

Tax Revenue and Economic Growth in Nigeria

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Abstract:

This study explores the relationship between tax revenue and economic growth in Nigeria, focusing on the contributions of petroleum profit tax (PPT), value-added tax (VAT), and company income tax (CIT) to Gross Domestic Product (GDP). Unlike earlier studies, which largely ended around 2015–2016 and did not incorporate recent data, this research extends the analysis to cover the period 1999–2023. Secondary data were sourced from the Federal Inland Revenue Service (FIRS) statistical bulletin and the National Bureau of Statistics (NBS) for 1999–2023, and analyzed using multivariate regression with the aid of STATA software. Results indicate that PPT has a positive but statistically insignificant effect on economic growth, while VAT and CIT exhibit significant positive impacts. Notably, VAT (non-oil revenue) demonstrates a strong contribution to Nigeria's economic development. These findings support the government's ongoing efforts to strengthen revenue mobilization through efficient tax management. The study recommends reducing corruption and leakages in tax administration, ensuring transparent use of tax revenue, and avoiding short-term increases in VAT and CIT rates, while tightening oversight of petroleum sector tax compliance.

Keywords: *Petroleum profit tax, company income tax, value-added tax, economic growth*

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Introduction:

Governments worldwide are entrusted with extensive responsibilities, which are largely influenced by the revenues they generate from various sources, with taxation being one of the most significant. In Nigeria, taxation serves as a primary means of financing government operations and remains a critical source of revenue. Taxes are levied and imposed on individuals and corporations by the government, and they constitute a major instrument for

mobilising funds to support public expenditure (Edame, 2011).

Ayeni and Cordelia (2022) identify taxation as the most consistent, certain, and reliable source of government revenue. However, since the mid-1970s, Nigeria has been heavily dependent on oil revenues, despite the volatility of international oil prices. Ariyo (1993) observes that this dependence has led to the neglect of alternative revenue sources such as non-oil taxes, agriculture, and solid minerals. The oil boom fostered

complacency in the management of non-oil revenue, resulting in a sustained decline in their contributions over the years. Consequently, the country has faced persistent revenue shortages, which have limited its ability to fund obligations necessary for stimulating economic growth. This structural weakness contributed to the 2016 economic recession and its accompanying socio-economic crisis (Kiabel & Nwokah, 2009; Wambi & Hanga, 2013).

Taxation, broadly defined, is the imposition of mandatory payments by the state on its citizens and organisations, considered a civic duty (Abomaye-Nimenibo et al., 2018). Beyond revenue mobilisation, taxes are often employed to regulate economic activities—such as discouraging the production of certain goods, protecting local industries, reducing income inequality, and controlling inflation (Edewusi & Ajayi, 2019). Due to its significant influence on consumption patterns and broader economic variables, taxation plays a vital role in shaping economic growth. Governments, therefore, continuously strive to maximise tax revenue as part of their fiscal policy strategies (Asaolu et al., 2018).

Nevertheless, the efficiency of tax systems in Nigeria has been undermined by corruption, weak institutional capacity, and the incompetence of tax administrators. Such inefficiencies have diverted substantial revenues away from government coffers, thereby limiting the resources available for the provision of public goods and the execution of development projects (Asaolu et al., 2018).

Economic growth can be defined as a sustained increase in a nation's productive capacity, often measured by comparing the gross national product of one year with that of the previous year, alongside improvements in per capita output reflected in the outward shift of the production possibility frontier (Salami et al., 2015). The role of government in promoting growth is central in both advanced and developing economies, with

taxation serving as a key fiscal policy instrument for stimulating economic activity (Edewusi & Ajayi, 2019). Nevertheless, the link between taxation and growth remains a subject of debate, as tax policies directly influence national output while also shaping the decisions of firms and individuals (Mdanat et al., 2018).

The Economic Recovery and Growth Plan (2017) notes that, after over a decade of expansion, Nigeria entered recession in 2016 due to the sharp and prolonged decline in crude oil prices beginning in mid-2014, compounded by limited diversification of revenue and foreign exchange sources. The government's ability to counter the downturn through spending was further weakened by the absence of fiscal buffers, ultimately deepening the socio-economic challenges associated with the recession.

As the responsibilities of government continue to expand in modern economies, the demand for adequate revenue to finance these obligations inevitably grows. This underscores the importance of establishing stable, consistent, and diversified sources of public revenue in Nigeria, particularly from instruments such as Value Added Tax (VAT) and Companies Income Tax (CIT). According to the Federal Ministry of Economic Planning in its Economic Recovery and Growth Plan (ERGP, 2017), the collapse of global crude oil prices, falling well below \$120 per barrel, combined with reduced domestic production due to militant activity in the Niger Delta, significantly weakened government finances. This fiscal decline limited the state's capacity to invest in critical areas such as agricultural productivity and food security, infrastructure development, power and energy provision, transportation, industrialisation, education, skills acquisition, and employment generation. The consequence was the severe economic recession of 2016, accompanied by widespread socio-economic challenges.

