic outcomes and negatively affects the country's economic growth. Nigeria's real GDP growth averaged a modest 2.3 percent between 2015 and 2023, falling below the 2.6 percent population growth rate and resulting in declining per capita income (World Bank, 2023). Infrastructure deficits persist, with power generation hovering around 4,000MW for a population exceeding 200 million (NBS, 2023), while education and healthcare systems remain critically underfunded as a result of this fiscal imbalance. This paradox of increasing fiscal activity without commensurate development underscores fundamental questions about resource allocation efficiency and policy coherence.

Consequently, this study seeks to investigate the tripartite nexus between VAT efficiency, government expenditure patterns, and economic growth in Nigeria.

LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Value Added Tax

Value Added Tax (VAT) is a multi-stage, indirect consumption tax levied on the incremental value added to goods and services at each production or distribution stage, with the final burden borne by the consumer (Ebrill et al., 2001). As a broad-based consumption tax, VAT provides a predictable cash flow less volatile than oil revenues, crucial for funding recurrent obligations during economic shocks (Oyedele, 2018).

2.1.2 Government Expenditure

Government expenditure: it includes total public spending on purchases of goods and services, payment of wages and salaries to public servants, public investment, infrastructure development, transfer payments (e.g., pensions, subsidies, unemployment allowance, grants, etc.) (Dwivedi,2019). This expenditure operates through two distinct modalities with contrasting economic implications. Recurrent expenditure covers short-term operational outlays necessary for maintaining state functions, including public sector wages, administrative overheads, and debt servicing obligations. Conversely, capital expenditure

represents long-term investments in physical infrastructure (roads, power plants) and social infrastructure (schools, hospitals), designed to expand the nation's productive capacity and human capital base.

2.1.3 Economic Growth

Economic growth fundamentally denotes sustained expansion in a nation's real output of goods and services, classically measured through rising real Gross Domestic Product (GDP), enhanced productive capacity, and improved per capita income (Kuznets, 1966).

2.2 Theoretical Theory

2.2.1 Keynesian Fiscal Multiplier Theory (Keynes, 1936)

The Keynesian fiscal multiplier theory posits that government spending, particularly on productive capital projects, stimulates economic growth through ripple effects across the economy. This theory shows that government expenditure is a necessary ingredient in speeding up the pace of economic development in an economy and that each naira spent by the government generates additional economic activity.

2.2.2 Tax Smoothing Theory (Barro, 1979)

Tax Smoothing Theory, pioneered by Robert Barro, posits that governments should maintain stable tax rates over time to minimize economic distortions while financing necessary public expenditures. This approach avoids frequent tax policy fluctuations that disrupt consumption patterns, investment decisions, and business planning.

2.2.3 Wagner's Law of Expanding State Activity (Wagner, 1893)

Wagner's Law, formulated by German economist Adolph Wagner, asserts that government expenditure grows faster than national output during industrialization, driven by increasing demand for public goods and administrative complexity. This expansion manifests through rising investments in infrastructure, education, and social services as economies develop. Nigeria's fiscal trajectory partially validates this theory; government spending surged from 12% of GDP in 1999 to 22% in 2023 (CBN, 2023), with VAT revenues enabling this growth.

2.3 Empirical Review

Emmanuel and Stephen (2021) analysed Nigerian tax data (1994–2022) using Stata-based regression, differentiating oil (Petroleum Profit Tax) and non-oil taxes (VAT, CIT). Results revealed VAT and CIT had significant positive relationships with GDP growth, while Petroleum Tax showed positive but insignificant effects. This highlights non-oil taxes, especially VAT, as critical drivers of Nigeria's economic expansion. Key recommendations include: combating tax administration corruption, avoiding short-term VAT/CIT rate hikes, and enhancing oversight of petroleum firms to curb evasion.

Cole et al. (2021) conducted a regression analysis of Nigerian time-series data (2004–2018) sourced from Central Bank bulletins and National Bureau of Statistics to evaluate the relationship between Value Added Tax (VAT) and economic growth. Results demonstrated a statistically significant positive relationship, confirming VAT's role as a sustainable revenue stream that contributes meaningfully to GDP expansion. Consequently, the need to sustain and optimize VAT implementation by systematically addressing administrative loopholes that enable revenue leakage was emphasized.

Ologbenla (2021) utilized ARDL bounds testing to examine how corporate income tax (CIT), petroleum profits tax (PPT), and Value Added Tax (VAT) influence government expenditure in Nigeria. Results revealed a significant long-run relationship, with all three tax streams exerting substantial impacts on fiscal spending capacity. The finding positioned tax revenues, particularly VAT, as fundamental enablers of public investment in social amenities and infrastructure. The study concludes that sustaining corporate taxation is imperative for maintaining government expenditure efficacy.