A review of prior empirical studies reveals notable gaps. For instance, Chude and Chude

(2015) and Afubero and Okoye (2014) did not sufficiently examine the relationships between key tax variables: Value Added Tax (VAT), Petroleum Profit Tax (PPT), Companies Income Tax (CIT), and Nigeria's economic growth. Moreover, most existing studies in this field conclude around 2015–2016, leaving out recent data and developments. This study seeks to address these limitations by covering the period from 1999 to 2024 (a span of 25 years), thereby offering a more comprehensive assessment that reflects current economic realities.

2.0 Literature Review

2.1 Concept of Tax Revenue and Economic Growth

According to Hendrik (2001), economic growth entails expanding the productive capacity of a nation's economy to meet the needs and aspirations of its population. He further distinguishes between *economic growth*—which refers specifically to increases in output—and *economic development*, which encompasses broader transformations, including social, political, and institutional changes that accompany rising output.

Similarly, Salami et al. (2015) describe economic growth as a continuous increase in a country's production capacity, often assessed by comparing the current year's gross national product with that of the previous year. Growth is also reflected in rising per capita national output, demonstrated by an outward shift in the production possibility frontier.

Dwivedi (2002) reinforces this perspective, defining economic growth as a sustained, long-term rise in per capita national output or net national product. He emphasises that such growth occurs only when the rate of increase in total output consistently exceeds the rate of population growth, thereby ensuring improvements in living standards.

Tax Revenue

Tax revenue mobilization as a source for financing development activities in Nigeria has been a difficult issue primarily because of various forms of resistance, such as evasion, avoidance, and corrupt practices (Aboyade, 2010). These activities are considered as sabotaging the economy and are readily presented as reasons for the underdevelopment of the country.

Adedeji & Oboh (2012) opined that the government exists to effectively collect taxes from available economic resources and make use of the same to create economic prosperity, such that available and willing human services (such as the maintenance of law and order) are put in place. Tax, Import Duties, and Excise duties have been used to create prosperity. Thus, it can be said that the economic development of a country depends on various reasons, one of which is the presence of an effective and efficient tax revenue policy. In Nigeria, the contribution of tax revenue has not met the expectations of the Government. The government has equally expressed this disappointment and has accordingly vowed to expand the non-oil tax revenue.

The effectiveness and efficiency in administering tax leads to an increment in the revenue generated which helps the government in the provision of amenities for citizens and even execution of capital projects despite this, the fraudulent affairs and schemes of tax authorities as well as incompetent tax personnel are seen to be threats and challenges that affect the revenues by channeling the funds from tax into their personal pockets (Asaolu et al., Citation 2018).

The conventional Solow (neoclassical) growth model assumes that productivity growth is fixed and unaffected by taxation; therefore, taxes should have no long-term effect on growth rates. By contrast, endogenous growth models replace this assumption with a steady-state growth rate that can vary depending on government policies, including taxation and public expenditure Asaolu

et al. (2018). This suggests that tax policy can exert a persistent influence on economic performance, making taxation a critical instrument for both revenue generation and long-term growth.

Petroleum Profit Tax (PPT) and Nigeria's Economic Growth

Oil revenue constitutes a substantial share of Nigeria's total revenue, reflecting the country's heavy reliance on petroleum as its primary source of income. However, this overdependence on oil has proven detrimental to sustainable economic growth (Oladipupo et al., 2015). Fluctuations in global oil prices significantly affect government earnings and, consequently, the fiscal stability of the nation. For example, in April 2020, crude oil prices fell to as low as \$38 per barrel, a decline compounded by the outbreak of the COVID-19 pandemic, which further strained Nigeria's fiscal capacity and revenue allocation across the three tiers of government (Gbeke & Nkak, 2021).

Petroleum Profit Tax (PPT) represents a critical component of Nigeria's tax system. It is levied on companies engaged in the extraction and transportation of petroleum resources, encompassing rents, royalties, margins, and profit-sharing arrangements tied to oil mining, prospecting, and exploration leases (Ogbonna & Appah, 2022). According to Onaolapo, Fasina, and Adegbite (2013), PPT remains the most significant tax in Nigeria in terms of contribution to total revenue, accounting for approximately 95% of foreign exchange earnings and 70% of overall government revenue. Given Nigeria's import-dependent economy, the role of PPT in ensuring foreign exchange availability underscores its centrality to national economic growth and stability.

Value Added Tax (VAT) and Nigeria's Economic Growth

Value Added Tax (VAT) is an indirect consumption tax imposed on goods and services

at each stage of the production and distribution chain, with the final burden borne by end-users (Okoye & Ani, 2004). This definition aligns with the Statement of Standard Accounting Practice (SSAP) No. 5, issued in the United Kingdom in 1974, which characterises VAT as a broad-based consumption tax. The impressive performance of VAT in many economies motivated its adoption in Nigeria in 1994 (Margaret, Charles, & Gift, 2014).

In Nigeria, VAT replaced the sales tax, providing a more efficient, transparent, and difficult-to-evade mechanism for revenue generation. According to the Federal Inland Revenue Service (FIRS, 1986), VAT is relatively easy to administer and has significantly improved government revenue collection. This enhanced fiscal capacity has, in turn, supported Nigeria's economic growth by expanding resources available for development projects and public services. The administration of VAT in Nigeria is overseen by the FIRS, which remains central to ensuring compliance and optimising its contribution to national growth.

Companies Income Tax (CIT) and Nigeria's Economic Growth

Companies Income Tax Act (CITA) is a direct tax imposed on the profits of corporate entities operating within Nigeria (Adereti et al., 2011). Ani (2004) defines CIT as a levy derived from the taxable profits of companies incorporated under the Companies and Allied Matters Act (CAMA) of 1990, as subsequently amended, or any subsequent legislation governing corporate incorporation. In accordance with Section 8(1) of the Companies Income Tax Act (CITA) of 1956, CITA is payable on the profits of any company accruing in, derived from, brought into, or received in Nigeria in respect of any trade or business undertaken. Presently, the CIT rate is set at 30% of assessable profits from Nigerian Corporate Taxes on corporate income.

CITA constitutes a major source of government revenue, providing financial resources for infrastructure, public services, and other developmental projects. By directly taxing corporate profits, it also serves as a mechanism for wealth redistribution and for encouraging compliance among businesses. The effective administration of CIT has the potential to significantly influence Nigeria's economic growth by mobilising domestic resources, reducing reliance on oil revenue, and promoting fiscal sustainability.

2.2 Theoretical Review

This study is underpinned by the Harrod–Domar Theory of Economic Growth (1939), which assigns a pivotal role to investment in driving growth. The model highlights the dual role of investment: first, it generates income, and second, it expands the productive capacity of the economy by augmenting its capital stock. According to this framework, as long as net investment continues, both real income and output will increase. However, to sustain full employment and equilibrium income levels over time, the growth of income and output must align with the expansion of productive capacity.

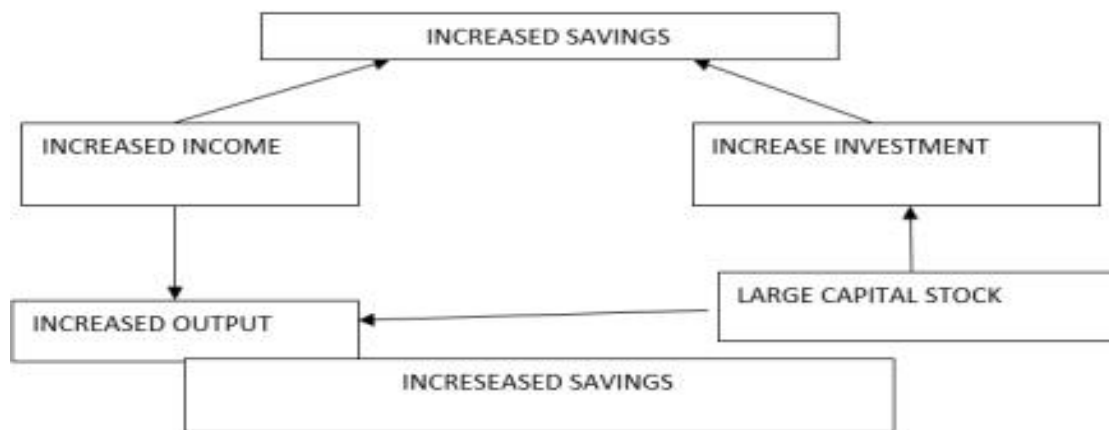


Figure 1: Harrod–Domar Economic Growth Model

The Harrod–Domar model suggests that the rate of a nation's economic growth is determined by the level of savings, the productivity of investment, and the volume of capital employed. This model is particularly relevant to developing economies such as Nigeria, where capital formation remains a significant challenge.

In addition, this study draws from the Keynesian Theory of Taxation, which underscores the role of taxation in achieving fiscal stability and promoting economic development. The theory posits that without adequate tax revenue, governments face challenges in financing public

expenditures, potentially leading to socio-economic crises. High yet well-managed taxes are viewed as essential for mobilising resources, addressing fiscal deficits, and ensuring the government can meet its obligations to citizens. Thus, taxation, particularly through instruments such as PPT, VAT, and CIT becomes a crucial tool for stimulating sustainable economic growth (Tanzi & Zee, 2000)

2.3 Empirical Review

2.3.1 *Petroleum Profit Tax and Economic Growth*

Several empirical studies have explored the contribution of taxes to government revenue generation and Nigeria's economic growth. For example, Cornelius et al. (2016) examined the impact of tax revenue on the Nigerian economy with specific objectives: to assess the relationship between petroleum profit tax and the Nigerian economy, the effect of company income tax, and the role of non-oil revenue. Data obtained from the annual reports of the Central Bank of Nigeria (CBN) Statistical Bulletin, and analysed using the ordinary least squares multiple regression method. Their findings revealed a significant relationship between petroleum profit tax and economic growth, as well as between non-oil revenue and economic growth, but no significant relationship between company income tax and Nigeria's economic growth. They recommended that the government should provide adequate social amenities across the country to enhance economic development.