Gbeke and Nkak (2021) analysed Nigeria's tax structure (1995–2019) using ARDL techniques, evaluating VAT, petroleum profit tax (PPT), company income tax (CIT), and customs/excise duties (CED) against real GDP. Findings revealed divergent effects: CIT and CED positively impacted growth, while VAT and PPT exhibited negative relationships with economic expansion. The study attributes suboptimal outcomes partly to corruption among tax officials, which erodes taxpayer trust and compliance. Key recommendations include institutional reforms to minimize revenue leakage and enhance voluntary tax adherence, positioning governance integrity as a prerequisite for translating VAT potential into tangible growth dividends.

Braimoh et al. (2025) examined the relationship between fiscal policy and income inequality/poverty in Nigeria (1990–2024). Utilizing ARDL and bounds testing, the study confirmed both short-term and long-term connections among variables. Principal findings suggest that government expenditure and health investment significantly mitigate poverty, whereas taxation and external debt display mixed or delayed effects. The research concludes that inflation and inadequate tax systems compromise equity objectives. Policy recommendations advise policymakers to strengthen public expenditure efficiency promote progressive taxation for inclusive and robust economic development.

Egolum and Ugonabo (2021) employed a time-series research design with Pearson correlation and simple regression analysis to assess VAT's impact on Nigeria’s economic development (1994–2018). Their findings revealed that Value Added Tax (VAT) exhibits a positive and statistically significant relationship with economic development proxied by Gross Domestic Product (GDP) and Total Government Revenue at the 5% significance level. Based on this result, the study recommends that the Nigerian government implement measures to enhance productivity, thereby amplifying VAT’s contribution to economic growth and development.

METHODOLOGY

3.1 Research Design

This study adopts an *ex post facto* research design to explore the cause-and-effect relationship between value-added tax, government expenditure, and economic growth in Nigeria.

3.2 Theoretical Framework

This study is anchored on the Keynesian and Minskyan theories of public finance, which provide a strong theoretical foundation for understanding the relationship between VAT, government expenditure, and economic growth.

3.3 Sources of Data

Annual time-series data from 1994 to 2023 is used, focusing on variables such as real GDP (proxy for economic growth), VAT, government expenditure, and broad money supply. Data used are sourced from the World Bank's World Development Indicators and the CBN Statistical Bulletin.

3.4 Model Specification

The model used is:

GDP = f (VAT, GEXP, BMS)

The Econometric Form of The Model Is Expressed As:

$Gdp_t = B_o + B_1vat_t + B_2gexp_t + B_3bms_t + M_t$

Where:

- Gdp_t = Gross Domestic Product at Time *T*
- Vat_t = Value Added Tax Revenue at Time *T*
- $Gexp_t$ = Government Expenditure at Time *T*
- Bms_t = Broad Money Supply at Time T
- B_o = Intercept
- B_1, B_2 = Coefficients of Explanatory Variables
- M_t = Error Term

3.5 Estimation Procedure

The estimation begins with unit root tests (ADF) to check for stationarity, followed by co-integration tests to identify long-run relationships. Where co-integration exists, an Error Correction Model (ECM) will be applied. OLS is used for regression analysis, and Granger causality tests were conducted to help determine the direction of relationships among the variables.

RESULT AND ANALYSIS

4.1 Descriptive Statistics

Table 4.1 Descriptive statistics

	BMS	GDP	GEXP	VAT
Mean	18.43614	88.25724	3513.179	236.8690
Median	19.29000	79.10000	2450.900	144.3700
Maximum	27.38000	239.7000	12164.10	964.1100
Minimum	9.063000	5.640000	160.9000	0.000000
Std. Dev.	6.157662	68.31026	3295.638	244.6314
Skewness	-0.099800	0.620795	1.038194	1.134596
Kurtosis	1.378837	2.314007	3.279220	3.872340
Jarque-Bera	3.223847	2.431325	5.303799	7.141508
Probability	0.199504	0.296513	0.070517	0.028135
Sum	534.6480	2559.460	101882.2	6869.200
Sum Sq. Dev.	1061.670	130656.1	3.04E+08	1675647.

Observations	29	29	29	29

GDP, GEXP, and VAT are positively skewed (Skewness > 0), indicating longer right tails, while BMS is slightly negatively skewed. All variables exhibit platykurtic (Kurtosis < 3). The mean is greater than the median for GDP, GEXP, and VAT, also supporting positive skewness. GEXP has the highest variability (Std. Dev 3295.64), and the VAT distribution is the only one where the Jarque-Bera probability (0.028) suggests rejection of the normality hypothesis at the 5% level.