Similarly, Onaolapo et al. (2013) investigated the effect of petroleum profit tax (PPT) on the Nigerian economy using secondary data from the Central Bank of Nigeria's Statistical Bulletin for the period 1970–2010. Employing multiple regression analysis, they examined variables such as Gross Domestic Product (GDP), petroleum profit tax, inflation, and exchange rate. The results showed that all these variables significantly influenced economic growth, with an adjusted R^2 of 86.3%. The study concluded that petroleum resources and associated revenues had been beneficial to Nigeria's economic growth over the period studied. They further recommended that the government should account transparently for petroleum profit tax revenues and invest in infrastructure and other public goods.

Umoru and Anniwe (2013) analysed the effect of tax structure on Nigeria's economic growth using

co-integration and error correction models. Their results showed that direct taxation had a significant positive effect on economic growth, while indirect taxation exerted a significant negative effect. They concluded that the petroleum profit tax remains one of the most critical direct taxes influencing Nigeria's economic growth and should therefore be efficiently managed to minimise tax evasion among petroleum exploration companies. The study further recommended stricter supervision by the Federal Inland Revenue Service (FIRS) and greater government accountability in tax revenue management.

2.3.2 *Company Income Tax and Economic Growth*

Chude and Chude (2015) investigated the impact of company income tax on the profitability of brewery companies in Nigeria. Using the augmented Dickey-Fuller unit root test (1979), Johansen co-integration test, and ordinary least squares techniques to analyse time-series data, they found a positive relationship between taxation and profitability. In a related study, Dickson and Rolle (2014) examined the effect of tax reforms on revenue generation in Nigeria. Their objective was to verify the relationship between federally collected revenue and specific tax revenue sources using annual time-series data spanning 1981–2011. Various income taxes served as proxies for tax reforms. Employing the augmented Dickey-Fuller test, they established that the variables were non-stationary at levels but became stationary after first differencing. The Johansen co-integration test confirmed a long-run relationship between tax reform and federally collected revenue in Nigeria.

Tax Revenue

The literature on the relationship between taxation and revenue generation has been constrained by the absence of a unified theoretical framework that clearly explains how taxation enhances

government revenue or specifies the empirical foundations of the tax–growth relationship (Chin & Lai, 2009). Variations across tax-related studies are often attributed to differences in methodology and the choice of variables. For instance, Chin and Lai (2009) employed the endogenous growth model in their examination of the empirical link between foreign taxation and economic growth, whereas Chen (2007) and Floster and Henrekson (2001) adopted the neoclassical growth model for similar analyses.

Despite these methodological differences, the endogenous growth model has become dominant in development economics. The neoclassical Solow growth model suggests that taxation does not affect long-term growth rates. This conclusion arises largely from its underlying assumptions, particularly the view that productivity growth is fixed and unaffected by tax policy. Conversely, in endogenous growth models, the steady-state growth rate is not solely determined by exogenous factors such as technology and labour productivity, but can vary persistently in response to government tax and expenditure policies (Asaolu et al., 2023).

Value Added Tax (VAT) and Nigeria's Economic Growth

Okoye and Ani (2004) define Value Added Tax (VAT) as an indirect tax levied on the general consumption behaviour of the populace. This definition aligns with the Statements of Standard Accounting Practice (SSAP) No. 5, issued in the United Kingdom in 1974, which frames VAT as a tax on the supply of goods and services, ultimately borne by the final consumer but collected at each stage of the production and distribution chain. Margaret, Charles, and Gift (2014) noted that the successful implementation of VAT in other countries influenced Nigeria's decision to introduce it in 1994. According to the Federal Inland Revenue Service (FIRS, 1986), VAT replaced the previous sales tax system and is considered relatively easy to administer, simple

to collect, and difficult to evade, thereby enhancing government revenue and contributing to Nigeria's economic growth. The administration and enforcement of VAT in Nigeria remain the responsibility of the FIRS.

Companies' Income Tax (CIT) and Nigeria's Economic Growth

Companies Income Tax (CIT) is a direct tax imposed on the profits of companies incorporated under the Companies and Allied Matters Act, 1990 (as amended), or any subsequent legislation regulating company incorporation (Ani, 2004). In accordance with Section 8(1) of the Companies Income Tax Act (CITA), 1961, CIT is payable on profits accruing in, derived from, brought into, or received in Nigeria from any trade or business conducted within the country. The current CIT rate is set at 30% of assessable profits according to the Nigerian Corporate- taxes on corporate income according to Nigerian Corporate- Taxes on corporate income.

Dickson and Rolle (2014) observed that governments often provide CIT-related incentives, such as tax exemptions, to attract and retain both local and foreign investors, thereby stimulating productive economic activity and improving the country's balance of payments. As a progressive tax, where higher earnings attract higher tax liabilities, CIT also encourages equitable economic growth. Ani (2014) highlights several objectives of CIT in supporting Nigeria's economic development, including:

- a. Serving as a major source of government revenue to finance infrastructural projects.
- b. Promoting equitable distribution of income and wealth.
- c. Achieving a favourable balance of payments and regulating the economy through fiscal policy.
- d. Discouraging the production and consumption of goods detrimental to public health, thereby maintaining a healthy workforce to support sustainable economic growth.

Petroleum Profit Tax (PPT) and Nigeria's Economic Growth

Petroleum Profit Tax (PPT) serves as a critical fiscal instrument for wealth redistribution between multinational corporations, which possess the technology, expertise, and capital required for oil exploration and production, and resource-dependent economies from which petroleum resources are extracted (Ehigiamusoe, 2022). According to Chigbu and Njoku (2023), PPT applies specifically to upstream oil sector operations and remains the most significant tax in Nigeria, accounting for approximately 95% of government revenue and 70% of total foreign exchange earnings.

However, the major challenge associated with PPT lies in its vulnerability to fluctuations in the international oil market. Ogbonna (2011) emphasises that Nigeria's petroleum industry constitutes a primary source of government revenue and plays a strategic role in national economic growth. Similarly, Onaolapo, Fasina, and Adegbite (2013) highlight that the petroleum industry represents the largest contributor to Nigeria's Gross Domestic Product (GDP), particularly given the country's population and resource endowments. Its contributions to economic growth are multifaceted, encompassing employment generation, income creation, industrialisation, and broader improvements across key economic variables.

3.0 Methodology

This study adopts an ex-post facto research design, according to Awotayo–Ayeeni et al. (2023), which is appropriate because it investigates relationships between variables using already existing data. In this context, the independent variable, tax revenue, is disaggregated into three categories: Value Added Tax (VAT), Petroleum Profit Tax (PPT), and Companies Income Tax (CIT), while the dependent variable is economic growth, proxied by Nigeria's Gross Domestic Product (GDP).

The study is situated within the Nigerian context and covers the period 1999–2023. Secondary data were sourced from the Statistical Bulletin of the Federal Inland Revenue Service (FIRS), Abuja, and the National Bureau of Statistics (NBS), Abuja. This period was selected to capture contemporary trends in Nigeria's fiscal structure, particularly given the nation's economic volatility and efforts at revenue diversification.

Data were analysed using the multivariate regression method with the aid of STATA software. The choice of secondary data was informed by the nature of the study, as the required information is available in published statistical reports rather than through primary data collection.

The scope of the study is restricted to the Nigerian economy, focusing on the relationship between tax revenues (VAT, PPT, and CIT) and economic growth (GDP). By examining data (spanning 24 years), the study provides insights into the long-term impact of taxation on Nigeria's economic performance.

3.1 Research Design

This study investigates the effect of tax revenue on economic growth in Nigeria. An explanatory research design was adopted, as the study aims to explain the relationship between tax revenue (measured through VAT, PPT, and CIT) and economic growth (proxied by GDP). This design is appropriate for assessing causal relationships using historical data.

3.2 Study Population

The population of this study comprises all tax revenue and economic growth data for Nigeria between 1999 and 2023, as officially published by the Federal Inland Revenue Service (FIRS) and the National Bureau of Statistics (NBS).

3.3 Sample and Sampling Technique

The study employs a census approach by utilising the complete set of available secondary data

within the study period (1999–2023). This eliminates the need for probability sampling, as the dataset covers the entire population of interest.

3.4 Sources of Data and Method of Analysis

The study relies exclusively on secondary data. Data were obtained from the FIRS Statistical Bulletin, the NBS, and relevant academic and professional publications. After data collection, both descriptive and inferential statistics were applied.

The primary method of analysis was multivariate regression, conducted using the STATA software package. The analysis tested the research hypotheses while addressing econometric assumptions of multicollinearity, normality, and linearity. The Pearson correlation matrix was employed to assess multicollinearity, while the regression analysis was performed for the period 1999–2023 to evaluate the long-term effect of tax revenue on Nigeria's economic growth.

3.6 Research Instrument

Data Collection and Analysis

Secondary data for this study were obtained from multiple reliable sources, including the Federal Inland Revenue Service (FIRS), Abuja; the annual reports of the Central Bank of Nigeria (CBN); the National Bureau of Statistics (NBS), Abuja; as well as relevant academic and professional publications. Following data collection, both descriptive and inferential statistical techniques were employed to analyse the data. Regression analysis was conducted using the Stata software package.

Administration of Research Instrument

Multivariate regression analysis was applied to test the study's hypotheses. Before estimation,

diagnostic tests were carried out to confirm the validity of key assumptions, including multicollinearity, normality, and linearity. The Pearson correlation matrix was used to test for multicollinearity, while multivariate regression was conducted for the period 1999–2023 to evaluate the specified model.