4.2 Test of stationarity

Table 4.2 The Unit Root Test

Variable	Level (t-Statistic)	Prob.	First Difference (t-Statistic)	Prob.	Order of Integration
GDP	-1.921	0.3120	**-5.543**	0.0001	**I(1)**
BMS	-2.112	0.2431	**-4.761**	0.0003	**I(1)**
GEXP	-1.683	0.4105	**-5.092**	0.0001	**I(1)**
VAT	-2.017	0.2870	**-4.329**	0.0006	**I(1)**

The t-statistics for all variables (GDP, BMS, GEXP, VAT) are not significant (Prob. $ > 0.05$), meaning the null hypothesis cannot be rejected. However, after first differencing, the t-statistics become highly significant (Prob. $ < 0.01$), leading to the rejection of the unit root null hypothesis; the series are now stationary. Therefore, all four variables are integrated of order one, I(1).

4.3 Regression analysis

Table 4.3 Ordinary Least Squares caption

Dependent Variable: GDP				
Method: Least Squares				
Date: 07/23/25 Time: 00:06				
Sample (adjusted): 1993 2021				
Included observations: 29 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.640907	8.085695	0.079264	0.9375
BMS	1.243717	0.553591	2.246635	0.0337
GEXP	0.016456	0.004062	4.051124	0.0004
VAT	0.029025	0.055041	0.527327	0.6026
R-squared	0.978021	Mean dependent var		88.25724
Adjusted R-squared	0.975384	S.D. dependent var		68.31026
S.E. of regression	10.71753	Akaike info criterion		7.709081
Sum squared resid	2871.637	Schwarz criterion		7.897673
Log likelihood	-107.7817	Hannan-Quinn criterion.		7.768146
F-statistic	370.8237	Durbin-Watson stat		0.684054
Prob(F-statistic)	0.000000			

The Ordinary Least Squares (OLS) regression shows a strong relationship with $R^2 = 0.978$, meaning the independent variables explain 97.8% of the variation in GDP (Dependent.

Variable). BMS and GEXP are statistically significant predictors of GDP (Prob. < 0.05 and Prob. < 0.01, respectively). A one-unit increase in BMS and GEXP is associated with a 1.244 and 0.016 unit increase in GDP, respectively. VAT is not statistically significant (Prob. 0.6026). The model is significant overall (Prob(F-statistic) = 0.0000). The Durbin-Watson statistic (0.684) suggests potential positive autocorrelation.

ARDL Model

Dependent Variable: GDP
Method: ARDL
Date: 07/23/25 Time: 00:07
Sample (adjusted): 1997 2021
Included observations: 25 after adjustments
Maximum dependent lags: 4 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (4 lags, automatic): BMS GEXP VAT
Fixed regressors: C
Number of models evaluated: 500
Selected Model: ARDL(4, 4, 3, 4)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
GDP(-1)	1.238349	0.227487	5.443595	0.0016
GDP(-2)	-0.121575	0.278308	-0.436837	0.6775
GDP(-3)	-0.878662	0.359706	-2.442723	0.0503
GDP(-4)	1.377636	0.250093	5.508505	0.0015
BMS	-1.260283	0.290822	-4.333518	0.0049
BMS(-1)	0.985902	0.431357	2.285584	0.0623
BMS(-2)	-0.761421	0.404053	-1.884459	0.1085
BMS(-3)	-0.608297	0.417309	-1.457663	0.1952
BMS(-4)	0.619539	0.357457	1.733185	0.1338
GEXP	0.004603	0.001744	2.640051	0.0385
GEXP(-1)	-0.004900	0.003040	-1.612102	0.1581
GEXP(-2)	-0.000340	0.005685	-0.059727	0.9543
GEXP(-3)	0.007316	0.004393	1.665448	0.1469
VAT	-0.015431	0.056838	-0.271483	0.7951
VAT(-1)	-0.040087	0.051465	-0.778917	0.4656
VAT(-2)	-0.019511	0.108403	-0.179989	0.8631
VAT(-3)	0.000647	0.108924	0.005937	0.9955
VAT(-4)	-0.131923	0.071698	-1.839966	0.1154
C	7.820285	7.103366	1.100927	0.3131

R-squared	0.999757	Mean dependent var	100.5460
Adjusted R-squared	0.999028	S.D. dependent var	65.57139

S.E. of regression	2.044241	Akaike info criterion	4.360814
Sum squared resid	25.07353	Schwarz criterion	5.287160
Log likelihood	-35.51018	Hannan-Quinn criterion.	4.617743
F-statistic	1371.506	Durbin-Watson stat	3.104752
Prob(F-statistic)	0.000000		

The ARDL (4, 4, 3, 4) model for GDP is highly robust, explaining 99.98% of the variation (R^2 = 0.999757) and is overall significant (Prob(F-statistic) = 0.0000). In the short run, current BMS and current GEXP significantly impact GDP (Prob. < 0.05). The dependent variable lags GDP (-1), GDP (-3), and GDP (-4) are also significant, suggesting strong short-term dynamics and a high degree of persistence. VAT and most lagged regressors are not significant. The Durbin-Watson statistic {3.10} suggests possible negative autocorrelation.