Model Specification

The econometric model guiding this study was adapted from Kadenge (2021), who examined the effect of taxation on economic performance in Kenya. The model is specified as follows:

$$\text{Economic Growth (EG)} = f(\text{PPT}, \text{VAT}, \text{CIT})$$

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Since Gross Domestic Product (GDP) serves as a proxy for Economic Growth (EG), the model is expressed as:

$$EG_t = \beta_0 + \beta_1 PPT_t + \beta_2 VAT_t + \beta_3 CIT_t + \mu_t$$

$$EG_t = \beta_0 + \beta_1 PPT_t + \beta_2 VAT_t + \beta_3 CIT_t + \mu_t$$

Where:

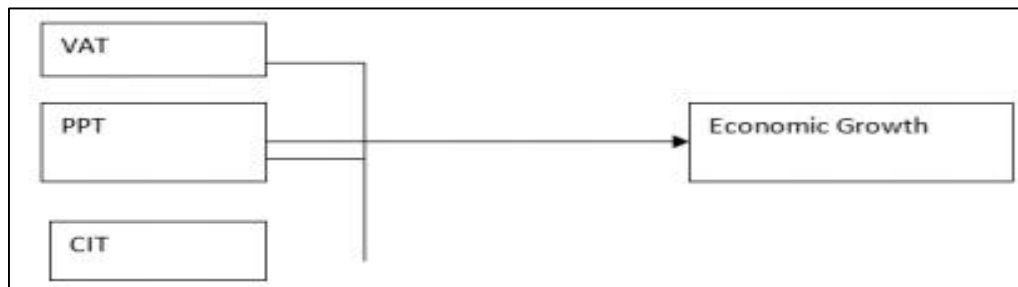
- **PPT** = Petroleum Profit Tax
- **VAT** = Value Added Tax
- **CIT** = Companies Income Tax
- **GDP** = Gross Domestic Product
- **μ** = Error term (stochastic variable)

This specification ensures the robustness of the hypotheses tested within the study's framework.

3.9 Measurement of Variables (Dependent and Independent)

The variables used in this study are categorized into independent and dependent variables, in line with the research framework (Figure 2).

Figure 2: Research Framework



3.9.1 Rationalisation and Justification of Variables

Variables	Acronym	Operationalization	Sources
Value Added Tax	VAT	Value Added Tax revenue	Adesina (2011)
Petroleum Profit Tax	PPT	Petroleum Profit Tax revenue	Okafor (2012)
Companies Income Tax	CIT	Companies Income Tax revenue	Akwe (2014)
Economic Growth	GDP	Gross Domestic Product	Owolabi & Okwu (2011)

3.9.2 Explanation of Variables

Independent Variables (Explanatory Variables):

The study considers tax revenue as the independent variable, represented by:

Value Added Tax (VAT)
Petroleum Profit Tax (PPT)
Companies Income Tax (CIT)

Dependent Variable:

Economic growth, proxied by Gross Domestic Product (GDP), serves as the dependent variable.

Error Term (μ):

A stochastic variable (μ) is included in the model to account for unexplained variations not captured by the independent variables.

Thus, tax revenue (measured by VAT, PPT, and CIT) constitutes the independent variables, while economic growth (measured by GDP) is the dependent variable.

4. Discussion of Findings

The study uses VAT, PPT, and CIT to indicate tax revenue and Gross Domestic Product as proxies for economic growth for the period 1999 to 2023. Table 1 presents the results of Gross Domestic Product (GDP), Value Added Tax (VAT), Petroleum Profit Tax (PPT), and Companies Income Tax (CIT) in Nigeria for the period of Fifteen (24) years (1999 – 2023).

Descriptive Statistics

Table 1 presents the descriptive statistics of continuous variables. The variables are Gross Domestic Product, Value Added Tax, Petroleum Profit Tax and Companies Income Tax in Nigeria. Economic growth is proxied using the Gross Domestic Product (GDP). The data analysis was conducted with the aid of Strata computer software. This is so because it makes the data to become more robust and informative.

Table 1: Descriptive Statistics Analysis of the Variables

Variables	Mean	Min.	Max.	SD
GDP	7.71	7.52	7.83	.110
VAT	11.65	11.13	11.98	.289
PPT	12.16	11.63	12.51	.232
CIT	11.71	11.05	12.14	.370

Note: N =15, GDP =Gross Domestic Product, VAT = Value Added Tax, PPT = Petroleum Profit Tax and CIT = Companies Income Tax. Min = Minimum, Max = Maximum and SD = Standard deviation.

Source: Researcher's Computation (2025)

The results in Table 1 show the descriptive statistics for the overall data set. Measures of central tendency; the mean was used to summarise the data, while the standard deviation tested the degree of dispersion among the variables under investigation. GDP, VAT, CIT, and PPT values for the period of 1999 -2023 showed a mean of 7.71, 11.65, 12.16 and 11.71, with their standard deviations of .110, .289, .232, and .370, respectively. All the distributions were positively skewed, indicating that they are not symmetrically distributed. The Kurtosis values of the distributions indicated that they are not normally distributed. To

ensure that the data for this study were fit for the study, the stationarity test was carried out on the data.

The table is presented below as Table 3.

2. Correlation Matrix of Variables

The Pearson correlation Matrix in this research is presented in Table 2. Generally, all correlations between independent variables are less than 0.86; thus, it is said that there is no issue of multicollinearity. The current study posits the absence of multicollinearity.

Table 2: Correlation Matrix of Variables

Variables	GDP	VAT	PPT	CIT
GPD	1.000			
VAT	0.782	1.000		
PPT	0.608	0.671	1.000	
CIT	0.990	0.686	0.603	1.000

Note *p<.10, **p<.05, ***p<.1.

Following Hair et al. (2006), the acceptable level of correlation is 0.86 and below. Any variable above this acceptable level suggests the presence of multicollinearity.

Table 3. Result Summary of Unit Root Test

LGDP	-1.584426	-4.0111-3.1003	-2.6927	1(0)	Stationary
LVAT	-1.484133	-4.0113 -3.1003	-2.6927	1(0)	Stationary
LPPT	- 1.180389	-4.0113 -3.1003	-2.6927	1(0)	Stationary
LCIT	-0.173195	-4.0113 -3.1003	-2.6927	1(0)	Stationary

Source: Researcher's Computation (2025)

Trend and Intercept at 5% and 10% levels of significance

Variables Augmented Dickey–Fuller (ADF)

Test	1%	5%	10%	order	Remarks
Statistic	critical	critical	critical		

| Variables | Augmented Dickey–Fuller (ADF)

Test Statistic | 1% critical value | 5% critical value | 10% critical value | Order | Remarks |

The results of the unit root test using the Augmented Dickey–Fuller (ADF) procedure at the 1%, 5%, and 10% significance levels indicate that all the time series variables (GDP, VAT, PPT, and CIT) are stationary at all levels. This implies that the data are free from unit root problems and therefore suitable for regression analysis. The stationarity of the variables ensures that the findings of the study are statistically reliable and valid for explaining the relationship between tax revenue and Nigeria’s economic growth. In line with these results, the study adopts the Ordinary Least Squares (OLS) technique for the regression

analysis, given that the data meet the assumptions of linearity and stability. This provides a solid foundation for generating best linear unbiased estimates (BLUE), which strengthens the robustness of the empirical results.

Test of Hypotheses

The study hypotheses were tested using Multivariate regression. The result is presented in Table 4.

Ho1: Ho 1: Value Added Tax (VAT) revenue has no significant relationship with Nigeria’s economic growth.

Table 4 Multivariate Regression Summary Result

Variables	coefficient	Std. Error	- t-statistic	Prob.
C	3.082	918	33.55	0.000
VAT	16.576	5.60*	2.96	0.013*
PPT	0.5845	6.66	0.88	0.399
CIT	17.991	3.23	5.57	0.000***

$R^2 = R\text{-squared} 0.9903$

Adjusted $R^2 = 0.901696$

Prob > F = 0.0000

Note *p < .10, **p < .05, ***p < .01

Table 4 presents the results of the multiple regression analysis between the tax revenue components (VAT, PPT, and CIT) and economic growth (proxied by GDP). The model reports an R^2 of 0.99 and an overall probability value of 0.000, indicating that 99% of the variation in Nigeria’s economic growth is explained by the tax revenue variables, and the model is statistically significant at the 5% level. This suggests a robust

explanatory power of tax revenue on economic growth.

The calculated t-statistic critical value at 45 degrees of freedom (df) and 0.05 level of significance is ± 2.021 . Any computed t-statistic above this threshold is deemed statistically significant.