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This study concludes that fiscal policy is a primary driver of Nigeria's economic growth (GDP), operating through complementary channels. Broad Money Supply (BMS) and Government Expenditure (GEXP) were found to have a significant positive impact on GDP, highlighting the importance of liquidity for credit and investment and public spending for infrastructure and social investment.

In contrast, Value Added Tax (VAT) showed no statistically significant effect on GDP. This suggests persistent issues with tax administration, revenue efficiency, and failure to translate VAT collections into growth-enhancing projects. While VAT reforms have expanded the revenue base, their contribution remains inadequate for sustainable development. The variables are cointegrated (long-run relationship), but short-run fluctuations indicate vulnerability to policy shocks.

5.2 Recommendations

1. Reform VAT Administration: Implement reforms to expand VAT coverage, improve collection efficiency, and ensure VAT proceeds are channelled into productive sectors to enhance their growth impact on the economy.
2. Balance Monetary Policy: Maintain adequate liquidity and financial access while simultaneously implementing measures to prevent inflationary pressures that could negate economic gains.
3. Ensure Policy Coordination: Establish a coordinated approach between fiscal and monetary authorities to avoid policy conflicts and achieve synergy for macroeconomic stability.
4. Strengthen Institutional Governance: Undertake institutional reforms that promote transparency, accountability, and prudent management of public finance to strengthen policy credibility and long-term goal alignment.

5.3 Economic implications

The conclusion and recommendations of this study have significant economic implications for Nigeria. The recommendations aim to shift Nigeria's economy toward a more stable and

sustainable growth model. Reforming VAT Administration and Strengthening Institutional Governance would boost non-oil revenue quality and ensure that public funds are allocated prudently and efficiently.

Balancing Monetary Policy and establishing Policy Coordination are vital to achieve macroeconomic stability, reduce policy uncertainty, and prevent the growth gains from being eroded by inflation or conflicting policy signals, ultimately fostering a more predictable and attractive environment for long-term private investment in the country.

REFERENCES

Braimoh, E. O., Abari-Ogunsona, T. A., Salami, S. O. (2025). The Nexus Between Fiscal Policy and Income Inequality in Nigeria. *International journal of research and innovation in social science (IJRISS) ISSN no. 2454-6186 DOI: 10.47772/IJRISS volume ix issue ix*

BudgIT. (2023). State of states report 2023: *Fiscal sustainability and service delivery in Nigerian states*. https://yourbudgit.com/wp-content/uploads/2023/09/BudgIT-State-of-States-2023.pdf

Central Bank of Nigeria (CBN). (2023). Statistical bulletin: 2023 edition. https://www.cbn.gov.ng/documents/statbulletin.asp

Cole, A. A., Aroyewun, B. O., Soetan, T. A., & Akintola, A. F. (2021). Value added tax and economic growth in Nigeria 2004–2018. *American Journal of Multidisciplinary Research & Development,* 3(12), 9–13.

Debt Management Office (DMO). (2024). Nigeria's public debt stock. https://www.dmo.gov.ng

Ebrill, L., Keen, M., Bodin, J. P., & Summers, V.(2001). The modern VAT. *International Monetary Fund.*

Egolum, P. U., & Ugonabo, C. U. (2021). The effect of value added tax on economic development in Nigeria (1994–2018). *IOSR Journal of Humanities and Social Science*, 26(5), 21–30. https://doi.org/10.9790/0837-2605012130

Emmanuel, O. E., & Stephen, I. A. (2021). Tax revenue and Nigeria economic growth. *European Journal of Economics and Business Studies, 7*(2), 60–80.

Federal Inland Revenue Service (FIRS). (2022). Annual VAT collection report 2022. https://firs.gov.ng

Gbeke, K. K., & Nkak, P. E. (2021). Tax reforms and economic growth of Nigeria. IOSR *Journal of Business and Management,* 23(6), 16–23.

Kuznets, S. (1966). Modern economic growth: Rate, structure and spread. *Yale University Press.*

National Bureau of Statistics (NBS). (2023). Nigeria gross domestic product report (Q1 2023). https://nigerianstat.gov.ng

Ologbenla, P. (2021). The effect of corporate tax on government expenditure in Nigeria. Research Horizon, 1(5), 157–171.

Oyedele, T. (2018). VAT as a tool for fiscal stability in Nigeria. *PwC Nigeria Tax Roundtable.*

World Bank. (2023). Nigeria development update: Seizing the opportunity. https://www.worldbank.org/en/country/nigeria/publication/nigeria-development-update