Table 4.1 Data for the research in Billions

Year	GDP	VAT	PPT	CIT
1999	33,004,796.34	136,411,195,482.82	432,604,082,464.54	114,773,549,2685
2000	36,057,737.78	163,297,644,060.50	878,625,818,385.40	130,791,877,049.2
2001	38,378,796.06	192,656,500,238.13	1,352,240,333,801.2	170,303,596,128.4
2002	40,703,681.36	232,697,196,045.77	1,349,522,480,302.2	246,671,752,648.7
2003	43,385,877.08	314,545,459,426.06	1,132,039,173,131.	332,443,891,962.6
2004	46,320,014.94	401,736,686,467.03	2,060,883,883,648.7	420,582,988,206
2005	50,042,360.65	481,407,349,067.46	939,412,237,977.13	600,590,101,017.7
2006	54,612,264.18	564,892,034,367.62	1,480,363,895,241.9	666,132,500,585.7
2007	57,511,041.77	710,555,190,249.19	3,070,591,156,709.5	715,441,977,939.7
2008	59,929,893.04	802,964,773,457.72	3,201,319,571,023.3	846,591,938,812.8
2009	63,218,721.78	767,333,425,892.48	2,666,366,902,994.0	998,436,121,814.5
2010	67,152,785.84	802,964,773,457.72	2,454,064,276,673.6	1,204,833,776,449
2011	69,023,929.94	767,333,425,892.48	1,289,960,879,877.0	1,408,432,864,506
2012	67,931,235.93	828,199,394,271.89	1,157,808,090,922.3	1,124,721,669,906
2013	68,496,917.93	972,348,407,529.22	1,520,481,810,364.5	1,262,009,217,173.8
2014	70,544,903.72	981,303,401,533.30	1,522,472,812,366.96	1,263,110,214,166.74
2015	72,546,905.75	982,305,411,536.32	1,523,475,815,367.97	1,264,210,218,168.76
2016	73,56,907.77	985,315,415,538.35	1,530,476,817,368.978	1,265,211,219,178.77
2017	74,56,910.87	985,316,420,540.50	1,533,486,818,368.980	1,267,220,305,178.78
2018	73,60,917.88	985,320,421,538.52	1,535,486,817,368.982	1,268,223,319,178.79
2019	74,56,907.77	988,325,415,538.54	1,630,476,818,368.985	1,275,225,320,178.80
2020	75,60,918.80	987,335,420,539.60	1,632,480,818,378.988	1,285,230,219,188.85
2021	80,56,915.85	990,345,415,538.66	1,633,476,835,378.990	1,270,231,220,189.88
2022	85,58,927.88	991,355,416,538.68	1,650,478,847,378.994	1,277,221,245,188.90
2023	88,60,947.90	994,365,420,540.70	1,700,479,830,385.998	1,300,230,250,198.95

Source: FIRS, Abuja and National Bureau of Statistics, Abuja. (1999-2023). Note: for the analysis, Natural log of each numbers were used.

Hypothesis One: Value Added Tax (VAT) and Economic Growth

The regression result shows that Value Added Tax has a positive and significant relationship with economic growth in Nigeria ($t = 2.96 > 2.021$ at a 0.05 significance level). This implies that an increase in VAT revenue significantly contributes to the growth of GDP. Consequently, the null hypothesis is rejected, and the alternative hypothesis is accepted, establishing that VAT revenue significantly affects Nigeria's economic growth.

Hypothesis Two: Petroleum Profit Tax (PPT) and Economic Growth

The result reveals that Petroleum Profit Tax has a positive but insignificant relationship with GDP (coefficient = 0.5845, $t = 0.88 < 2.021$). Although PPT contributes positively, its effect is not statistically significant in driving economic growth during the study period. This outcome may be attributed to fluctuations in global oil prices and revenue volatility in Nigeria's petroleum sector. Therefore, the null hypothesis is accepted, and it is concluded that PPT revenue

does not have a significant relationship with Nigeria's economic growth.

Hypothesis Three: Companies Income Tax (CIT) and Economic Growth

The findings show that Companies Income Tax has a positive and significant impact on economic growth ($t = 5.57 > 2.021$ at 0.05 significance level). This indicates that an increase in CIT revenue directly enhances GDP performance in Nigeria. The null hypothesis is rejected, while the alternative hypothesis is accepted, confirming that CIT revenue significantly influences Nigeria's economic growth.

General Model Interpretation

Overall, the regression model demonstrates that tax revenue, particularly VAT and CIT, plays a vital role in driving Nigeria's economic growth, while PPT appears less impactful due to sectoral and market-related fluctuations. With an R^2 value of 0.99, the model confirms that tax revenue is an essential determinant of economic performance in Nigeria.

5. Conclusion and Recommendations

This study investigated the relationship between tax revenue and economic growth in Nigeria from 1999 to 2023, using Value Added Tax (VAT), Petroleum Profit Tax (PPT), and Companies Income Tax (CIT) as proxies for tax revenue, while Gross Domestic Product (GDP) was employed as a measure of economic growth.

The findings revealed that VAT and CIT have significant positive effects on economic growth, indicating that these tax instruments are effective in supporting Nigeria's economic performance. In contrast, PPT, though positive, was found to be statistically insignificant, reflecting the volatility of petroleum revenue and the challenges associated with Nigeria's dependence on the oil sector.

Based on these findings, the following recommendations are made:

Strengthen Tax Administration: The government should minimise corruption and leakages in the tax system by enforcing accountability, transparency, and efficiency in the collection and management of tax revenue.

Improve Public Expenditure Management: Tax revenue should be judiciously utilised to provide quality infrastructure, social amenities, and public services, thereby strengthening public confidence in the tax system.

Reform Tax Rates: In the short run, moderate increases in VAT and CIT rates could enhance government revenue, provided such reforms are implemented in a way that does not overburden businesses and consumers.

Enhance Oversight in the Petroleum Sector: The government should closely monitor the operations of companies in the petroleum industry to curb tax evasion, reduce revenue leakages, and improve the contribution of PPT to economic growth.

Diversify the Revenue Base: Reducing over-reliance on petroleum-related taxes by diversifying into non-oil revenue sources will promote fiscal sustainability and stabilise economic growth.

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